

Project Name : Transnet Saldanha NMD  
Upgrade - New Ystervark S/S

Project ID : 153272156

Job Name : Ystervark 66 - 132 kV  
Substation

Job ID : 153272156-00003

**Final Design Package: Book 3**

Prepared for  
TRANSNET GROUP CAPITAL

Prepared by  
Brian Homann

In association with

AECOM Technical Team

2020-04-24

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**CLIENTS**  
**EMPLOYEES**  
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**PROFITABLE**  
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**SAFETY**

## Quality Information

Document Final Design Package: Ystervark 66 - 132 kV Substation - Book 3


Ref Eskom Job Number: 153272156-00003 Date 2020-04-24

Prepared by Brian Homann Reviewed by Colin Pym


Document Number 1924701-2-300-E-RPT-0006

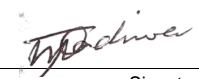
### ISSUED FOR USE


**Revision History**

Revision	Revision Date	Details	Authorized Name/Position	Signature	Date
Rev 02	2020-04-24	Issued for Use	Colin Pym		29 April 2020

**Additional Signatories  
for Transnet SOC Ltd**

Revision	Revision Date	Details	Authorized Name/Position	Signature	Date
Rev 02	2020-04-24	Issued for Use	Richard Shandu Senior Engineering Manager Richard Shandu (Transnet Group Capital)		22/04/2020

Revision	Revision Date	Details	Authorized Name/Position	Signature	Date
Rev 02	2020-04-24	Issued for Use	Tonny Mhondiwa (Transnet Port Terminals)		22/04/2020

Revision	Revision Date	Details	Authorized Name/Position	Signature	Date
Rev 02	2020-04-24	Issued for Use	Jabulani Nkanyani (Transnet National Ports Authority)		22/04/2020

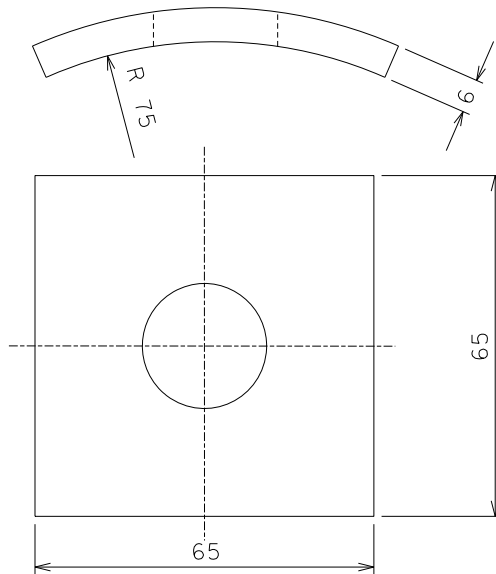
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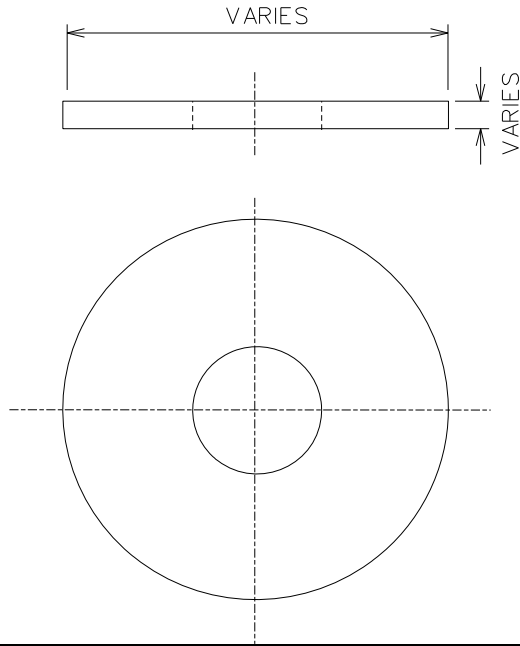
# 1. PDE Drawings/Specifications

## 1.1. Power Plant





SAP MATERIAL No.:	0163879					
SHORT DESCRIPTION:	WASHER,CURVED M16 65SQX6T 18D HOLE D3014					
TECH. DESCRIPTION:						
SQUARE CURVED SADDLE WASHER * FOR M16 USE * MATERIAL GRADE COMMERCIAL MILD STEEL * HOT DIPPED GALVANISED * 65mm x 65mm x 6mm THICK WITH 18 DIA. BOLT HOLE * 75mm RADIUS * ESKOM DRAWING No. D-DT- 3014*						
SAP MATERIAL No.:	0163896					
SHORT DESCRIPTION:	WASHER,CURVED M20 65SQX6T 22D HOLE D3014					
TECH. DESCRIPTION:						
SQUARE CURVED SADDLE WASHER * FOR M20 USE * MATERIAL GRADE COMMERCIAL MILD STEEL * HOT DIPPED GALVANISED * 65mm x 65mm x 6mm THICK WITH 22 DIA. BOLT HOLE * 75mm RADIUS * ESKOM DRAWING No. D-DT- 3014*						
ITEM	:- WASHERS CURVED					
MATERIAL SPECIFICATION	:- DIN 126					
CORROSION SPECIFICATION	:- SANS 121					
STANDARD SPECIFICATION	:-					
ESKOM SPECIFICATION	:-					
TEST & CERTIFICATION REQUIREMENTS :-						
INSPECTION	Yes	No	ESKOM RELEASE NOTE		Yes No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS						
20	SAP NUMBER FOR FLAT ROUND WASHERS CHANGED AND M20 160 SQ. OCTAGONAL WASHER ADDED	P.A.T.	M.SHUTER	B.MCLAREN	05.10.2012	
19	MATERIAL GROUP FOR SPRING WASHERS CHANGED	P.A.T.	S. MASHABA	B.BRANFIELD	21.07.2010	
18	2 MATERIAL TYPES SPECIFIED FOR GRADE 355JR STEEL	P.A.T.	S. MASHABA	B.BRANFIELD	05.02.2010	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	SCALE		SAP No:
CHKD:		DATE:		NTS		0163879
DRAWN:	Z.WATSON	DATE:	14/09/92	CAD REF:		0163896
				SERIES 3000		SET SHEET REV
				FILE No:		
				3014		
				Eskom		
				D-DT-3014		
				9		1
						20



SAP MATERIAL No.:	0403389						
SHORT DESCRIPTION:	WASHER,RD FLAT M10 20.6D 11.25D HL D3014						
TECH. DESCRIPTION:							
FLAT ROUND WASHER * FOR M10 USE * MATERIAL GRADE COMMERCIAL MILD STEEL * HOT DIPPED GALVANISED * 20.2-21.0 DIA. x 2.0 THICK BEFORE GALVANISING WITH 11.0-11.5mm DIA. BOLT HOLE * ESKOM DRAWING No. D-DT-3014 *							
SAP MATERIAL No.:	0404344						
SHORT DESCRIPTION:	WASHER,RD FLAT M16 29.6D 18.25D HL D3014						
TECH. DESCRIPTION:							
FLAT ROUND WASHER * FOR M16 USE * MATERIAL GRADE COMMERCIAL MILD STEEL * HOT DIPPED GALVANISED * 29.2-30.0 DIA. x 3.0 THICK BEFORE GALVANISING WITH 18.0-18.5mm DIA. BOLT HOLE * ESKOM DRAWING No. D-DT-3014 *							
ITEM	:- WASHERS FLAT						
MATERIAL SPECIFICATION	:- DIN 126						
CORROSION SPECIFICATION	:- SANS 121						
STANDARD SPECIFICATION	:- SANS 1700-16-1, SANS 1700-16-2						
ESKOM SPECIFICATION	:-						
TEST & CERTIFICATION REQUIREMENTS :-							
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS							
20	SAP NUMBER FOR FLAT ROUND WASHERS CHANGED AND M20 160 SQ. OCTAGONAL WASHER ADDED		P.A.T.	M.SHUTER	B.MCLAREN	05.10.2012	
19	MATERIAL GROUP FOR SPRING WASHERS CHANGED		P.A.T.	S. MASHABA	B.BRANFIELD	21.07.2010	
18	2 MATERIAL TYPES SPECIFIED FOR GRADE 355JR STEEL		P.A.T.	S. MASHABA	B.BRANFIELD	05.02.2010	
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	SCALE		SAP No:	
CHKD:		DATE:		NTS		0403389	
DRAWN:	Z.WATSON	DATE:	14/09/92	CAD REF:		0404344	
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				3014			REV
				 <b>D-DT-3014</b>		20	

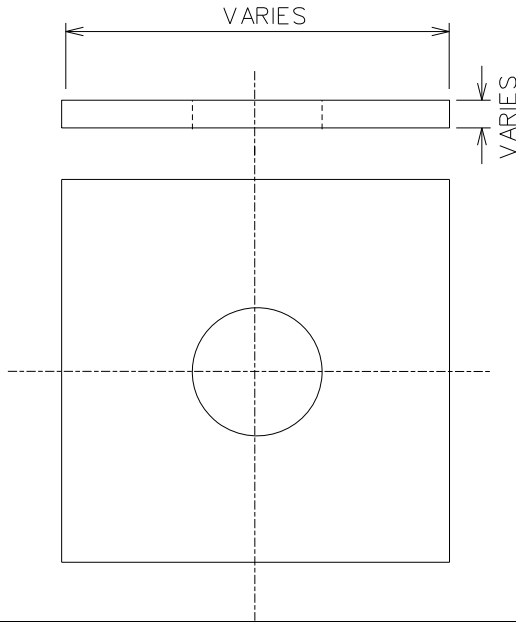


## SPEC SHEET

SAP MATERIAL No.:	0403391
SHORT DESCRIPTION:	WASHER,RD FLAT M20 36.4D 22.3D HL D3014

TECH. DESCRIPTION:  
 FLAT ROUND WASHER \* FOR M20 USE \*  
 MATERIAL GRADE COMMERCIAL MILD STEEL \* HOT DIPPED GALVANISED \*  
 35.8-37.0 DIA. x 3.0 THICK BEFORE GALVANISING WITH 22.0-22.6mm DIA. BOLT HOLE \*  
 ESKOM DRAWING No. D-DT-3014 \*

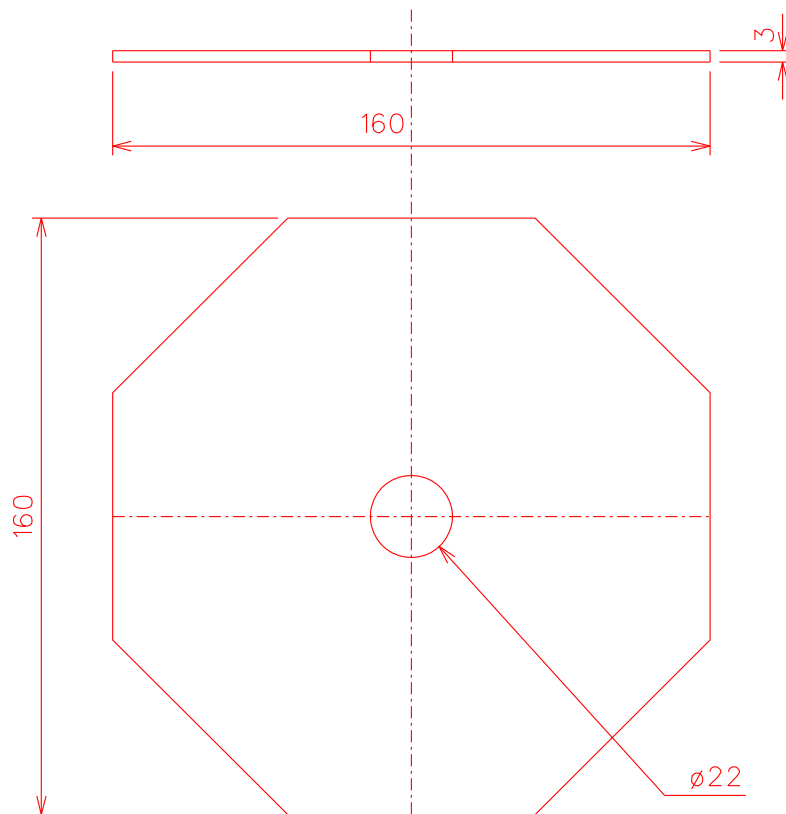
20	SAP NUMBER FOR FLAT ROUND WASHERS CHANGED AND M20 160 SQ. OCTAGONAL WASHER ADDED	P.A.T.	M.SHUTER <i>MW Shuter</i>	B.MCLAREN <i>B. McLaren</i>	05.10.2012			
19	MATERIAL GROUP FOR SPRING WASHERS CHANGED	P.A.T.	S. MASHABA	B.BRANFIELD	21.07.2010			
18	2 MATERIAL TYPES SPECIFIED FOR GRADE 355JR STEEL	P.A.T.	S. MASHABA	B.BRANFIELD	05.02.2010			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	<b>Eskom</b>		SAP No:		
CHKD:		DATE:				0403391		
DRAWN:	Z.WATSON	DATE:	14/09/92	<b>D-DT-3014</b>		SET	SHEET	REV
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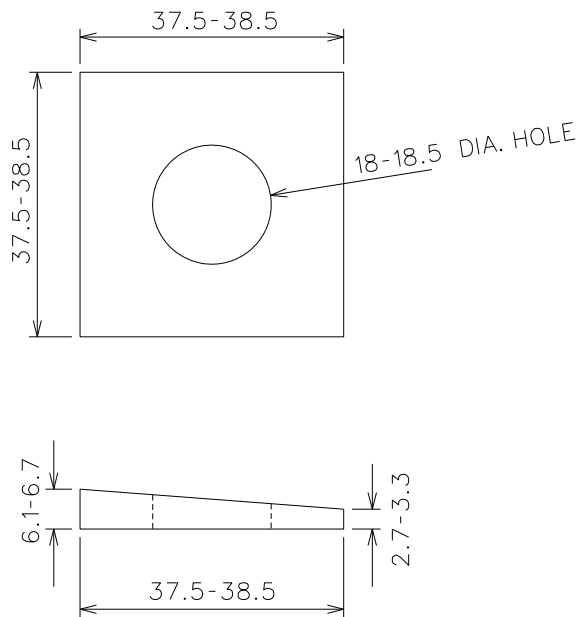
SAP MATERIAL No.:		0163914						
SHORT DESCRIPTION:		WASHER,SQ FLAT M6 50SQ 8.00D HL D3014						
TECH. DESCRIPTION:								
FLAT SQUARE WASHER * FOR M6 USE * MATERIAL GRADE COMMERCIAL MILD STEEL * HOT DIPPED GALVANISED * 50.0 x 50.0 x 3.0 THICK WITH 8mm DIA. BOLT HOLE * ESKOM DRAWING No. D-DT-3014 *								
SAP MATERIAL No.:		0163905						
SHORT DESCRIPTION:		WASHER,SQ FLAT M10 50SQ 11.25D HL D3014						
TECH. DESCRIPTION:								
FLAT SQUARE WASHER * FOR M10 USE * MATERIAL GRADE COMMERCIAL MILD STEEL * HOT DIPPED GALVANISED * 49.0-51.0 SQ x 2.8-3.5 THICK WITH 11.0-11.5mm DIA. BOLT HOLE * ESKOM DRAWING No. D-DT-3014 *								
SAP MATERIAL No.:		0179709						
SHORT DESCRIPTION:		WASHER,SQ FLAT M12 50SQ 14.25D HL D3014						
TECH. DESCRIPTION:								
FLAT SQUARE WASHER * FOR M12 USE * MATERIAL GRADE COMMERCIAL MILD STEEL * HOT DIPPED GALVANISED * 49.0-51.0 SQ x 2.8-3.5 THICK WITH 14.0-14.5mm DIA. BOLT HOLE * ESKOM DRAWING No. D-DT-3014 *								
20	SAP NUMBER FOR FLAT ROUND WASHERS CHANGED AND M20 160 SQ. OCTAGONAL WASHER ADDED		P.A.T.	M.SHUTER	B.MCLAREN	05.10.2012		
19	MATERIAL GROUP FOR SPRING WASHERS CHANGED		P.A.T.	S. MASHABA	B.BRANFIELD	21.07.2010		
18	2 MATERIAL TYPES SPECIFIED FOR GRADE 355JR STEEL		P.A.T.	S. MASHABA	B.BRANFIELD	05.02.2010		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A.CILLIERS	DATE:	MARCH 93			SAP No:		
CHKD:		DATE:				0163914	0179709	
				<b>D-DT-3014</b>		SET	SHEET	REV
DRAWN:	Z.WATSON	DATE:	14/09/92			3014	9	4

## SPEC SHEET

SAP MATERIAL No.:	0163911								
SHORT DESCRIPTION:	WASHER,SQ FLAT M16 50SQ 18.25D HL D3014								
TECH. DESCRIPTION:	<p>FLAT SQUARE WASHER * FOR M16 USE *</p> <p>MATERIAL GRADE COMMERCIAL MILD STEEL * HOT DIPPED GALVANISED *</p> <p>49.0-51.0 SQ x 3.0 THICK BEFORE GALVANISING WITH 18.0-18.5mm DIA. BOLT HOLE *</p> <p>ESKOM DRAWING No. D-DT-3014 *</p>								
SAP MATERIAL No.:	0163912								
SHORT DESCRIPTION:	WASHER,SQ FLAT M20 64.25SQ 22.3D HL D3014								
TECH. DESCRIPTION:	<p>FLAT SQUARE WASHER * FOR M20 USE *</p> <p>MATERIAL GRADE COMMERCIAL MILD STEEL * HOT DIPPED GALVANISED *</p> <p>63.5-65.0 SQ x 3.0 THICK BEFORE GALVANISING WITH 22.0-22.6mm DIA. BOLT HOLE *</p> <p>ESKOM DRAWING No. D-DT-3014*</p>								
20	SAP NUMBER FOR FLAT ROUND WASHERS CHANGED AND M20 160 SQ. OCTAGONAL WASHER ADDED			P.A.T.	M.SHUTER <i>MW Shuter</i>	B.MCLAREN <i>B. McLaren</i>	05.10.2012		
19	MATERIAL GROUP FOR SPRING WASHERS CHANGED			P.A.T.	S. MASHABA	B.BRANFIELD	21.07.2010		
18	2 MATERIAL TYPES SPECIFIED FOR GRADE 355JR STEEL			P.A.T.	S. MASHABA	B.BRANFIELD	05.02.2010		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	SCALE		 <b>D-DT-3014</b>		SAP No:	
CHKD:		DATE:		NTS				0163911	
				CAD REF:				0163912	
				SERIES 3000		SET	SHEET	REV	
DRAWN:	Z.WATSON	DATE:	14/09/92	FILE No:		9	5	20	
				3014					



SAP MATERIAL No.:		0555865					
SHORT DESCRIPTION:		WASHER,FLAT:NOM M20X160X3 OCTAGONAL					
TECH. DESCRIPTION:		<p>WASHER, FLAT: NOMINAL SIZE: M20X160X3 OCTAGONAL;  INSIDE DIAMETER: HOLE 22 MM;  OUTER SIZE: 160 SQUARE MM; THICKNESS: 3MM;  GRADE: COMMERCIAL; MATERIAL: MILD STEEL;  FLAT OCTAGONAL WASHER; FOR M20 USE;  HOT DIPPED GALVANISED;  160MM DIAMETER X 3.0MM THICK BEFORE GALVANISING WITH 22MM DIAMETER BOLT HOLE;  ESKOM DRAWING No. D-DT-3014 *</p>					
20	SAP NUMBER FOR FLAT ROUND WASHERS CHANGED AND M20 160 SQ. OCTAGONAL WASHER ADDED	P.A.T.	M.SHUTER	B.MCLAREN	05.10.2012		
19	MATERIAL GROUP FOR SPRING WASHERS CHANGED	P.A.T.	S. MASHABA	B.BRANFIELD	21.07.2010		
18	2 MATERIAL TYPES SPECIFIED FOR GRADE 355JR STEEL	P.A.T.	S. MASHABA	B.BRANFIELD	05.02.2010		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	SCALE	SAP No:		
CHKD:		DATE:		NTS	0555865		
DRAWN:	Z.WATSON	DATE:	14/09/92	CAD REF:	SET	SHEET	
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				FILE No:	REV		
				3014	20		
				Eskom <b>D-DT-3014</b>			

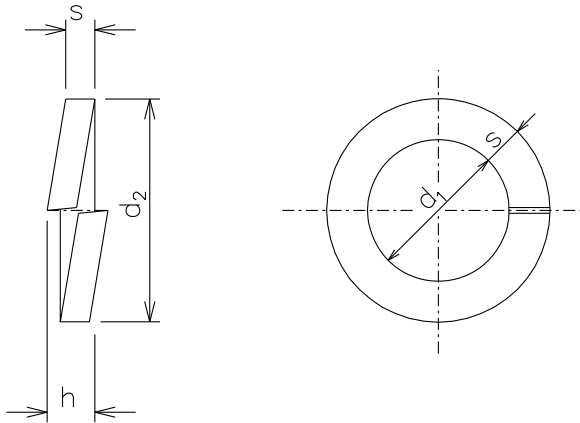


SAP MATERIAL No.:	0163917
SHORT DESCRIPTION:	WASHER,TAPER M16 38SQ 18.0D HL D3014

TECH. DESCRIPTION:

TAPER WASHER (BEVEL WASHER) \* FOR M16 USE \*  
 MATERIAL GRADE COMMERCIAL MILD STEEL \* HOT DIPPED GALVANISED \*  
 37.5-38 x 37.5 x 6.1-6.7 TO 2.7-3.3 TAPER WITH  
 18.00-18.5mm DIA BOLT HOLE \*  
 ESKOM DRAWING No. D-DT-3014 \* S \*

20	SAP NUMBER FOR FLAT ROUND WASHERS CHANGED AND M20 160 SQ. OCTAGONAL WASHER ADDED	P.A.T.	M.SHUTER <i>MW Shutte</i>	B.MCLAREN <i>B. McLaren</i>	05.10.2012		
19	MATERIAL GROUP FOR SPRING WASHERS CHANGED	P.A.T.	S. MASHABA	B.BRANFIELD	21.07.2010		
18	2 MATERIAL TYPES SPECIFIED FOR GRADE 355JR STEEL	P.A.T.	S. MASHABA	B.BRANFIELD	05.02.2010		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	 <b>D-DT-3014</b>	SAP No:		
CHKD:		DATE:			0163917		
SCALE					SET	SHEET	REV
DRAWN:	Z.WATSON	DATE:	14/09/92		9	7	20



SIZE	d <sub>2</sub>	s	h		d <sub>1</sub>
			MIN.	MAX.	
M12	18.0	2.5 +0.15	5.0	5.9	12.2 +0.5
M16	24.4	3.5 +0.2	7.0	8.25	16.2 +0.8
M20	30.6	4.5 +0.2	9.0	8.25	20.2 +1.0
M24	35.9	5.0 +0.2	9.0	10.6	24.5 +1.0

SAP MATERIAL No.:		0241939					
SHORT DESCRIPTION:		WASHER,SPRING M12 D3014					
TECH. DESCRIPTION:							
SPRING / SADDLE WASHER * FOR M12 USE *							
MATERIAL GRADE SPRING STEEL * HOT DIPPED GALVANISED *							
SEE TABLE FOR DETAILS *							
ESKOM DRAWING No. D-DT-3014 *							
ITEM		:- SPRING / SADDLE WASHERS					
MATERIAL SPECIFICATION		:- SPRING STEEL					
CORROSION SPECIFICATION		:- SANS 121					
STANDARD SPECIFICATION		:- DIN 7980					
ESKOM SPECIFICATION		:-					
TEST & CERTIFICATION REQUIREMENTS :-							
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS							
20	SAP NUMBER FOR FLAT ROUND WASHERS CHANGED AND M20 160 SQ. OCTAGONAL WASHER ADDED		P.A.T.	M.SHUTER	B.MCLAREN	05.10.2012	
19	MATERIAL GROUP FOR SPRING WASHERS CHANGED		P.A.T.	S. MASHABA	B.BRANFIELD	21.07.2010	
18	2 MATERIAL TYPES SPECIFIED FOR GRADE 355JR STEEL		P.A.T.	S. MASHABA	B.BRANFIELD	05.02.2010	
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	SCALE		SAP No:	
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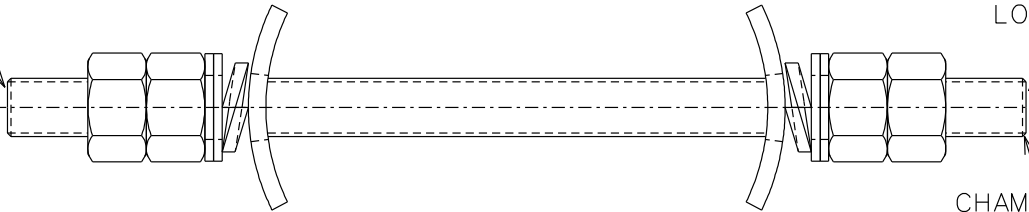
## SPEC SHEET

SAP MATERIAL No.:	0241916
SHORT DESCRIPTION:	WASHER,SPRING M16 D3014
TECH. DESCRIPTION:	
SPRING / SADDLE WASHER * FOR M16 USE * MATERIAL GRADE SPRING STEEL * HOT DIPPED GALVANISED * SEE TABLE FOR DETAILS * ESKOM DRAWING No. D-DT- 3014*	
SAP MATERIAL No.:	0241917
SHORT DESCRIPTION:	WASHER,SPRING M18 D3014
TECH. DESCRIPTION:	
SPRING / SADDLE WASHER * FOR M18 USE * MATERIAL GRADE SPRING STEEL * HOT DIPPED GALVANISED * SEE TABLE FOR DETAILS * ESKOM DRAWING No. D-DT- 3014*	
SAP MATERIAL No.:	0241918
SHORT DESCRIPTION:	WASHER,SPRING M20 D3014
TECH. DESCRIPTION:	
SPRING / SADDLE WASHER * FOR M20 USE * MATERIAL GRADE SPRING STEEL * HOT DIPPED GALVANISED * SEE TABLE FOR DETAILS * ESKOM DRAWING No. D-DT- 3014*	
SAP MATERIAL No.:	0241919
SHORT DESCRIPTION:	WASHER,SPRING M24 D3014
TECH. DESCRIPTION:	
SPRING / SADDLE WASHER * FOR M24 USE * MATERIAL GRADE SPRING STEEL * HOT DIPPED GALVANISED * SEE TABLE FOR DETAILS * ESKOM DRAWING No. D-DT- 3014*	

20	SAP NUMBER FOR FLAT ROUND WASHERS CHANGED AND M20 160 SQ. OCTAGONAL WASHER ADDED	P.A.T.	M.SHUTER	B.MCLAREN	05.10.2012		
19	MATERIAL GROUP FOR SPRING WASHERS CHANGED	P.A.T.	S. MASHABA	B.BRANFIELD	21.07.2010		
18	2 MATERIAL TYPES SPECIFIED FOR GRADE 355JR STEEL	P.A.T.	S. MASHABA	B.BRANFIELD	05.02.2010		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	Eskom		SAP No:	
CHKD:		DATE:				0241916	0241918
				D-DT-3014		0241917	0241919
DRAWN:	Z.WATSON	DATE:	14/09/92			SET	SHEET
				9	9	20	

MANUFACTURER  
IDENTIFICATION  
LOGO

MANUFACTURER  
IDENTIFICATION  
LOGO



CHAMFER  
(SEE NOTE 2)

NOTE :

1. SKETCH NOT FOR MANUFACTURING PURPOSES.
2. THREAD TO BE CHAMFERED BOTH ENDS SEE SAP TECHNICAL DESCRIPTION FOR CHAMFER AMOUNT AND TO BE CUT AT RIGHT ANGLES.
3. FOR ACTUAL ASSEMBLY REFER TO ASSEMBLY DRAWINGS.
4. FOR ACTUAL ITEM REQUIREMENTS REFER TO D-DT-3015 SAP. No.

SAP MATERIAL No.:	0163868
SHORT DESCRIPTION:	ROD,THD:M6-1.0-6G;LG 500 MM

TECH. DESCRIPTION:


ROD, THREADED: THREAD: M6-1.0-6G  
MATERIAL: STL, ELECTRO PLTD,  
LENGTH: 500 MM  
GRADE: SAE1008, 070M20 NO CHAMFER REQUIRED IF <6 MM,  
COMPLETE WITH TWO M6 FLAT SQUARE WASHERS(D-DT-3014), AND  
M6 FOUR HEX NUTS (D-DT-3173),  
PACKAGING: SHRINK WRAPPED 10 PER PACK COMPLETE WITH,  
NUTS AND WASHERS ETC. TO BE RUN ONTO THREAD 25 PCT EACH END,  
ESKOM DRAWING No. D-DT-3015 \*

ITEM	:-	ROD THREADED
MATERIAL SPECIFICATION	:-	GRADE SAE 1008 STEEL, GRADE 070M20 STEEL
CORROSION SPECIFICATION	:-	SANS 121
STANDARD SPECIFICATION	:-	SANS 1700
ESKOM SPECIFICATION	:-	
TEST & CERTIFICATION REQUIREMENTS	:-	TYPE TEST ACCORDING TO SANS 1700 (THREAD PULL TEST ONLY)

INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

25	EXTRA WASHERS, HEX NUTS AND BONDING CLIPS ADDED ON M20 THREADED RODS AND M20 SQ. WASHERS REMOVED	P.A.T.	B. HILL	B. HILL	07.03.2014	
24	TWO M20 SQUARE FLAT WASHERS ADDED TO M20x350, 450, 600 AND 750 THREADED RODS AND ALL ITEMS ACCORDING TO PILOG FORMAT	P.A.T.	B. HILL	B. HILL	14.01.2013	
23	TYPE TEST AND NUTS AND WASHER RUN ON THREAD CHANGED	P.A.T.	S. MASHABA	B. HILL	07.09.2010	

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	SCALE	 <b>D-DT-3015</b>			SAP No:		
CHKD:		DATE:		NTS				0163868		
				CAD REF:				SET	SHEET	REV
				SERIES 3000				5	1	25
DRAWN:	R.V.R.	DATE:	14-09-92	FILE No:						
				3015						



**SPEC SHEET**

SAP MATERIAL No.:		0163869						
SHORT DESCRIPTION:		ROD,THD:M12-1.75-6G;LG 350 MM						
TECH. DESCRIPTION:		ROD, THREADED: THREAD: M12-1.75-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 350 MM GRADE: SAE1008, 070M20 CHAMPER 1.75 X 45 DEG , COMPLETE WITH TWO M12 FLAT SQUARE WASHERS (D-DT-3014) AND M12 FOUR HEXAGON NUTS (D-DT-3173), PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 *						
SAP MATERIAL No.:		0163789						
SHORT DESCRIPTION:		STUD,ALL THD:LG 200 MM;M16-2.0-6G;STL						
TECH. DESCRIPTION:		STUD, ALL THREAD: THREAD: M16-2.0-6G LENGTH: 200 MM MATERIAL: STL GRADE: SAE1008, 070M20 HOT DIPPED GALV CHAMPER 2 X 45 DEG, COMPLETE WITH TWO M16 FLAT SQUARE WASHER (D-DT-3014) AND FOUR M16 HEX NUTS (D-DT-3173), PACKING: NUTS AND WASHERS TO BE RUN ONTO ROD 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 * (S) *						
SAP MATERIAL No.:		0163782						
SHORT DESCRIPTION:		STUD,ALL THD:LG 250 MM;M16-2.0-6G;STL						
TECH. DESCRIPTION:		STUD, ALL THREAD: THREAD: M16-2.0-6G LENGTH: 250 MM MATERIAL: STL GRADE: SAE1008, 070M20 HOT DIPPED GALV CHAMPER 2 X 45 DEG, COMPLETE WITH TWO FLAT M16 SQUARE WASHER, TWO M16 SPRING WASHERS (D-DT-3014) AND TWO M16 HEX NUTS (D-DT-3173), PACKAGING: NUTS AND WASHERS TO BE RUN ONTO ROD 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 * (S)						
SAP MATERIAL No.:		0163783						
SHORT DESCRIPTION:		ROD,THD:M16-2.0-6G;LG 350 MM						
TECH. DESCRIPTION:		ROD, THREADED: THREAD: M16-2.0-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 350 MM GRADE: SAE1008, 070M20 CHAMPER 2 X 45 DEG, COMPLETE WITH TWO M16 FLAT SQUARE WASHER, TWO M16 SPRING WASHERS (D-DT-3014) AND M16 TWO HEX NUTS (D-DT-3173), PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 * (S)						
25	EXTRA WASHERS, HEX NUTS AND BONDING CLIPS ADDED ON M20 THREADED RODS AND M20 SQ. WASHERS REMOVED	P.A.T.	B. HILL	B. HILL	07.03.2014			
24	TWO M20 SQUARE FLAT WASHERS ADDED TO M20x350, 450, 600 AND 750 THREADED RODS AND ALL ITEMS ACCORDING TO PILOG FORMAT	P.A.T.	B. HILL	B. HILL	14.01.2013			
23	TYPE TEST AND NUTS AND WASHER RUN ON THREAD CHANGED	P.A.T.	S. MASHABA	B. HILL	07.09.2010			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	S.A.CILLIERS	DATE:	MARCH 93			SAP No:		
CHKD:		DATE:				0163869	0163782	
						0163789	0163783	
DRAWN:	R.V.R.	DATE:	14-09-92	<b>D-DT-3015</b>		SET	SHEET	REV
						5	2	25


**SPEC SHEET**

SAP MATERIAL No.:		0163864						
SHORT DESCRIPTION:		STUD,ALL THD:LG 250 MM;M20-2.5-6G;STL						
TECH. DESCRIPTION:								
STUD, ALL THREAD: THREAD: M20-2.5-6G; LENGTH: 250 MM; MATERIAL: STL; GRADE: SAE1008, 070M20; HOT DIPPED GALV; CHAMPER 2.5 X 45 DEG, COMPLETE WITH TWO M20 CURVED WASHERS, <b>FOUR</b> M20 ROUND FLAT WASHERS, <b>THREE</b> M20 SPRING WASHERS (D-DT-3014), FOUR M20 HEX NUTS (D-DT-3173) <b>AND ONE BONDING CLIP (D-DT-3033);</b> PACKAGING: NUTS AND WASHERS TO BE RUN ONTO ROD 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 *								
SAP MATERIAL No.:		0163790						
SHORT DESCRIPTION:		ROD,THD:M20-2.5-6G;LG 350 MM						
TECH. DESCRIPTION:								
ROD, THREADED: THREAD: M20-2.5-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 350 MM GRADE: SAE1008, 070M20 CHAMPER 2.5 X 45 DEG, COMPLETE WITH TWO M20 CURVED WASHERS, <b>FOUR</b> M20 ROUND FLAT WASHERS, <b>THREE</b> M20 SPRING WASHERS (D-DT-3014), M20 FOUR HEX NUTS (D-DT-3173) <b>AND ONE BONDING CLIP (D-DT-3033);</b> PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 * (S) *								
SAP MATERIAL No.:		0163862						
SHORT DESCRIPTION:		ROD,THD:M20-2.5-6G;LG 450 MM						
TECH. DESCRIPTION:								
ROD, THREADED: THREAD: M20-2.5-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 450 MM GRADE: SAE1008, 070M20 CHAMPER 2.5 X 45 DEG, COMPLETE WITH TWO M20 CURVED WASHERS, <b>FOUR</b> M20 ROUND FLAT WASHERS, <b>THREE</b> M20 SPRING WASHERS (D-DT-3014), FOUR M20 HEX NUTS (D-DT-3173) <b>AND ONE BONDING CLIP (D-DT-3033);</b> PACKING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 *								
SAP MATERIAL No.:		0163865						
SHORT DESCRIPTION:		ROD,THD:M20-2.5-6G;LG 600 MM						
TECH. DESCRIPTION:								
ROD, THREADED: THREAD: M20-2.5-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 600 MM GRADE: SAE1008, 070M20 CHAMPER 2.5 X 45 DEG, COMPLETE WITH FOUR M20 CURVED WASHERS, <b>SIX</b> M20 ROUND FLAT WASHERS, <b>FIVE</b> M20 SPRING WASHERS (D-DT-3014), <b>SEVEN</b> M20 HEX NUTS (D-DT-3173) <b>AND ONE BONDING CLIP (D-DT-3033);</b> PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 *								
25	EXTRA WASHERS, HEX NUTS AND BONDING CLIPS ADDED ON M20 THREADED RODS AND M20 SQ. WASHERS REMOVED			P.A.T.	B. HILL	B. HILL	07.03.2014	
24	TWO M20 SQUARE FLAT WASHERS ADDED TO M20x350, 450, 600 AND 750 THREADED RODS AND ALL ITEMS ACCORDING TO PILOG FORMAT			P.A.T.	B. HILL	B. HILL	14.01.2013	
23	TYPE TEST AND NUTS AND WASHER RUN ON THREAD CHANGED			P.A.T.	S. MASHABA	B. HILL	07.09.2010	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	SCALE		SAP No:		
				NTS		0163864 0163862		
CHKD:		DATE:		CAD REF:		0163790 0163865		
				SERIES 3000		SET	SHEET	REV
DRAWN:	R.V.R.	DATE:	14-09-92	FILE No:		5	3	25
				3015				



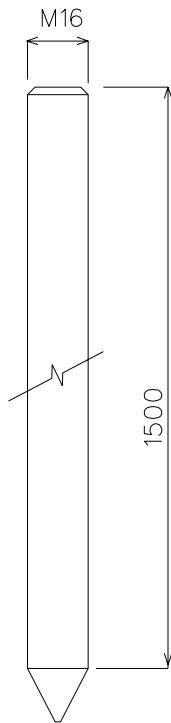
**D-DT-3015**

## SPEC SHEET

SAP MATERIAL No.:		0182711					
SHORT DESCRIPTION:		ROD,THD:M20-2.5-6G;LG 750 MM					
TECH. DESCRIPTION:		ROD, THREADED: THREAD: M20-2.5-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 750 MM GRADE: SAE1008, 070M20 CHAMPER 2.5 X 45 DEG, COMPLETE WITH FOUR M20 CURVED WASHERS, <b>SIX</b> M20 ROUND FLAT WASHERS, <b>FIVE</b> M20 SPRING WASHERS (D-DT-3014), <b>SEVEN</b> M20 HEX NUTS (D-DT-3173) <b>AND ONE BONDING CLIP (D-DT-3033)</b> ; PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 *					
SAP MATERIAL No.:		0220714					
SHORT DESCRIPTION:		ROD,THD:M20-2.5-6G;LG 1 M					
TECH. DESCRIPTION:		ROD, THREADED: THREAD: M20-2.5-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 1 M GRADE: SAE1008, 070M20 CHAMPER 2.5 X 45 DEG, COMPLETE WITH M20 FOUR CURVED WASHERS, <b>SIX</b> M20 ROUND FLAT WASHERS, <b>FIVE</b> M20 SPRING WASHERS (D-DT-3014), <b>SEVEN</b> M20 HEXAGON NUTS (D-DT-3173) <b>AND ONE BONDING CLIP (D-DT-3033)</b> ; PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 *					
SAP MATERIAL No.:		0185178					
SHORT DESCRIPTION:		ROD,THD:M24-3-6G;LG 350 MM					
TECH. DESCRIPTION:		ROD, THREADED: THREAD: M24-3-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 350 MM GRADE: SAE1008, 070M20 CHAMPER 3 X 45 DEG, COMPLETE WITH M24 FOUR FLAT ROUND WASHERS (D-DT-3014) AND FOUR M24 HEXAGON NUTS (D-DT-3173), PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 *					
SAP MATERIAL No.:		0185179					
SHORT DESCRIPTION:		ROD,THD:M24-3-6G;LG 500 MM					
TECH. DESCRIPTION:		ROD, THREADED: THREAD: M24-3-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 500 MM GRADE: SAE1008, 070M20 CHAMPER 3 X 45 DEG, COMPLETE WITH FOUR M24 FLAT ROUND WASHERS (D-DT-3014) AND FOUR M24 HEX NUTS (D-DT-3173), PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 *(S) *					
25	EXTRA WASHERS, HEX NUTS AND BONDING CLIPS ADDED ON M20 THREADED RODS AND M20 SQ. WASHERS REMOVED	P.A.T.	B. HILL	B. HILL	07.03.2014		
24	TWO M20 SQUARE FLAT WASHERS ADDED TO M20x350, 450, 600 AND 750 THREADED RODS AND ALL ITEMS ACCORDING TO PILOG FORMAT	P.A.T.	B. HILL	B. HILL	14.01.2013		
23	TYPE TEST AND NUTS AND WASHER RUN ON THREAD CHANGED	P.A.T.	S. MASHABA	B. HILL	07.09.2010		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	 <b>D-DT-3015</b>		SAP No:	
CHKD:		DATE:				0182711	0185178
DRAWN:	R.V.R.	DATE:	14-09-92			0220714	0185179
				SET	SHEET	REV	
				5	4	25	

## SPEC SHEET

SAP MATERIAL No.:	0216928								
SHORT DESCRIPTION:	ROD,THD:M24-3-6G;LG 650 MM								
TECH. DESCRIPTION:									
ROD, THREADED: THREAD: M24-3-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 650 MM GRADE: SAE1008, 070M20 CHAMPER 3 X 45 DEG, COMPLETE WITH FOUR M24 FLAT ROUND WASHERS (D-DT-3014) AND FOUR M24 HEXAGON NUTS (D-DT-3173), PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 * (S)									
SAP MATERIAL No.:	0216929								
SHORT DESCRIPTION:	ROD,THD:M24-3-6G;LG 1.0 M								
TECH. DESCRIPTION:									
ROD, THREADED: THREAD: M24-3-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 1.0 M GRADE: SAE1008, 070M20 CHAMPER 3 X 45 DEG, COMPLETE WITH FOUR M24 FLAT ROUND WASHERS (D-DT-3014) AND FOUR M24 HEX NUTS (D-DT-3173), PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 * (S)*									
SAP MATERIAL No.:	0214091								
SHORT DESCRIPTION:	ROD,THD:M24-3-6G;LG 1.2 M								
TECH. DESCRIPTION:									
ROD, THREADED: THREAD: M24-3-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 1.2 M GRADE: SAE1008, 070M20 CHAMPER 3 X 45 DEG, COMPLETE WITH FOUR M24 FLAT ROUND WASHERS (D-DT-3014) AND FOUR M24 HEX NUTS (D-DT-3173), PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 * (S)*									
SAP MATERIAL No.:	0219213								
SHORT DESCRIPTION:	ROD,THD:M24-3-6G;LG 1.3 M								
TECH. DESCRIPTION:									
ROD, THREADED: THREAD: M24-3-6G MATERIAL: STL HOT DIPPED GALV LENGTH: 1.3 M GRADE: SAE1008, 070M20 CHAMPER 3 X 45 DEG, COMPLETE WITH FOUR M24 FLAT ROUND WASHERS (D-DT-3014) AND FOUR M24 HEX NUTS (D-DT-3173), PACKAGING: NUTS AND WASHERS TO BE RUN ONTO 25 PCT EACH END, ESKOM DRAWING No. D-DT-3015 * (S)									
25	EXTRA WASHERS, HEX NUTS AND BONDING CLIPS ADDED ON M20 THREADED RODS AND M20 SQ. WASHERS REMOVED			P.A.T.	B. HILL	B. HILL	07.03.2014		
24	TWO M20 SQUARE FLAT WASHERS ADDED TO M20x350, 450, 600 AND 750 THREADED RODS AND ALL ITEMS ACCORDING TO PILOG FORMAT			P.A.T.	B. HILL	B. HILL	14.01.2013		
23	TYPE TEST AND NUTS AND WASHER RUN ON THREAD CHANGED			P.A.T.	S. MASHABA	B. HILL	07.09.2010		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	S.A.CILLIERS	DATE:	MARCH 93	 <b>D-DT-3015</b>		SAP No:			
						0216928		0214091	
						0216929		0219213	
CHKD:		DATE:		 <b>D-DT-3015</b>		SET	SHEET	REV	
						FILE No:	5	5	25
DRAWN:	R.V.R.	DATE:	14-09-92						



SAP MATERIAL No.: 0168669

SHORT DESCRIPTION: EARTH ROD Cu 1500x16D THREADLESS D3091

TECH. DESCRIPTION:  
 EARTH ROD \* EXTENDABLE \*  
 HIGH TENSILE STEEL ROD, COPPER COATED  
 0.25mm THICK MIN. \*  
 1500mm x 16mm DIA. \* THREADLESS \*  
 ESKOM DRAWING No. D-DT-3091 \*

ITEM :- EARTH ROD 1500LGx16D THREADLESS

MATERIAL SPECIFICATION :- H.T. STEEL 500 MPa

CORROSION SPECIFICATION :- COPPER COATED

STANDARD SPECIFICATION :- SANS 1063

ESKOM SPECIFICATION :- D-DT-3091


TEST & CERTIFICATION REQUIREMENTS :-

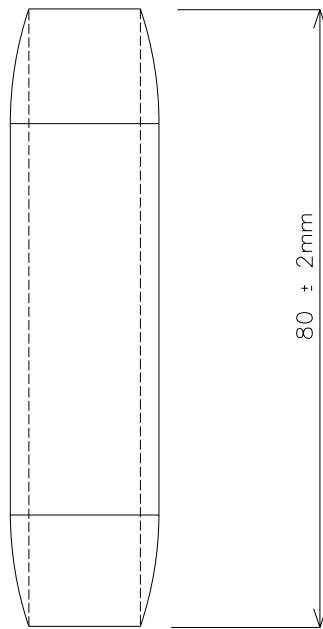
INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

5	STANDARD SABS CHANGED TO SANS	D.D.N.	P.A.VERMAAK	P.A.VERMAAK	23.11.04	
4	LOGO CHANGED AS PER CORPORATE I.D.	D.D.N.	P.VERMAAK	J.SCHOLTZ	15.06.04	
3	THREADED EARTH ROD REMOVED BY WORK GROUP	P.A.V.	A. ABROSIE	P. CROWDY	14.09.99	

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS
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AUTH:	S.A. CILLIERS	DATE:	MARCH 93	SCALE		SAP No:				
CHKD:		DATE:		NTS		0168669				
DRAWN:	H.J.VAN MAANEN	DATE:	23-03-93	CAD REF:		SET	SHEET	REV		
				SERIES 3000	<b>D-DT-3091</b>			1	1	5
				FILE No:						
				3091						



SAP MATERIAL No.:	0168668
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SHORT DESCRIPTION:	EARTH ROD COUPLER,P/BR THREADLESS D3092
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TECH. DESCRIPTION:

EARTH ROD COUPLER \* THREADLESS \*  
 TAPERED SPLINES IN COUPLER BORE TO ENSURE GOOD CONNECTION \*  
 OVERALL LENGTH 80 ± 2 \*  
 ESKOM DRAWING No. D-DT-3092 \*

ITEM	:-	EARTH ROD COUPLER,P/BR M16x80L
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MATERIAL SPECIFICATION	:-	SANS 1063
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CORROSION SPECIFICATION	:-	
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STANDARD SPECIFICATION	:-	SANS 1063
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ESKOM SPECIFICATION	:-	
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TEST & CERTIFICATION REQUIREMENTS	:-	
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INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

5	STANDARD SABS CHANGED TO SANS	D.D.N.	P.A.VERMAAK	P.A.VERMAAK	23.11.04	
4	LOGO CHANGED AS PER CORPORATE I.D.	D.D.N.	P.VERMAAK	J.SCHOLTZ	15.06.04	
3	THREADED EARTH ROD REMOVED	P.A.V.	A.ABROSIE	P. CROWDY	14.09.99	

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	S.A. CILLIERS	DATE:	MARCH 93	SCALE	SAP No: 0168668	
				NTS		
CHKD:		DATE:		CAD REF:		
				SERIES 3000	SET	SHEET
				FILE No:	REV	
DRAWN:	H.J.VAN MAANEN	DATE:	23-03-93	3092	1	1
				<b>D-DT-3092</b>		5



## SPEC SHEET

SAP MATERIAL No.:	0403115							
SHORT DESCRIPTION:	COND,ACSR SQUIRREL 6.33D UNGRS D3136							
TECH. DESCRIPTION:								
ALUMINIUM CONDUCTOR STEEL REINFORCED * 6 ALUMINIUM STRANDS OF 2.11mm DIA * ONE STEEL STRAND OF 2.11mm DIA.* CONDUCTOR 6.33mm DIA. * UNGREASED * CODE NAME SQUIRREL * RATED TENSILE STRENGTH 8.02kN * ESKOM DRAWING No. D-DT-3136 *								
SAP MATERIAL No.:	0403033							
SHORT DESCRIPTION:	COND,ACSR MAGPIE 6.35D UNGRS D3136							
TECH. DESCRIPTION:								
ALUMINIUM CONDUCTOR STEEL REINFORCED * 3 ALUMINIUM STRANDS OF 2.118mm DIA * 4 STEEL STRANDS OF 2.118mm DIA.* CONDUCTOR 6.35mm DIA. * UNGREASED * CODE NAME MAGPIE * RATED TENSILE STRENGTH 18.573kN * ESKOM DRAWING No. D-DT-3136 *								
SAP MATERIAL No.:	0403027							
SHORT DESCRIPTION:	COND,ACSR FOX 8.37D UNGRS D3136							
TECH. DESCRIPTION:								
ALUMINIUM CONDUCTOR STEEL REINFORCED * 6 ALUMINIUM STRANDS OF 2.79mm DIA * ONE STEEL STRAND OF 2.79mm DIA.* CONDUCTOR 8.37mm DIA. * UNGREASED * CODE NAME FOX * RATED TENSILE STRENGTH 13.1kN * ESKOM DRAWING No. D-DT-3136 *								
ITEM	:- CONDUCTOR, STRANDED							
MATERIAL SPECIFICATION	:- IEC 104, IEC 888, IEC 889							
CORROSION SPECIFICATION	:- IEC 61089, IEC 61394, SANS 121, ISO 1461							
STANDARD SPECIFICATION	:- SANS 182-2, 3 & 5, IEC 61089							
ESKOM SPECIFICATION	:- DSP 34-377							
TEST & CERTIFICATION REQUIREMENTS	:- TYPE TESTS AS PER IEC 61089, IEC 61394							
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
13	SAP 0014606, 0014443, 0014440, 0014442, 0014441 0014445, 0014697, 0014439, 0014657, 0014677, 0014675, 0014781, 0014752, 0171327, 0014678, 0014580, 0014446,0014447, 0014452 CORRECTED		P.A.T.	D. RAMJASS	D. RAMJASS	20.01.2017		
12	RAIL CONDUCTOR GREASED AND UNGREASED ADDED AND ESKOM SPEC CHANGED		P.A.T.	B. HILL	M. RAPAPA	07.12.2009		
11	FOX CONDUCTOR GREASED REINSTATED		P.A.T.	M. RAPAPA	M. RAPAPA	07.07.2009		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	P.CROWDY	DATE:	17.07.1995	 <b>D-DT- 3136</b>		SAP No:		
CHKD:	J.SWAN	DATE:	17.07.1995			0403115	0403027	
DRAWN:	P.A.VERMAAK	DATE:	11.05.1995			SET	SHEET	REV
						8	1	13

## SPEC SHEET

SAP MATERIAL No.:	0403031
SHORT DESCRIPTION:	COND,ACSR MINK 10.98D UNGRS D3136
TECH. DESCRIPTION:	
ALUMINIUM CONDUCTOR STEEL REINFORCED * 6 ALUMINIUM STRANDS OF 3.66mm DIA * ONE STEEL STRAND OF 3.66mm DIA. * CONDUCTOR 10.98mm DIA. * UNGREASED * CODE NAME MINK * RATED TENSILE 21.9kN * ESKOM DRAWING No. D-DT-3136 *	
SAP MATERIAL No.:	0403029
SHORT DESCRIPTION:	COND,ACSR HARE 14.16D UNGRS D3136
TECH. DESCRIPTION:	
ALUMINIUM CONDUCTOR STEEL REINFORCED * 6 ALUMINIUM STRANDS OF 4.72mm DIA * ONE STEEL STRAND OF 4.72mm DIA.* CONDUCTOR 14.16mm DIA. * UNGREASED * CODE NAME HARE * RATED TENSILE STRENGTH 36kN * ESKOM DRAWING No. D-DT-3136 *	
SAP MATERIAL No.:	0403037
SHORT DESCRIPTION:	COND,ACSR WOLF 18.13D UNGRS D3136
TECH. DESCRIPTION:	
ALUMINIUM CONDUCTOR STEEL REINFORCED * 30 ALUMINIUM STRANDS OF 2.59mm DIA * 7 STEEL STRAND OF 2.59mm DIA. * CONDUCTOR 18.13mm DIA. * UNGREASED * CODE NAME WOLF * RATED TENSILE 69.2kN * ESKOM DRAWING No. D-DT-3136 *	
SAP MATERIAL No.:	0403130
SHORT DESCRIPTION:	COND,ACSR CHICADEE 18.87D UNGRS D3136
TECH. DESCRIPTION:	
ALUMINIUM CONDUCTOR STEEL REINFORCED * 18 ALUMINIUM STRANDS OF 3.77mm DIA * ONE STEEL STRAND OF 3.77mm DIA.* CONDUCTOR 18.87mm DIA. * UNGREASED * CODE NAME CHICADEE * RATED TENSILE STRENGTH 44.9kN * ESKOM DRAWING No. D-DT-3136 *	

13	SAP 0014606, 0014443, 0014440, 0014442, 0014441 0014445, 0014697, 0014439, 0014657, 0014677, 0014675, 0014781, 0014752, 0171327, 0014678, 0014580, 0014446,0014447, 0014452 CORRECTED	P.A.T.	D. RAMJASS	D. RAMJASS	20.01.2017			
12	RAIL CONDUCTOR GREASED AND UNGREASED ADDED AND ESKOM SPEC CHANGED	P.A.T.	B. HILL	M. RAPAPA	07.12.2009			
11	FOX CONDUCTOR GREASED REINSTATED	P.A.T.	M. RAPAPA	M. RAPAPA	07.07.2009			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	P.CROWDY	DATE:	17.07.1995	<b>Eskom</b>  <b>D-DT-3136</b>		SAP No:		
CHKD:	J.SWAN	DATE:	17.07.1995			0403031	0403037	
DRAWN:	P.A.VERMAAK	DATE:	11.05.1995			0403029	0403130	
		SCALE	NTS			SET	SHEET	REV
		CAD REF:	SERIES 3000			8	2	13
		FILE No:	3136					




## SPEC SHEET

SAP MATERIAL No.:	0403025						
SHORT DESCRIPTION:	COND,ACSR BEAR 23.45D UNGRS D3136						
TECH. DESCRIPTION:							
ALUMINIUM CONDUCTOR STEEL REINFORCED * 30 ALUMINIUM STRANDS OF 3.35mm DIA * 7 STEEL STRAND OF 3.35mm DIA. * CONDUCTOR 23.45mm DIA. * UNGREASED * CODE NAME BEAR * RATED TENSILE STRENGTH 112kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	0400662						
SHORT DESCRIPTION:	COND,ACSR KINGBIRD 23.90D UNGRS D3136						
TECH. DESCRIPTION:							
ALUMINIUM CONDUCTOR STEEL REINFORCED * 18 ALUMINIUM STRANDS OF 4.78mm DIA * ONE STEEL STRAND OF 4.78mm DIA. * CONDUCTOR 23.90mm DIA. * UNGREASED * CODE NAME KINGBIRD * RATED TENSILE STRENGTH 71.32kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	0400669						
SHORT DESCRIPTION:	COND,ACSR TERN 27.00D UNGRS D3136						
TECH. DESCRIPTION:							
ALUMINIUM CONDUCTOR STEEL REINFORCED * 45 ALUMINIUM STRANDS OF 3.38mm DIA * 7 STEEL STRAND OF 2.25mm DIA. * CONDUCTOR 27.00mm DIA. * UNGREASED * CODE NAME TERN * RATED TENSILE 98.7kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	0245988						
SHORT DESCRIPTION:	COND,ACSR RAIL 29.59D UNGRS D3136						
TECH. DESCRIPTION:							
ALUMINIUM CONDUCTOR STEEL REINFORCED * 45 ALUMINIUM STRANDS OF 3.70mm DIA * 7 STEEL STRAND OF 2.47mm DIA. * CONDUCTOR 29.59mm DIA. * UNGREASED * CODE NAME RAIL * RATED TENSILE 117kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	0400667						
SHORT DESCRIPTION:	COND,ACSR BERS-FORT 35.58D UNGRS D3136						
TECH. DESCRIPTION:							
ALUMINIUM CONDUCTOR STEEL REINFORCED * 48 ALUMINIUM STRANDS OF 4.27mm DIA * 7 STEEL STRAND OF 3.32mm DIA. * CONDUCTOR 35.58mm DIA. * UNGREASED * CODE NAME BERS-FORT * RATED TENSILE 177,65kN * ESKOM DRAWING No. D-DT-3136 *							
13	SAP 0014606, 0014443, 0014440, 0014442, 0014441 0014445, 0014697, 0014439, 0014657, 0014677, 0014675, 0014781, 0014752, 0171327, 0014678, 0014580, 0014446, 0014447, 0014452 CORRECTED			P.A.T.	D. RAMJASS	D. RAMJASS	20.01.2017
12	RAIL CONDUCTOR GREASED AND UNGREASED ADDED AND ESKOM SPEC CHANGED			P.A.T.	B. HILL	M. RAPAPA	07.12.2009
11	FOX CONDUCTOR GREASED REINSTATED			P.A.T.	M. RAPAPA	M. RAPAPA	07.07.2009
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE
AUTH:	P.CROWDY	DATE:	17.07.1995	SCALE NTS			
CHKD:	J.SWAN	DATE:	17.07.1995	CAD REF:			
DRAWN:	P.A.VERMAAK	DATE:	11.05.1995	SERIES 3000		SAP No:	
				FILE No:		0403025	
				3136		0400662	
				<b>D-DT-3136</b>		0400669	
				SET	SHEET	REV	
				8	3	13	

## SPEC SHEET

SAP MATERIAL No.:	0171330									
SHORT DESCRIPTION:	COND,ACSR FOX 8.37D GRS D3136									
TECH. DESCRIPTION:										
ALUMINIUM CONDUCTOR STEEL REINFORCED * 6 ALUMINIUM STRANDS OF 2.79mm DIA * ONE STEEL STRAND OF 2.79mm DIA.* CONDUCTOR 8.378mm DIA. * GREASED * CODE NAME FOX * RATED TENSILE STRENGTH 13.1kN * ESKOM DRAWING No. D-DT-3136 *										
SAP MATERIAL No.:	0171331									
SHORT DESCRIPTION:	COND,ACSR MINK 10.98D GRS D3136									
TECH. DESCRIPTION:										
ALUMINIUM CONDUCTOR STEEL REINFORCED * 6 ALUMINIUM STRANDS OF 3.66mm DIA * ONE STEEL STRAND OF 3.66mm DIA.* CONDUCTOR 10.98mm DIA. * GREASED * CODE NAME MINK * RATED TENSILE STRENGTH 21.9kN * ESKOM DRAWING No. D-DT-3136 *										
SAP MATERIAL No.:	0171332									
SHORT DESCRIPTION:	COND,ACSR HARE 14.16D GRS D3136									
TECH. DESCRIPTION:										
ALUMINIUM CONDUCTOR STEEL REINFORCED * 6 ALUMINIUM STRANDS OF 4.72mm DIA * ONE STEEL STRAND OF 4.72mm DIA.* CONDUCTOR 14.16mm DIA. * GREASED * CODE NAME HARE * RATED TENSILE STRENGTH 36kN * ESKOM DRAWING No. D-DT-3136 *										
SAP MATERIAL No.:	0403150									
SHORT DESCRIPTION:	COND,ACSR WOLF 18.13D GRS D3136									
TECH. DESCRIPTION:										
ALUMINIUM CONDUCTOR STEEL REINFORCED * 30 ALUMINIUM STRANDS OF 2.59mm DIA * 7 STEEL STRAND OF 2.59mm DIA.* CONDUCTOR 18.13mm DIA. * GREASED * CODE NAME WOLF * RATED TENSILE STRENGTH 69.2kN * ESKOM DRAWING No. D-DT-3136 *										
SAP MATERIAL No.:	0171326									
SHORT DESCRIPTION:	COND,ACSR CHICADEE 18.87D GRS D3136									
TECH. DESCRIPTION:										
ALUMINIUM CONDUCTOR STEEL REINFORCED * 18 ALUMINIUM STRANDS OF 3.77mm DIA * ONE STEEL STRAND OF 3.77mm DIA.* CONDUCTOR 18.87mm DIA. * GREASED * CODE NAME CHICADEE * RATED TENSILE STRENGTH 44.9kN * ESKOM DRAWING No. D-DT-3136 *										
13	SAP 0014606, 0014443, 0014440, 0014442, 0014441 0014445, 0014697, 0014439, 0014657, 0014677, 0014675, 0014781, 0014752, 0171327, 0014678, 0014580, 0014446,0014447, 0014452 CORRECTED			P.A.T.	D. RAMJASS	D. RAMJASS	20.01.2017			
12	RAIL CONDUCTOR GREASED AND UNGREASED ADDED AND ESKOM SPEC CHANGED			P.A.T.	B. HILL	M. RAPAPA	07.12.2009			
11	FOX CONDUCTOR GREASED REINSTATED			P.A.T.	M. RAPAPA	M. RAPAPA	07.07.2009			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	P.CROWDY	DATE:	17.07.1995	SCALE NTS		 <b>Eskom</b>  <b>D-DT-3136</b>		SAP No:		
CHKD:	J.SWAN	DATE:	17.07.1995	CAD REF:				0171330	0403150	
				SERIES 3000				0171331	0171326	
DRAWN:	P.A.VERMAAK	DATE:	11.05.1995	FILE No:		SET		SHEET	REV	
				3136		8		4	13	

## SPEC SHEET

SAP MATERIAL No.:	0403055							
SHORT DESCRIPTION:	COND,ACSR BEAR 23.45D GRS D3136							
TECH. DESCRIPTION:	ALUMINIUM CONDUCTOR STEEL REINFORCED * 30 ALUMINIUM STRANDS OF 3.35mm DIA * 7 STEEL STRAND OF 3.35mm DIA.* CONDUCTOR 23.45mm DIA. * GREASED * CODE NAME BEAR * RATED TENSILE STRENGTH 112kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	0401188							
SHORT DESCRIPTION:	COND,ACSR KINGBIRD 23.90D GRS D3136							
TECH. DESCRIPTION:	ALUMINIUM CONDUCTOR STEEL REINFORCED * 18 ALUMINIUM STRANDS OF 4.78mm DIA * ONE STEEL STRAND OF 4.78mm DIA.* CONDUCTOR 23.90mm DIA. * GREASED * CODE NAME KINGBIRD * RATED TENSILE STRENGTH 71.32kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	0400671							
SHORT DESCRIPTION:	COND,ACSR TERN 27.00D GRS D3136							
TECH. DESCRIPTION:	ALUMINIUM CONDUCTOR STEEL REINFORCED * 45 ALUMINIUM STRANDS OF 3.38mm DIA * 7 STEEL STRAND OF 2.25mm DIA.* CONDUCTOR 27.00mm DIA. * GREASED * CODE NAME TERN * RATED TENSILE STRENGTH 98.7kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	0245989							
SHORT DESCRIPTION:	COND,ACSR RAIL 29.59D GRS D3136							
TECH. DESCRIPTION:	ALUMINIUM CONDUCTOR STEEL REINFORCED * 45 ALUMINIUM STRANDS OF 3.70mm DIA * 7 STEEL STRAND OF 2.47mm DIA. * CONDUCTOR 29.59mm DIA. * GREASED * CODE NAME RAIL * RATED TENSILE 117kN * ESKOM DRAWING No. D-DT-3136 *							
13	SAP 0014606, 0014443, 0014440, 0014442, 0014441 0014445, 0014697, 0014439, 0014657, 0014677, 0014675, 0014781, 0014752, 0171327, 0014678, 0014580, 0014446,0014447, 0014452 CORRECTED		P.A.T.	D. RAMJASS	D. RAMJASS	20.01.2017		
12	RAIL CONDUCTOR GREASED AND UNGREASED ADDED AND ESKOM SPEC CHANGED		P.A.T.	B. HILL	M. RAPAPA	07.12.2009		
11	FOX CONDUCTOR GREASED REINSTATED		P.A.T.	M. RAPAPA	M. RAPAPA	07.07.2009		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	P.CROWDY	DATE:	17.07.1995	 <b>D-DT-3136</b>		SAP No:		
CHKD:	J.SWAN	DATE:	17.07.1995			0403055	0400671	
DRAWN:	P.A.VERMAAK	DATE:	11.05.1995			0401188	0245989	
				SCALE		SET	SHEET	
				NTS		8	5	
				CAD REF:				
				SERIES 3000				
				FILE No:				
				3136			13	

## SPEC SHEET


SAP MATERIAL No.:	0174614							
SHORT DESCRIPTION:	COND,AAAC ACACIA 6.24D GRS D3136							
TECH. DESCRIPTION:	ALL ALUMINIUM ALLOY CONDUCTOR * 7 STRANDS OF 2.08mm DIA * CONDUCTOR 6.24mm DIA. * GREASED * CODE NAME ACACIA * RATED TENSILE STRENGTH 6.69kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	0174613							
SHORT DESCRIPTION:	COND,AAAC 35 8.31D GRS D3136							
TECH. DESCRIPTION:	ALL ALUMINIUM ALLOY CONDUCTOR * 7 STRANDS OF 2.77mm DIA * CONDUCTOR 8.31mm DIA. * GREASED * CODE NAME 35 * RATED TENSILE STRENGTH 11.86kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	0174612							
SHORT DESCRIPTION:	COND,AAAC PINE 10.83D GRS D3136							
TECH. DESCRIPTION:	ALL ALUMINIUM ALLOY CONDUCTOR * 7 STRANDS OF 3.61mm DIA * CONDUCTOR 10.83mm DIA. * GREASED * CODE NAME PINE * RATED TENSILE STRENGTH 20.2kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	<b>0403107</b>							
SHORT DESCRIPTION:	COND,AAAC OAK 13.95D GRS D3136							
TECH. DESCRIPTION:	ALL ALUMINIUM ALLOY CONDUCTOR * 7 STRANDS OF 4.65mm DIA * CONDUCTOR 13.95mm DIA. * GREASED * CODE NAME OAK * RATED TENSILE STRENGTH 33.33kN * ESKOM DRAWING No. D-DT-3136 *							
13	SAP 0014606, 0014443, 0014440, 0014442, 0014441 0014445, 0014697, 0014439, 0014657, 0014677, 0014675, 0014781, 0014752, 0171327, 0014678, 0014580, 0014446,0014447, 0014452 CORRECTED			P.A.T.	D. RAMJASS	D. RAMJASS	20.01.2017	
12	RAIL CONDUCTOR GREASED AND UNGREASED ADDED AND ESKOM SPEC CHANGED			P.A.T.	B. HILL	M. RAPAPA	07.12.2009	
11	FOX CONDUCTOR GREASED REINSTATED			P.A.T.	M. RAPAPA	M. RAPAPA	07.07.2009	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	P.CROWDY	DATE:	17.07.1995	SCALE		SAP No: 0174614      0174612 0174613 <b>0403107</b>		
CHKD:	J.SWAN	DATE:	17.07.1995	NTS				
DRAWN:	P.A.VERMAAK	DATE:	11.05.1995	CAD REF:		SET	SHEET	REV
				SERIES 3000		8	6	13
				FILE No:		<b>D-DT-3136</b>		
				3136				

## SPEC SHEET


SAP MATERIAL No.:	0403039							
SHORT DESCRIPTION:	COND,AAC HORNET 16.25D UNGRS D3136							
TECH. DESCRIPTION:	ALL ALUMINIUM CONDUCTOR * 19 ALUMINIUM STRANDS OF 3.25mm DIA * CONDUCTOR 16.25mm DIA. * UNGREASED * CODE NAME HORNET * RATED TENSILE STRENGTH 26kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	0403041							
SHORT DESCRIPTION:	COND,AAC CENTIPEDE 26.46D UNGRS D3136							
TECH. DESCRIPTION:	ALL ALUMINIUM CONDUCTOR * 37 ALUMINIUM STRANDS OF 3.78mm DIA * CONDUCTOR 26.46mm DIA. * UNGREASED * CODE NAME CENTIPEDE * RATED TENSILE STRENGTH 67.2kN * ESKOM DRAWING No. D-DT-3136 *							
SAP MATERIAL No.:	0403047							
SHORT DESCRIPTION:	COND,AAC BULL 38.25D UNGRS D3136							
TECH. DESCRIPTION:	ALL ALUMINIUM CONDUCTOR * 61 ALUMINIUM STRANDS OF 4.25mm DIA * CONDUCTOR 38.25mm DIA. * UNGREASED * CODE NAME BULL * RATED TENSILE STRENGTH 139kN * ESKOM DRAWING No. D-DT-3136 *							
13	SAP 0014606, 0014443, 0014440, 0014442, 0014441 0014445, 0014697, 0014439, 0014657, 0014677, 0014675, 0014781, 0014752, 0171327, 0014678, 0014580, 0014446,0014447, 0014452 CORRECTED		P.A.T.	D. RAMJASS	D. RAMJASS	20.01.2017		
12	RAIL CONDUCTOR GREASED AND UNGREASED ADDED AND ESKOM SPEC CHANGED		P.A.T.	B. HILL	M. RAPAPA	07.12.2009		
11	FOX CONDUCTOR GREASED REINSTATED		P.A.T.	M. RAPAPA	M. RAPAPA	07.07.2009		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	P.CROWDY	DATE:	17.07.1995	 <b>D-DT- 3136</b>		SAP No:		
CHKD:	J.SWAN	DATE:	17.07.1995			0403039	0403047	
DRAWN:	P.A.VERMAAK	DATE:	11.05.1995			SET	SHEET	REV
			SCALE NTS			8	7	
			CAD REF: SERIES 3000				13	
			FILE No: 3136					

# SPEC SHEET


SAP MATERIAL No.:	0403059
SHORT DESCRIPTION:	COND,AAC HORNET 16.25D INSU UNGRS D3136
TECH. DESCRIPTION:	
ALL ALUMINIUM CONDUCTOR * 19 ALUMINIUM STRANDS OF 3.25mm DIA * PVC INSULATED 5mm THICK (COVERED) * CONDUCTOR 16.25mm DIA. * UNGREASED * CODE NAME HORNET * RATED TENSILE STRENGTH 26kN * ESKOM DRAWING No. D-DT-3136 *	
SAP MATERIAL No.:	0403061
SHORT DESCRIPTION:	COND,AAC CENT 26.46D INSU UNGRS D3136
TECH. DESCRIPTION:	
ALL ALUMINIUM CONDUCTOR * 37 ALUMINIUM STRANDS OF 3.78mm DIA * PVC INSULATED 5mm THICK (COVERED) * CONDUCTOR 26.46mm DIA. * UNGREASED * CODE NAME CENTIPEDE * RATED TENSILE STRENGTH 67.2kN * ESKOM DRAWING No. D-DT-3136 *	
SAP MATERIAL No.:	0403063
SHORT DESCRIPTION:	COND,AAC BULL 38.25D INSU UNGRS D3136
TECH. DESCRIPTION:	
ALL ALUMINIUM CONDUCTOR * 61 ALUMINIUM STRANDS OF 4.25mm DIA * PVC INSULATED 5mm THICK (COVERED) * CONDUCTOR 38.25mm DIA. * UNGREASED * CODE NAME BULL * RATED TENSILE STRENGTH 139kN * ESKOM DRAWING No. D-DT-3136 *	

13	SAP 0014606, 0014443, 0014440, 0014442, 0014441 0014445, 0014697, 0014439, 0014657, 0014677, 0014675, 0014781, 0014752, 0171327, 0014678, 0014580, 0014446,0014447, 0014452 CORRECTED	P.A.T.	D. RAMJASS	D. RAMJASS	20.01.2017	
12	RAIL CONDUCTOR GREASED AND UNGREASED ADDED AND ESKOM SPEC CHANGED	P.A.T.	B. HILL	M. RAPAPA	07.12.2009	
11	FOX CONDUCTOR GREASED REINSTATED	P.A.T.	M. RAPAPA	M. RAPAPA	07.07.2009	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	P.CROWDY	DATE:	17.07.1995	 <b>D-DT-3136</b>	SAP No:	
CHKD:	J.SWAN	DATE:	17.07.1995		0014759	0014761
DRAWN:	P.A.VERMAAK	DATE:	11.05.1995		0014760	
					SET	SHEET
			3136	8	8	13

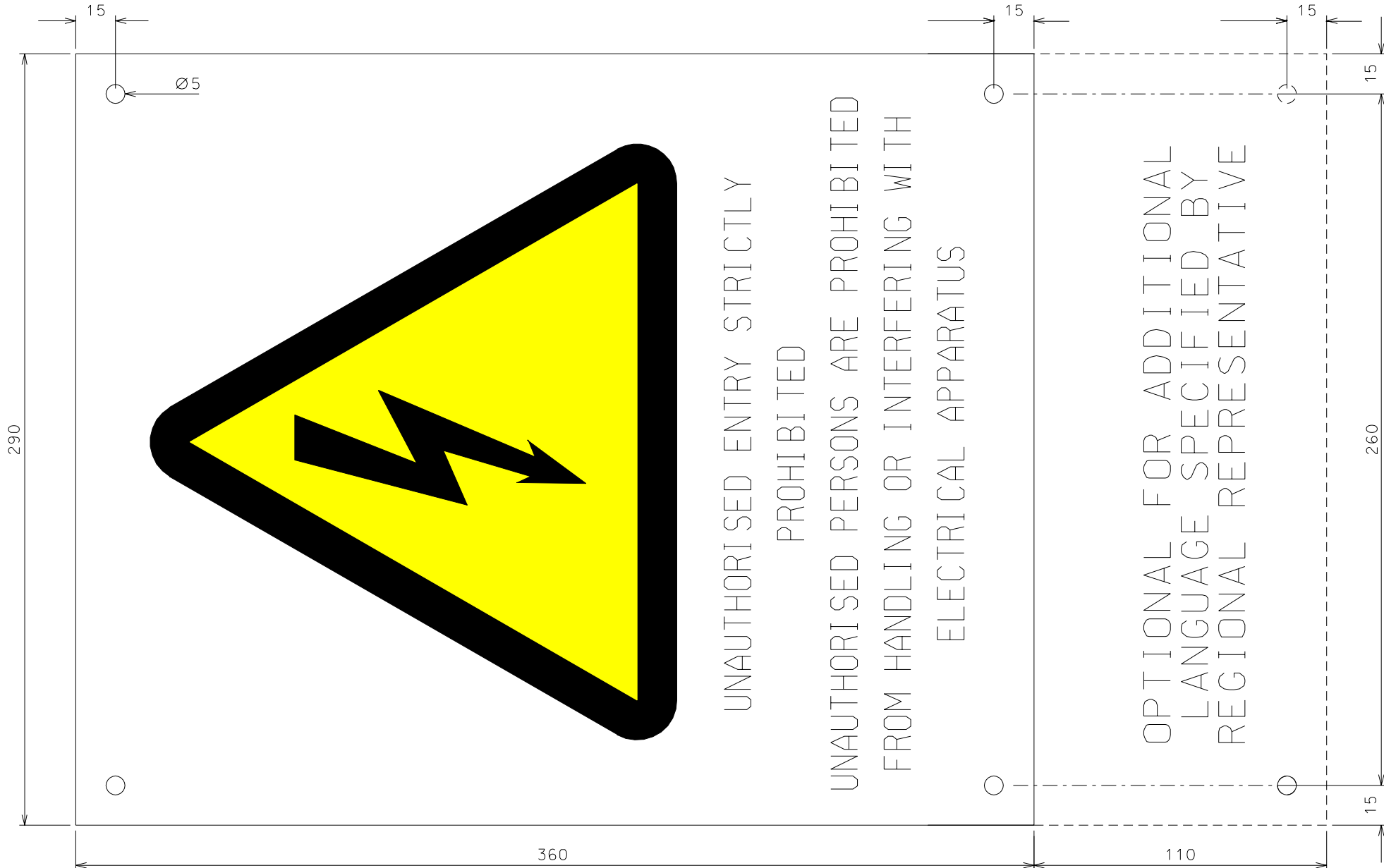
## SPEC SHEET

SAP MATERIAL No.:	0171336							
SHORT DESCRIPTION:	WIRE,ELECTRICAL:EARTH;16 MM2;CU;BARE							
TECH. DESCRIPTION:	<p>WIRE, ELECTRICAL: TYPE: EARTH; SIZE: 16 MM2;                  STRUCTURE: 7 STRANDS 1.72MM DIA;                  MATERIAL: CU; INSULATION: BARE; RATING: 140 A;                  COLOR: ORANGE;                  LENGTH: 1000 M/ROLL;                  ESKOM DRAWING No. D-DT-3139 *</p>							
SAP MATERIAL No.:	0213597							
SHORT DESCRIPTION:	WIRE,ELECTRICAL:BARE;185 MM2;CU;BARE							
TECH. DESCRIPTION:	<p>WIRE, ELECTRICAL: TYPE: BARE; SIZE: 185 MM2;                  STRUCTURE: 37 STRANDS 2.5MM DIA;                  MATERIAL: CU; INSULATION: BARE; RATING: 625 A;                  COLOR: ORANGE;                  LENGTH: 500 M/ROLL;                  USED FOR ECC IN HV INSTALLATIONS;                  ESKOM DRAWING No. D-DT-3139 *</p>							
ITEM	:- WIRE, ELECTRICAL							
MATERIAL SPECIFICATION	:- ANNEALED COPPER							
CORROSION SPECIFICATION	:-							
STANDARD SPECIFICATION	:- SANS 1411-1							
ESKOM SPECIFICATION	:-							
TEST & CERTIFICATION REQUIREMENTS :-								
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
6	ITEMS UPDATED ACCORDING TO PILOG			P.A.T.	J. MAUDU	J. MAUDU	25.08.2014	
5	STANDARD SABS CHANGED TO SANS			D.D.N.	P.A.VERMAAK	P.A.VERMAAK	02.12.2004	
4	SAP 0171336 STRANDING CORRECTED AND 37/2.5 ADDED			P.A.V.	M. RAPAPA	M. RAPAPA	14.09.2004	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	
AUTH:	P. CROWDY	DATE:	17.07.1995			SAP No:		
CHKD:	J. SWAN	DATE:	17.07.1995			0171336		
DRAWN:	P.A. VERMAAK	DATE:	11.05.1995	<b>D-DT- 3139</b>		SET	SHEET	REV
						1	1	6

## SPEC SHEET

SAP MATERIAL No.:	0164593								
SHORT DESCRIPTION:	CEMENT, CONDUCTIVE CONCRETE D3205								
TECH. DESCRIPTION:									
CONCRETE CONDUCTIVE CEMENT * RESISTIVITY AFTER CURING $\leq 10$ OHM PER METRE * NON-CORROSIVE * MECHANICAL STRENGTH MUST BE SPECIFIED * 20 - YEAR CONSISTENT PERFORMANCE - LIFESPAN * SUPPLIED WITH DETAILED MIXING AND APPLICATION INSTRUCTIONS * SUPPLIED IN 25kg BAGS * ESKOM DRAWING No. D-DT-3205 *									
SAP MATERIAL No.:	0219656								
SHORT DESCRIPTION:	CEMENT, CONDUCTIVE CONCRETE 25kg D3205								
TECH. DESCRIPTION:									
CONCRETE CONDUCTIVE CEMENT * RESISTIVITY AFTER CURING $\leq 10$ OHM PER METRE * NON-CORROSIVE * MECHANICAL STRENGTH MUST BE SPECIFIED * 20 - YEAR CONSISTENT PERFORMANCE - LIFESPAN * SUPPLIED WITH DETAILED MIXING AND APPLICATION INSTRUCTIONS * SUPPLIED IN 25kg BAGS (UMC=EA) * ESKOM DRAWING No. D-DT-3205 *									
ITEM	:- CEMENT, CONDUCTIVE CONCRETE								
MATERIAL SPECIFICATION	:-								
CORROSION SPECIFICATION	:-								
STANDARD SPECIFICATION	:-								
ESKOM SPECIFICATION	:- D-DT-3205								
TEST & CERTIFICATION REQUIREMENTS :-									
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No		
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS									
4	0219656 - SUPPLIED IN 25kg BAGS (UMC=EA) ADDED		P.A.V.	B. HILL	B. HILL	03.02.06			
3	LOGO CHANGED AS PER NEW CORPORATE I.D.		D.D.N.	P.A.VERMAAK	P.A.VERMAAK	16.11.04			
2	SUPPLIED IN 25kg BAGS ADDED		P.A.V.	B. HILL	A. BEKKER	12.02.02			
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	P. CROWDY	DATE:	17.03.1999	 <b>D-DT-3205</b>		SAP No:			
CHKD:	A. ABROSIE	DATE:	17.03.1999			0164593		SET	SHEET
						0219656			
DRAWN:	P.A. VERMAAK	DATE:	11.01.1999	SCALE		REV			
				NTS		1	1		
				CAD REF:		4			
				SERIES 3000					
				FILE No:					
				3205					





UNAUTHORISED ENTRY STRICTLY  
 PROHIBITED

UNAUTHORISED PERSONS ARE PROHIBITED  
 FROM HANDLING OR INTERFERING WITH  
 ELECTRICAL APPARATUS

OPTIONAL FOR ADDITIONAL  
 LANGUAGE SPECIFIED BY  
 REGIONAL REPRESENTATIVE

DRG NO. REFERENCE DRAWINGS:

1	LABEL SIZE CHANGED, AFRIKAANS REMOVED.	JJJ	JJJ	C.B.C.	03/08/2001	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

		SIGNS A, B & C			
AUTH:	PHIL CROWDY				
DATE:	1997/03/01				
CHKD:	A.L.G.				
DATE:	1997/03/01	SET	SHEET	REVISION	

NOT TO SCALE  
 THIS DRAWING IS THE  
 PROPERTY OF ESKOM

DRAWN:	J.F. SCHOLTZ
DATE:	1997/02/20

D-DT-5015	1
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15

**ELECTRICAL SHOCK TREATMENT.  
IMMEDIATE ACTION IS ESSENTIAL.**

- \* DO NOT TOUCH CASUALTY WITH BARE HANDS WHILST IN CONTACT WITH LIVE CONDUCTOR
- \* SWITCH OFF SUPPLY IF POSSIBLE
- \* INSULATE YOURSELF BY STANDING ON DRY WOOD OR THICK BLANKET
- \* USING A DRY ROPE, STICK OR OPERATING STICK TO MOVE LIVE CONDUCTOR FROM CASUALTY

**SEND FOR MEDICAL ASSISTANCE**

- \* WEAR DISPOSABLE RUBBER GLOVES AT ALL TIMES.
- \* IF PATIENT IS BREATHING, KEEP WARM WITH BLANKETS OR COATS.
- \* APPLY STERILISED DRESSING TO BURNS. DO NOT REMOVE BURNT CLOTHING AND DO NOT BREAK BLISTERS.
- \* REASSURE AND COMFORT PATIENT.
- \* **DO NOT** GIVE ANYTHING TO DRINK OR SMOKE.
- \* IF PATIENT IS NOT BREATHING -

**PERFORM MOUTH TO MOUTH ARTIFICIAL RESPIRATION CPR**

- \* A DISPOSABLE ONE WAY MOUTHPIECE MUST ALWAYS BE USED.

**AIRWAY**

OPEN THE MOUTH AND CLEAR OUT ANY FOREIGN MATTER SUCH AS VOMIT OR FOODSTUFF  
LIFT THE CHIN WITH THE ONE HAND

**AND**

PLACE THE PALM OF THE OTHER HAND ON THE FOREHEAD OF THE PATIENT  
AND TILT THE HEAD BACK WITH THE CHIN PULLED FORWARD

**BREATHING**

- OBSERVE, LISTEN AND FEEL FOR SPONTANEOUS BREATHING  
(A) PLACE YOUR EAR TO THE PATIENTS NOSE AND MOUTH WHILE THE AIRWAY IS HELD OPEN  
(B) OBSERVE FOR CHEST EXPANSION AND CONTRACTION  
(C) LISTEN FOR BREATHING NOISES  
(D) FEEL FOR BREATH AGAINST YOUR CHEEK  
(E) IF THERE IS NO SIGN OF BREATHING PROCEED WITH MOUTH TO MOUTH IMMEDIATELY

**MOUTH TO MOUTH**

MOUTHPIECE - PLACE THE PIECE INTO THE PATIENT'S MOUTH, WHICH WILL HELP SEAL AROUND THE LIPS

- (A) CLOSE THE PATIENTS NOSE WITH THUMB AND INDEX FINGER OF YOUR HAND WHICH IS PLACED ON THE FOREHEAD
- (B) INHALE DEEPLY
- (C) PLACE YOUR MOUTH ON THE MOUTHPIECE
- (D) BLOW INTO THE PATIENTS MOUTH FOR 1 - 1.5 SEC.
- (E) CHECK FOR EXPANSION OF THE CHEST
- (F) REMOVE YOUR MOUTH FROM THE PIECE AND INHALE ONCE AGAIN
- (G) BLOW ONCE AGAIN INTO THE PATIENTS MOUTH AND CHECK FOR CHEST EXPANSION
- (H) REPEAT THIS PROCESS

**MOUTH TO NOSE**

- (A) USE THIS METHOD IF THERE ARE INJURIES TO THE MOUTH OR IF IT CAN NOT BE OPENED
- (B) PLACE YOUR MOUTH OVER THE PATIENTS NOSE
- (C) HOLD THE PATIENTS MOUTH CLOSED WITH YOUR HAND WHICH IS SUPPORTING THE CHIN
- (D) THE PROCESS AS FOR MOUTH TO MOUTH IS THEN SIMILAR

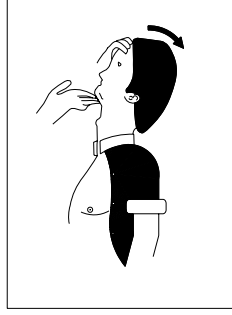


FIGURE 1



FIGURE 2

**IN CASE OF FIRE**

**DO NOT USE WATER OR FOAM  
UNTIL SUPPLY IS ISOLATED  
(NO WATER ON OIL FIRES)**



580

15

275

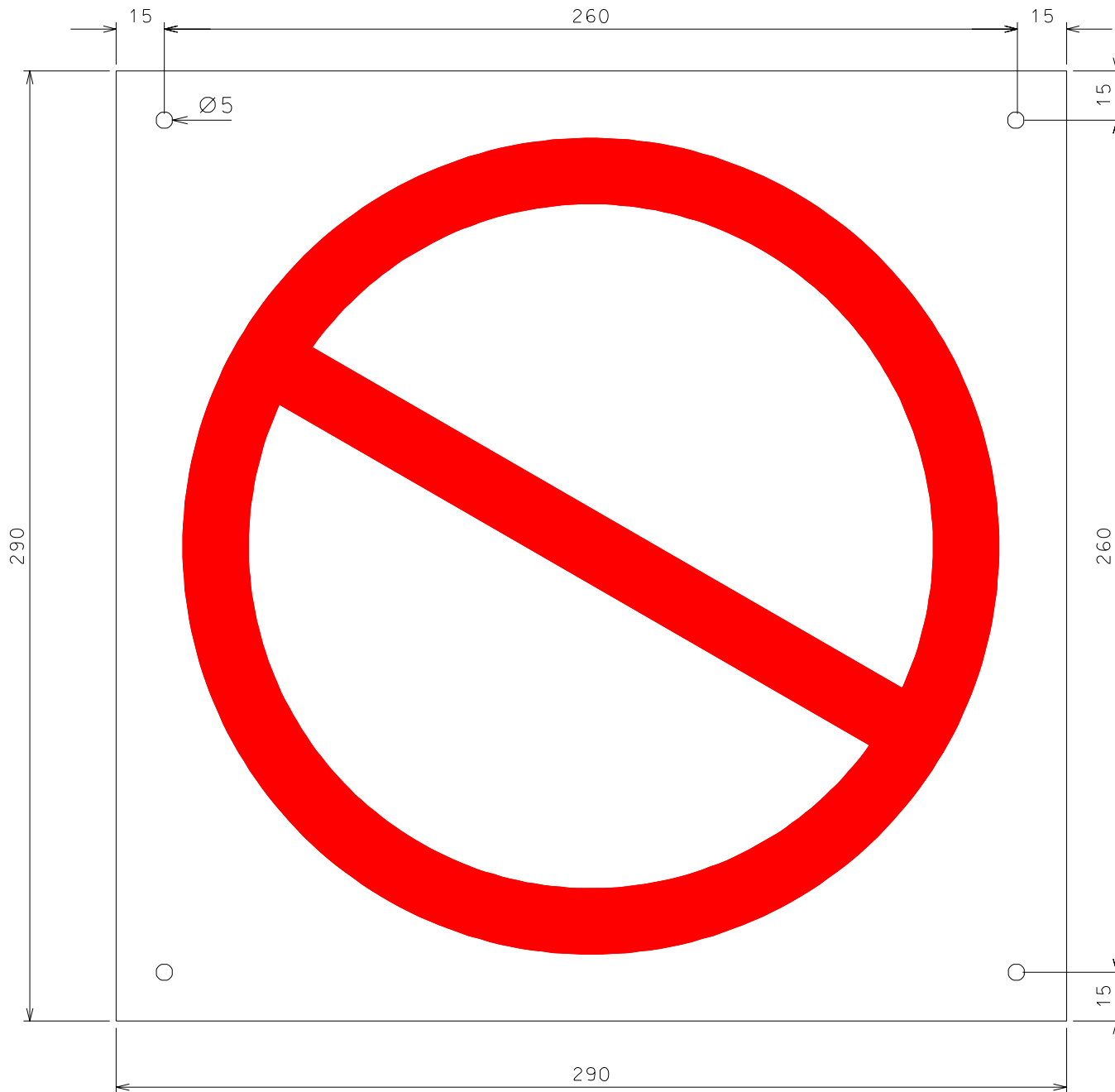
275

15

15

275

L		SIZE CHANGED, WP/12/16/18/20/22/24/26/28/30/32/34/36/38/40/42/44/46/48/50/52/54/56/58/60/62/64/66/68/70/72/74/76/78/80/82/84/86/88/90/92/94/96/98/100	AAA	AAJ	/	/		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE
PHIL CROWDY	1997/03/01	DATE	ESKOM		SIGNS D & E			
A.L.G.	1997/03/01	DATE	104736/000/5000		SET	SHEET	REVISION	
J.P. SCHOLTZ	1997/02/29	DATE	FILE NAME: 5016				2	
DRAWN		DATE	CAD REF.					
SCALE		N.T.S.	D-DT-5016					
THIS DRAWING IS THE PROPERTY OF ESKOM								



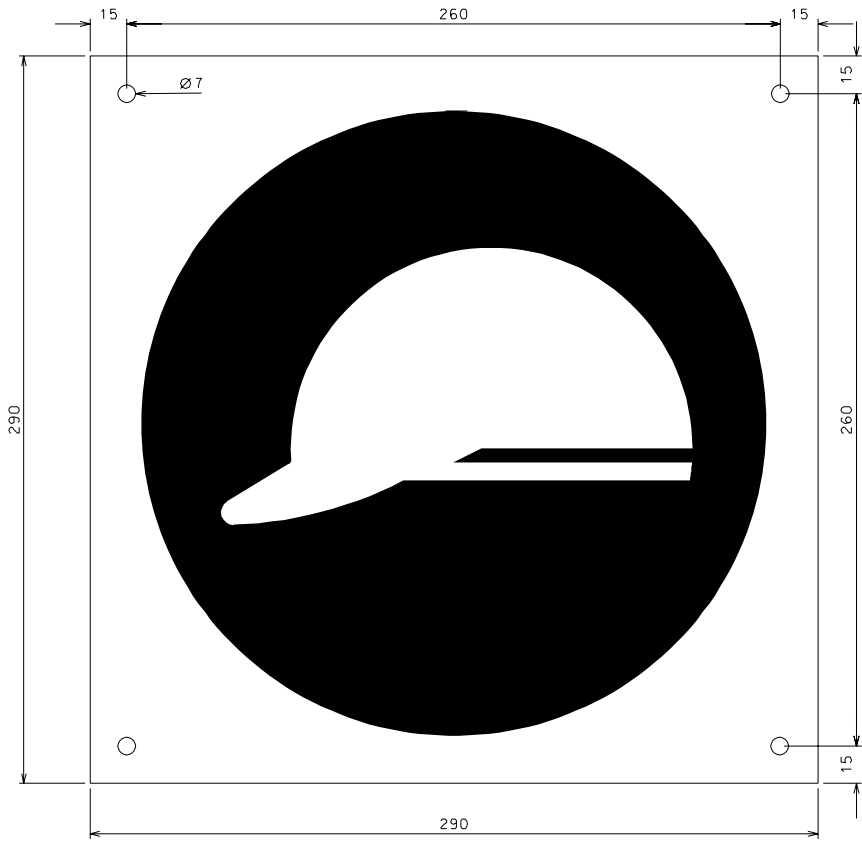
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
1	Hole size changed to 5mm	JJJ	JJJ	C.B.C.	03/08/2001	


  

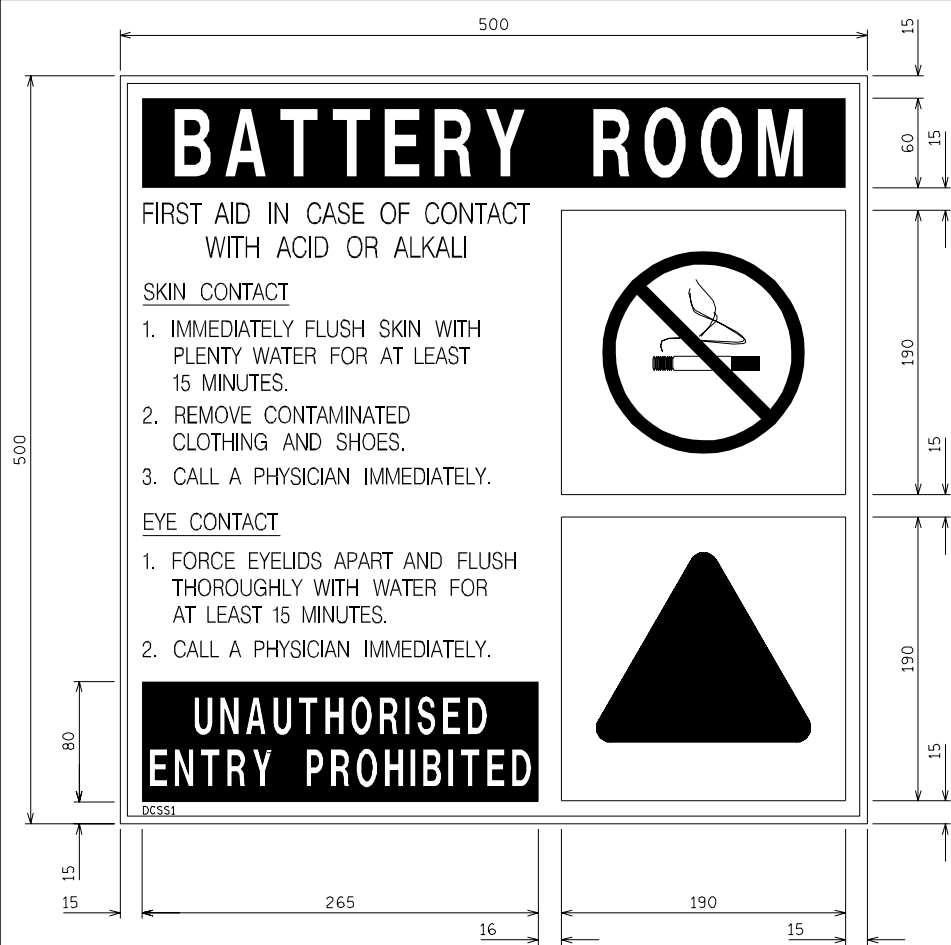
ORIG NO.	REFERENCE DRAWINGS
	//

		SIGN F			
AUTH:	PHIL CROWDY				
DATE:	1997/03/01				
CHKD:	A.L.G.				
DATE:	1997/01/01				
NOT TO SCALE THIS DRAWING IS THE PROPERTY OF ESKOM		DRAWN: J.F. SCHOLTZ DATE: 1997/02/20	D-DT-5017	SET SHEET REVISION	1




REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE
								/ /
								/ /
P.W. CRWMD	0997/03/01							
AUTHORIZED	DATE		SIGN G					
A.L.G.	0997/03/01							
CHECKED	DATE	ESKOM	D-DT-5018					
J.J. SINDILE	0997/08/30							
DRAWN	DATE	CAD REF	SET	SHEET	REVISION			
SCALE	N.T.S.	DATE/TIME/NOV/2008						
THIS DRAWING IS THE PROPERTY OF ESKOM		FILE NAME	SOLE					



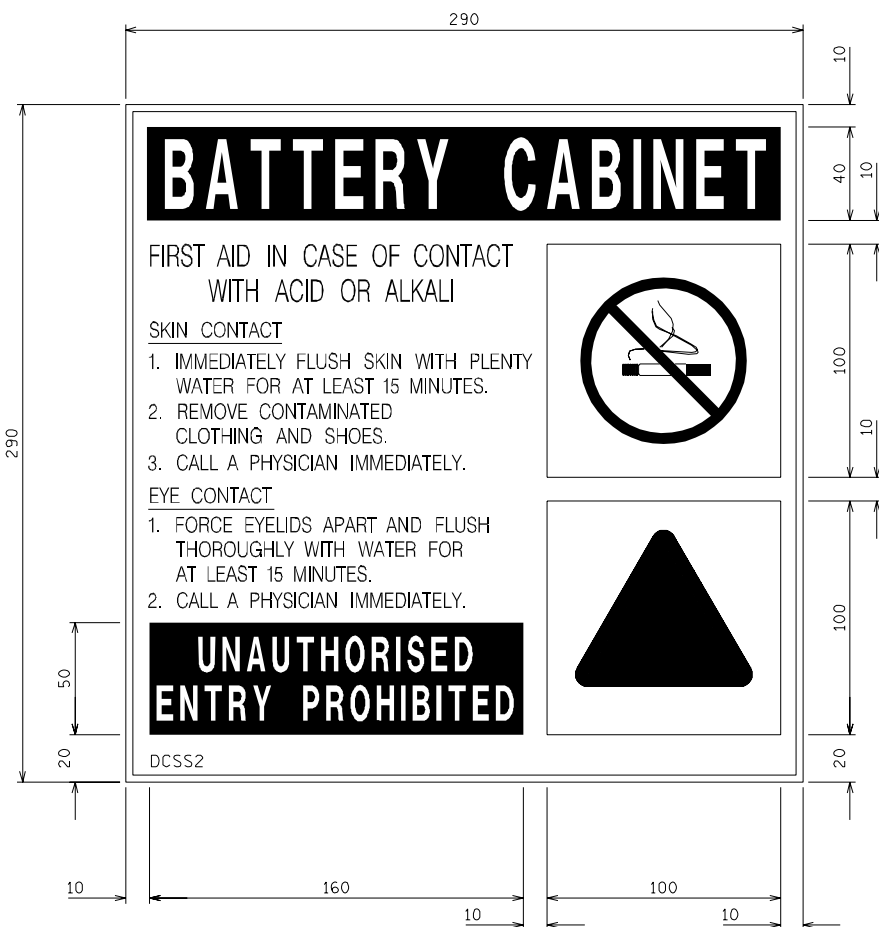
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE
					//
					//
T. JACOBS	2001/02/09				
AUTHORISED	DATE				
T. JACOBS	2001/02/09				
CHECKED	DATE				
J.F. SCHOLZ	2001/08/22				
DRAWN	DATE				
SCALE	N.T.S.				
THIS DRAWING IS THE PROPERTY OF ESKOM					
	5022a1				

 <b>ESKOM</b>	SIGN - DCSS1 BATTERY ROOM	
	D-DT-5022	SHEET 1 OF 3

REVISED	DATE	BY	CHKD	AUTH	DATE

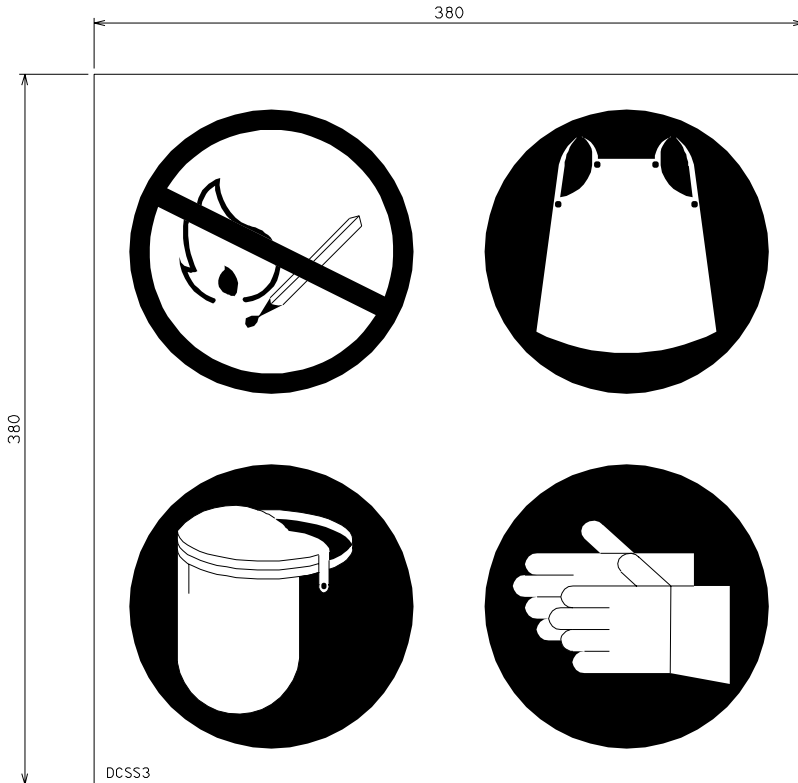



REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE
					//
T. JACOBS	2001/03/09				
AUTHORISED	DATE				
T. JACOBS	2001/03/09				
CHECKED	DATE				
J.F. SCHOLZ	2001/06/27				
DRAWN	DATE	CRD	REF:		
SCALE	N.T.S.				
THIS DRAWING IS THE PROPERTY OF ESKOM		DRAWING NUMBER		SHEET	
		5022a2		REVISION	
				0	

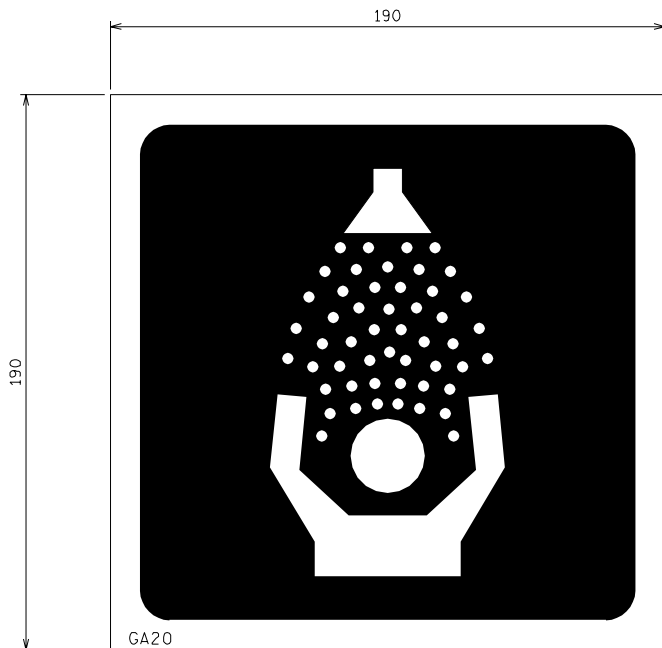
SIGN - DCSS2  
BATTERY CABINET




D-DT-5022      2 OF 3      0

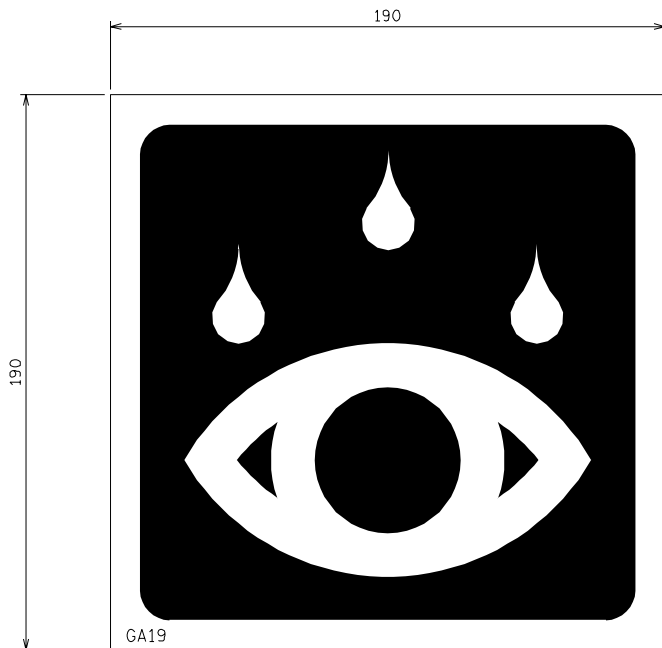



REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE
					//
					//
1.	JAC OBS	2002/02/09			
	AUTHORISED	DATE			
1.	JAC OBS	2002/02/09			
	CHECKED	DATE			
J.J.	JOHNSON	2002/08/12			
	DRAWN	DATE			
	SCALE	N.T.S.			
THIS DRAWING IS THE PROPERTY OF ESKOM		 <b>ESKOM</b>	<b>SIGN - DCSS3</b> <b>COMBINED BATTERY ROOM</b>		
	SCALE	N.T.S.	<b>DRY REF:</b> <small>(MAGNETIC/ALUMINUM)</small> <b>PICK NAME:</b> 5022x3	<b>SHEET</b> 3 OF 3	<b>REVISION</b> 0
			<b>D-DT-5022</b>	<b>3 OF 3</b>	<b>0</b>



REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE
					//
					//
1.	JACOBUS	2001/01/09			
	AUTHORISED	DATE			
1.	JACOBUS	2001/01/09			
	CHECKED	DATE			
J.J.	JOHNSON	2001/06/12			
	DRAWN	DATE			
	SCALE	N.T.S.			
THIS DRAWING IS THE PROPERTY OF ESKOM					
 <b>ESKOM</b>		<b>SIGN - GA20</b> <b>EMERGENCY SHOWER</b>		<b>SHEET</b> <b>REVISION</b>	
		D-DT-5023		1 OF 3	0





REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	///	///	
1.	JACOBUS	2001/03/09						
	AUTHORISED	DATE						
1.	JACOBUS	2001/04/09						
	CHECKED	DATE						
J.J. JOHNSON		2001/06/12						
	DRAWN	DATE						
	SCALE	N.T.S.						
THIS DRAWING IS THE PROPERTY OF ESKOM		 <b>ESKOM</b> (PROMOTES/ADVISES/ENFORCES)		SIGN - GA19 EYEWASH		SHEET 2 OF 3		REVISION 0
				D-DT-5023				



PV5

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE
					//
					//

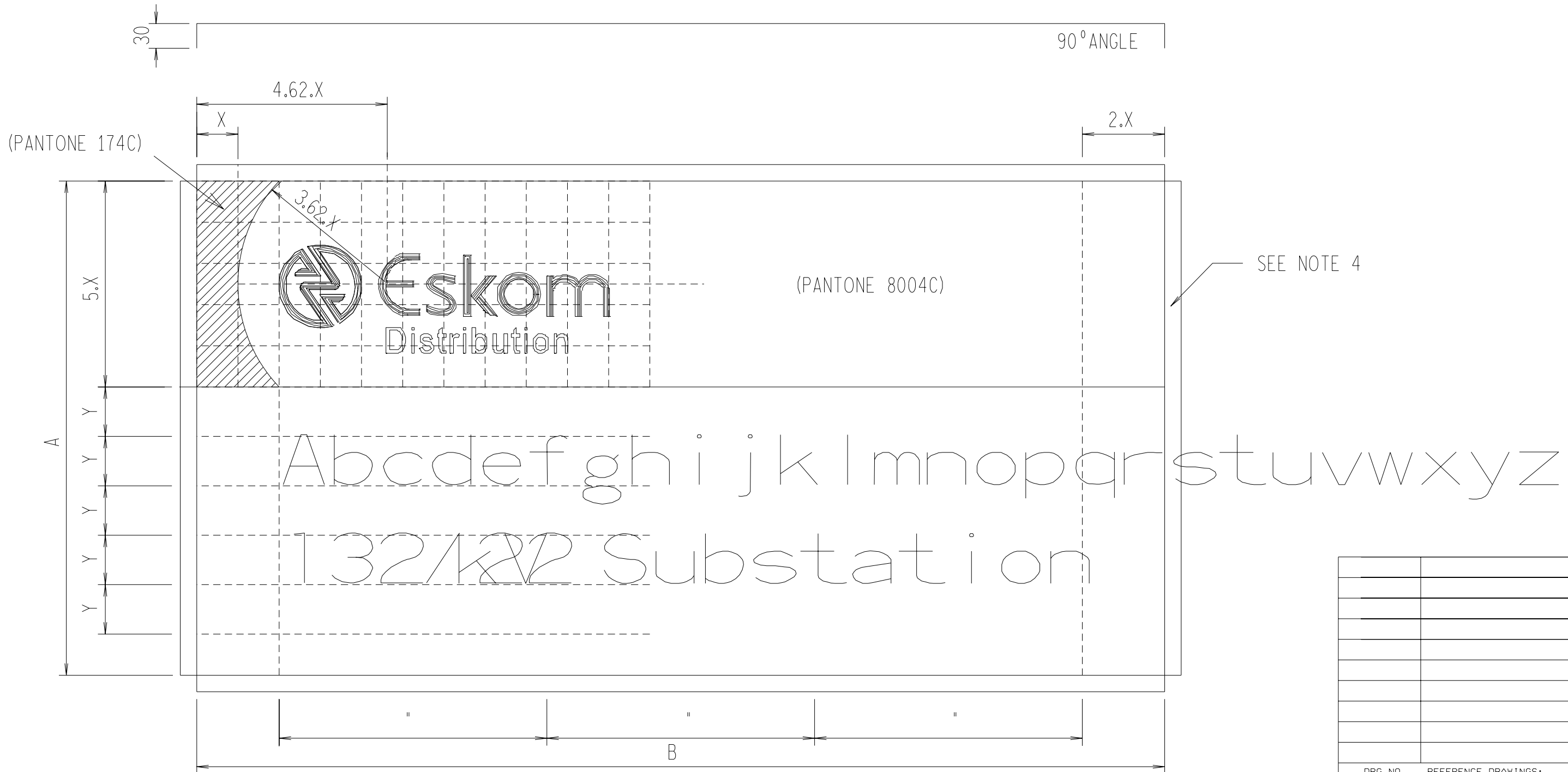
  

DESIGNED BY %_JACOBUS	DATE 2001/01/09	 <b>ESKOM</b>	SIGN - PV5 DRINKING OF WATER PROHIBITED
AUTHORISED BY %_JACOBUS	DATE 2001/01/09		
CHECKED BY J.F. JOHNSON	DATE 2001/08/27		
DRAWN BY	DATE		
SCALE	N.T.S.	CDR/ REF: (DRAWING/ENGINEERING) FILE NUMBER 502343	SHEET 3 OF 3
THIS DRAWING IS THE PROPERTY OF ESKOM		D-DT-5023	REVISION 0

1 2 3 4 5 6 7 8

A  
B  
C  
D  
E  
F

A  
B  
C  
D  
E  
F



DRG NO.	REFERENCE DRAWINGS:

LABEL TYPE	A	B	X	Y
LARGE	550	1165	50	60
SMALL	400	600	35	45

- NOTES :
- SIGN TO BE MANUFACTURED ACCORDING TO SCSSCAAP5.
  - LEGEND TEXT COLOUR TO BE PANTONE 287C.
  - LABEL FRAME TO BE ACCORDING TO D-DT/5048 SHT.4.
  - LARGE NAME BOARD EDGES TO BE BENT 90 °ON ALL 4 SIDES.  
NO EDGES TO BE CUT AND BENT FOR SMALL SIZE NAME BOARD.
  - LABEL TO BE POP-RIVETED TO FRAME WITH AT LEAST FOUR RIVETS ON TOP & BOTTOM RESPECTIVELY.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
2	DRAWING REDRAWN.ESKOM LOGO CHANGED.	JLR	JJJ	JJJ	09/03/2004	
1	DRAWING REDRAWN	JLR	JJJ	CBC	03/08/2001	

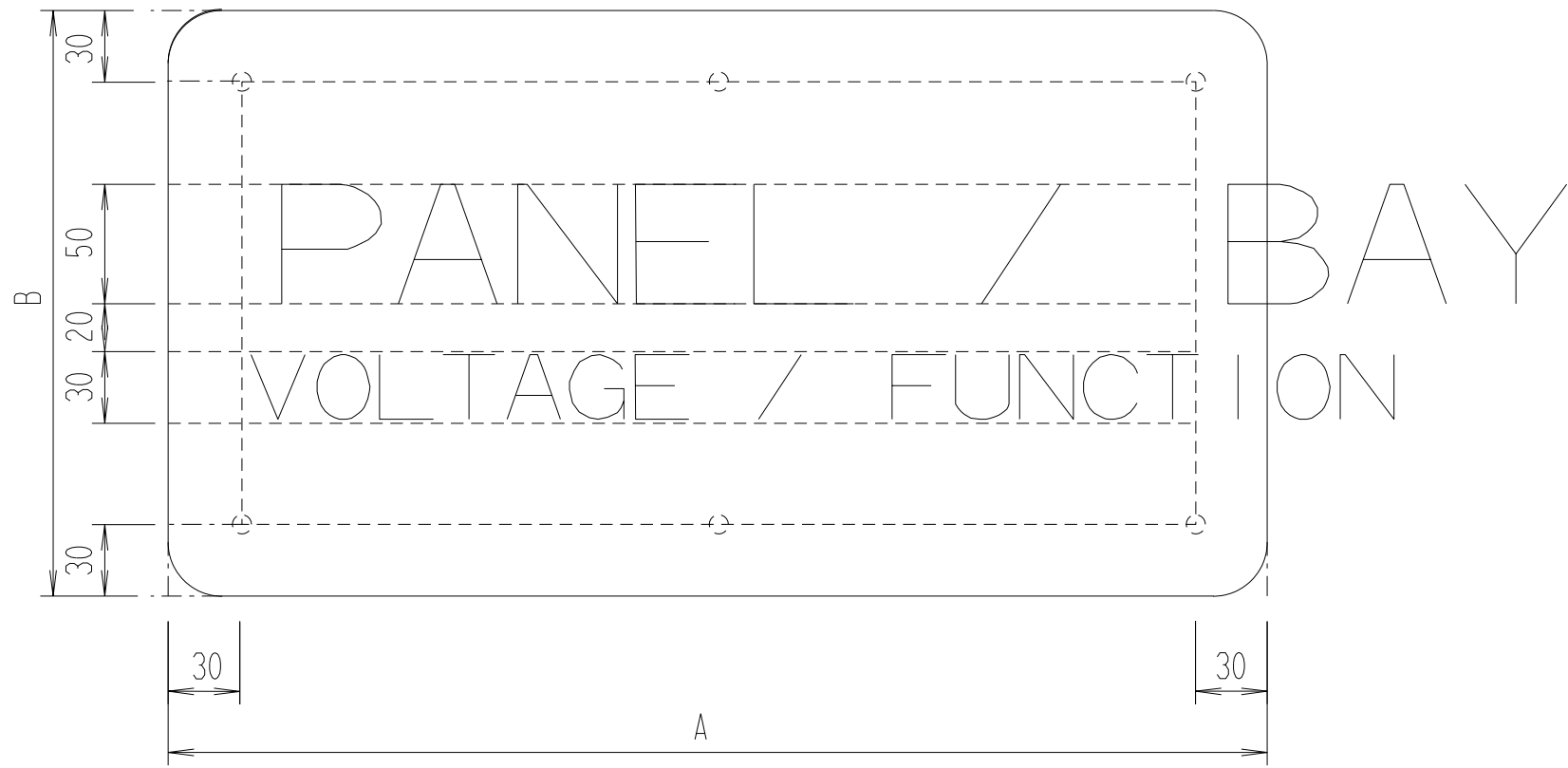


AUTH: \_\_\_\_\_  
 DATE: / /  
 CHKD: \_\_\_\_\_  
 DATE: / /  
 DRAWN: J LE ROUX  
 DATE: 02/08/2000

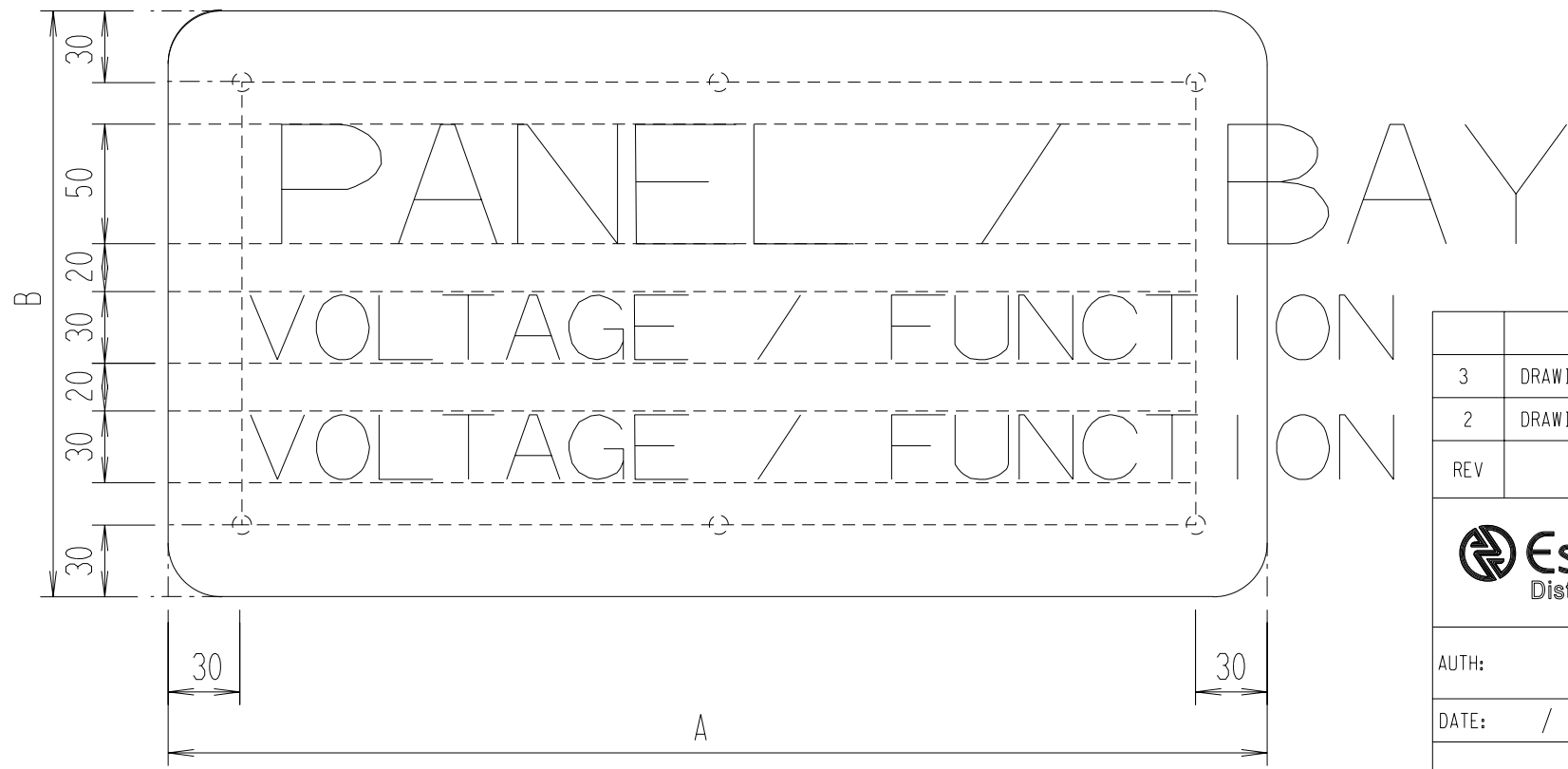
ELECTRICAL EQUIPMENT LABELS  
 SUBSTATION NAME BOARD  
 SIZES AND LEGEND LAYOUT

SCALE : \_\_\_\_\_  
 THIS DRAWING IS THE PROPERTY OF ESKOM

D-DT-5047	SET	SHEET	REVISION
	5	1	2



2 LINE TEXT LAYOUT ON LABEL (N.T.S)



3 LINE TEXT LAYOUT ON LABEL (N.T.S)

LIST OF LABELS AND SIZES

LABEL TYPE	A	B	
		VE, CD	FG
LABEL 2	1000	245	250
LABEL 3	600	245	250
LABEL 4	450	245	250
LABEL 5	180	150	150

VE - VITREOUS ENAMEL  
 CD - CHROMADEK  
 FG - FIBREGLASS

NOTES:

- LEGEND TEXT TO BE CENTRE JUSTIFIED.
- MARGIN OF 30mm FROM THE LABEL EDGE TO BE MAINTAINED.


REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
3	DRAWING UPDATED. ORIGINAL SHEET 1 NOW SHEET 2	JJJ	JJJ	JJJ	09/03/2004	
2	DRAWING UPDATED	JJJ	JJJ		/ /	

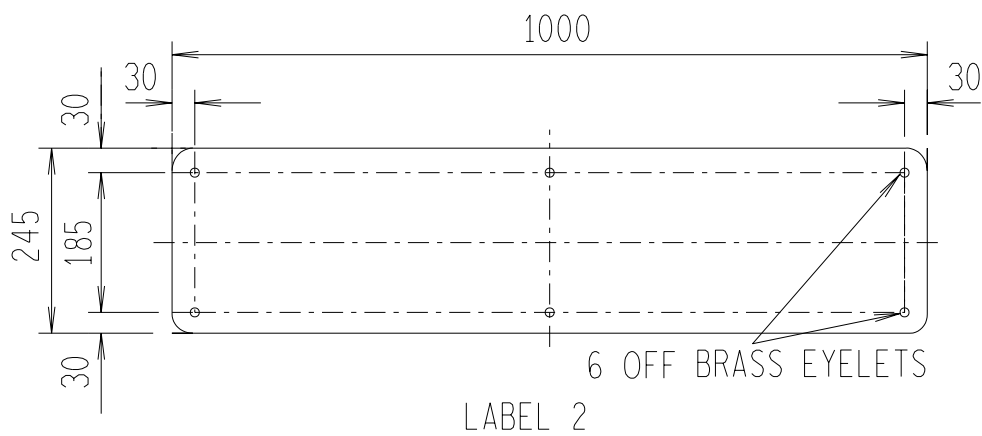


AUTH:  
 DATE: / /  
 CHKD:  
 DATE: / /  
 DRAWN: J LE ROUX  
 DATE: 02/08/2000

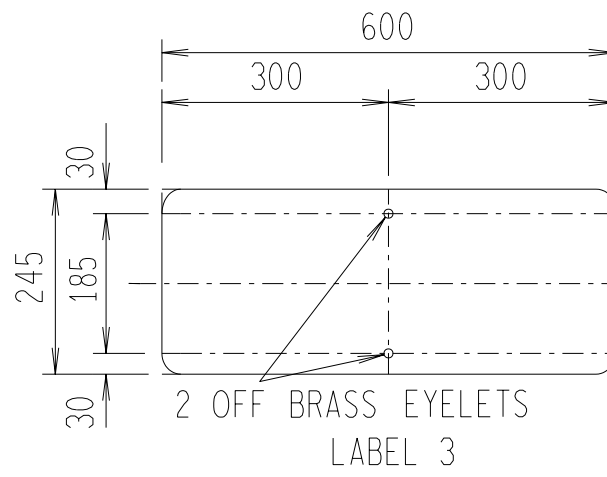
ELECTRICAL EQUIPMENT LABELS  
 SIZES AND LEGEND LAYOUT

D-DT-5047	SET	SHEET	REVISION
	5	2	3

NOT TO SCALE  
 THIS DRAWING IS THE PROPERTY OF ESKOM



LABEL 2



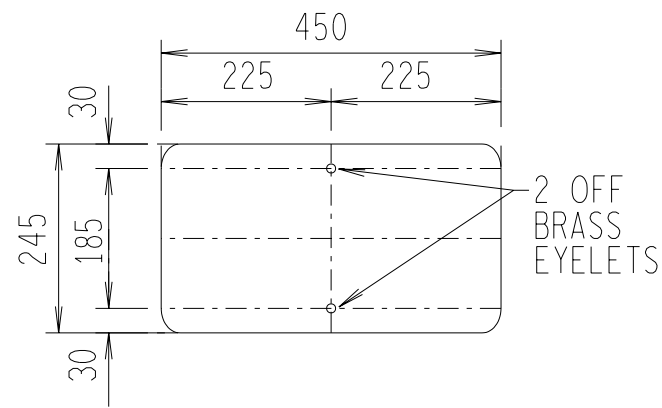
LABEL 3

NOTES:

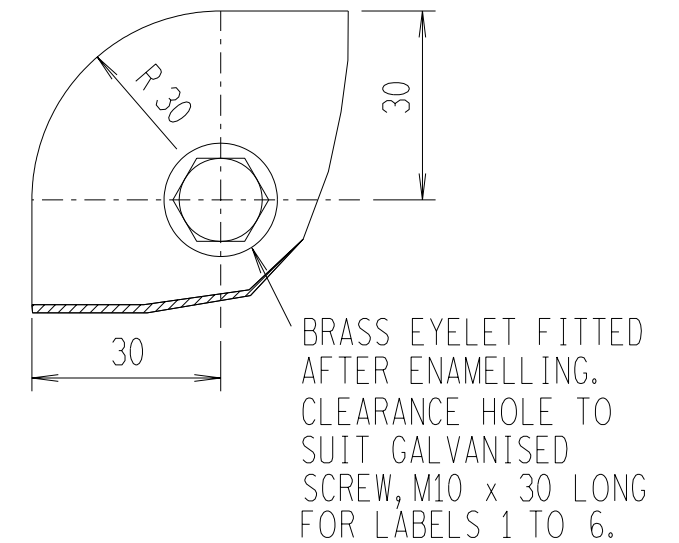
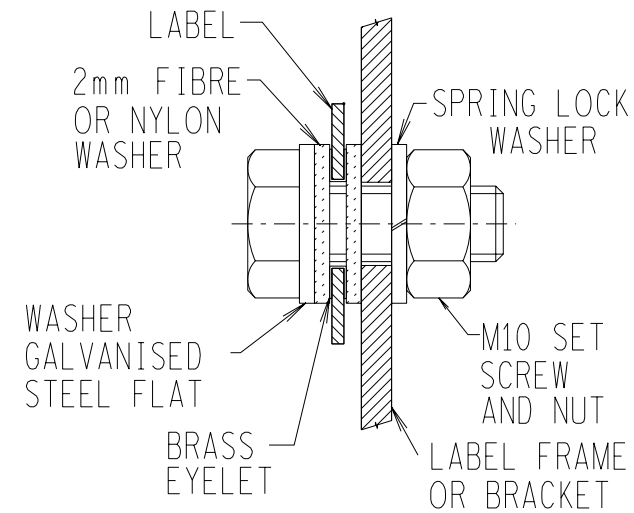
- 1 ALL LABELS TO COMPLY TO SCSGCAAP5
- 2 LABEL HAVING 4 HOLES OR MORE TO BE MANUFACTURED FROM 1,2mm MILD STEEL PLATE.
- 3 LABEL HAVING 2 HOLES TO BE MANUFACTURED FROM 1,6mm MILD STEEL PLATE.
- 4 ALL HOLES TO BE DRILLED BEFORE ENAMELLING. HOLE DIA TO BE SUITABLE FOR THE INSERTION OF BRASS EYELETS.
- 5 OD OF FIBRE/NYLON WASHERS TO BE MIN 21 MAX 25-(M10 SCREW).

LABEL FIXING DETAIL

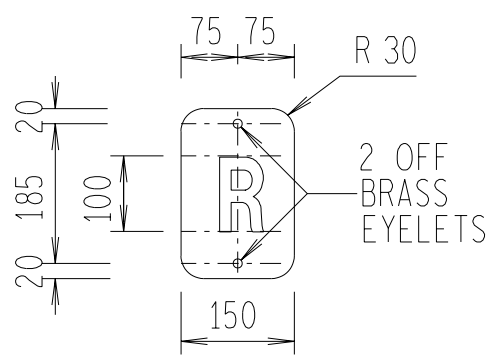
- 1 M10 x 30 SET SCREWS WITH NUT, AND 1 FLAT WASHER SUPPLIED WITH FRAME.
- 2 2 x FIBRE OR NYLON (NYLON PREFERRED) WASHERS SUPPLIED BY LABEL MANUFACTURER.



LABEL 4



TYPICAL DRILLING DETAIL



LABEL 5

RED, WHITE OR BLUE  
COLOUR PHASE DISC

2	UPDATE DRAWING. ORIGINAL SHEET 2 NOW SHEET 3	C.H.	JJJ	JJJ	09/03/2004	
1	DRAWING REDRAWN	JLR	JJJ		/ /	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



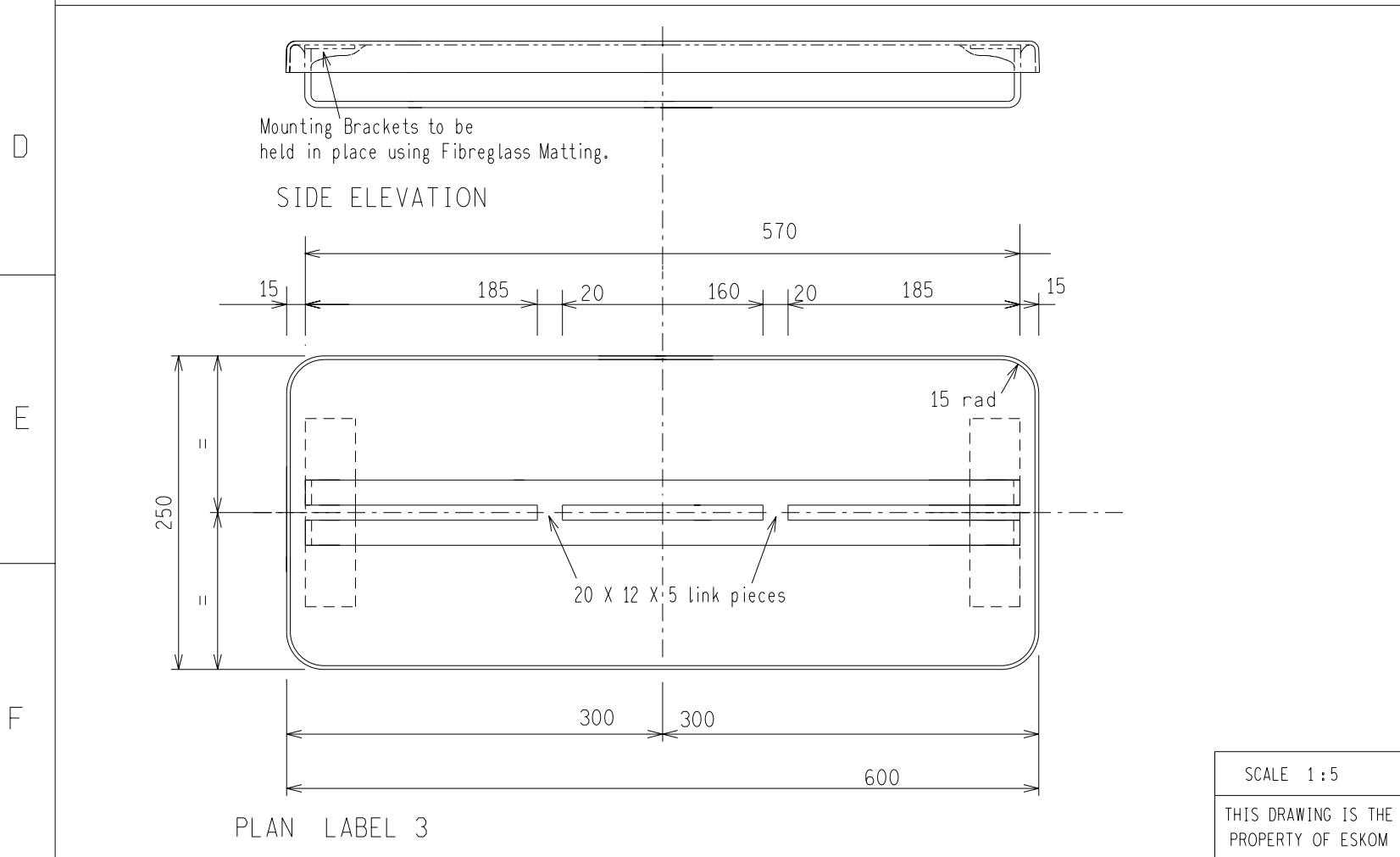
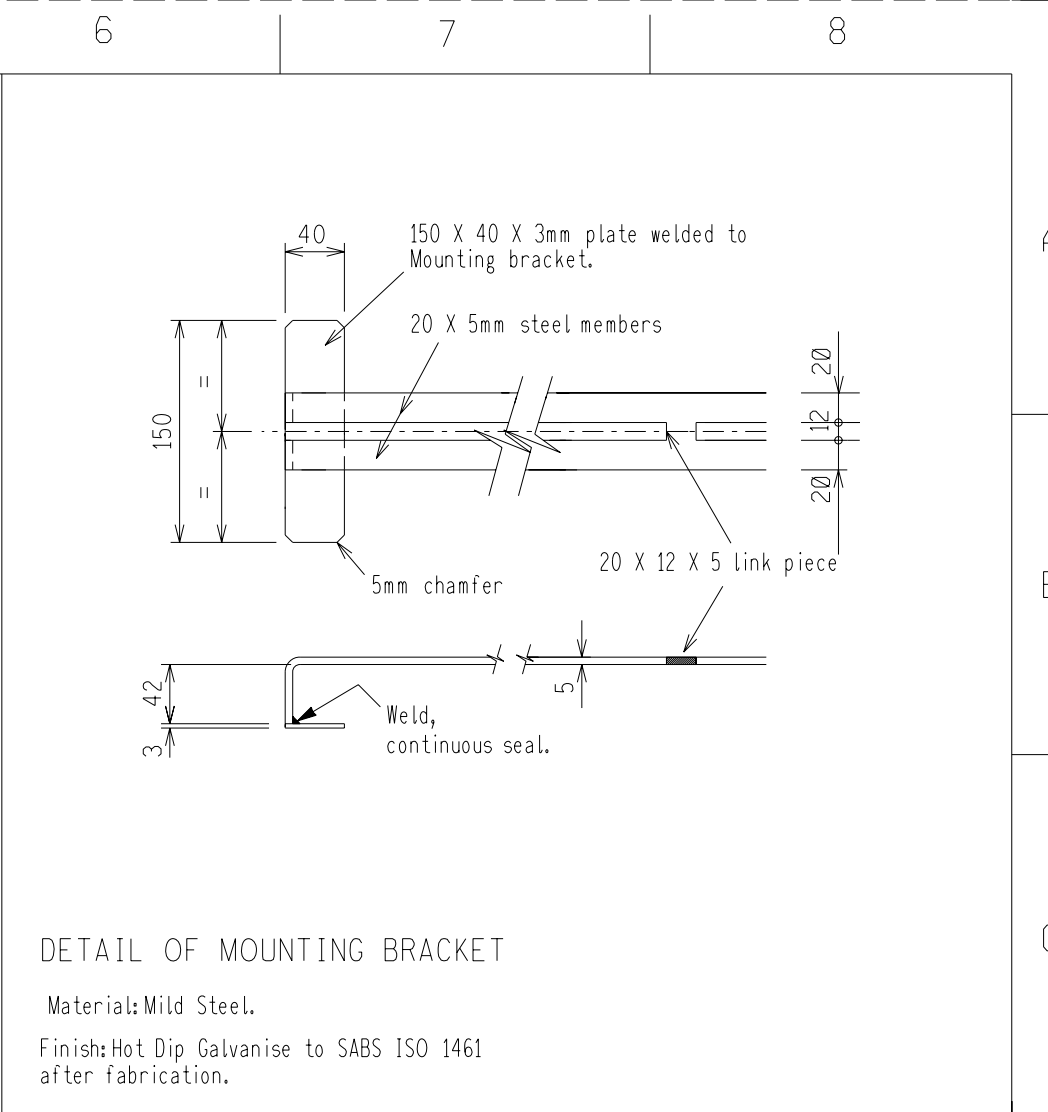
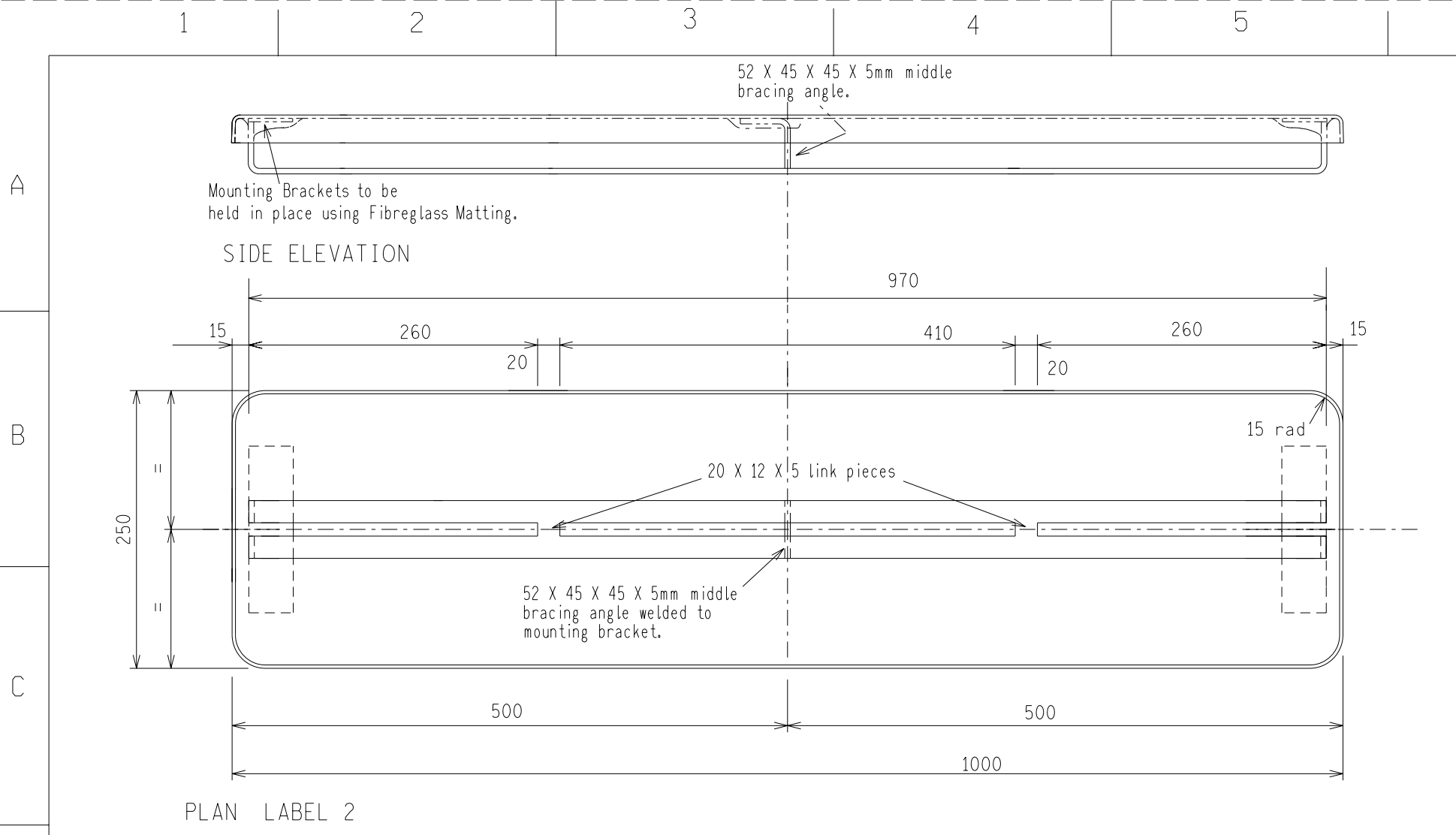
ELECTRICAL EQUIPMENT LABELS  
VITREOUS ENAMEL  
MANUFACTURING DETAILS

AUTH:  
DATE: / /  
CHKD:  
DATE: / /  
DRAWN: J LE ROUX  
DATE: 02/08/2000

D-DT-5047

SET	SHEET	REVISION
5	3	2

SCALE 1:10  
THIS DRAWING IS THE  
PROPERTY OF ESKOM



Notes:  
Materials: Mild Steel & Orange Coloured Fibreglass.  
Specs: Galvanising - SABS ISO 1461.  
Welding: SABS 0162-1980.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
3	MOUNTING BRACKET MODIFIED.	CG	JJJ	JJJ	30/05/2006	
2	NEW DRAWING SHEET ADDED. ORIGINAL SHEET 3 NOW SHEET 4.	JJJ	JJJ	JJJ	09/03/2004	

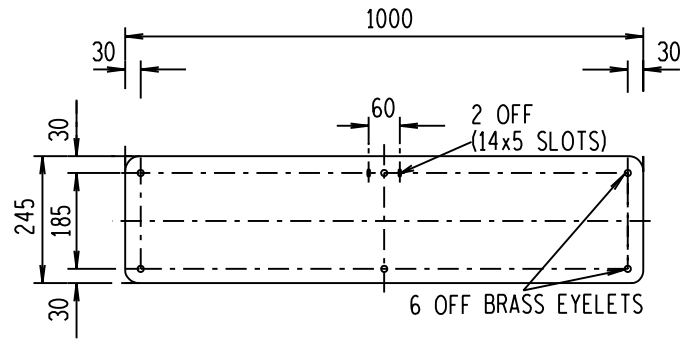
**Eskom Distribution**

AUTH:  
DATE:  
CHKD:  
DATE:  
DRAWN: C. GRAY  
DATE: 30/03/2005

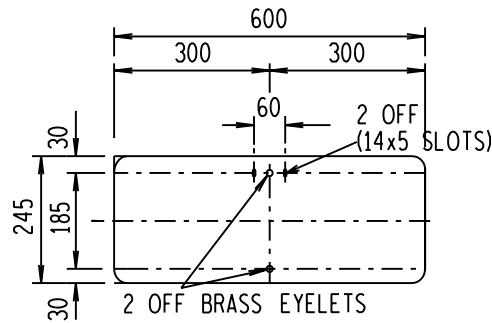
**ELECTRICAL EQUIPMENT LABELS  
FIBREGLASS  
MANUFACTURING DETAILS**

SET	SHEET	REVISION
0	4	3

SCALE 1:5  
THIS DRAWING IS THE PROPERTY OF ESKOM

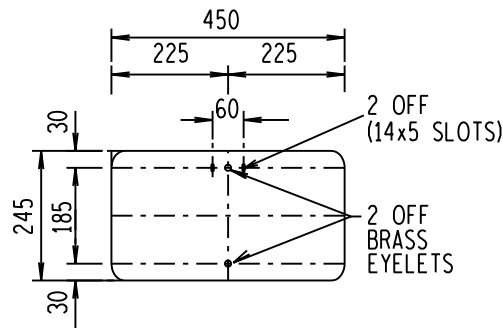


LABEL 2

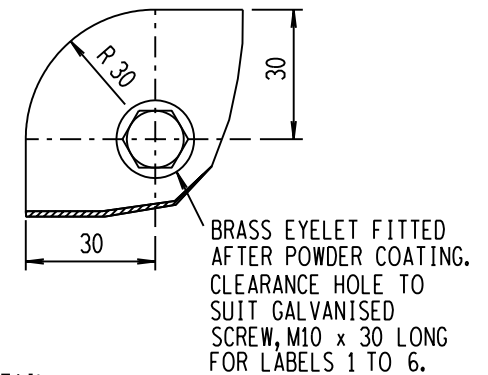
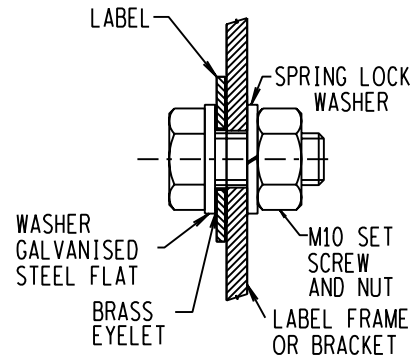


LABEL 3

**LABEL FIXING DETAIL**  
 1. M10 x 30 SET SCREWS WITH NUT, 1 FLAT GALVANISED WASHER AND SPRING LOCK WASHER SUPPLIED WITH FRAME.



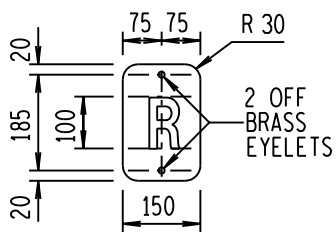
LABEL 4



TYPICAL DRILLING DETAIL

NOTES :

1. LABELS TO COMPLY TO SCSSCAAP5.
2. LABELS TO BE MANUFACTURED FROM 1,0mm CHROMAPREP (Z275) OR EQUIVALENT.
3. MAIN COLOUR TO BE POWDER COATED ONTO CHROMAPREP.
4. CLEAR COAT POWDER COATING TO BE APPLIED ON BOTH SIDES OF LABEL AFTER LEGEND HAS BEEN APPLIED TO LABEL.
5. ALL HOLES TO BE DRILLED/PUNCHED BEFORE POWDER COATING OF MAIN COLOUR.
6. HOLE DIA. TO BE SUITABLE FOR THE INSERTION OF BRASS EYELETS.



LABEL 5

RED, WHITE OR BLUE  
 COLOUR PHASE DISC

REV		DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.				
1		LABLE FIXING DETAIL UPDATED	P.A.V.	C. CLARK	C. CLARK	27/09/05					
<table border="1"> <tr> <td>ORG NO.</td> <td>REFERENCE DRAWINGS:</td> </tr> <tr> <td></td> <td></td> </tr> </table>								ORG NO.	REFERENCE DRAWINGS:		
ORG NO.	REFERENCE DRAWINGS:										
AUTH:		Eskom Distribution									
DATE:		ELECTRICAL EQUIPMENT LABELS									
CHKD:		CHROMADEK OR EQUIVALENT MATERIAL									
DATE:		MANUFACTURING DETAILS									
DRAWN:		D-DT-5047				SET	SHEET	REVISION			
DATE:						5	5	1			

SCALE 1:10

THIS DRAWING IS THE  
 PROPERTY OF ESKOM

LABEL TYPE	LABEL SIZE	LETTERING TYPE
MAIN INSCRIPTION	36 X 350MM	20MM
INSTRUCTIONAL AND OPERATIONAL	DIMENSIONS NOT FIXED - TO SUIT SPECIFIED INSCRIPTION	5MM
IDENTIFICATION DOUBLE OR SINGLE LINE INSCRIPTION	DIMENSIONS NOT FIXED - TO SUIT SPECIFIED INSCRIPTION	3MM
ESCUTCHEON PLATES INSCRIPTIONS TO BE IN ACCORDANCE WITH STANDARD SWITCH SKETCHES	75 X 75MM	3MM

**MATERIALS**  
MINIMUM THICKNESS 1,5MM 2 LAYER

**FINISH**  
EDGES STRAIGHT & UNCHIPPED  
CHAMFERRED EDGES PREFERRED.

**COLOURS**  
WARNING LABELS  
- WHITE LETTERING RED BACKGROUND.  
ALL OTHER LABELS  
- BLACK LETTERING WHITE BACKGROUND.

**FIXING**  
ALL LABELS TO BE HORIZONTAL AND PARALLEL TO EACH OTHER AND TO THE EQUIPMENT WITH WHICH THEY ARE ASSOCIATED.  
LABELS 100MM OR MORE IN LENGTH TO BE MOUNTED IN 'SLIP-IN' HOLDERS.  
MASKING OF LABEL BY THE HOLDER SHALL NOT EXCEED 3MM PER EDGE.  
LABELS LESS THAN 100MM IN LENGTH MAY BE FIXED BY MEANS OF HAMMER DRIVEN SCREWS, OR DOUBLE SIDED ADHESIVE TAPE OF APPROVED TYPE (3M TYPE 4032 PREFERRED).

**ENGRAVING**  
LETTERING MUST BE LEGIBLE WHEN VIEWED FROM AN ANGLE OF APPROX. 45°. WIDTH OF EXPOSED 'BLACK' SHALL BE ONE SEVENTH OF THE CENTRE HEIGHT OF THE LETTER.  
STANDARD VERTICAL MEDIUM LETTERING SHALL BE USED. NARROW (CONDENSED) AND BROAD (EXTENDED) TYPE FACES ARE NOT ACCEPTABLE.  
UPPER CASE LETTERS SHALL BE USED EXCEPT WHERE CONVENTIONAL ABBREVIATIONS OR SYMBOLS REQUIRE THE USE OF BOTH UPPER AND LOWER CASE LETTERS (e.g. kVAh)

MAIN LABEL (SCALE 1:1)

INSTRUCTIONAL AND OPERATIONAL (SCALE 2:1)

IDENTIFICATION (SCALE 2:1)

ESCUTCHEON PLATE (SCALE 2:1)

DRG NO.	REFERENCE DRAWINGS:

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
2	CHANGED LABEL SIZE FROM 400 TO 350MM; DELETED 'GRAVO PLY', TYPE 'Z' AND TYPE 'A' SELF TAPPING SCREWS.	JLR	M.SITHOLE	S. V ZYL	07/03/2011	
1	DRAWING REDRAWN	JLR	JJJ	C.B.C.	03/08/2001	



CONTROL AND RELAY PANEL  
ENGRAVING AND LABELLING  
REQUIREMENTS

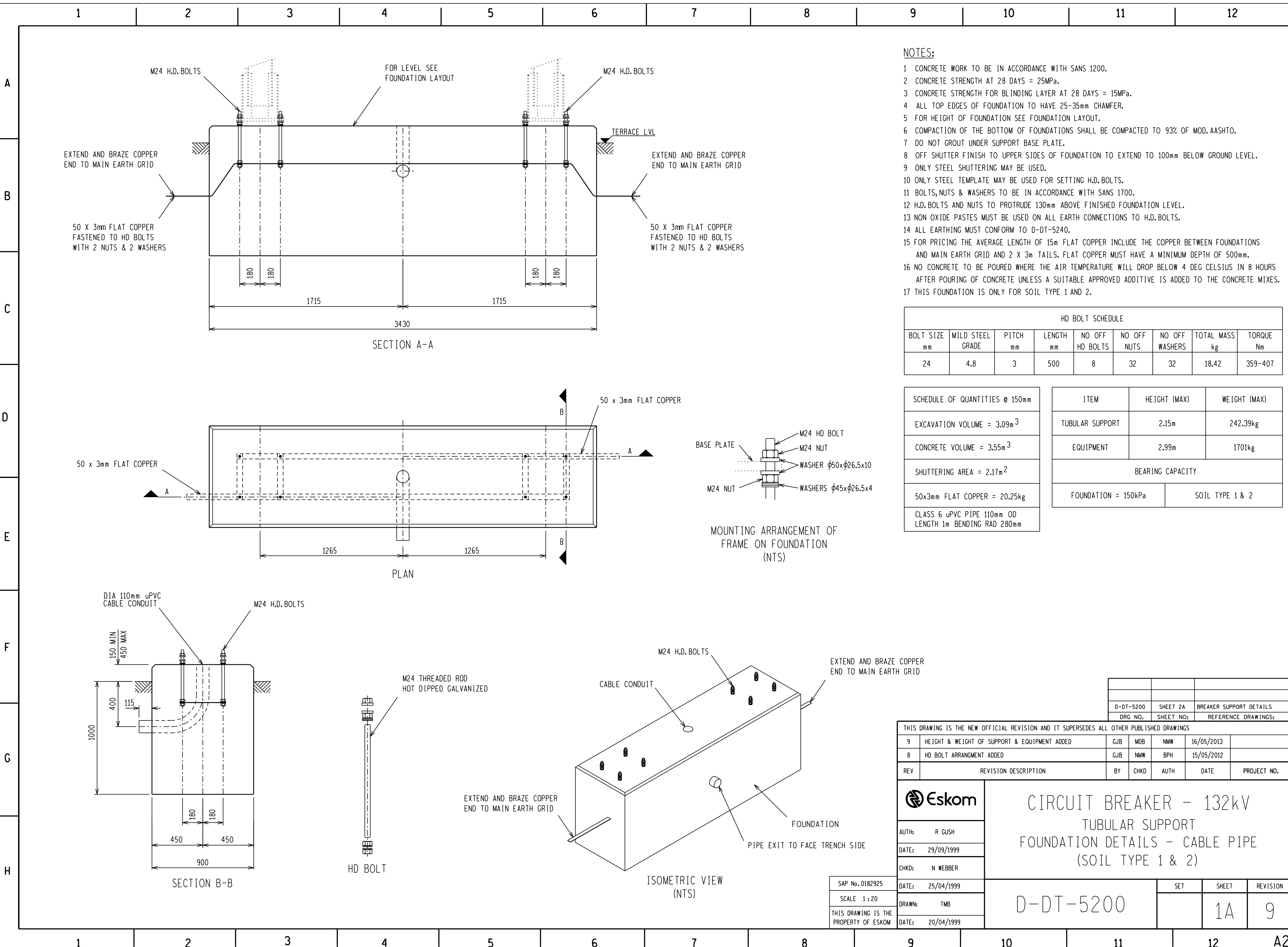
AUTH: C.B. CLARK
DATE:
CHKD: J. J. JORDAAN
DATE:
DRAWN: J LE ROUX
DATE: 20/03/2000

D-DT-5049

SET	SHEET	REVISION
-	-	2

NOT TO SCALE  
THIS DRAWING IS THE  
PROPERTY OF ESKOM





- NOTES:**
- 1 CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
  - 2 CONCRETE STRENGTH AT 28 DAYS = 25MPa.
  - 3 CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS = 15MPa.
  - 4 ALL TOP EDGES OF FOUNDATION TO HAVE 25-35mm CHAMFER.
  - 5 FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
  - 6 COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 93% OF MOD. AASHTO.
  - 7 DO NOT GROUT UNDER SUPPORT BASE PLATE.
  - 8 OFF SHUTTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 100mm BELOW GROUND LEVEL.
  - 9 ONLY STEEL SHUTTERING MAY BE USED.
  - 10 ONLY STEEL TEMPLATE MAY BE USED FOR SETTING H.D. BOLTS.
  - 11 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
  - 12 H.D. BOLTS AND NUTS TO PROTRUDE 130mm ABOVE FINISHED FOUNDATION LEVEL.
  - 13 NON OXIDE PASTES MUST BE USED ON ALL EARTH CONNECTIONS TO H.D. BOLTS.
  - 14 ALL EARTHING MUST CONFORM TO D-DT-5240.
  - 15 FOR PRICING THE AVERAGE LENGTH OF 15m FLAT COPPER INCLUDE THE COPPER BETWEEN FOUNDATIONS AND MAIN EARTH GRID AND 2 x 3m TAILS. FLAT COPPER MUST HAVE A MINIMUM DEPTH OF 500mm.
  - 16 NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIXES.
  - 17 THIS FOUNDATION IS ONLY FOR SOIL TYPE 1 AND 2.

HD BOLT SCHEDULE								
BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF HD BOLTS	NO OFF NUTS	NO OFF WASHERS	TOTAL MASS kg	TORQUE Nm
24	4.8	3	500	8	32	32	18.42	359-407

SCHEDULE OF QUANTITIES @ 150mm		
ITEM	HEIGHT (MAX)	WEIGHT (MAX)
EXCAVATION VOLUME = 3.09m <sup>3</sup>		
CONCRETE VOLUME = 3.55m <sup>3</sup>		
SHUTTERING AREA = 2.17m <sup>2</sup>		
50x3mm FLAT COPPER = 20.25kg		
CLASS 6 uPVC PIPE 110mm OD LENGTH 1m BENDING RAD 280mm		
BEARING CAPACITY		
FOUNDATION = 150kPa	SOIL TYPE 1 & 2	

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
9	HEIGHT & WEIGHT OF SUPPORT & EQUIPMENT ADDED	GJB	MDB	NMW	16/05/2013	
8	HD BOLT ARRANGEMENT ADDED	GJB	NMW	BPH	15/05/2012	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

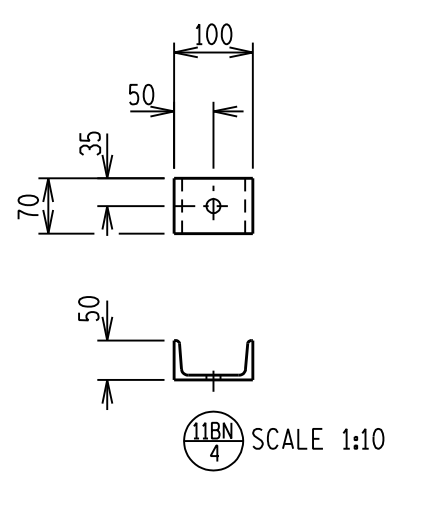
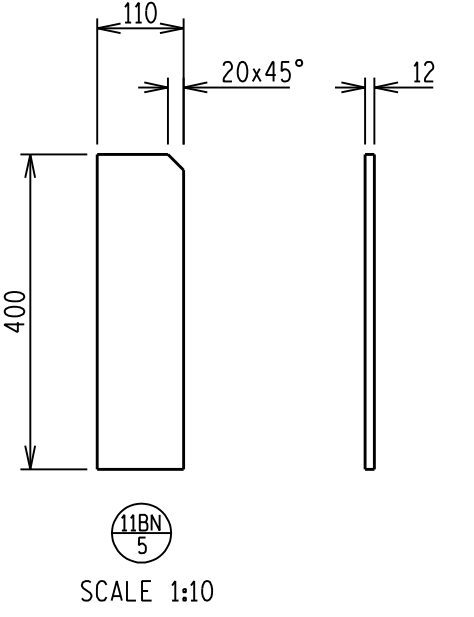
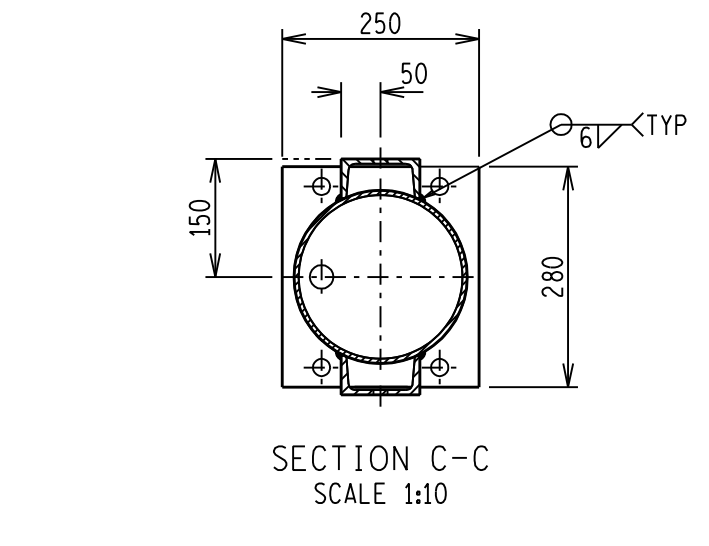
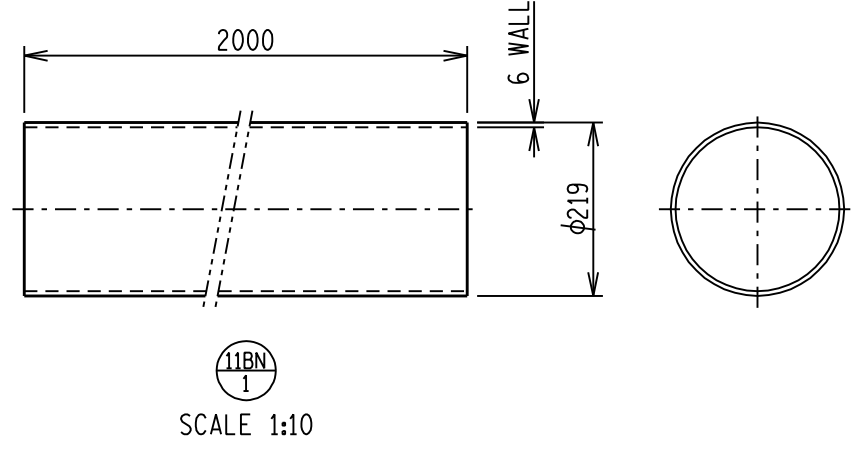
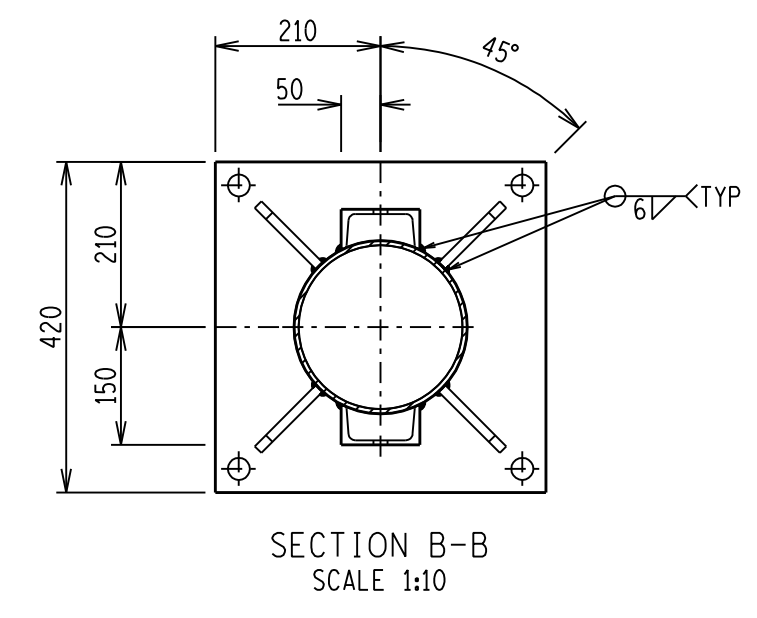
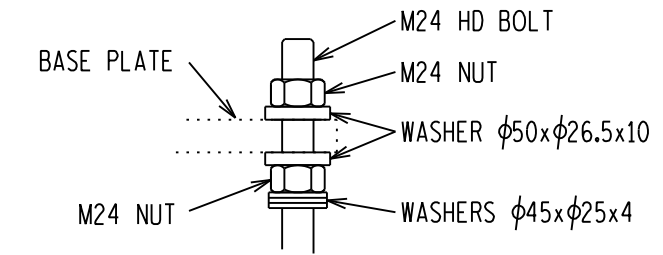
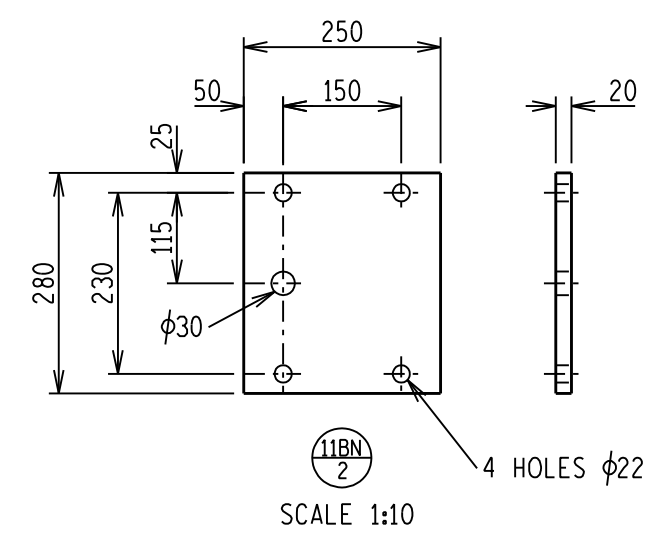
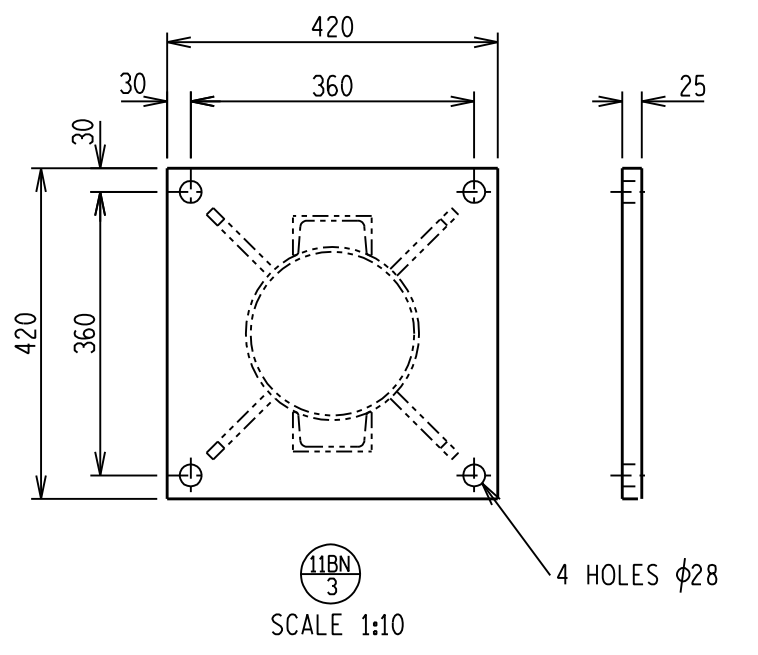
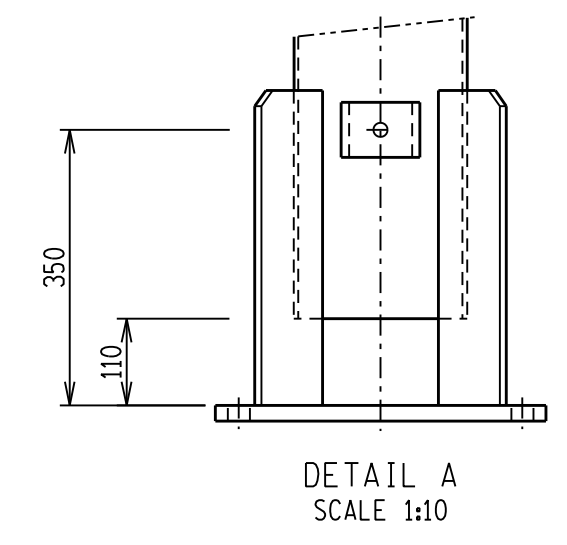
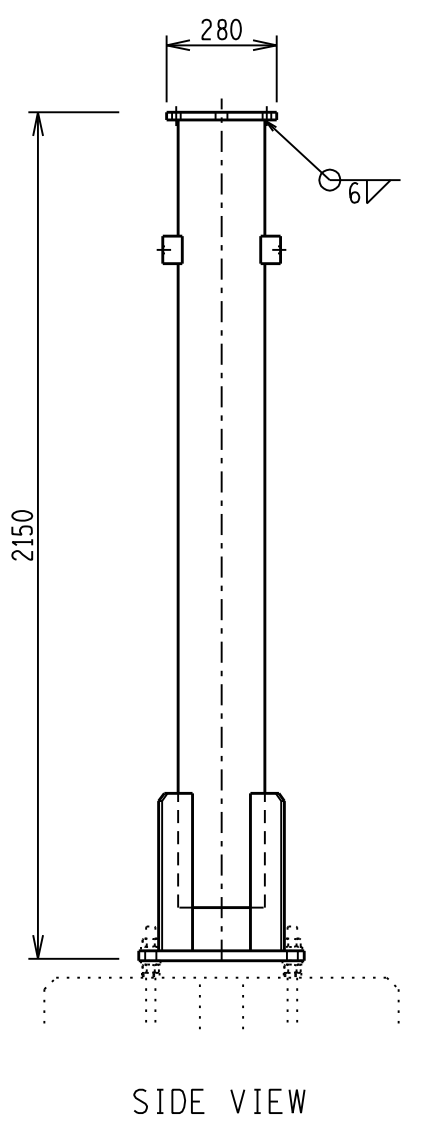
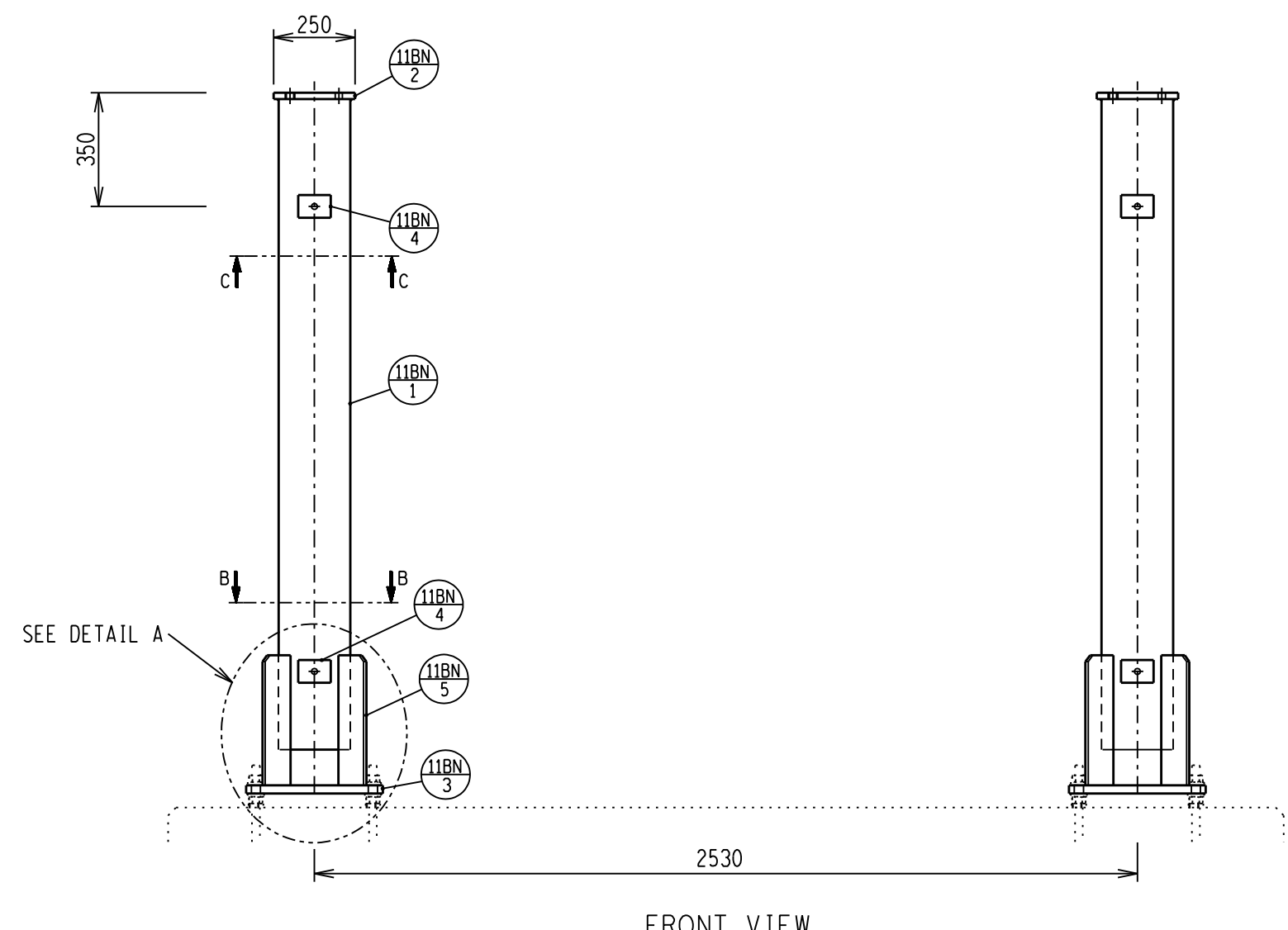
**Eskom**

**CIRCUIT BREAKER - 132kV  
TUBULAR SUPPORT  
FOUNDATION DETAILS - CABLE PIPE  
(SOIL TYPE 1 & 2)**

AUTH: R GUSH  
DATE: 29/09/1999  
CHKD: N WEBBER  
DATE: 25/04/1999  
DRAWN: TMB  
DATE: 20/04/1999

**D-DT-5200**

SET	SHEET	REVISION
	1A	9



NOTES:

- 1 ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
- 2 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
- 3 ALL STEEL TO BE GRADE S355JR/350WA (EXCEPT ANGLES ≤ 45mm TO BE MILD STEEL).
- 4 ALL WELDS TO BE SEALED WELDED.
- 5 STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
- 6 STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
- 7 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 8 ALL MARKINGS TO BE STAMPED ON TO STEELWORK AND SHALL BE CLEARLY LEGABLE AFTER GALVANIZING.
- 9 NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
- 10 NO SECTIONS TO BE BUTT WELDED.
- 11 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELED TO A TOLERANCE OF + - 1.5mm.
- 12 ALL HOLES TO BE 18mm DIA UNLESS OTHERWISE STATED.

STEEL SCHEDULE AND MASS					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
11BN 1	2	MS ROUND TUBE φ219 x 6 WALL	2000	4.00	126.12
11BN 2	2	MILD STEEL PLATE 250 x 20	280	0.56	21.98
11BN 3	2	MILD STEEL PLATE 420 x 25	420	0.84	55.39
11BN 4	8	TF CHANNEL 100 x 50 x 11kg/m	70	0.56	5.94
11BN 5	8	MILD STEEL PLATE 110 x 12	400	3.20	32.96
TOTAL MASS =					242.39

DRG NO.	SHEET NO.	REFERENCE DRAWINGS
D-DT 5200	SHEET 1D	BRKR FND DETAILS SOIL TYPE 3-PAD
D-DT 5200	SHEET 1C	BRKR FND DETAILS SOIL TYPE 1&2-SEP FND
D-DT-5200	SHEET 1B	BRKR FND DETAILS SOIL TYPE 1&2-CUTOUT
D-DT-5200	SHEET 1A	BRKR FND DETAILS SOIL TYPE 1&2-PIPE

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
13	REDRAWN, NOTES UPDATED & HD BOLT ARRANGMENT ADDED	GJB	NMW	BPH	15/05/2012	



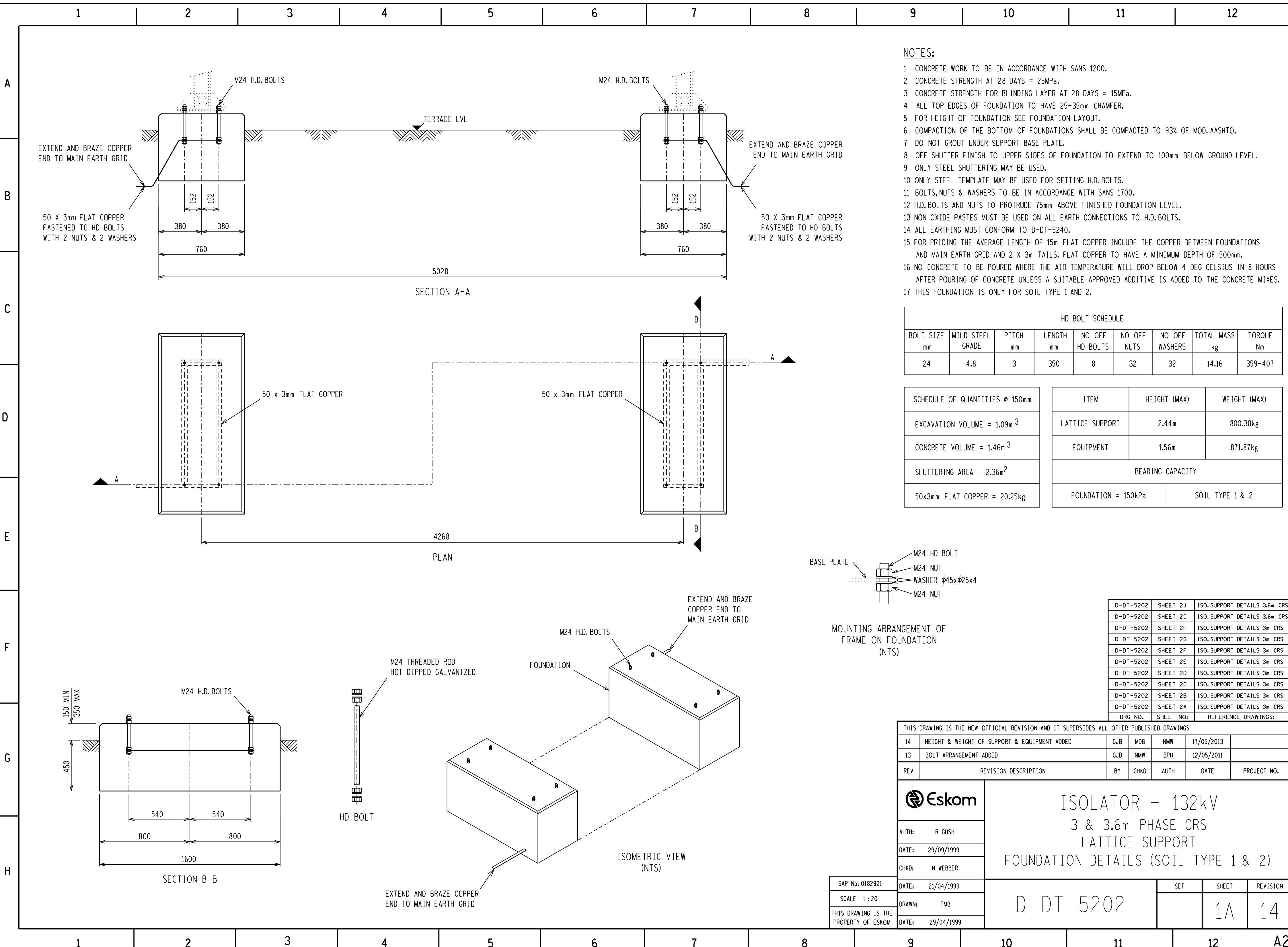
AUTH: B HILL  
DATE: 06/04/2004  
CHKD: B HILL  
DATE: 06/04/2004  
DRAWN: J SCHOLTZ  
DATE: 19/01/2000

CIRCUIT BREAKER - 132kV  
TUBULAR SUPPORT  
STEELWORK MANUFACTURING DETAILS

SAP No. 0182927  
SCALE 1:20  
THIS DRAWING IS THE PROPERTY OF ESKOM

D-DT-5200

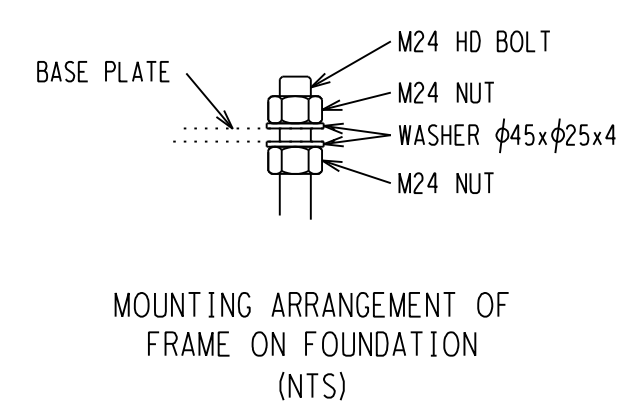
SET	SHEET	REVISION
	2A	13



- NOTES:**
- 1 CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
  - 2 CONCRETE STRENGTH AT 28 DAYS = 25MPa.
  - 3 CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS = 15MPa.
  - 4 ALL TOP EDGES OF FOUNDATION TO HAVE 25-35mm CHAMFER.
  - 5 FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
  - 6 COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 93% OF MOD. AASHTO.
  - 7 DO NOT GROUT UNDER SUPPORT BASE PLATE.
  - 8 OFF SHUTTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 100mm BELOW GROUND LEVEL.
  - 9 ONLY STEEL SHUTTERING MAY BE USED.
  - 10 ONLY STEEL TEMPLATE MAY BE USED FOR SETTING H.D. BOLTS.
  - 11 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
  - 12 H.D. BOLTS AND NUTS TO PROTRUDE 75mm ABOVE FINISHED FOUNDATION LEVEL.
  - 13 NON OXIDE PASTES MUST BE USED ON ALL EARTH CONNECTIONS TO H.D. BOLTS.
  - 14 ALL EARTHING MUST CONFORM TO D-DT-5240.
  - 15 FOR PRICING THE AVERAGE LENGTH OF 15m FLAT COPPER INCLUDE THE COPPER BETWEEN FOUNDATIONS AND MAIN EARTH GRID AND 2 X 3m TAILS. FLAT COPPER TO HAVE A MINIMUM DEPTH OF 500mm.
  - 16 NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIXES.
  - 17 THIS FOUNDATION IS ONLY FOR SOIL TYPE 1 AND 2.

HD BOLT SCHEDULE								
BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF HD BOLTS	NO OFF NUTS	NO OFF WASHERS	TOTAL MASS kg	TORQUE Nm
24	4.8	3	350	8	32	32	14.16	359-407

SCHEDULE OF QUANTITIES @ 150mm			ITEM	HEIGHT (MAX)	WEIGHT (MAX)
EXCAVATION VOLUME = 1.09m <sup>3</sup>			LATTICE SUPPORT	2.44m	800.38kg
CONCRETE VOLUME = 1.46m <sup>3</sup>			EQUIPMENT	1.56m	871.87kg
SHUTTERING AREA = 2.36m <sup>2</sup>			BEARING CAPACITY		
50x3mm FLAT COPPER = 20.25kg			FOUNDATION = 150kPa	SOIL TYPE 1 & 2	

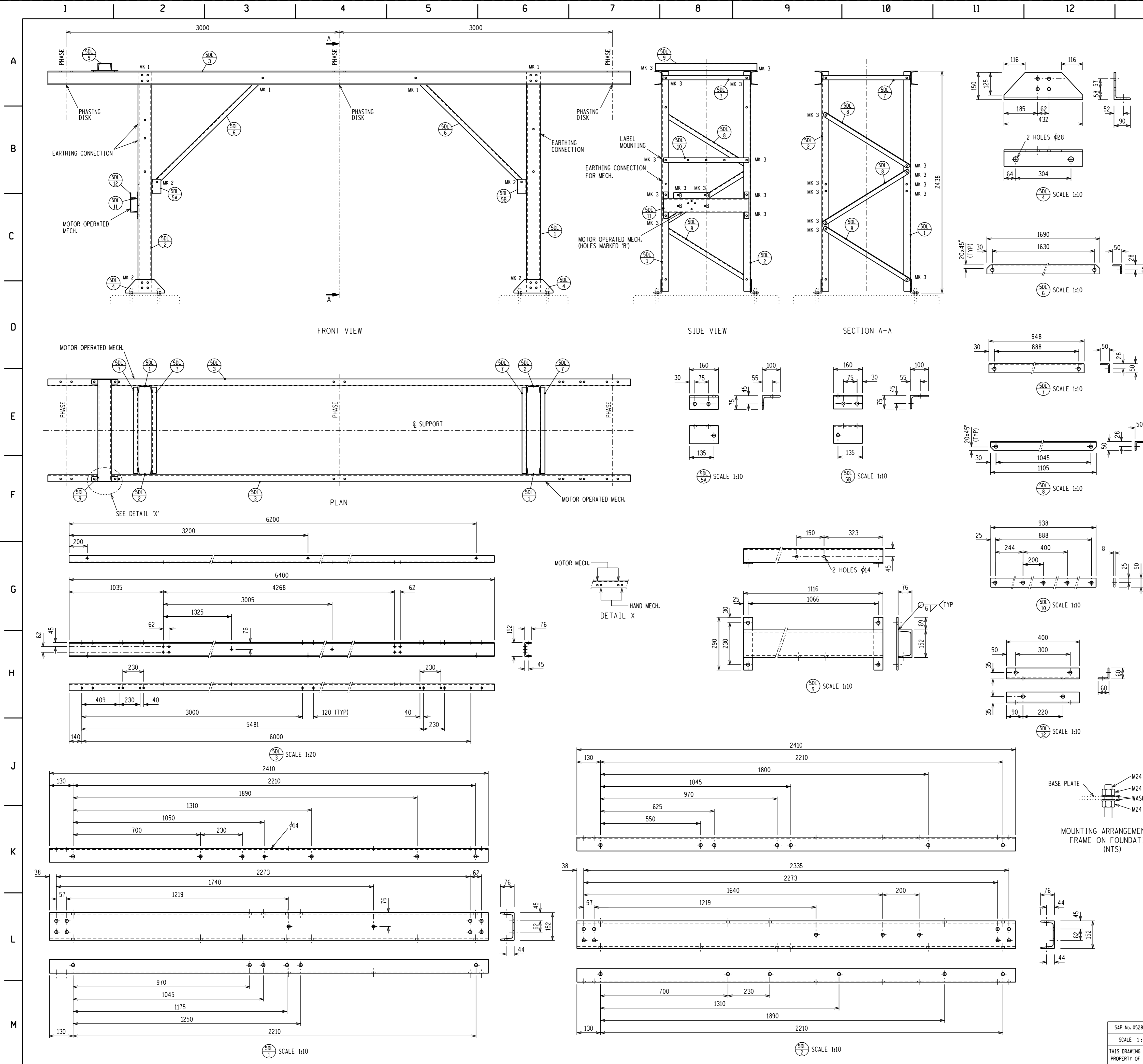


DRG NO.	SHEET NO.	REFERENCE DRAWINGS:
D-DT-5202	SHEET 2J	ISO. SUPPORT DETAILS 3.6m CRS
D-DT-5202	SHEET 2I	ISO. SUPPORT DETAILS 3.6m CRS
D-DT-5202	SHEET 2H	ISO. SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 2G	ISO. SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 2F	ISO. SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 2E	ISO. SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 2D	ISO. SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 2C	ISO. SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 2B	ISO. SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 2A	ISO. SUPPORT DETAILS 3m CRS

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
14	HEIGHT & WEIGHT OF SUPPORT & EQUIPMENT ADDED	GJB	MDB	NMW	17/05/2013	
13	BOLT ARRANGEMENT ADDED	GJB	NMW	BPH	12/05/2011	

	<b>ISOLATOR - 132kV</b> 3 & 3.6m PHASE CRS LATTICE SUPPORT FOUNDATION DETAILS (SOIL TYPE 1 & 2)			
	AUTH: R GUSH DATE: 29/09/1999 CHKD: N WEBBER	DATE: 21/04/1999 DRAWN: TMB DATE: 29/04/1999	SET SHEET REVISION	D-DT-5202 1A 14
	THIS DRAWING IS THE PROPERTY OF ESKOM		A2L	

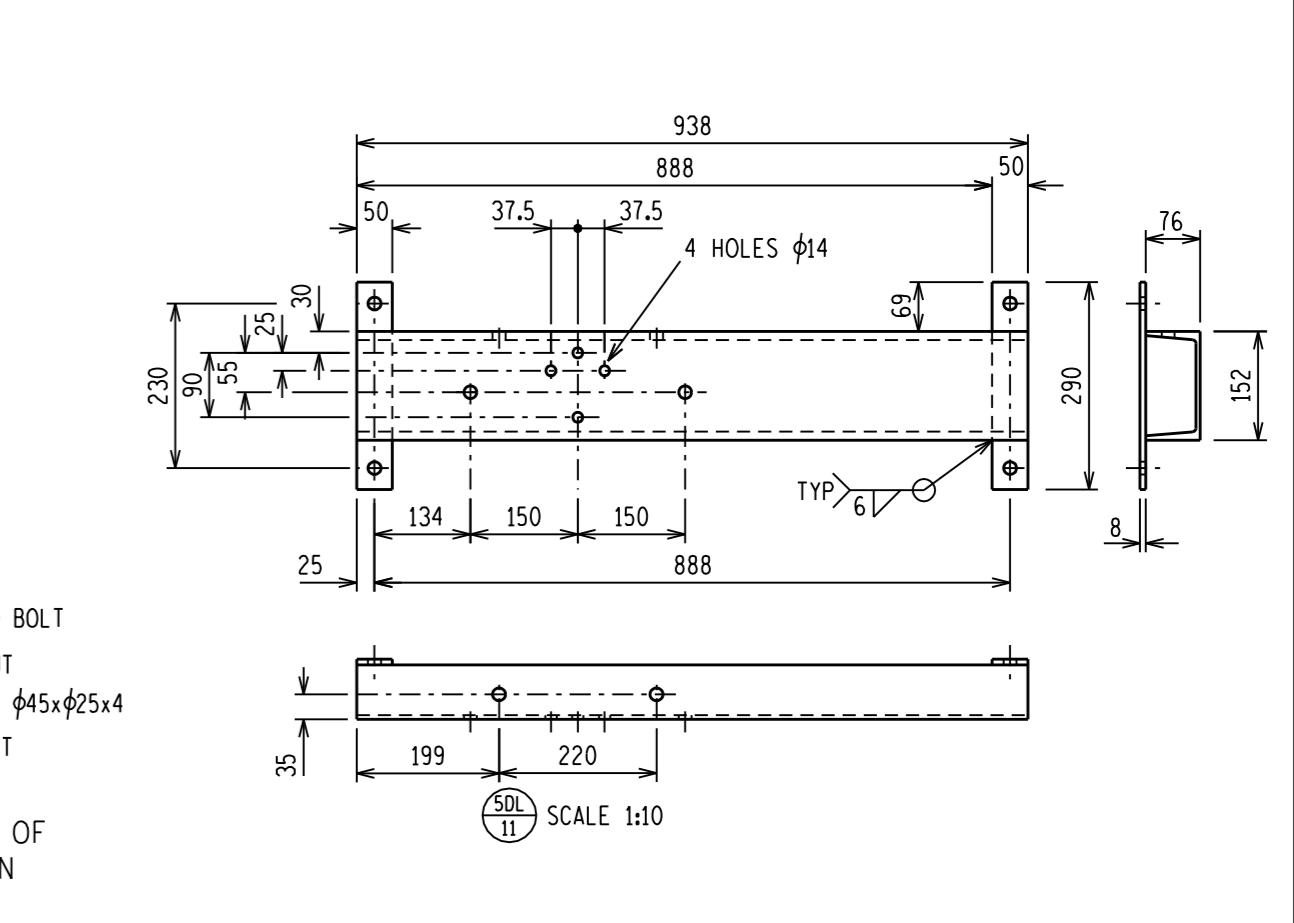




- NOTES:**
- 1 ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
  - 2 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
  - 3 ALL STEEL TO BE GRADE S355JR/S350A (EXCEPT ANGLES  $\leq 45\text{mm}$  TO BE MILD STEEL).
  - 4 ALL WELDS TO BE SEALED WELDED.
  - 5 STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
  - 6 STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
  - 7 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
  - 8 ALL MARKINGS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
  - 9 NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
  - 10 NO SECTIONS TO BE BUTT WELDED.
  - 11 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF  $\pm 1.5\text{mm}$ .
  - 12 ALL HOLES TO BE 18mm DIA UNLESS OTHERWISE STATED.

BOLT SCHEDULE									
MARK	BOLT SIZE	MILD STEEL GRADE	PITCH	LENGTH	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg
1	M16	4.8	2	35	16	16	16	120	2.53
2	M16	4.8	2	40	24	24	24	120	3.98
3	M16	4.8	2	45	38	38	38 FLAT 38 BEVEL	120	8.28
MASS OF BOLTS, WASHERS AND NUTS									14.79

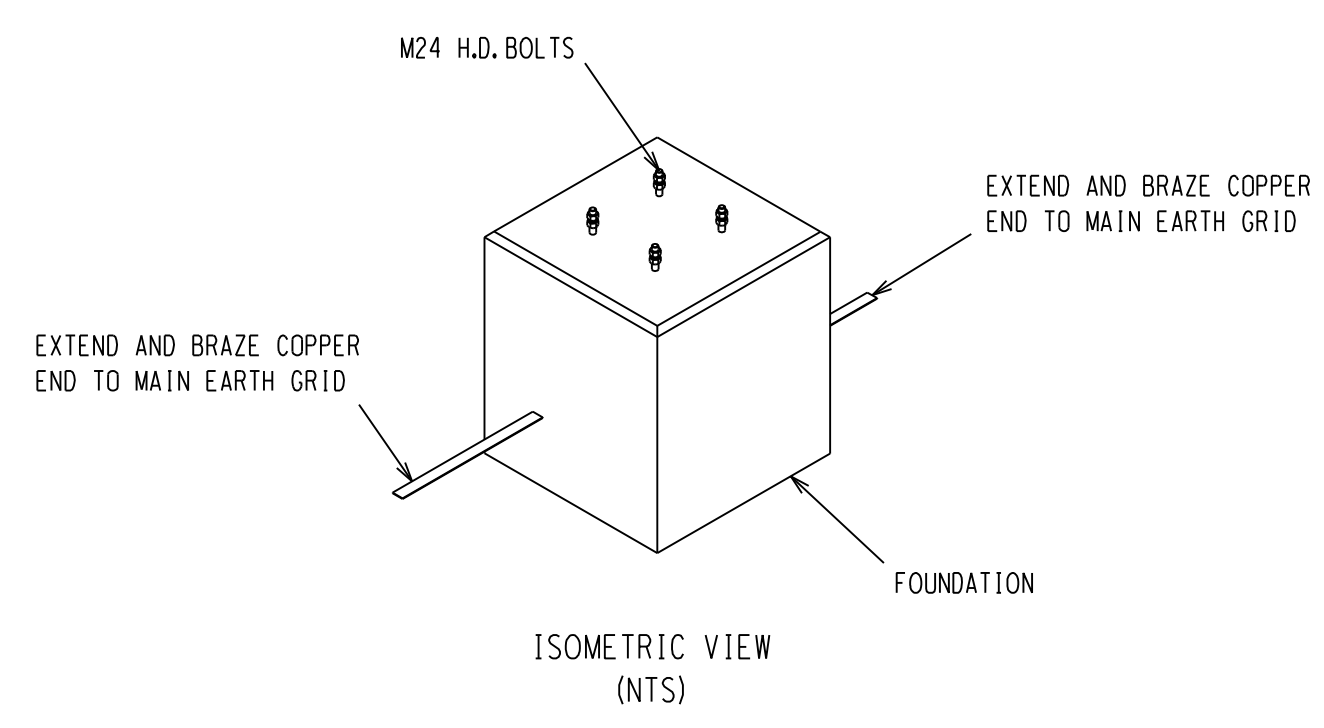
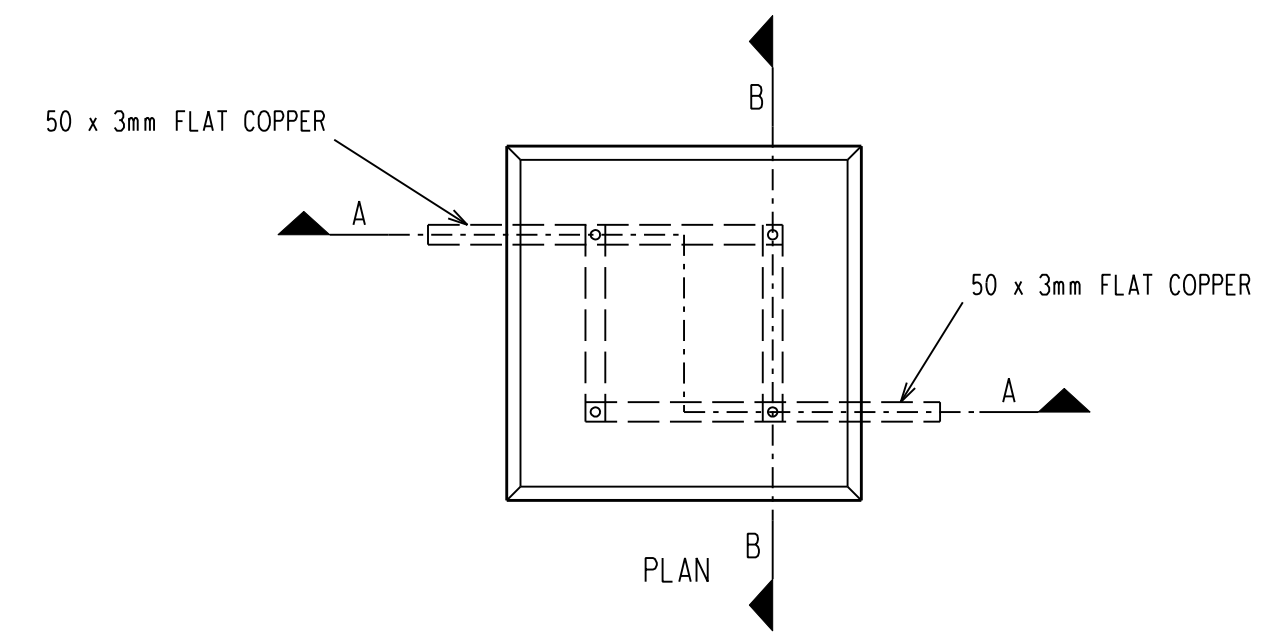
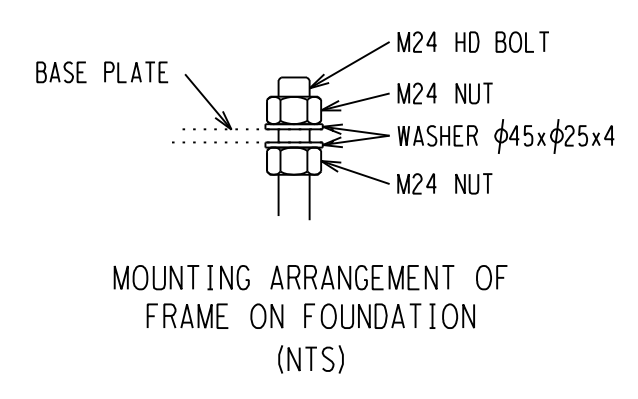
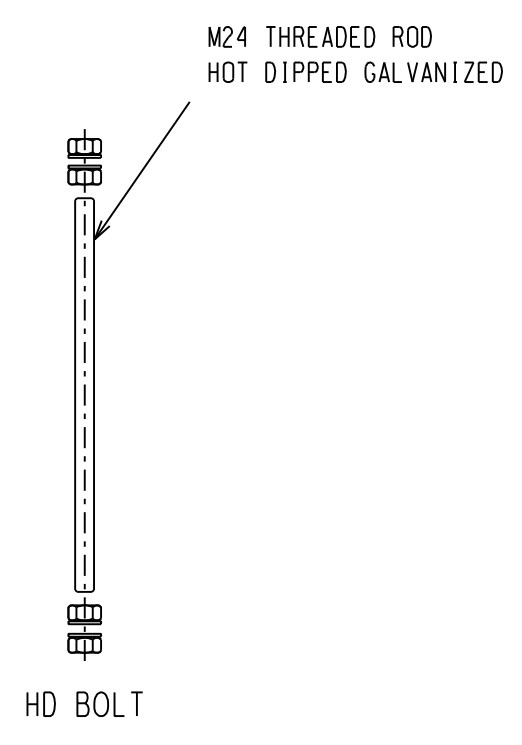
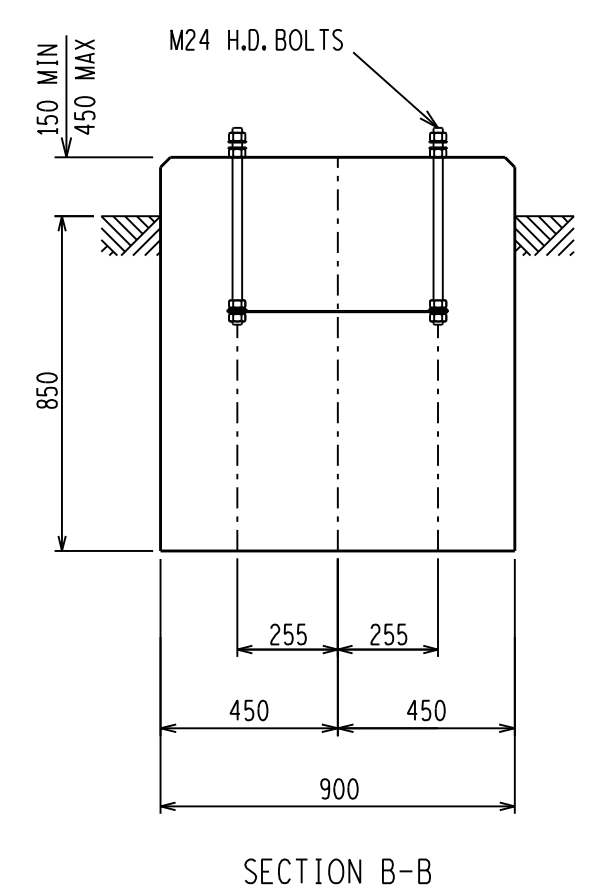
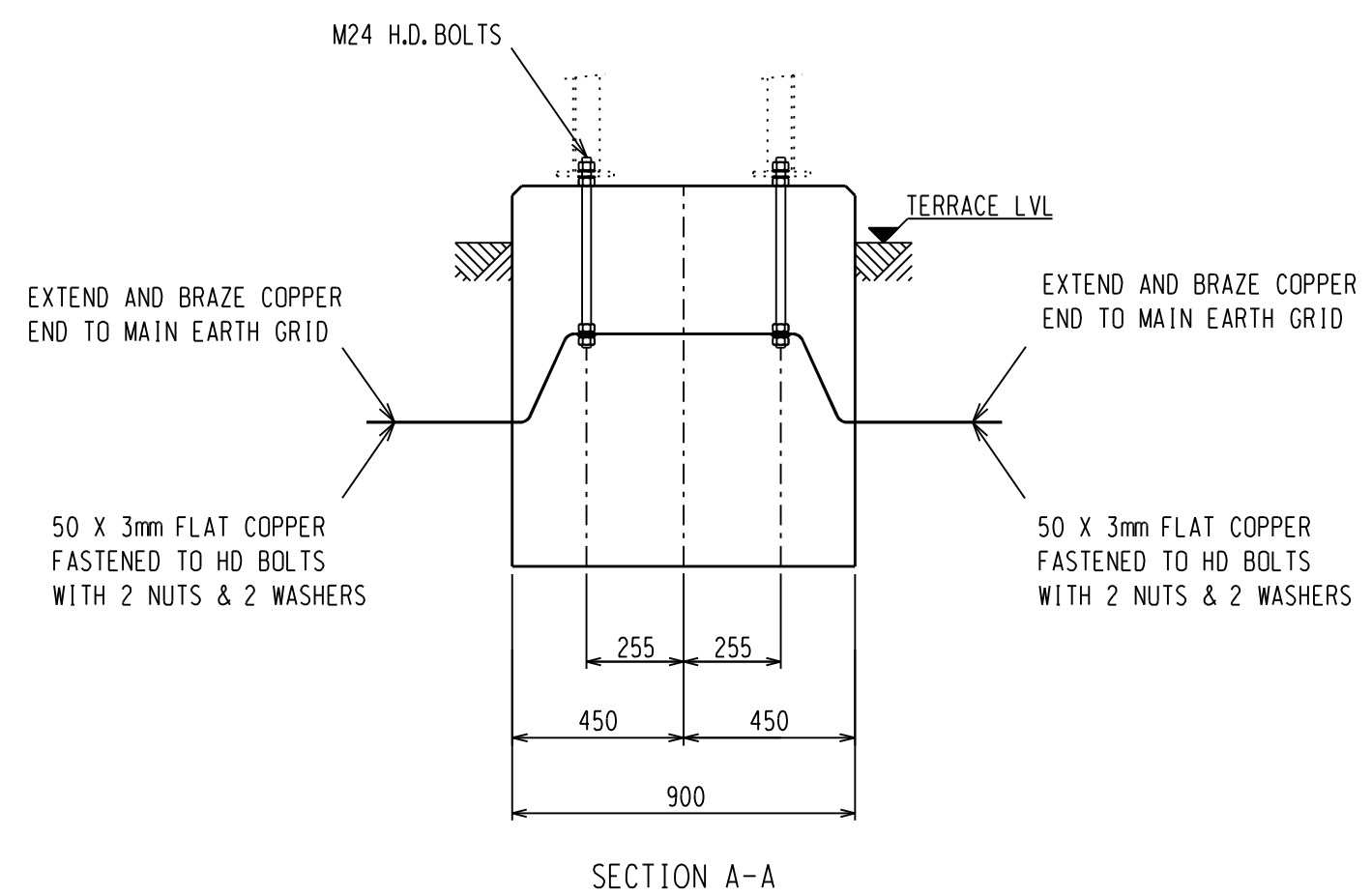
STEEL SCHEDULE AND MASS					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
SOL 1	2	TF CHANNEL 152 x 76 x 18kg/m	2410	4.82	86.34
SOL 2	2	TF CHANNEL 152 x 76 x 18kg/m	2410	4.82	86.34
SOL 3	2	TF CHANNEL 152 x 76 x 18kg/m	6400	12.80	229.12
SOL 4	4	MILD STEEL UNEQUAL ANGLE 150 x 90 x 10	432	1.73	31.44
SOL 5A	2	MILD STEEL UNEQUAL ANGLE 100 x 75 x 8	160	0.32	3.39
SOL 5B	2	MILD STEEL UNEQUAL ANGLE 100 x 75 x 8	160	0.32	3.39
SOL 6	4	MILD STEEL ANGLE 50 x 50 x 6	1690	6.76	25.48
SOL 7	4	MILD STEEL ANGLE 50 x 50 x 6	948	3.79	14.29
SOL 8	6	MILD STEEL ANGLE 50 x 50 x 6	1105	6.63	25.02
SOL 9	1	TF CHANNEL 152 x 76 x 18kg/m	1116	1.12	19.97
SOL 9	2	MILD STEEL FLAT BAR 50 x 8	290	0.58	1.82
SOL 10	2	MILD STEEL FLAT BAR 50 x 8	938	0.94	2.94
SOL 11	1	TF CHANNEL 152 x 76 x 18kg/m	938	0.94	16.80
SOL 11	2	MILD STEEL FLAT BAR 50 x 8	290	0.58	1.82
SOL 12	1	MILD STEEL ANGLE 60 x 60 x 6	400	0.40	2.17
TOTAL MASS					550.33



THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS		SAP No. 0528420	
2	DRAWING CLEAN UP	CJB	MOB
1	ITEM 2: DIM 1890 WAS 1950	CJB	MOB
REV	REVISION DESCRIPTION	BY	CHKD
AUTH: B HILL		DATE:	29/09/2011
CHRD: N WEBBER		DRAWN:	G BEETGE
DATE:		26/09/2011	SET
THIS DRAWING IS THE PROPERTY OF ESKOM		DATE:	22/09/2011
Eskom		ISOLATOR STD - 132kV MOTOR LATTICE SUPPORT STEELWORK MANUFACTURING DETAILS AND ASSEMBLY - 3M PHASE CRS	
D-DT-5202		SHEET	2B
		SHEET	2







**NOTES:**

- 1 CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
- 2 CONCRETE STRENGTH AT 28 DAYS = 25MPa.
- 3 CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS = 15MPa.
- 4 ALL TOP EDGES OF FOUNDATION TO HAVE 25-35mm CHAMFER.
- 5 FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
- 6 COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 93% OF MOD. AASHTO.
- 7 DO NOT GROUT UNDER SUPPORT BASE PLATE.
- 8 OFF SHUTTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 100mm BELOW GROUND LEVEL.
- 9 ONLY STEEL SHUTTERING MAY BE USED.
- 10 ONLY STEEL TEMPLATE MAY BE USED FOR SETTING H.D. BOLTS.
- 11 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 12 H.D. BOLTS AND NUTS TO PROTRUDE 75mm ABOVE FINISHED FOUNDATION LEVEL.
- 13 NON OXIDE PASTE MUST BE USED ON ALL EARTH CONNECTIONS TO H.D. BOLTS.
- 14 ALL EARTHING MUST CONFORM TO D-DT-5240.
- 15 FOR PRICING THE AVERAGE LENGTH OF 15m FLAT COPPER INCLUDE THE COPPER BETWEEN FOUNDATIONS AND MAIN EARTH GRID AND 2 X 3m TAILS. FLAT COPPER MUST HAVE A MINIMUM DEPTH OF 500mm.
- 16 NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIXES.
- 17 THIS FOUNDATION IS ONLY FOR SOIL TYPE 1 AND 2.

HD BOLT SCHEDULE								
BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF HD BOLTS	NO OFF NUTS	NO OFF WASHERS	TOTAL MASS kg	TORQUE Nm
24	4.8	3	500	4	16	16	9.21	359-407

SCHEDULE OF QUANTITIES @ 150mm	
EXCAVATION VOLUME =	0.70m <sup>3</sup>
CONCRETE VOLUME =	0.81m <sup>3</sup>
SHUTTERING AREA =	0.90m <sup>2</sup>
50x3mm FLAT COPPER =	20.25kg

ITEM	HEIGHT (MAX)	WEIGHT (MAX)
LATTICE SUPPORT	2.00m	210.46kg
M1 CAP	300mm	54.35kg
EQUIPMENT 132kV CT	2.96m	810.00kg
BEARING CAPACITY		
FOUNDATION =	150kPa	SOIL TYPE 1 AND 2

DRG NO.	SHEET NO.	REFERENCE DRAWINGS:
D-DT-5206	SHEET 2E	MED. EQUIP. SUPPORT DETAILS 4m
D-DT-5206	SHEET 2D	MED. EQUIP. SUPPORT DETAILS 3.5m
D-DT-5206	SHEET 2C	MED. EQUIP. SUPPORT DETAILS 3m
D-DT-5206	SHEET 2B	MED. EQUIP. SUPPORT DETAILS 2.5m
D-DT-5206	SHEET 2A	MED. EQUIP. SUPPORT DETAILS 2m

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
9	HEIGHT & WEIGHT OF SUPPORT & EQUIPMENT ADDED	GJB	MDB	NMW	20/05/2013	
8	HD BOLT ARRANGEMENT ADDED	GJB	NMW	BPH	15/05/2012	

**Eskom**

AUTH: R GUSH  
DATE: 10/03/2001  
CHKD: N WEBBER

MEDIUM EQUIPMENT  
LATTICE SUPPORT  
FOUNDATION DETAILS  
(SOIL TYPE 1 & 2)

SET	SHEET	REVISION
	1A	9

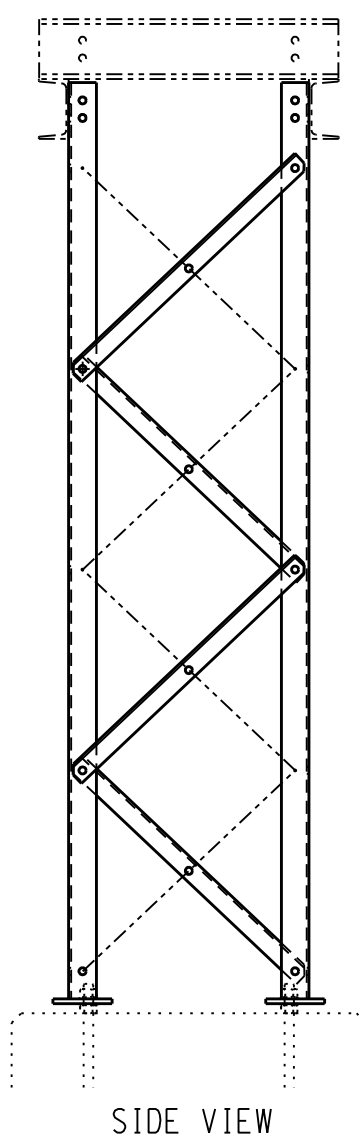
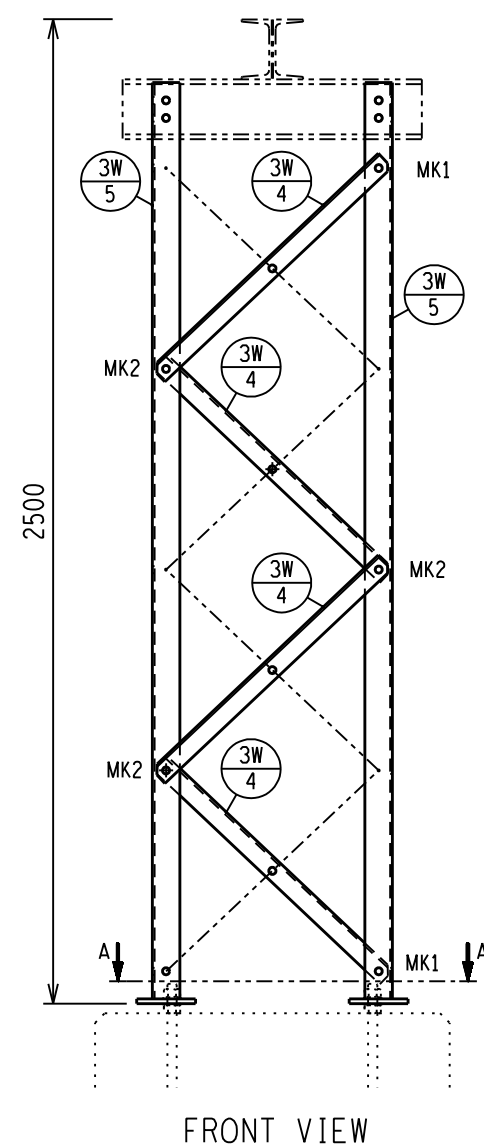
SAP No. 0183872	DATE: 05/03/2001
SCALE 1:20	DRAWN: T GUZANA
THIS DRAWING IS THE PROPERTY OF Eskom	DATE: 28/02/2001

D-DT-5206



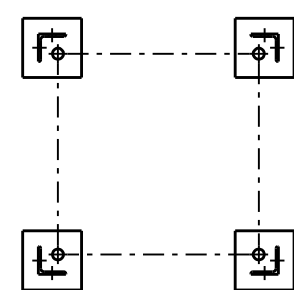
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A  
B  
C  
D  
E  
F  
G  
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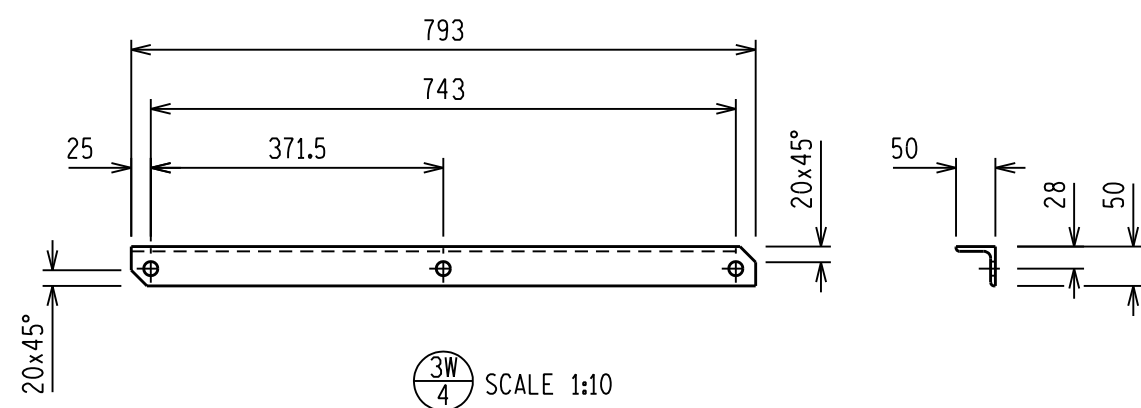
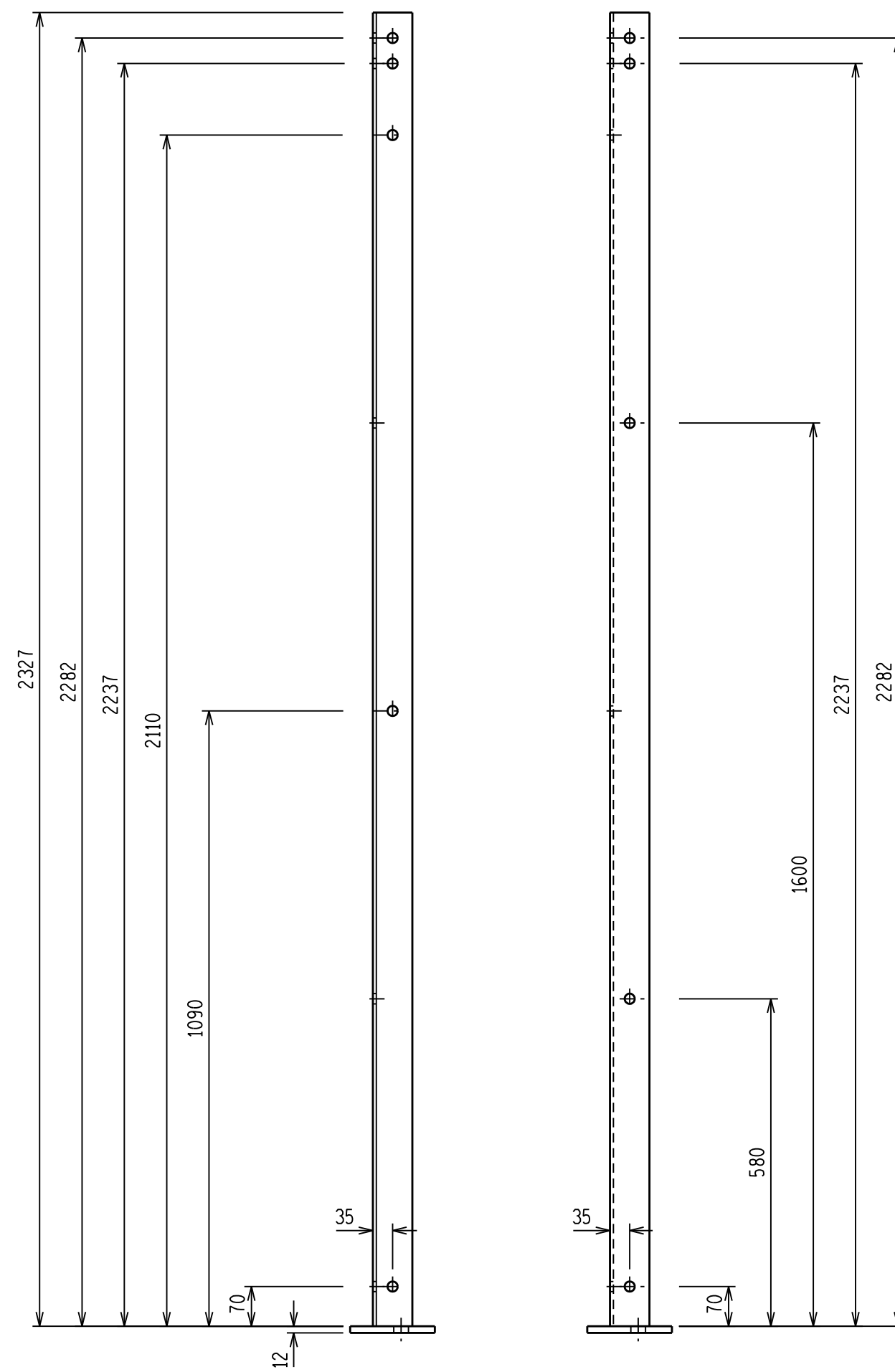


FRONT VIEW

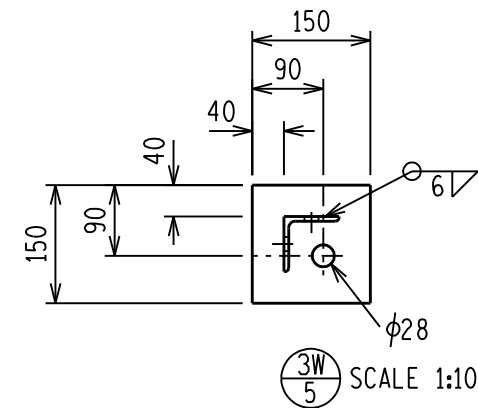
SIDE VIEW



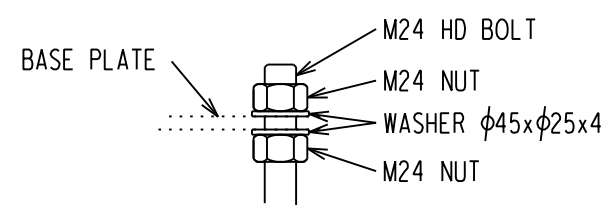
SECTION A-A



SCALE 1:10



SCALE 1:10



MOUNTING ARRANGEMENT OF FRAME ON FOUNDATION (NTS)

NOTES:

- 1 ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
- 2 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
- 3 ALL STEEL TO BE GRADE S355JR/350WA (EXCEPT ANGLES  $\leq 45\text{mm}$  TO BE MILD STEEL).
- 4 ALL WELDS TO BE SEALED WELDED.
- 5 STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
- 6 STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
- 7 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 8 ALL MARKINGS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGABLE AFTER GALVANIZING.
- 9 NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
- 10 NO SECTIONS TO BE BUTT WELDED.
- 11 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELED TO A TOLERANCE OF  $\pm 1.5\text{mm}$ .
- 12 ALL HOLES TO BE 18mm DIA UNLESS OTHERWISE STATED.

BOLT SCHEDULE									
MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS KG
1	M16	4.8	2	40	8	8	8	120	1.22
2	M16	4.8	2	45	12	12	12	120	1.91
MASS OF BOLTS, WASHERS AND NUTS									3.13

STEEL SCHEDULE AND MASS					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
3W/4	16	MILD STEEL ANGLE 50 x 50 x 6	793	12.69	56.71
3W/5	4	MILD STEEL ANGLE 70 x 70 x 6	2327	9.31	59.38
3W/5	4	MILD STEEL PLATE 150 x 12	150	0.60	8.48
TOTAL MASS =					124.57

DRG NO.	SHEET NO.	REFERENCE DRAWINGS:
D-DT-5206	SHEET 1F	SUPP.FND SOIL TYPE 3 - 3M SPACING
D-DT-5206	SHEET 1E	SUPP.FND SOIL TYPE 3 - 2M SPACING
D-DT-5206	SHEET 1D	SUPP.FND SOIL TYPE 3 - 1,8M SPACING
D-DT-5206	SHEET 1C	SUPP.FND SOIL TYPE 1 & 2 - PIPE
D-DT-5206	SHEET 1B	SUPP.FND SOIL TYPE 3
D-DT-5206	SHEET 1A	SUPP.FND SOIL TYPE 1 & 2

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
9	REDRAWN, NOTES UPDATED & HD BOLT ARRANGEMENT ADDED	GJB	NMW	BPH	15/05/2012	
8	BOTTOM BRACE MK 3W/4 ROTATION CORRECTED	PAT	BPH	BPH	06/08/2008	

	<p>MEDIUM EQUIPMENT - 2,5M LATTICE SUPPORT STEELWORK MANUFACTURING DETAILS AND ASSEMBLY</p>		
	<p>AUTH: R GUSH DATE: 10/03/2001 CHKD: N WEBBER</p>	<p>DATE: 02/03/2001 DRAWN: T GUZANA DATE: 28/02/2001</p>	

SAP No. 0182752  
SCALE 1:20  
THIS DRAWING IS THE PROPERTY OF Eskom

1 2 3 4 5 6 7 8 9 10 11 12 A2L

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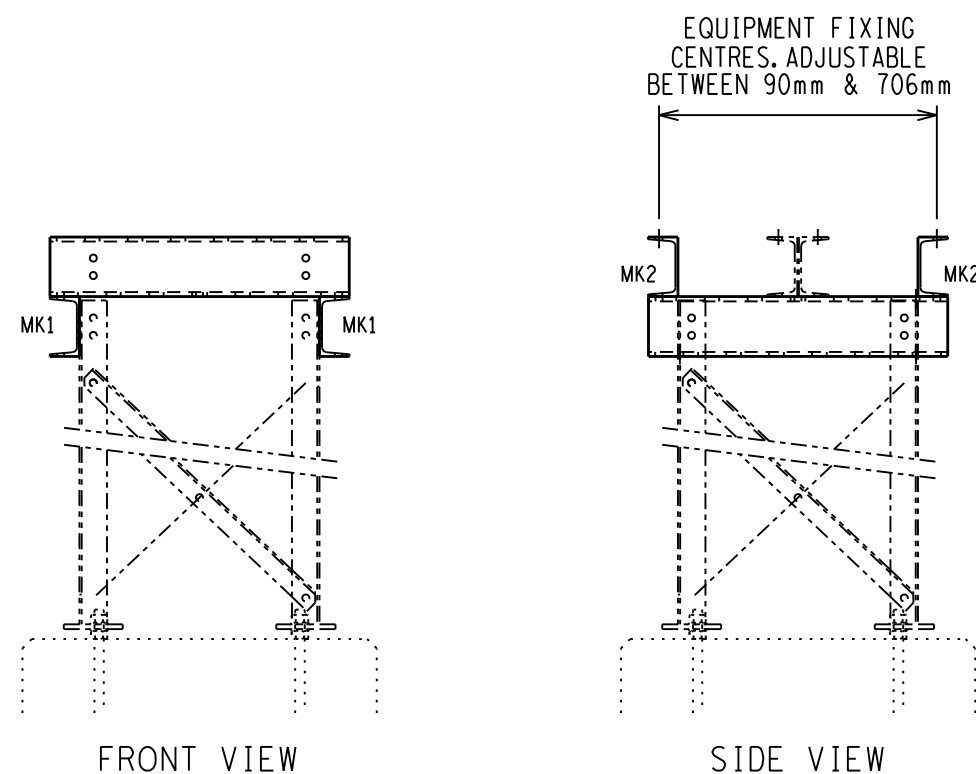
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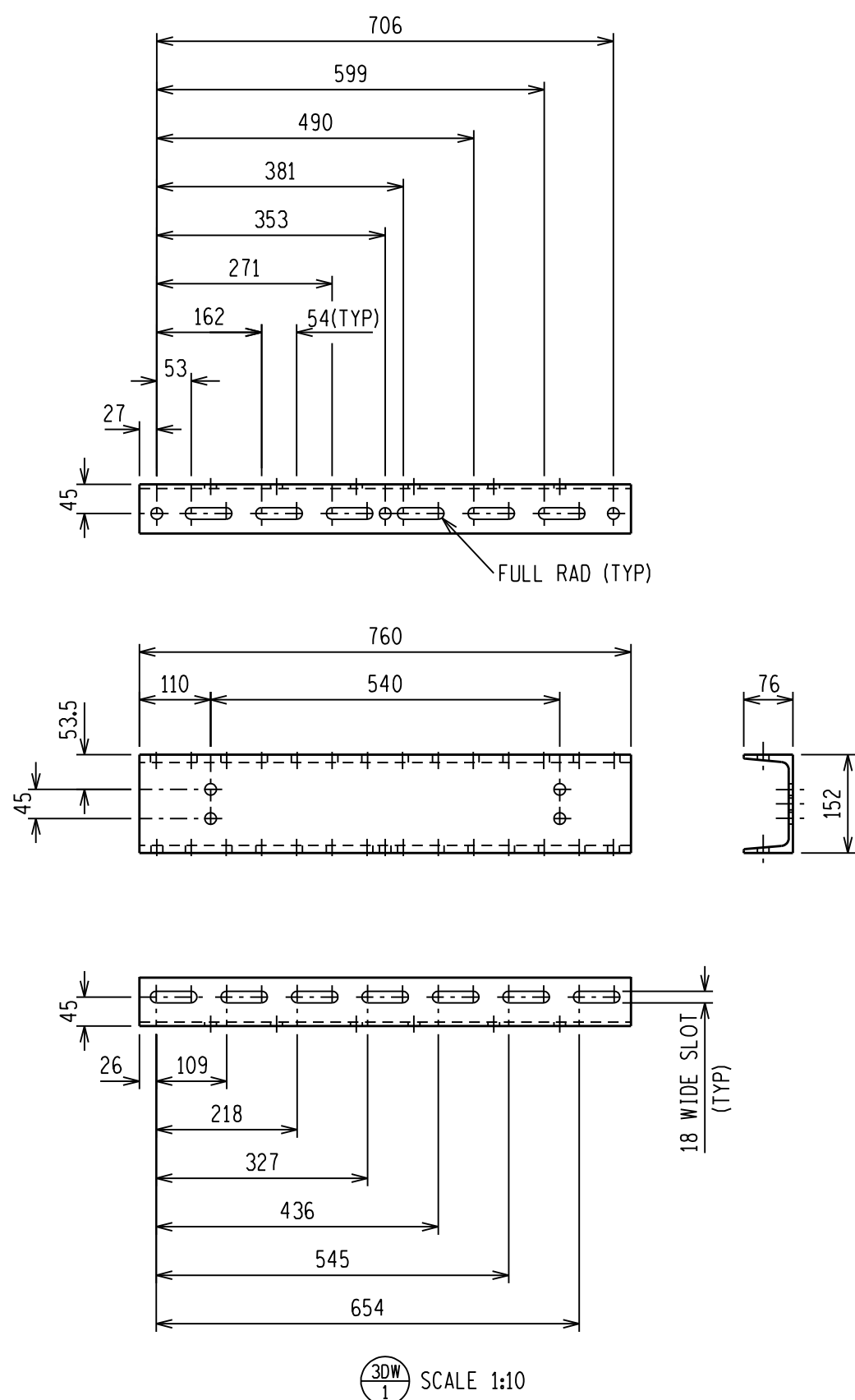
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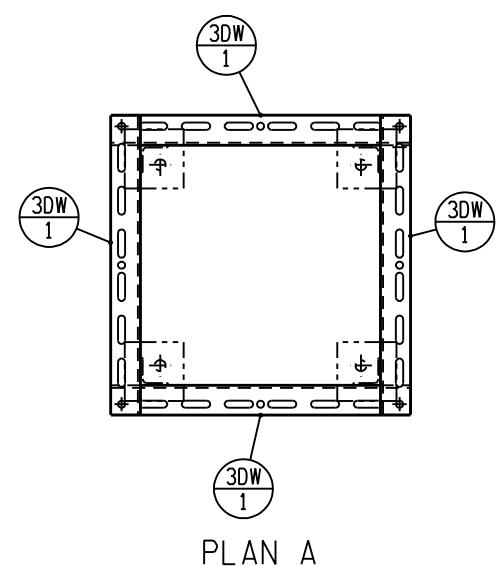


FRONT VIEW

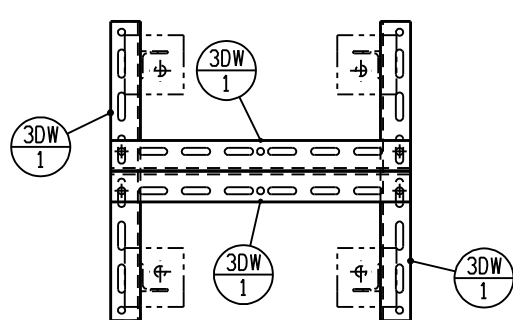
SIDE VIEW



SCALE 1:10



PLAN A



PLAN B

NOTES:

- 1 ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
- 2 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
- 3 ALL STEEL TO BE GRADE S355JR/350WA (EXCEPT ANGLES  $\leq 45\text{mm}$  TO BE MILD STEEL).
- 4 ALL WELDS TO BE SEALED WELDED.
- 5 STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
- 6 STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
- 7 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 8 ALL MARKINGS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGABLE AFTER GALVANIZING.
- 9 NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
- 10 NO SECTIONS TO BE BUTT WELDED.
- 11 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELED TO A TOLERANCE OF  $\pm 1.5\text{mm}$ .
- 12 ALL HOLES TO BE 18mm DIA UNLESS OTHERWISE STATED.
- 13 ALL PARTS MAY BE USED EITHER AS SHOWN OR UPSIDE DOWN AS REQUIRED TO GIVE THE DESIRED FIXING CENTRES. THIS TO DETERMINED AT SITE DURING ERACTION.

BOLT SCHEDULE									
MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS KG
1	M16	4.8	2	40	8	8	8	120	1.22
2	M16	4.8	2	45	4	4	4 FLAT 8 BEVEL	120	0.72
MASS OF BOLTS, WASHERS AND NUTS									1.94

STEEL SCHEDULE AND MASS					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
3DW 1	4	TF CHANNEL 152 x 76 x 18kg/m	760	3.04	54.41
TOTAL MASS =					54.41

D-DT-5206	SHEET 2G	MEDIUM EQUIP. SUPPORT (6M)
D-DT-5206	SHEET 2F	MEDIUM EQUIP. SUPPORT (4M)
D-DT-5206	SHEET 2E	MEDIUM EQUIP. SUPPORT (3.5M)
D-DT-5206	SHEET 2D	MEDIUM EQUIP. SUPPORT (3M)
D-DT-5206	SHEET 2C	MEDIUM EQUIP. SUPPORT (2.5M)
D-DT-5206	SHEET 2B	MEDIUM EQUIP. SUPPORT (2M)
D-DT-5206	SHEET 2A	MEDIUM EQUIP. SUPPORT (1.5M)
DRG NO.	SHEET NO.	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
7	REDRAWN, NOTES UPDATED	GJB	NMW	BPH	15/05/2012	
6	REFERENCE TO FOUNDATION DETAIL - PAD REMOVED D-DT 5206S2	NMW	PAT	PAT	06/06/2008	

	<b>MEDIUM EQUIPMENT - CAP M1 CHANNEL SUPPORT STEELWORK MANUFACTURING DETAILS AND ASSEMBLY</b>		
	AUTH: B HILL DATE: 29/10/1999 CHKD: AG	D-DT-5206	
	SAP No. 0182753 SCALE 1:20 THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 29/10/1999 DRAWN: TMB DATE: 20/04/1999	SET SHEET REVISION

EQUIPMENT FIXING CENTRES, ADJUSTABLE BETWEEN 90mm & 522mm

NOTES:

- 1 ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
- 2 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
- 3 ALL STEEL TO BE GRADE S355JR/350WA (EXCEPT ANGLES  $\leq 45$ mm TO BE MILD STEEL).
- 4 ALL WELDS TO BE SEALED WELDED.
- 5 STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
- 6 STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
- 7 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 8 ALL MARKINGS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGABLE AFTER GALVANIZING.
- 9 NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
- 10 NO SECTIONS TO BE BUTT WELDED.
- 11 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELED TO A TOLERANCE OF  $\pm 1.5$ mm.
- 12 ALL HOLES TO BE 18mm DIA UNLESS OTHERWISE STATED.
- 13 ALL PARTS MAY BE USED EITHER AS SHOWN OR UPSIDE DOWN AS REQUIRED TO GIVE THE DESIRED FIXING CENTRES. THIS TO DETERMINED AT SITE DURING ERACTION.

BOLT SCHEDULE									
MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS KG
1	M16	4.8	2	40	8	8	8	120	1.22
2	M16	4.8	2	45	4	4	4 FLAT 8 BEVEL	120	0.72
MASS OF BOLTS, WASHERS AND NUTS									1.94

STEEL SCHEDULE AND MASS					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
3ES 1	2	TF CHANNEL 152 x 76 x 18kg/m	600	1.20	21.48
3ES 2	2	TF CHANNEL 152 x 76 x 18kg/m	2600	5.20	93.08
TOTAL MASS =					114.56

DRG NO.	SHEET NO.	REFERENCE DRAWINGS:
D-DT-5206	SHEET 2D	MEDIUM EQUIP. SUPPORT (3M)
D-DT-5206	SHEET 2C	MEDIUM EQUIP. SUPPORT (2.5M)
D-DT-5206	SHEET 2B	MEDIUM EQUIP. SUPPORT (2M)
D-DT-5206	SHEET 2A	MEDIUM EQUIP. SUPPORT (1.5M)

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
7	REDRAWN, NOTES UPDATED	GJB	NMW	BPH	11/08/2011	
6	REFERENCE FOUNDATION DETAIL-PAD REMOVED D-DT 5206S6	NMW	PAT	PAT	06/06/2008	

AUTH: B HILL  
DATE: 29/10/1999  
CHKD: AG  
DATE: 29/10/1999  
DRAWN: TMB  
DATE: 20/04/1999

## MEDIUM EQUIPMENT - CAP M2

### CHANNEL SUPPORT

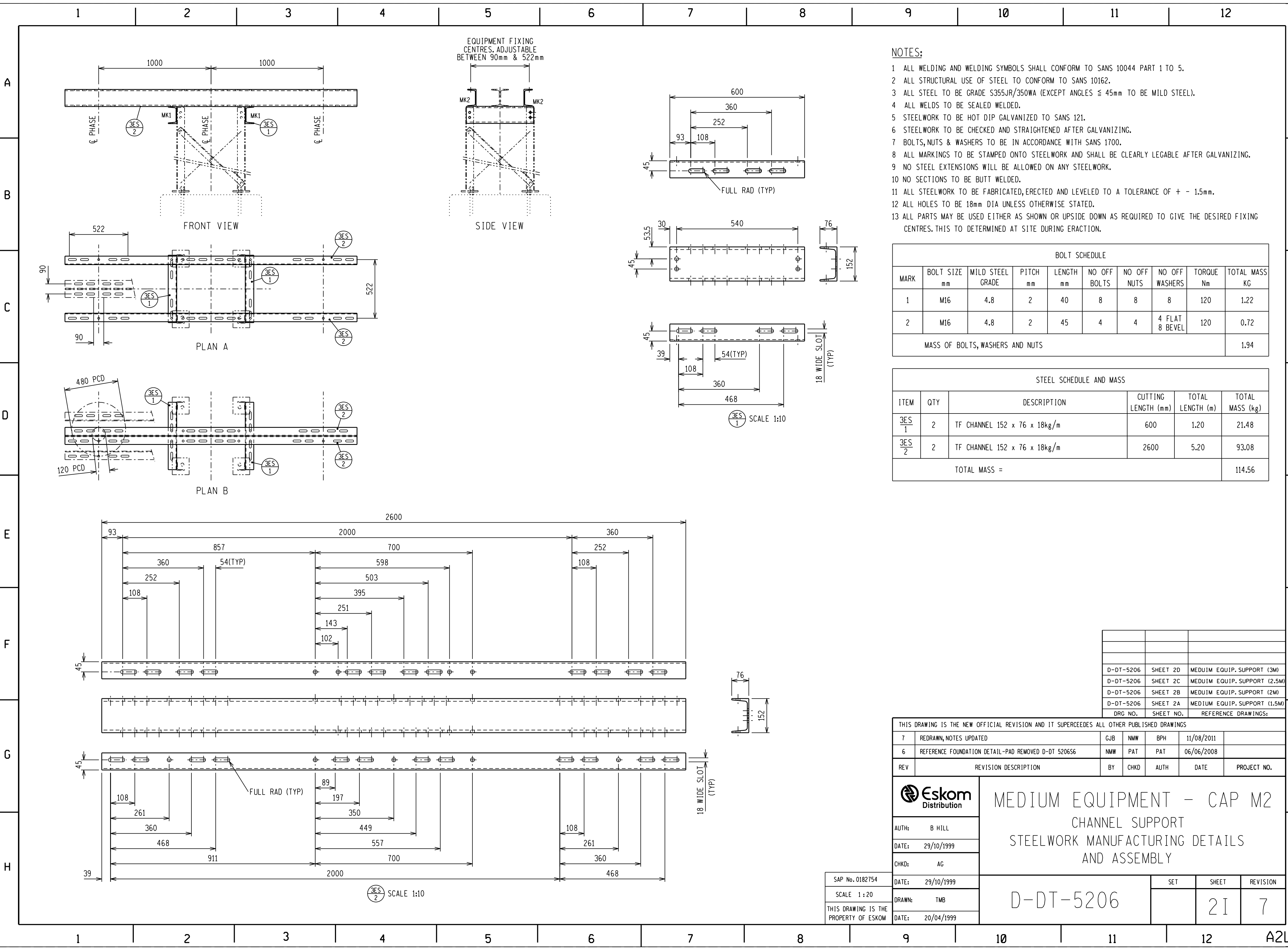
### STEELWORK MANUFACTURING DETAILS

### AND ASSEMBLY

SAP No. 0182754  
SCALE 1:20  
THIS DRAWING IS THE PROPERTY OF Eskom

# D-DT-5206

SET	SHEET	REVISION
	21	7



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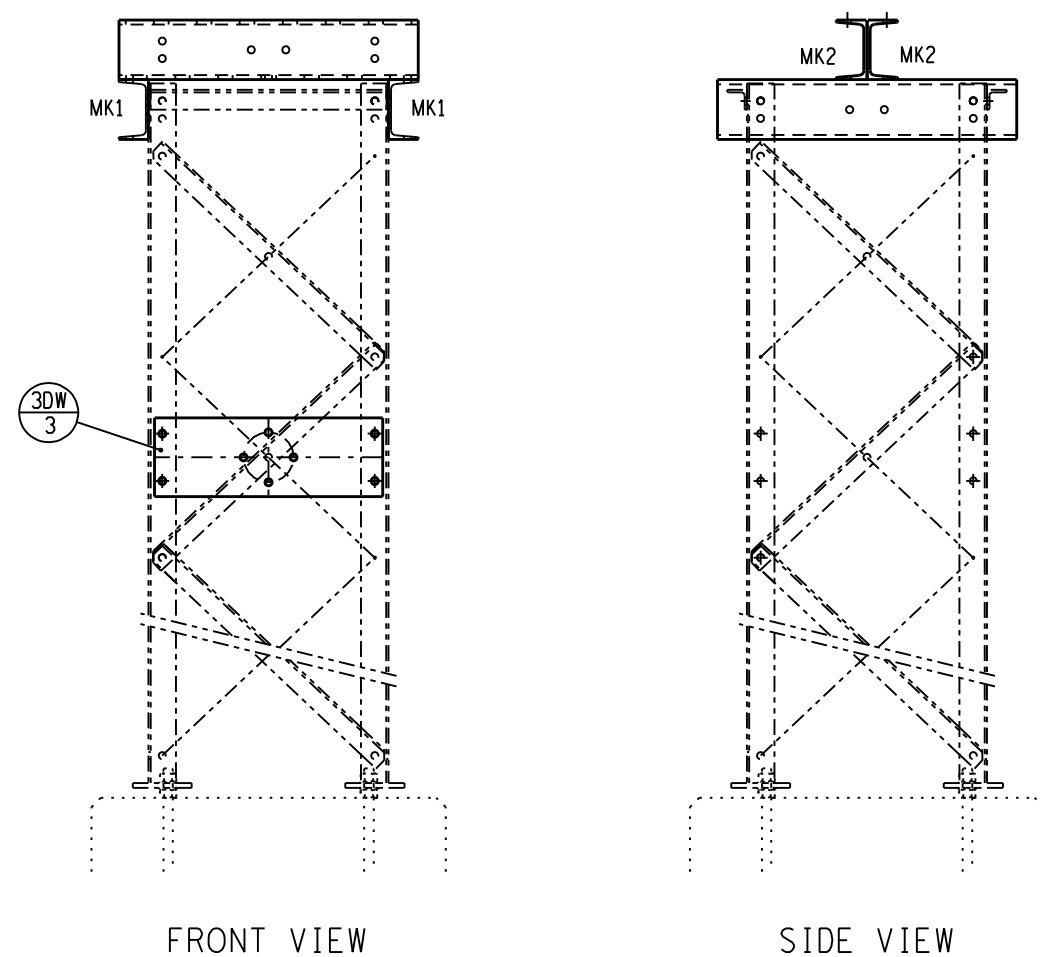
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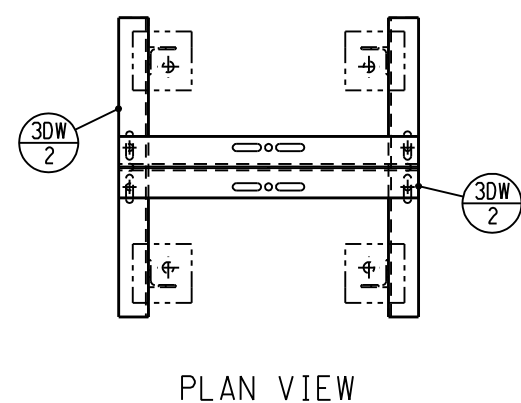
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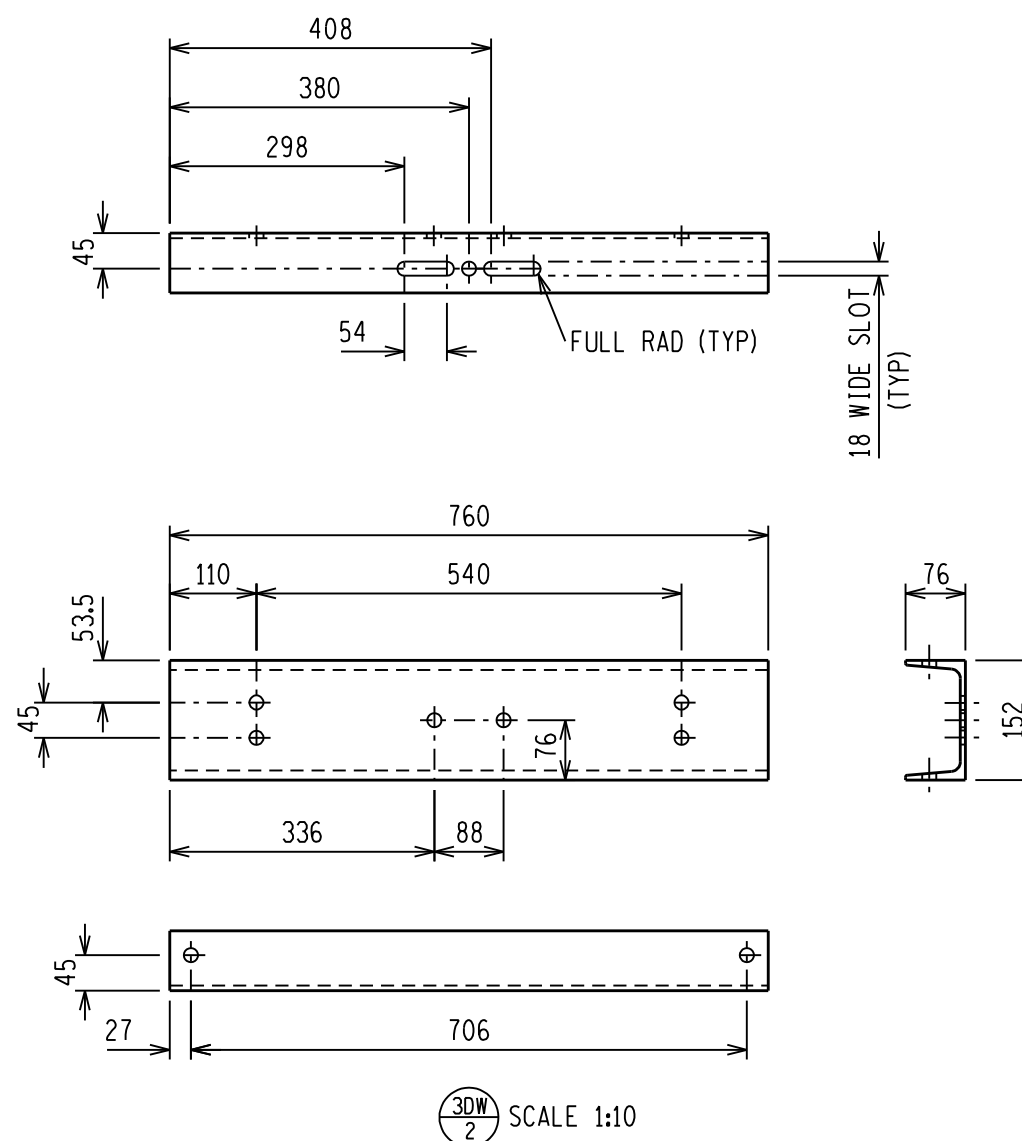


FRONT VIEW

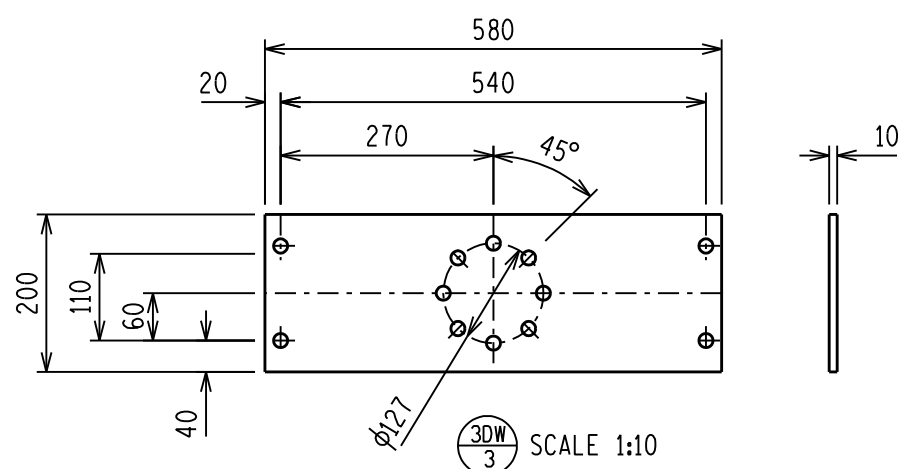
SIDE VIEW



PLAN VIEW



SCALE 1:10



SCALE 1:10

NOTES:

- 1 ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
- 2 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
- 3 ALL STEEL TO BE GRADE S355JR/350WA (EXCEPT ANGLES  $\leq 45\text{mm}$  TO BE MILD STEEL).
- 4 ALL WELDS TO BE SEALED WELDED.
- 5 STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
- 6 STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
- 7 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 8 ALL MARKINGS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGABLE AFTER GALVANIZING.
- 9 NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
- 10 NO SECTIONS TO BE BUTT WELDED.
- 11 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELED TO A TOLERANCE OF  $\pm 1.5\text{mm}$ .
- 12 ALL HOLES TO BE 18mm DIA UNLESS OTHERWISE STATED.
- 13 ALL PARTS MAY BE USED EITHER AS SHOWN OR UPSIDE DOWN AS REQUIRED TO GIVE THE DESIRED FIXING CENTRES. THIS TO DETERMINED AT SITE DURING ERACTION.

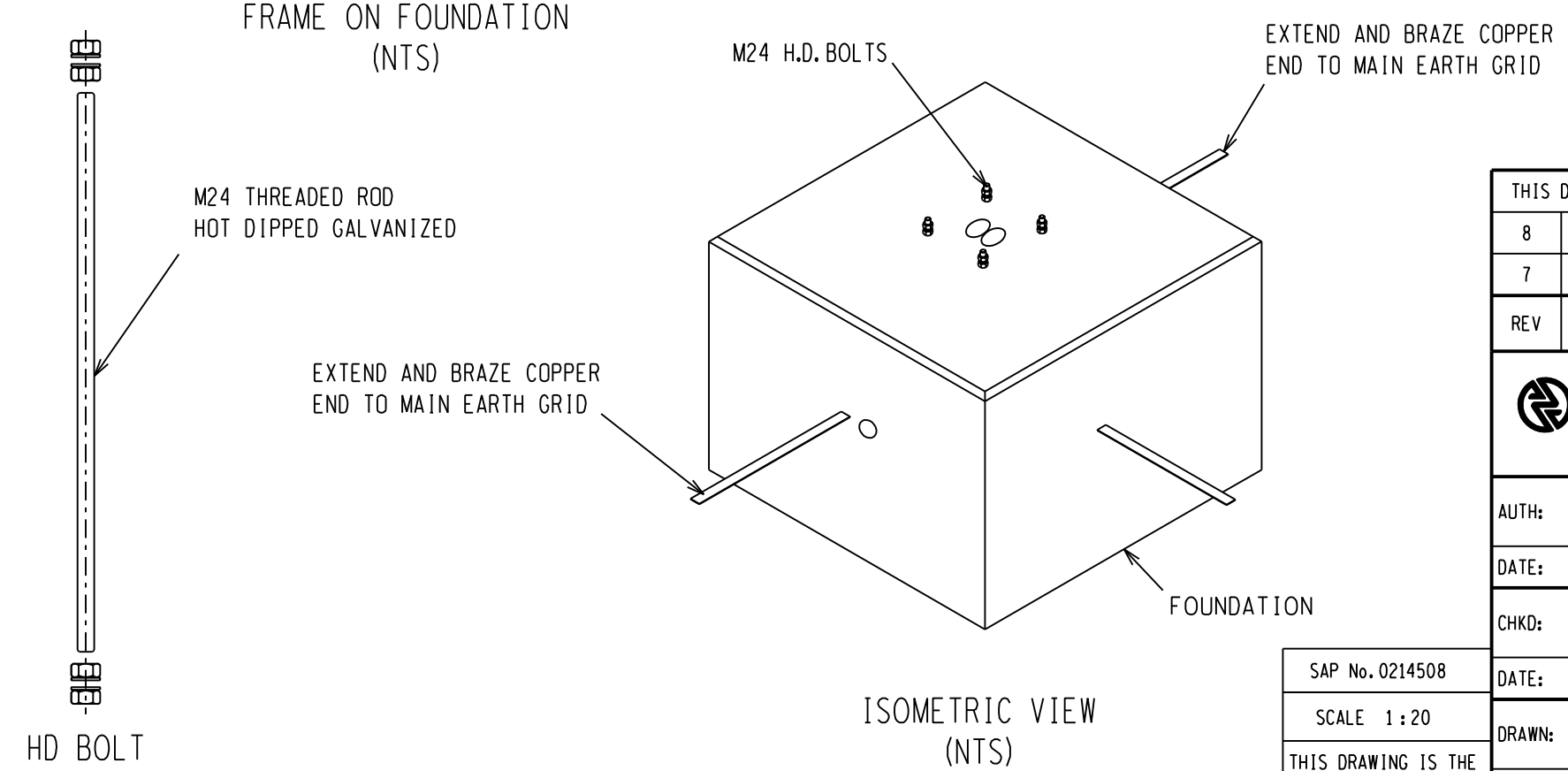
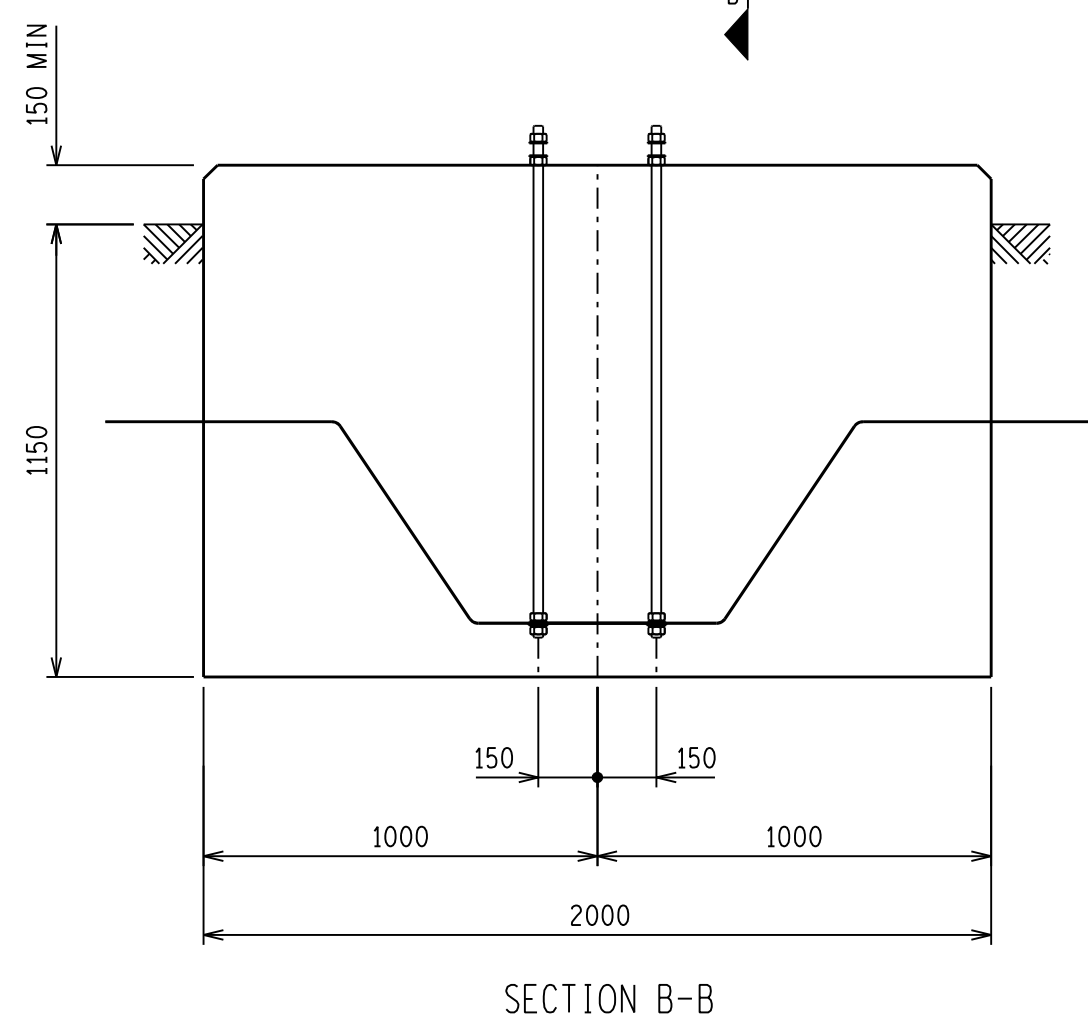
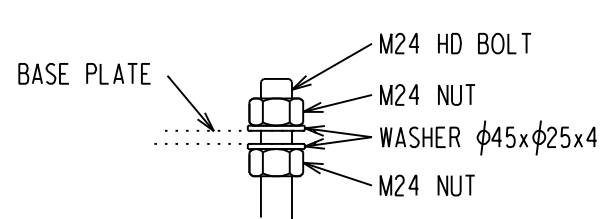
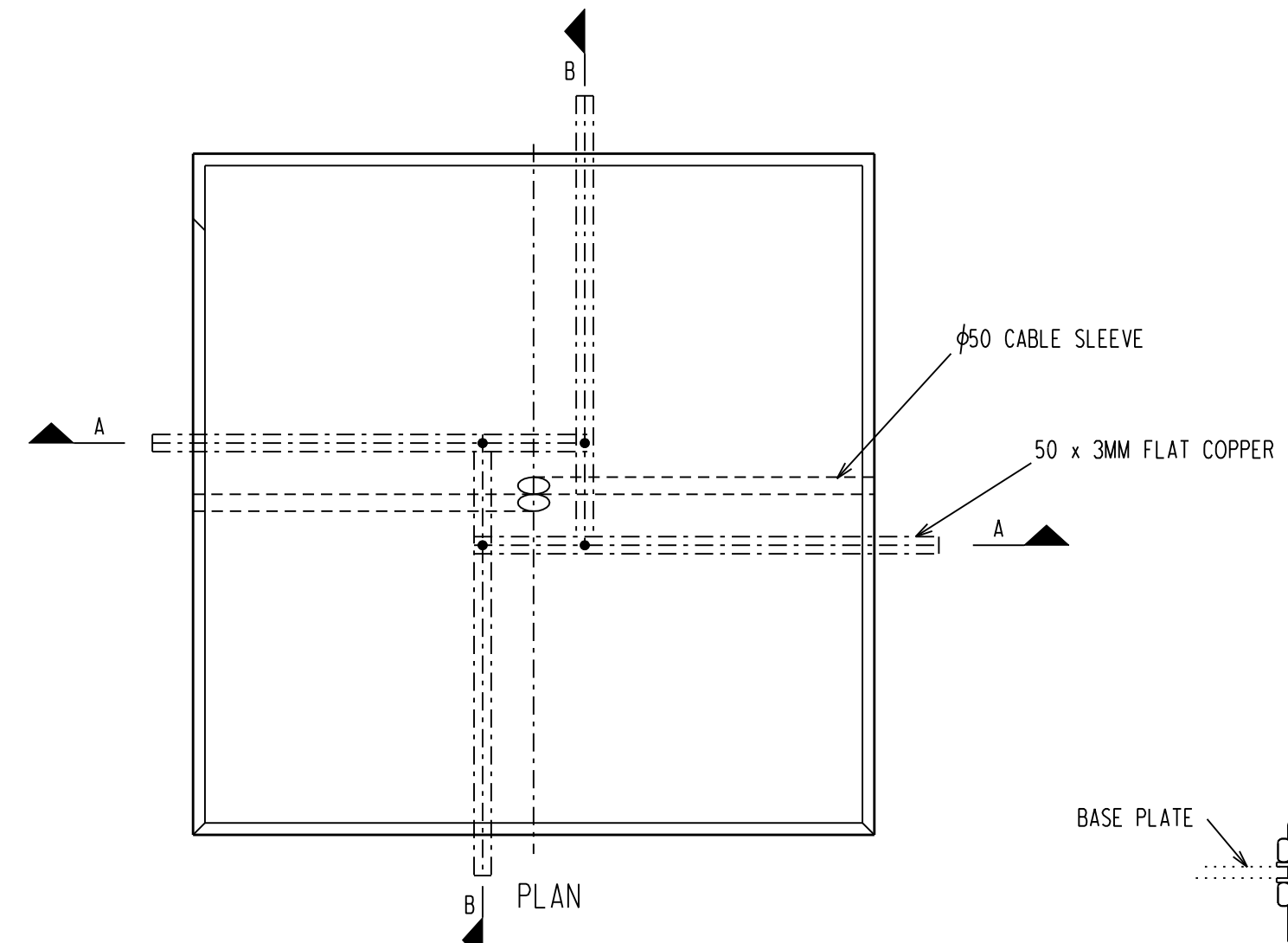
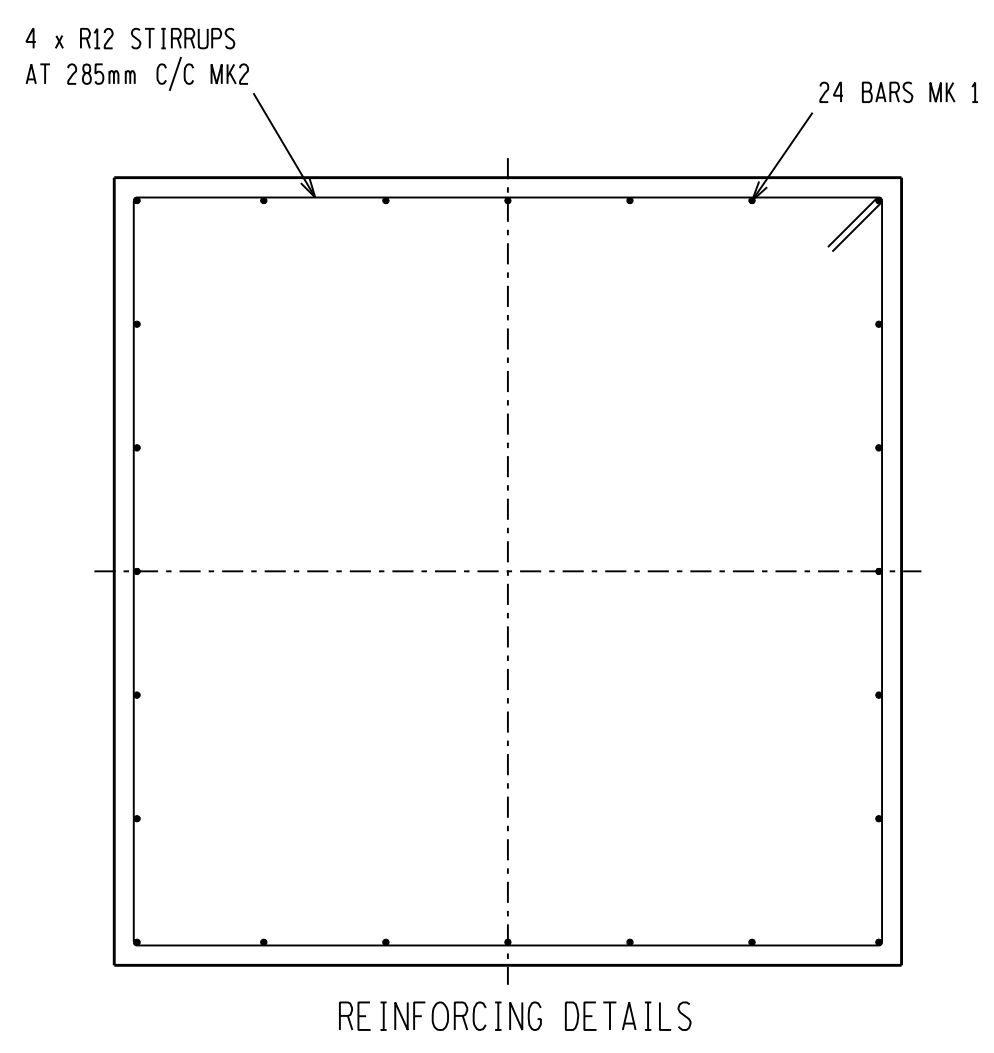
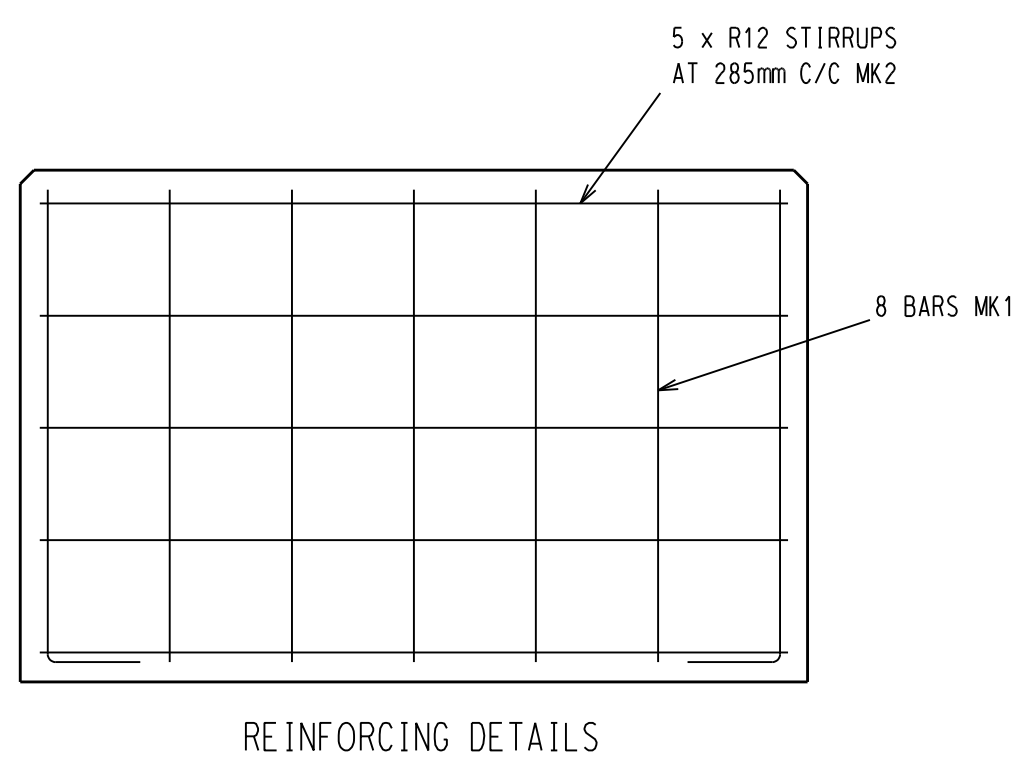
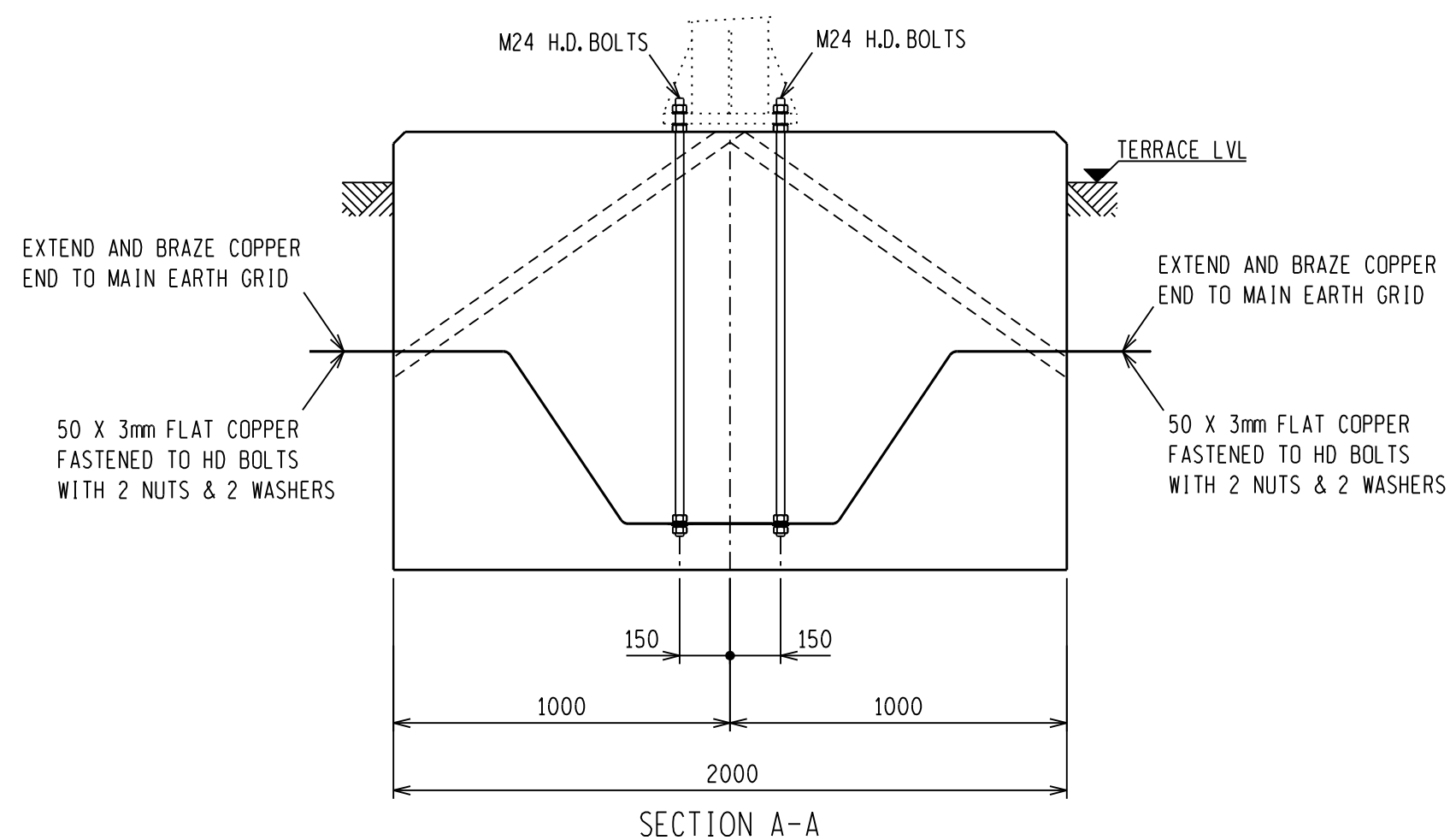
BOLT SCHEDULE									
MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS KG
1	M16	4.8	2	40	8	8	8	120	1.22
2	M16	4.8	2	45	4	4	4 FLAT 8 BEVEL	120	0.72
MASS OF BOLTS, WASHERS AND NUTS									1.94

STEEL SCHEDULE AND MASS					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
3DW/2	4	TF CHANNEL 152 x 76 x 18kg/m	760	3.04	54.41
3DW/3	1	MILD STEEL PLATE 200 x 10	580	3.04	9.10
TOTAL MASS =					63.51

D-DT-5206	SHEET 2G	MEDIUM EQUIP. SUPPORT (6M)
DRG NO.	SHEET NO.	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS						
0	FIRST ISSUE				/ /	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

	MEDIUM EQUIPMENT - CAP M3		
	CHANNEL SUPPORT		
	STEELWORK MANUFACTURING DETAILS AND ASSEMBLY		
AUTH: B HILL DATE: 11/08/2011 CHKD: N WEBBER	DATE: 11/08/2011 DRAWN: G BEETGE DATE: 11/08/2011	D-DT-5206	
SAP No. 0528451 SCALE 1:20 THIS DRAWING IS THE PROPERTY OF ESKOM		SET SHEET REVISION	2J 0



NOTES:

- 1 CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
- 2 CONCRETE STRENGTH AT 28 DAYS = 25MPa.
- 3 CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS = 15MPa.
- 4 ALL TOP EDGES OF FOUNDATION TO HAVE 25-35mm CHAMFER.
- 5 FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
- 6 COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 93% MOD. AASHTO.
- 7 DO NOT GROUT UNDER SUPPORT BASE PLATE.
- 8 OFF SHUTTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 100mm BELOW GROUND LEVEL.
- 9 ONLY STEEL SHUTTERING MAY BE USED.
- 10 ONLY STEEL TEMPLATE MAY BE USED FOR SETTING H.D. BOLTS.
- 11 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 12 H.D. BOLTS AND NUTS TO PROTRUDE 100mm ABOVE FINISHED FOUNDATION LEVEL.
- 13 NON OXIDE IS TO BE USED ON ALL EARTH CONNECTIONS TO H.D. BOLTS.
- 14 ALL EARTHING TO CONFORM TO D-DT-5240.
- 15 REINFORCING TO HAVE A MIN CONCRETE COVER OF 50mm.
- 16 ALL REINFORCING SPLICED TO HAVE A LAPPED LENGTH OF 42 X DIAMETER OF REINFORCING BAR.
- 17 ALL REINFORCING BARS TO BE MEASURED & BENT IN ACCORDANCE TO SANS 1478.
- 18 FOR PRICING THE AVERAGE LENGTH OF 15m FLAT COPPER INCLUDES THE COPPER BETWEEN FOUNDATION AND MAIN EARTH GRID AND 4 X 3m TAILS. FLAT COPPER TO HAVE A MINIMUM DEPTH OF 500mm.
- 19 NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELCIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIX.
- 20 THIS FOUNDATION IS ONLY FOR SOIL TYPE 1 AND 2

HD BOLT SCHEDULE								
BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF HD BOLTS	NO OFF NUTS	NO OFF WASHERS	TOTAL MASS KG	TORQUE Nm
24	4.8	3	1300	4	16	16	22.18	359-407

REINFORCEMENT SCHEDULE						
MK	TYPE & SIZE	NO REQUIRED TOTAL PER ITEM	CUTTING LENGTH	TOTAL LENGTH (M)	WEIGHT KG	BENDING REMARKS
1	Y16	24	1435	34.44	54.42	235 1200
2	R10	5	7900	39.50	24.37	1900 (ALL SIDES)

SCHEDULE OF QUANTITIES
EXCAVATION VOLUME = 4.60m <sup>3</sup>
CONCRETE VOLUME = 5.20m <sup>3</sup>
SHUTTERING AREA = 2.00m <sup>2</sup>
50x3mm FLAT COPPER = 28.96kg

BEARING CAPACITY	
FOUNDATION = 150KPA	SOIL TYPE 1 AND 2

D-DT-5217	SHEET 2C	LIGHTING-LIGHTNING MAST DETAILS
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS						
8	HD BOLT ARRANGEMENT ADDED	GJB	NMW	BPH	15/05/2012	
7	REDRAWN, NOTES UPDATED	GJB	NMW	BPH	12/05/2011	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

AUTH: B P HILL  
DATE: 09/03/2005  
CHKD: C B CLARK  
DATE: 28/09/2004

## LIGHTING-LIGHTNING MAST - 21M

### TUBULAR SUPPORT

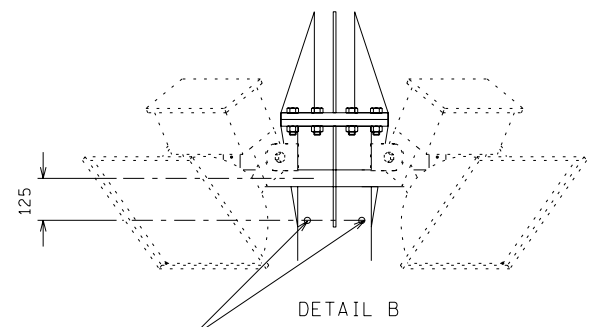
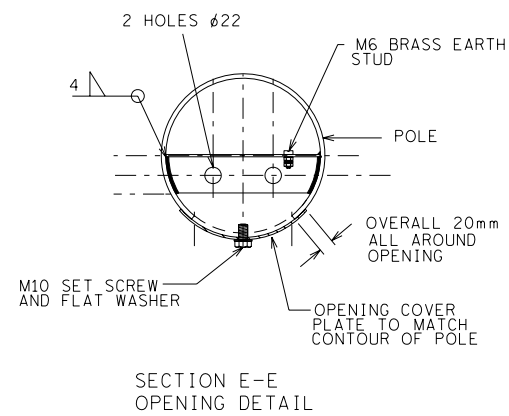
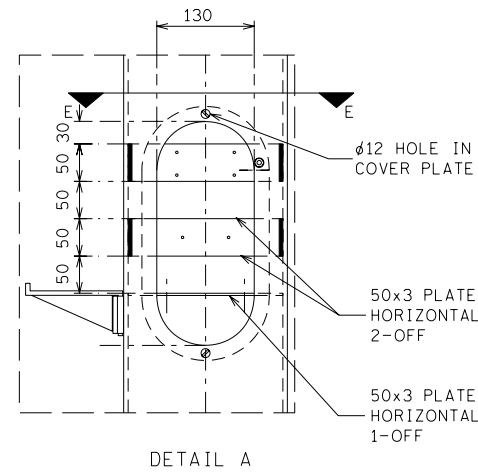
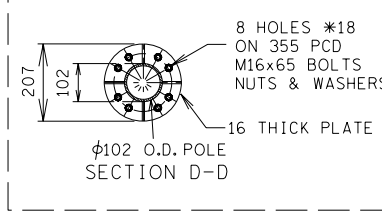
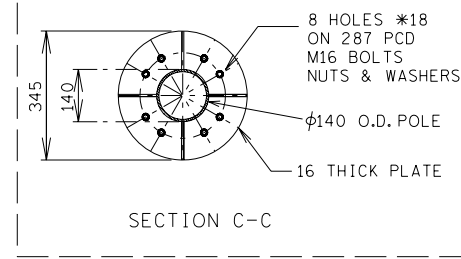
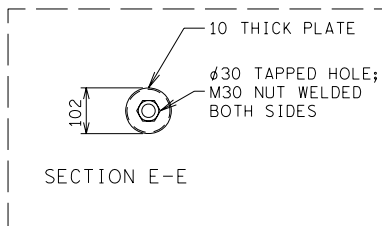
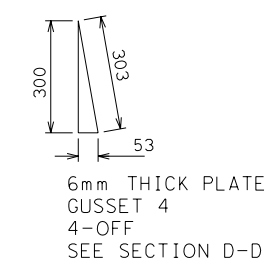
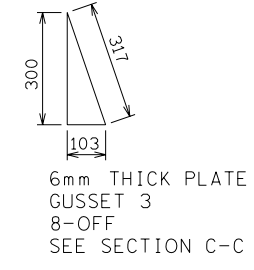
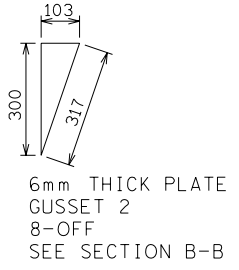
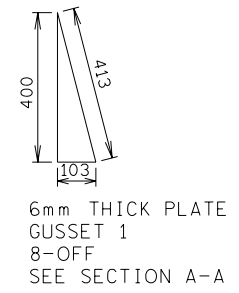
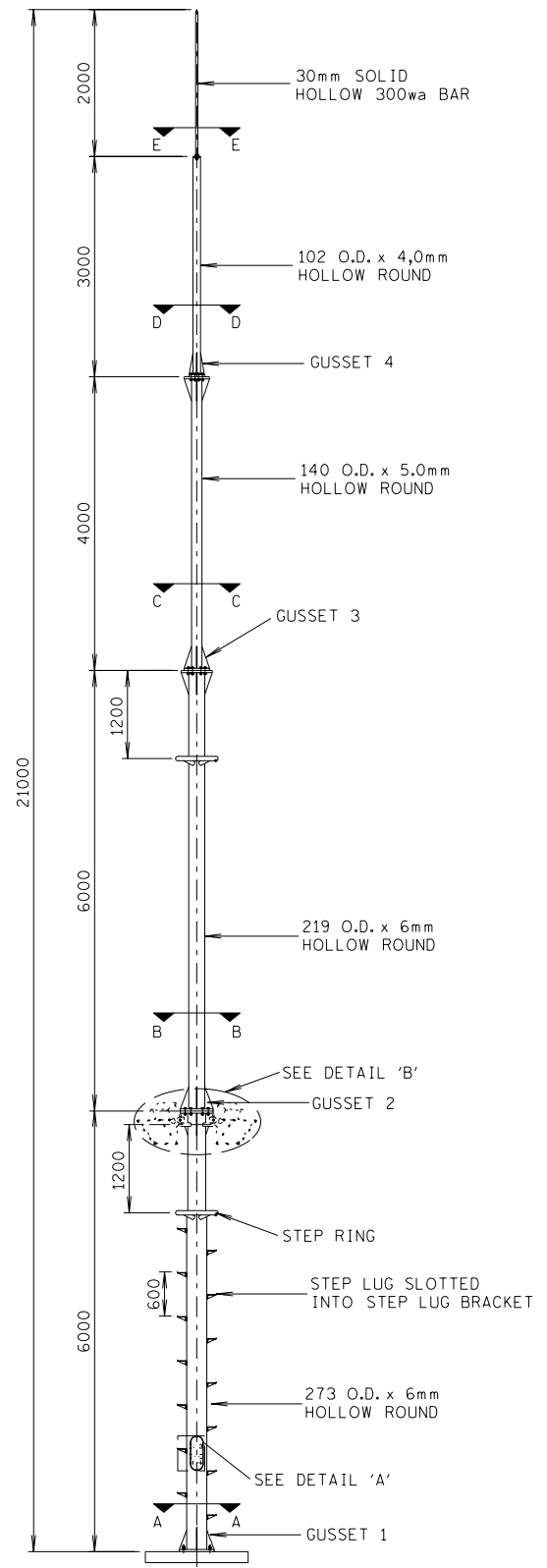
### FOUNDATION DETAILS

(SOIL TYPE 1 & 2)

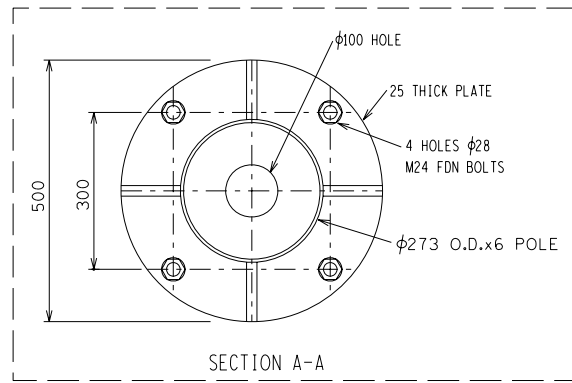
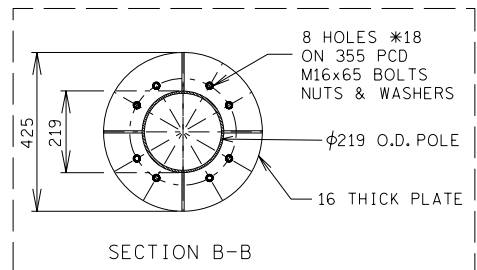
D-DT-5217

SET	SHEET	REVISION
	1C	8

SAP No. 0214508  
SCALE 1:20  
THIS DRAWING IS THE PROPERTY OF ESKOM



DRILL FOUR HOLES AT ø18.5mm AND TAP THE HOLE TO TAKE A No.1 PRATLEY GLAND. HOLE TO BE DRILLED 125mm DIRECTLY BELOW LUMINAIRE ATTACHMENT BRACKET. PLUG THE HOLE WITH A 20mm ALUMINIUM STOPPER. FEED LUMINAIRE SUPPLY CABLE THROUGH THE GLAND FITTED IN THE HOLE.



- NOTES:**
1. ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
  2. ALL STEELWORK TO BE HOT DIP GALVANISED TO SANS 121.
  3. STEPRING TO BE WELDED TO POLE 1200 BELOW LUMINAIRE BRACKETS.
  4. MAST IS DESIGNED TO TAKE A 120kg LOAD ON THE STEPRING AND WITHSTAND A 700kA WIND LOAD.
  5. CABLE ENTRY TO BE EQUIPPED WITH 4x35A(min) TERMINAL BLOCKS.
  6. ATTACHMENT HEIGHT OF LUMINAIRE TO BE 6m ABOVE GROUND LEVEL.
  7. LUMINAIRE TO BE ANGLED 45 TO GROUND LEVEL.
  8. EARTHING: A 50x3 COPPER STRAP TO BOND MAST TO SUBSTATION MAIN EARTH MAT.
  9. EARTHING TO BE DONE AS PER ESKOM DRAWING No. 0.54/393 SHT 1, 2 AND 10.
  10. ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162. GRADE OF STEEL TO BE SANS 1431 GRADE 300WA OR SABS 4360 GRADE 43A.
  11. ALL WELDS TO BE SEALED WELDED.
  12. ALL STEELWORK TO BE FABRICATED, ERECTED & LEVELED TO A TOLERANCE OF ±1.5mm.
  13. ALL BOLTS AND NUTS TO CONFORM TO SABS 135, STRENGTH GRADE 4.8.
  14. NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK. NO STEEL SECTIONS TO BE BUTT WELDED.

STRUCTURE	624kg
BOLTS, NUTS & WASHERS	4,5 kg
TOTAL MASS	628.5 kg

BOLT SIZE mm	PITCH mm	MILD STEEL BOLTS, GRADE	TORQUE nm
16	2	4.8	100
20	2	4.8	200
24	3	4.8	300

THIS DRAWING IS THE NEW OFFICIAL REVISION. IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS.

21m LIGHTING MAST - 0214509

5217 S4	STANDARD ATTACHMENT DETAILS
5217 S5	CABLE BLOCK DIAGRAM
5217 S6	FOUNDATION DETAILS
D-DT-	
DRG No.	REFERENCE DRAWINGS:

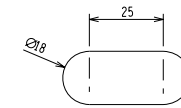
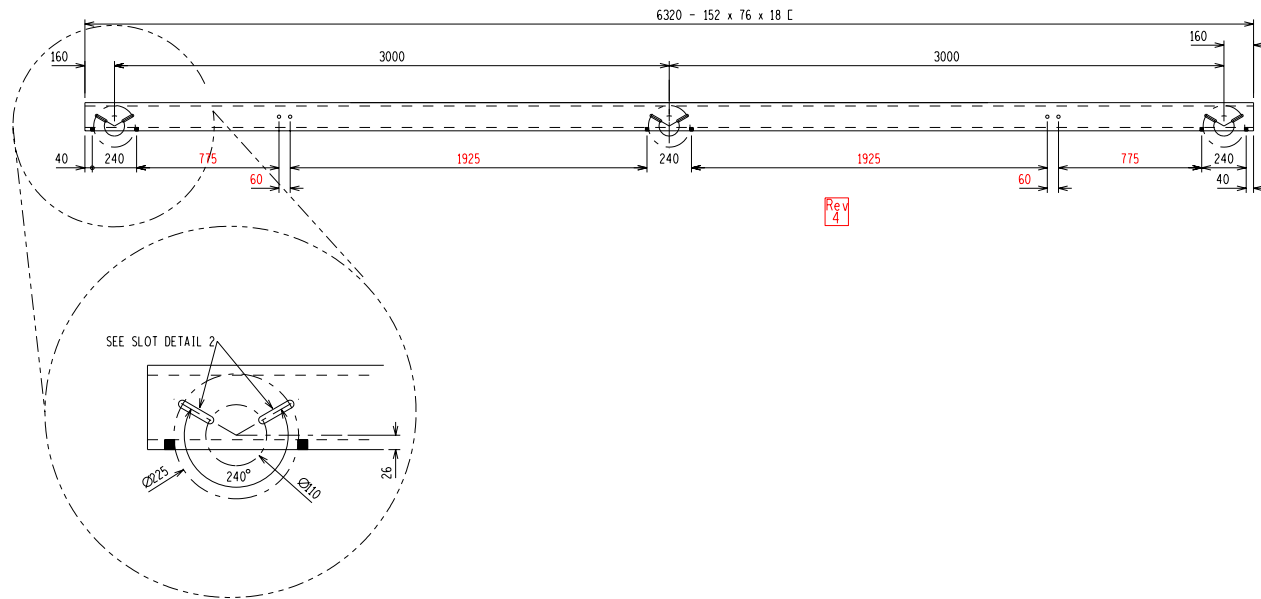
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
3	NOTE 14 ADDED.	VvZ	B.P.H.	B.P.H.	28/11/2007	
2	SECTION A-A CHANGED FROM 450 TO 500, BOLT CENTERS CHANGED FROM 270 TO 300 AND 245 HOLLOW ROUND CHANGED TO 273.	P.A.V.	B.P.H.	B.P.H.	23/05/2005	
1	SABS CHANGED TO SANS SECTION A-A CORRECTED	AKM	B.P.H.	B.P.H.	05/04/2005	



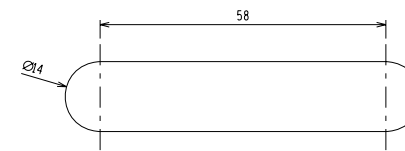
AUTH: B.P. HILL  
DATE: 09/03/2005  
CHKD: C.B. CLARK  
DATE: 09/03/2005  
DRAWN: M.T. MASOENENG  
DATE: 28/09/2004

STANDARD LIGHTING/LIGHTNING MAST FOR SUBSTATION (21m) MANUFACTURING DETAILS

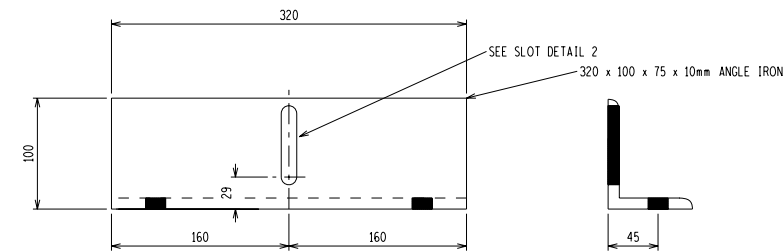
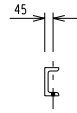
D-DT-5217	SET	SHEET	REVISION
	7	7	3



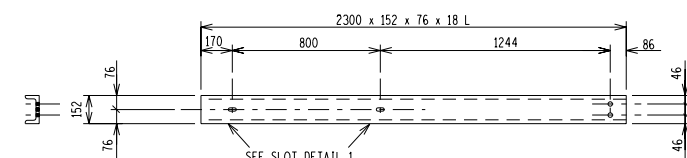
SLOT DETAIL 1



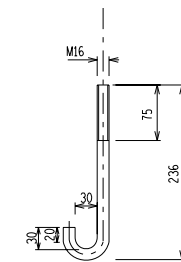
SLOT DETAIL 2



MK. (11CK/3) 3 OFF REQUIRED



MK. (11CK/2) 2 OFF REQUIRED



J - BOLT  
MATERIAL : STAINLESS STEEL  
QTY: 4 - OFF  
SCALE: 1 : 4

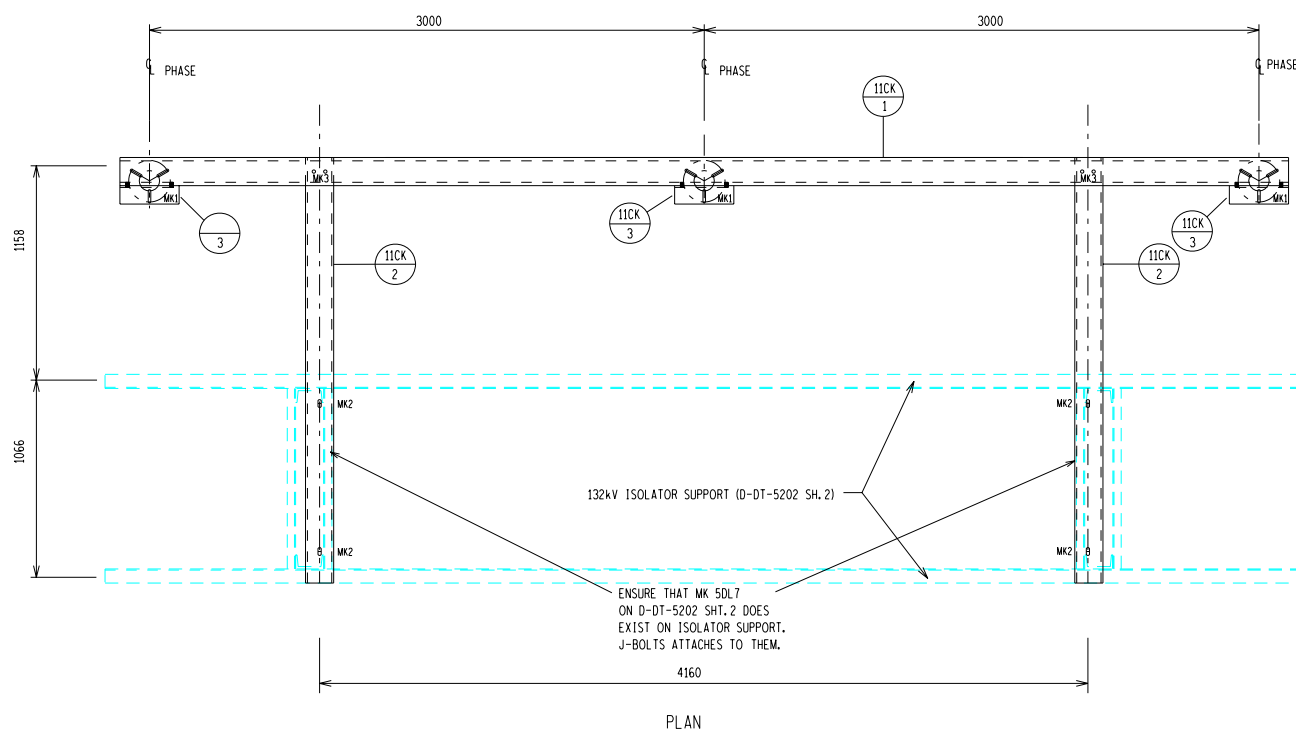
BOLT SCHEDULE (GRADE 4.8)				
MK	TYPE	LENGTH	NO.OFF	WASHERS PER BOLT
1	M16	40	12	1 FLAT & 1 TAPER
2	M16	J-BOLT	4	4 FLAT
3	M16	115	4	2 x FLAT WASHERS

MASS - kg		
STRUCTURE	BOLTS	TOTAL
207.95	4.22	212.17

NOTES :

1. ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
2. ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162. GRADE OF STEEL TO BE TO SANS 1431 GRADE 300WA OR 4360 GRADE 43A.
3. ALL WELDS TO BE SEALED WELDED.
4. STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
5. ALL STEELWORK TO BE FABRICATED, ERECTED & LEVELED TO A TOLERANCE OF + - 1.5mm.
6. ALL BOLTS & NUTS TO CONFORM TO SABS 135, STRENGTH GRADE 4.8.
7. ALL MARKS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
8. ALL HOLES TO BE 18mm DIA UNLESS OTHERWISE STATED.
9. ALL BOLTS TO BE SUPPLIED WITH NUTS.

BOLT SIZE	PITCH	MILD STEEL	TORQUE
mm	mm	BOLTS, GRADE	nm
16	2	4.8	100
20	2	4.8	200
24	3	4.8	300



132kV ISOLATOR SUPPORT (D-DT-5202 SH. 2)

ENSURE THAT MK 50L7 ON D-DT-5202 SH. 2 DOES EXIST ON ISOLATOR SUPPORT. J-BOLTS ATTACHES TO THEM.

PLAN

THIS DRAWING IS THE NEW OFFICIAL REVISION. IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS.

0190412

REV	DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
4	DIMENSIONS UPDATED.	VvZ	BPH	BPH	21/02/2006	
3	SABS CHANGED TO SANS	AKM	BPH	BPH	05/04/2005	
2	NEW TABLE ADDED TO SHOW TORQUE PER BOLT SIZE.	VvZ	BPH	BPH	25/06/2004	
1	HOLE POSITION ON MK.11CK/2 CHANGED FROM 45 TO 86 BOLT AND STRUCTURE. MK'S UPDATED.	VvZ	JFS	JFS	28/08/2003	



AUTH: B.P. HILL  
DATE: 10/12/2002  
CHKD: J.F. SCHOLTZ  
DATE: 10/12/2002

132kV SURGE ARRESTER  
BRACKET MOUNTED ON ISOLATOR

SCALE 1:10  
DRAWING: TMB  
DATE: 01/07/2002

D-DT-5219

SET	SHEET	REVISION
4	4	4

A

B

C

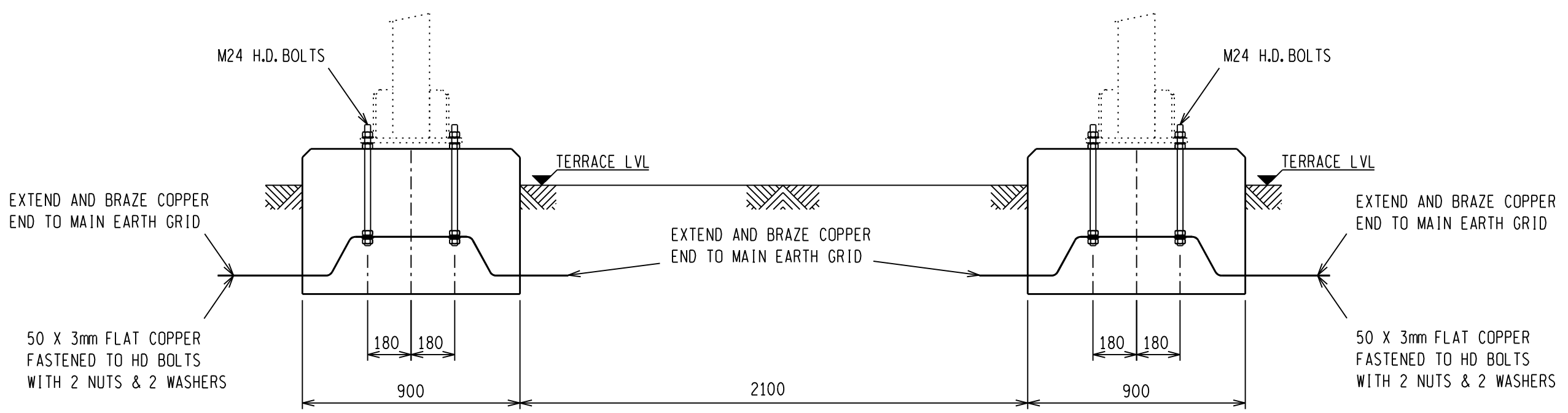
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E

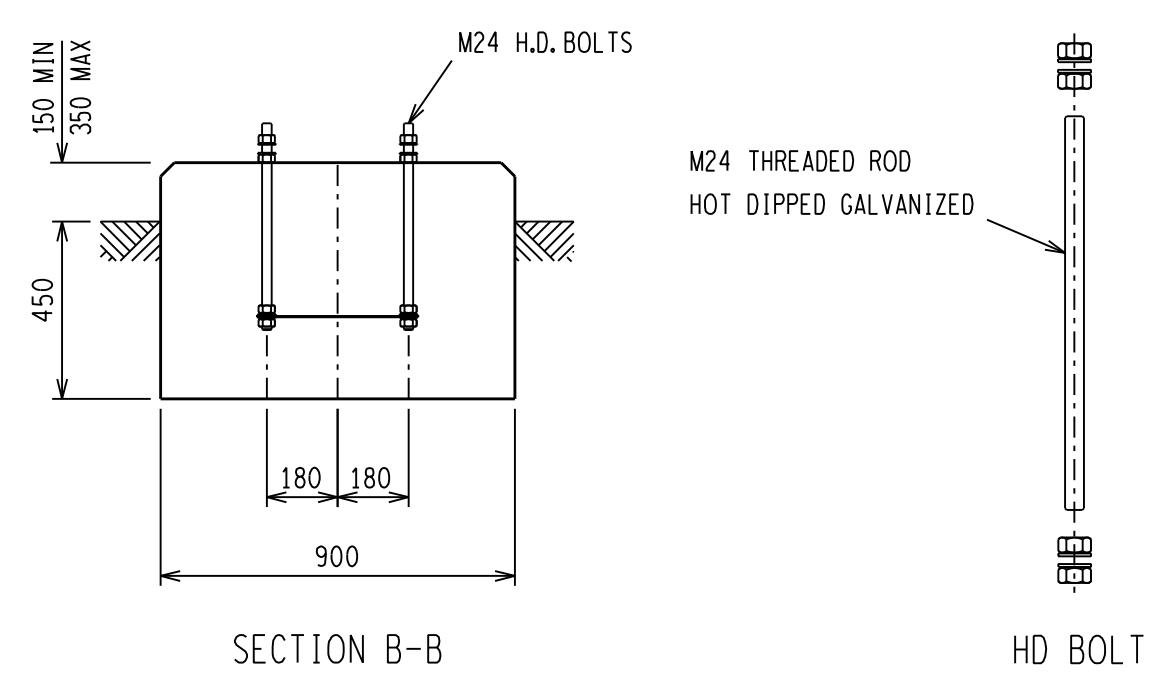
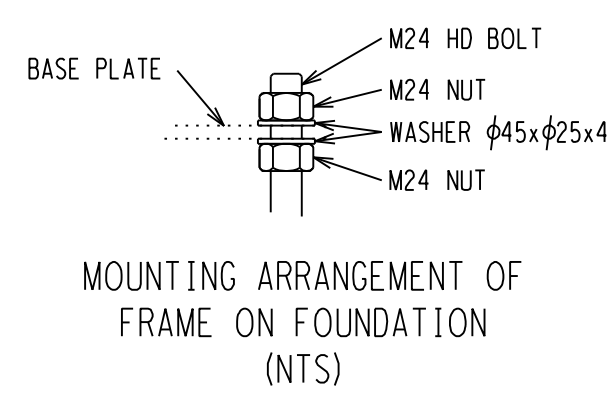
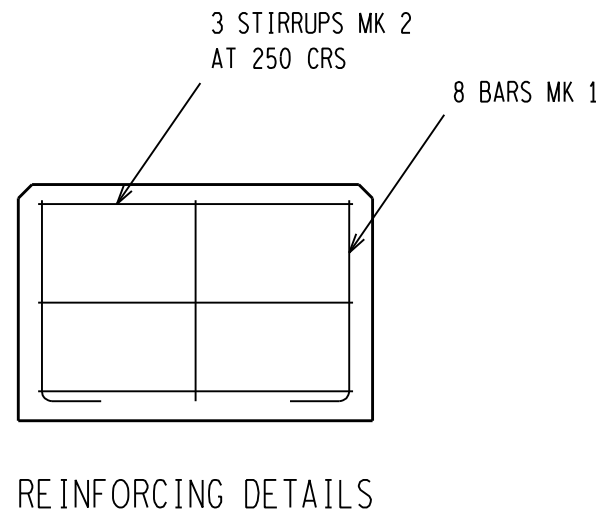
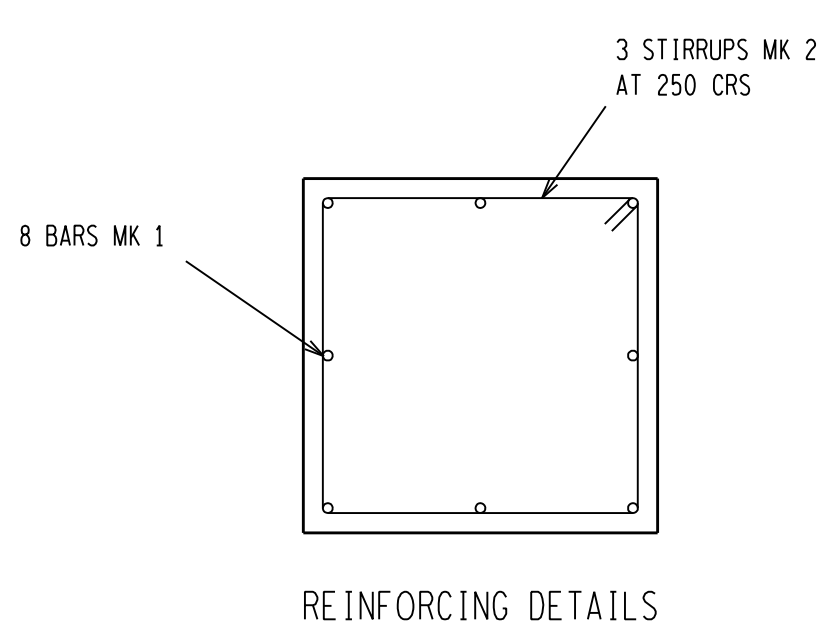
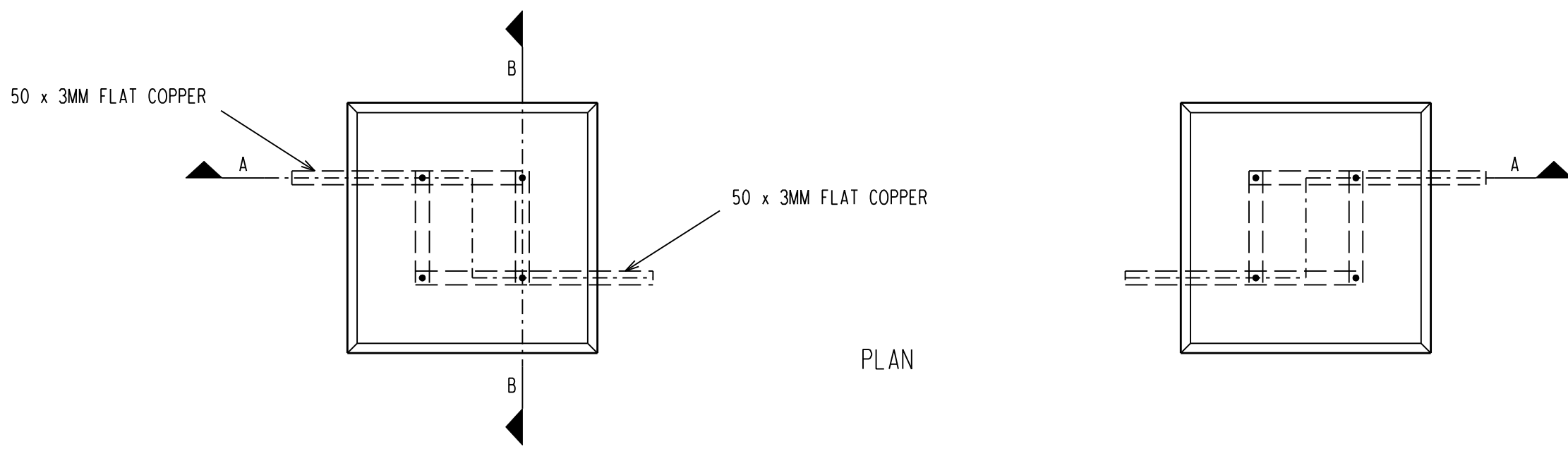
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G

H

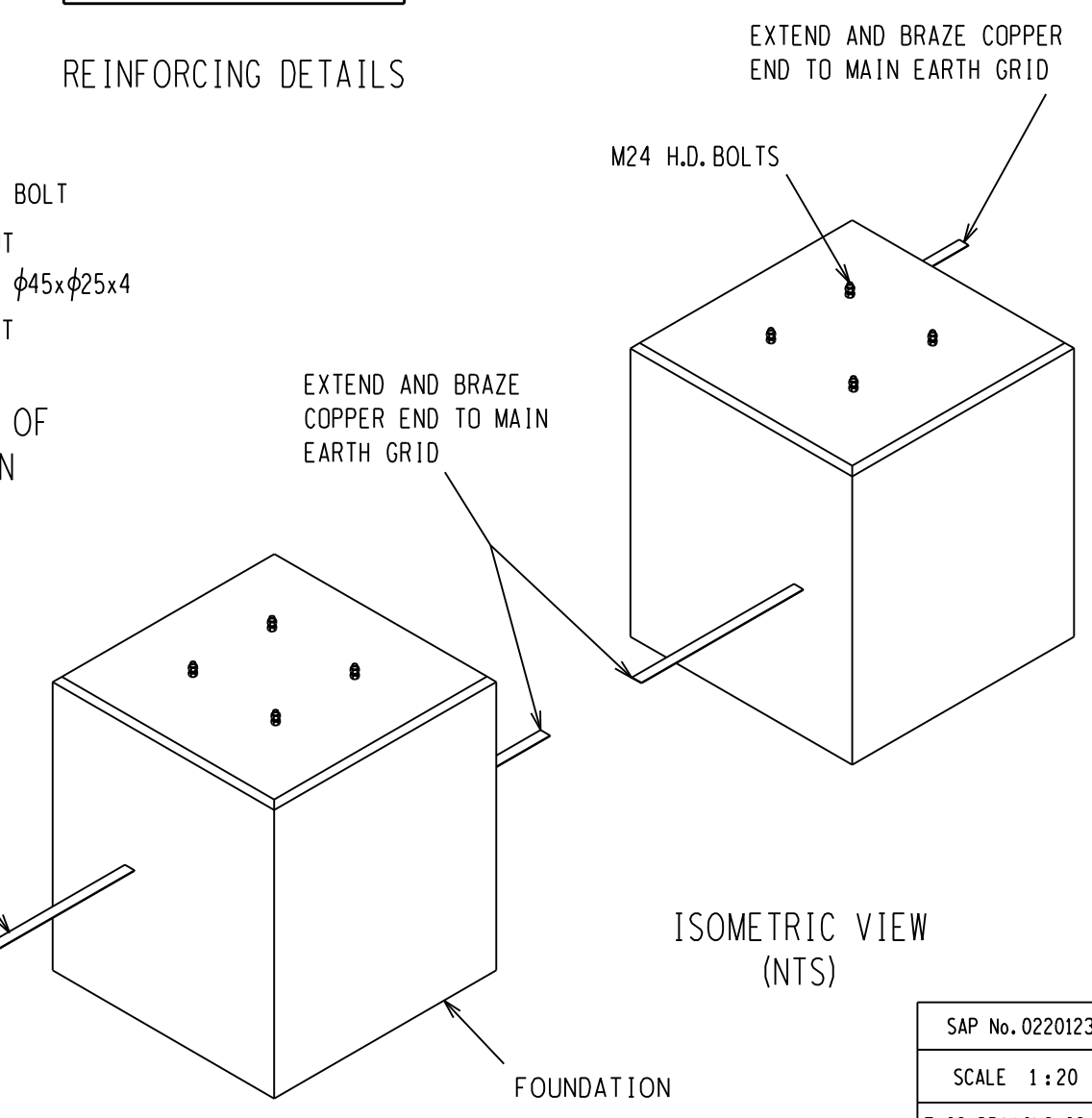


SECTION A-A



SECTION B-B

HD BOLT



ISOMETRIC VIEW (NTS)

NOTES:

- 1 CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
- 2 CONCRETE STRENGTH AT 28 DAYS = 25MPa.
- 3 CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS = 15MPa.
- 4 ALL TOP EDGES OF FOUNDATION TO HAVE 25-35mm CHAMFER.
- 5 FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
- 6 COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 93% MOD. AASHTO.
- 7 GROUT UNDER SUPPORT BASE PLATE.
- 8 OFF SHUTTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 100mm BELOW GROUND LEVEL.
- 9 ONLY STEEL SHUTTERING MAY BE USED.
- 10 ONLY STEEL TEMPLATE MAY BE USED FOR SETTING H.D. BOLTS.
- 11 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 12 H.D. BOLTS AND NUTS TO PROTRUDE 75mm ABOVE FINISHED FOUNDATION LEVEL.
- 13 NON OXIDE IS TO BE USED ON ALL EARTH CONNECTIONS TO H.D. BOLTS.
- 14 ALL EARTHING TO CONFORM TO D-DT-5240.
- 15 REINFORCING TO HAVE A MIN CONCRETE COVER OF 50mm.
- 16 ALL REINFORCING SPLICED TO HAVE A LAPPED LENGTH OF 42 X DIAMETER OF REINFORCING BAR.
- 17 ALL REINFORCING BARS TO BE MEASURED & BENT IN ACCORDANCE TO SANS 1478.
- 18 IF THE FOUNDATION HEIGHT IS TO BE LIFTED, THE REINFORCING (MK1 & MK2) MUST BE ADJUSTED ACCORDINGLY.
- 19 FOR PRICING THE AVERAGE LENGTH OF 15m FLAT COPPER INCLUDES THE COPPER BETWEEN FOUNDATION AND MAIN EARTH GRID AND 2 X 3m TAILS. FLAT COPPER TO HAVE A MINIMUM DEPTH OF 500mm.
- 20 NO CONCRETE TO BE POURED WHERE THE AIR TEMPRATURE WILL DROP BELOW 4 DEG CELCIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIX.
- 21 THIS FOUNDATION IS ONLY FOR SOIL TYPE 1 & 2.

HD BOLT SCHEDULE								
BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF HD BOLTS	NO OFF NUTS	NO OFF WASHERS	TOTAL MASS KG	TORQUE Nm
24	4.8	3	500	8	32	32	18.42	359-407

REINFORCEMENT SCHEDULE @ 150mm						
MK	TYPE & SIZE	NO REQUIRED TOTAL PER ITEM	CUTTING LENGTH	TOTAL LENGTH (M)	WEIGHT KG	BENDING REMARKS
1	Y 16	16	650	10.40	16.43	150 500
2	Y 10	6	3350	20.10	12.40	800 (ALL SIDES)

SCHEDULE OF QUANTITIES @ 150mm	
EXCAVATION VOLUME =	0.73m <sup>3</sup>
CONCRETE VOLUME =	0.97m <sup>3</sup>
SHUTTERING AREA =	1.80m <sup>2</sup>
50x3mm FLAT COPPER =	20.25kg

BEARING CAPACITY	
FOUNDATION =	150KPA
SOIL TYPE	1 AND 2

D-DT-5225	SHEET 2A	TWIN TUBULAR BUSBAR SUPP. DETAILS
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS						
3	REINFORCING MK1 TOTAL LENGTH WAS 5.20	GJB	NMW	BPH	25/07/2012	
2	HD BOLT ARRANGEMENT ADDED	GJB	NMW	BPH	15/05/2012	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

AUTH: B HILL  
DATE: 21/02/2006  
CHKD: B HILL  
DATE: 21/02/2006  
DRAWN: V VAN ZWEL  
DATE: 29/08/2005

## TUBULAR BUSBAR - 132kV 3M PHASE CRS

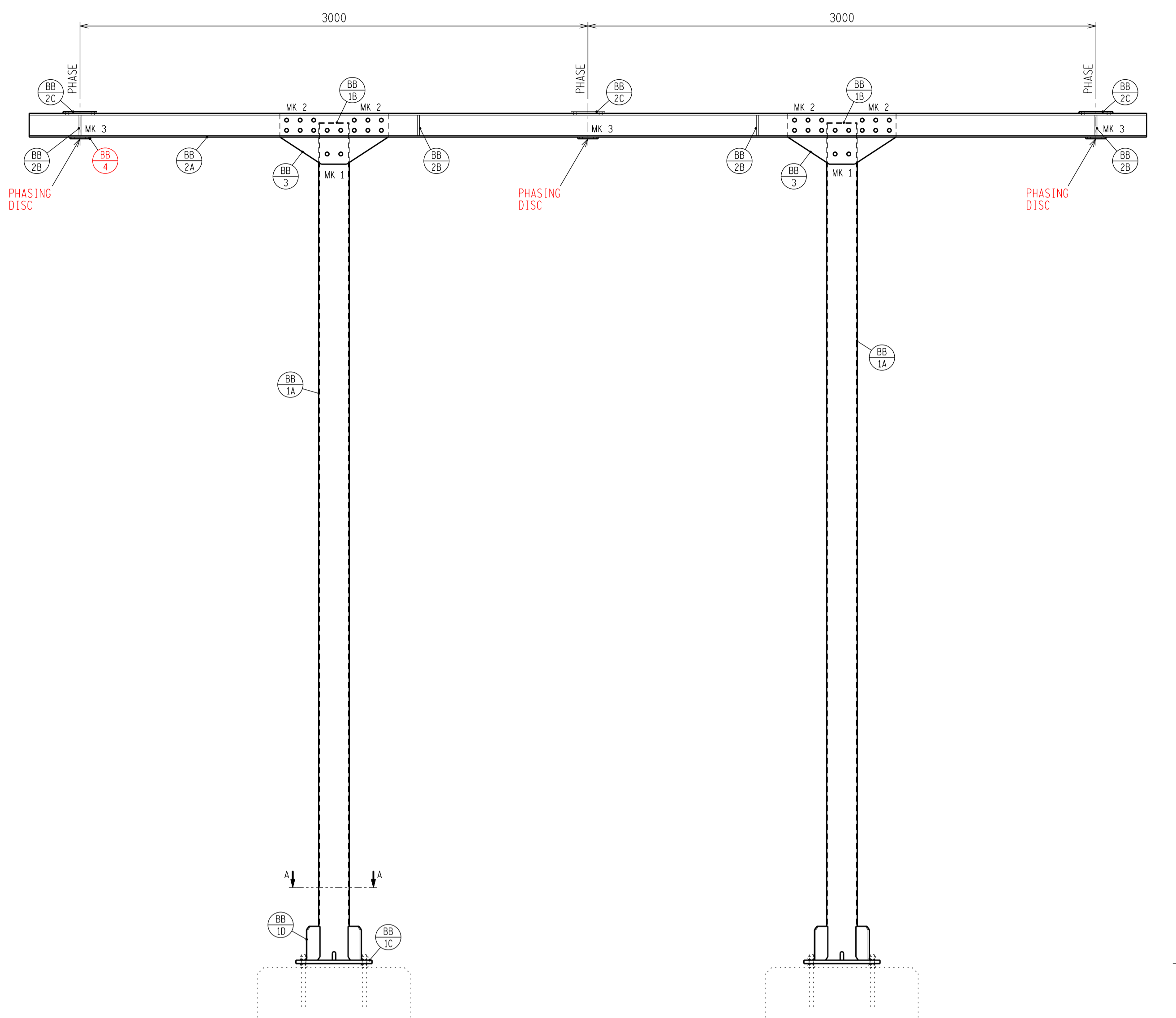
### TWIN TUBULAR SUPPORT FOUNDATION DETAILS (SOIL TYPE 1 & 2)

# D-DT-5225

SET	SHEET	REVISION
	1A	3

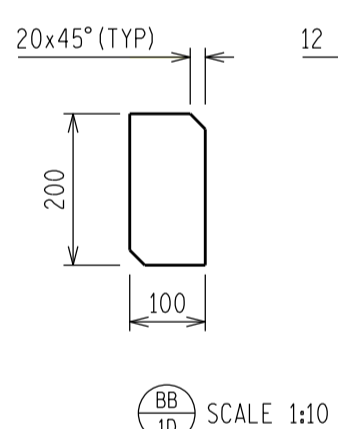
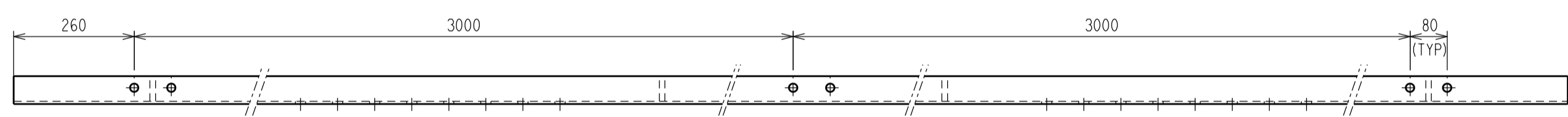
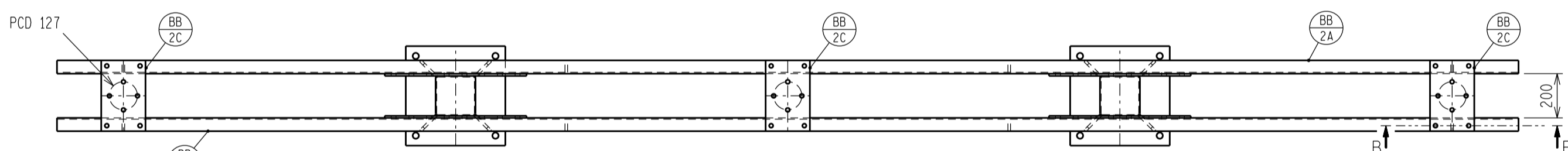
SAP No. 0220123
SCALE 1:20
THIS DRAWING IS THE PROPERTY OF ESKOM



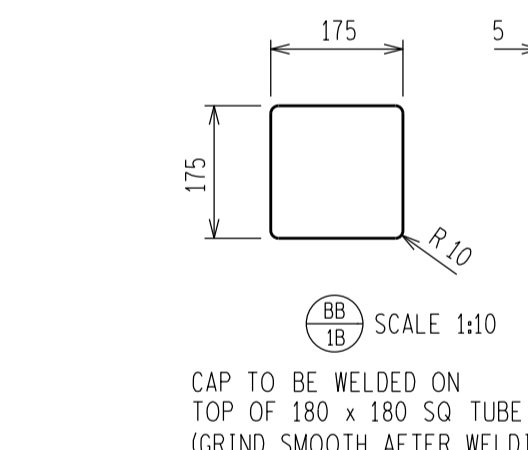


FRONT VIEW

PLAN VIEW

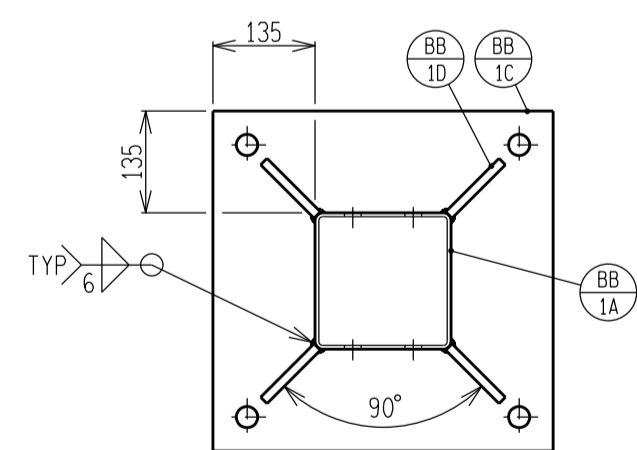


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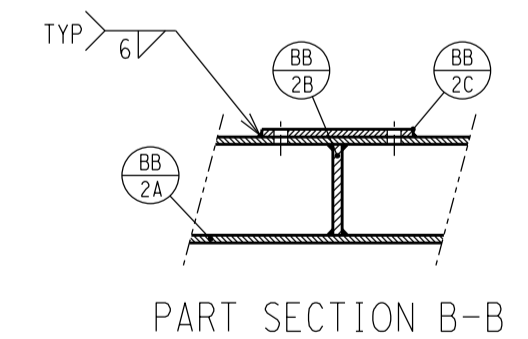


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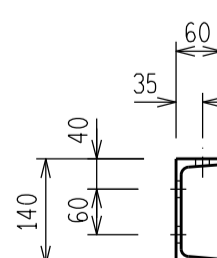
CAP TO BE WELDED ON TOP OF 180 x 180 SQ TUBE (GRIND SMOOTH AFTER WELDING)



SECTION A-A

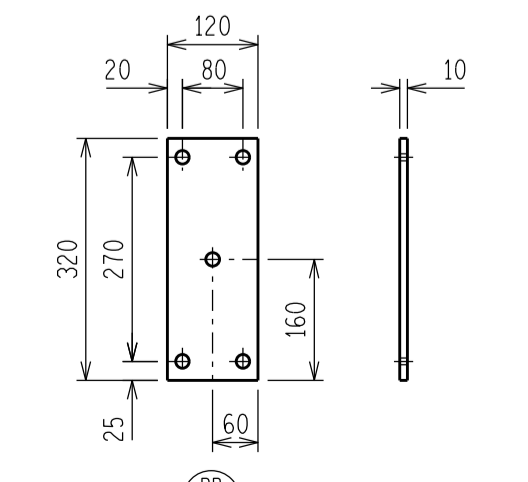


PART SECTION B-B

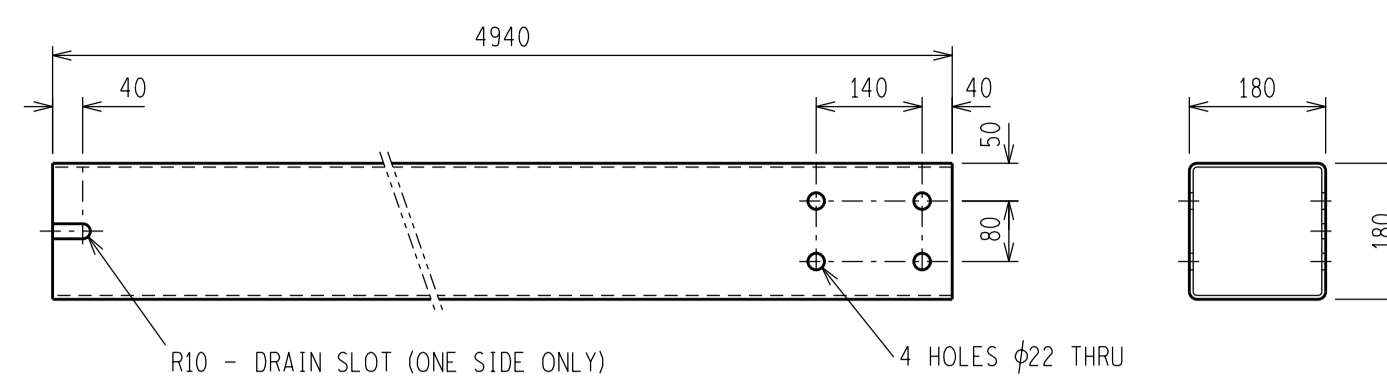


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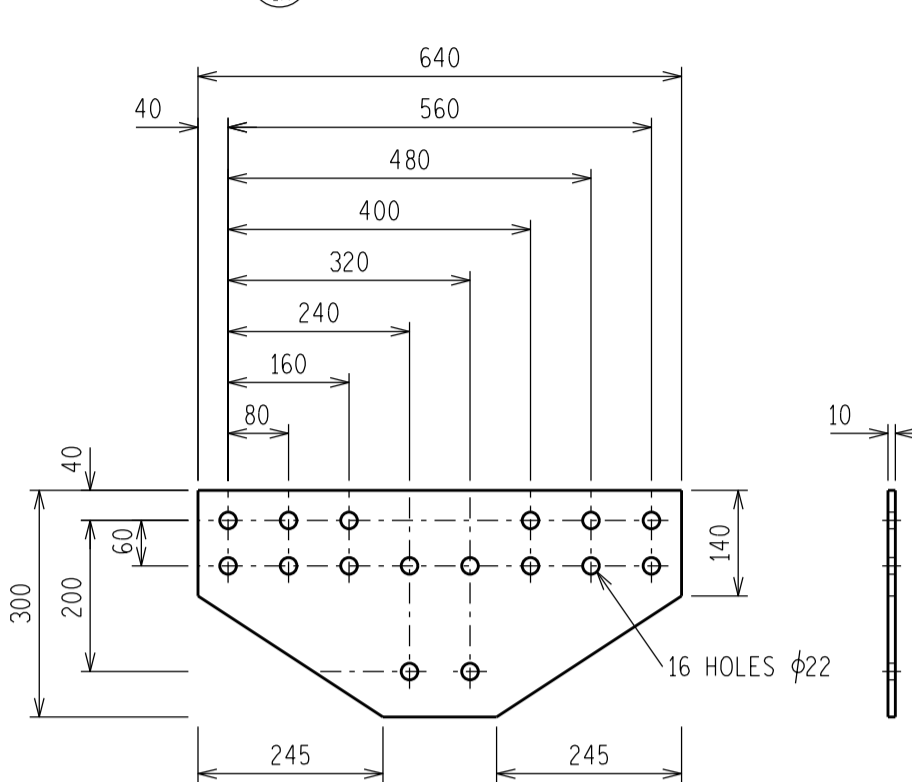
TO BE WELDED AS SHOWN



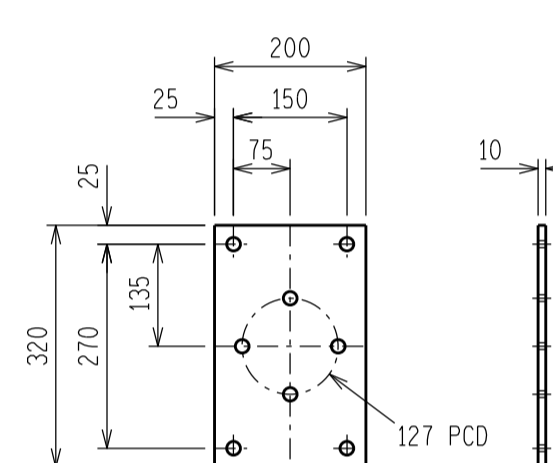
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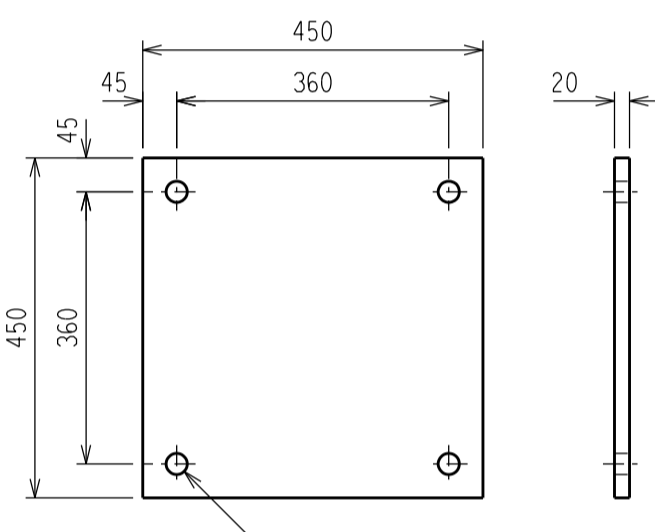
SCALE 1:10



SCALE 1:10



SCALE 1:10



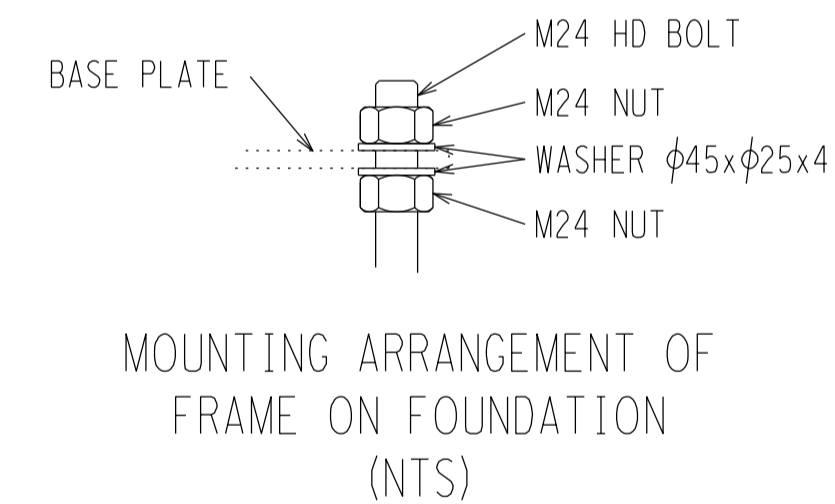
SCALE 1:10

NOTES:

- 1 ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
- 2 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
- 3 ALL STEEL TO BE GRADE S355JR/350WA (EXCEPT ANGLES  $\leq 45\text{mm}$  TO BE MILD STEEL).
- 4 ALL WELOS TO BE SEALED WELDED.
- 5 STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
- 6 STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
- 7 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 8 ALL MARKINGS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGABLE AFTER GALVANIZING.
- 9 NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
- 10 NO SECTIONS TO BE BUTT WELDED.
- 11 ALL STEELWORK TO BE FABRICATED, ERRECTED AND LEVELLED TO A TOLERANCE OF  $\pm 1.5\text{mm}$ .
- 12 ALL HOLES TO BE 18mm DIA UNLESS OTHERWISE STATED.

BOLT SCHEDULE									
MARK	BOLT SIZE	MILD STEEL GRADE	PITCH	LENGTH	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE	TOTAL MASS
	mm		mm	MM				Nm	KG
1	M20	4.8	2.5	240	8	8	8	225	6.31
2	M20	4.8	2.5	50	48	48	48	225	14.25
3	M16	4.8	2	40	12	12	12 FLAT 12 BEVEL	120	2.76
MASS OF BOLTS, WASHERS AND NUTS									23.32

STEEL SCHEDULE AND MASS					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (M)	TOTAL MASS (kg)
-BB-1A	2	MILD STEEL SQUARE TUBE 180 x 180 x 5	4940	9.88	264.76
-BB-1B	2	MILD STEEL PLATE 175 x 5	175	0.35	2.54
-BB-1C	2	MILD STEEL PLATE 450 x 20	450	0.90	63.58
-BB-1D	8	MILD STEEL FLATBAR 100 x 12	200	1.60	15.07
-BB-2A	2	TF CHANNEL 140 x 60 x 16kg/m	6600	13.20	211.20
-BB-2B	8	MILD STEEL PLATE 125 x 12	53	0.42	4.99
-BB-2C	3	MILD STEEL PLATE 320 x 10	200	0.60	15.07
-BB-3	4	MILD STEEL PLATE 300 x 10	640	2.56	60.29
-BB-4	3	MILD STEEL PLATE 120 x 10	320	0.96	6.03
TOTAL MASS					646.54



MOUNTING ARRANGEMENT OF FRAME ON FOUNDATION (NTS)

7	CORRECTED ITEM BB/4 ON THE FRONT VIEW	B.M.	N.S.H.	N.M.	21/06/2016	
6	HD BOLT ARRANGEMENT ADDED	GJB	N.M.	BPH	15/05/2012	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

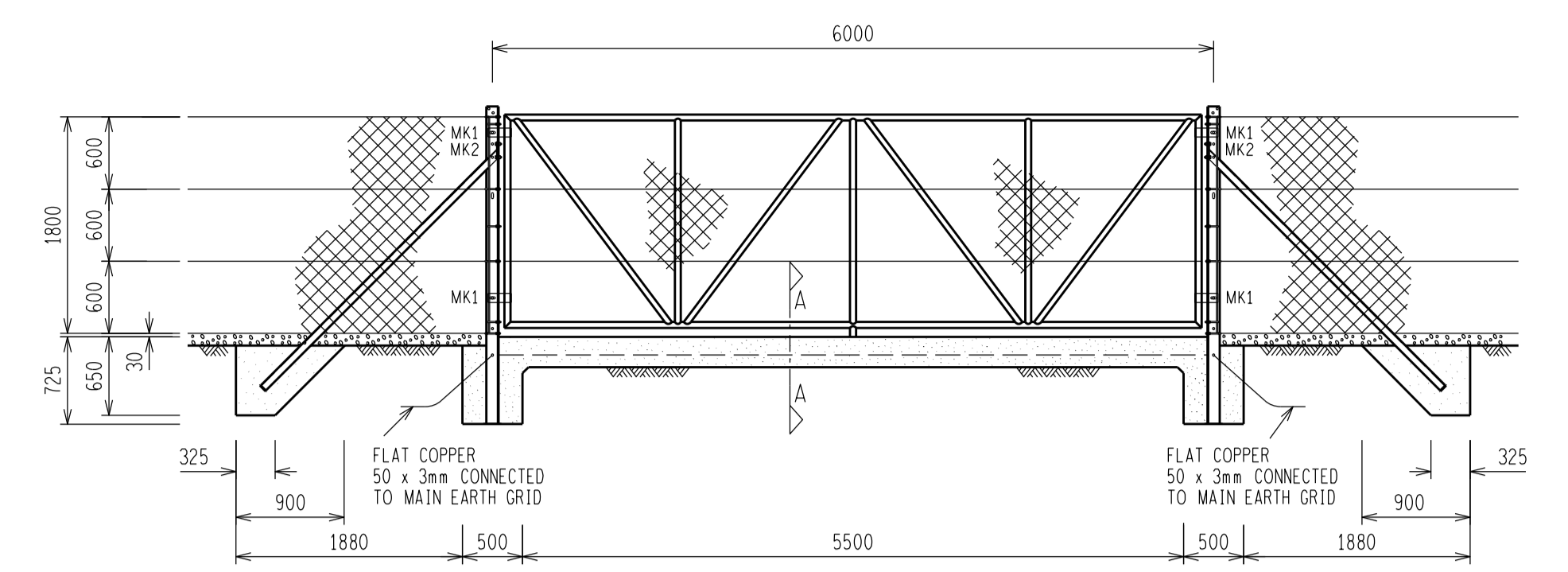
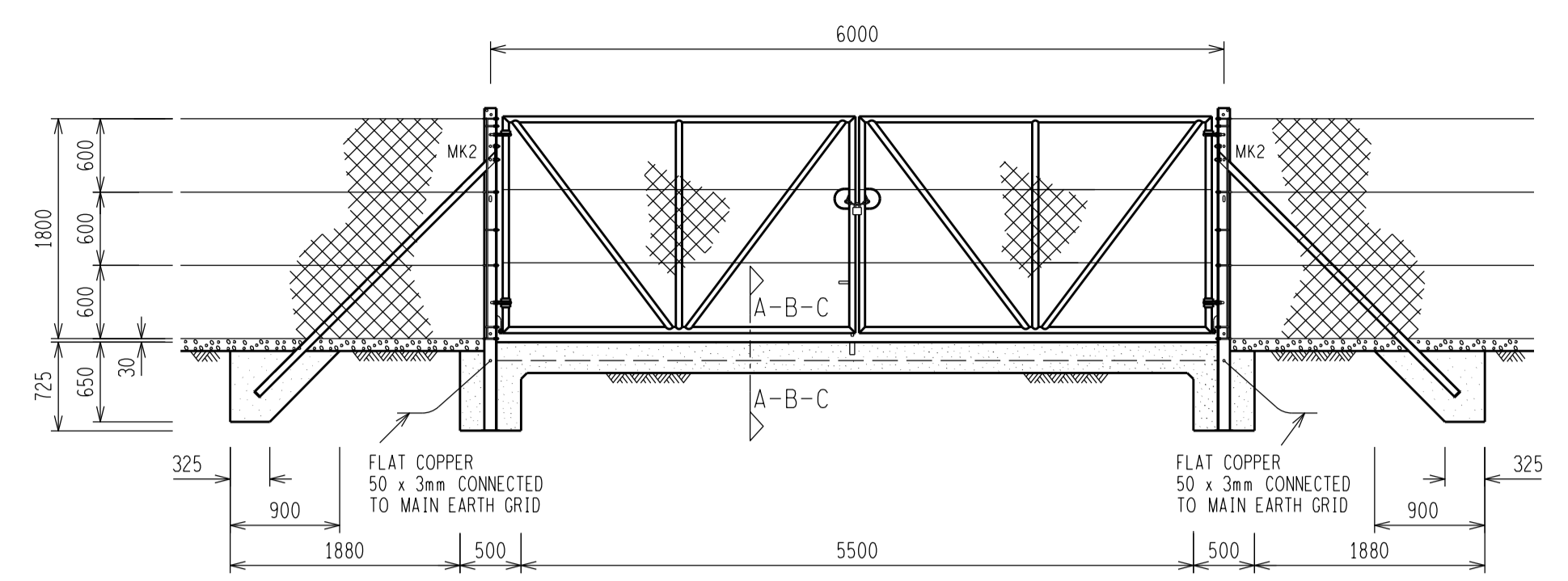
Eskom Distribution  
AUTH: B P HILL  
DATE: 21/02/2005  
CHKD: B P HILL

TUBULAR BUSBAR - 132kV  
TWIN TUBULAR SUPPORT  
STEELWORK MANUFACTURING DETAILS  
AND ASSEMBLY - 3M PHASE CRS

SAP No. 0220125  
SCALE 1:20  
THIS DRAWING IS THE PROPERTY OF ESKOM

D-DT-5225  
DATE: 21/02/2005  
DRAWN: V van ZWEL  
DATE: 23/08/2005

SET	SHEET	REVISION
	2A	7



**NOTES:**

**A CONCRETE**

- 1 CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200
- 2 CONCRETE STRENGTH AT 28 DAYS = 25MPa
- 3 CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS = 15MPa
- 4 COMPACTION OF THE BOTTOM OF FENCE POST SHALL BE COMPACTED TO 93% OF MOD. AASHTO
- 5 NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIX
- 6 CONCRETE KERBING MAY BE USED AS AN ALTERNATIVE TO CAST CONCRETE IN THE AREA BELOW THE BOUNDARY. FENCE KERBING MUST BE SUPPORTED IN CONCRETE. SIZE OF KERBING (1000 x 300 x 75mm). NO CONCRETE OR KERBING IS TO BE PLACED BELOW INTERNAL FENCE
- 7 YARD STONE 26/38mm - ROAD STONE 13mm
- 8 6.17 REINFORCING TO BE USED IN ALL GATE RAMPS
- 9 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 10 50mm φ CLASS 6 PVC PIPE PLUGGED AT BOTH ENDS TO BE LAID IN THE CONCRETE GATE RAMP OF THE 5m, 1.5m AND 1m GATES

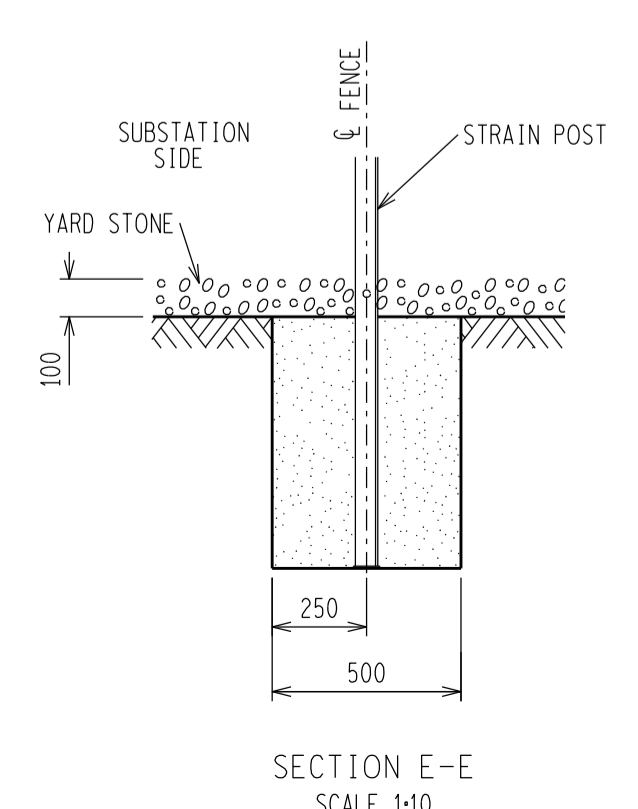
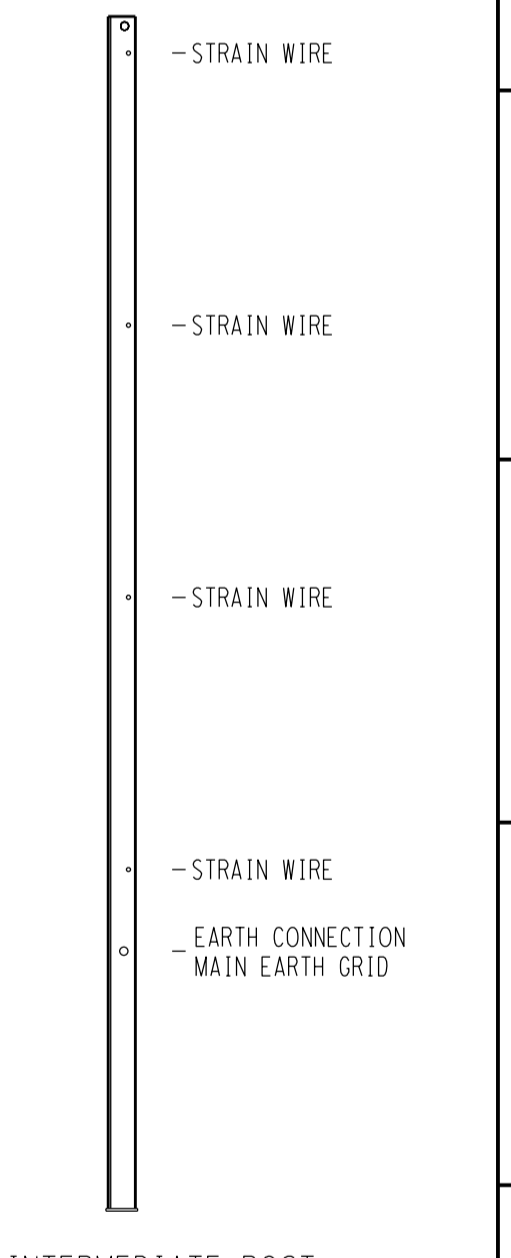
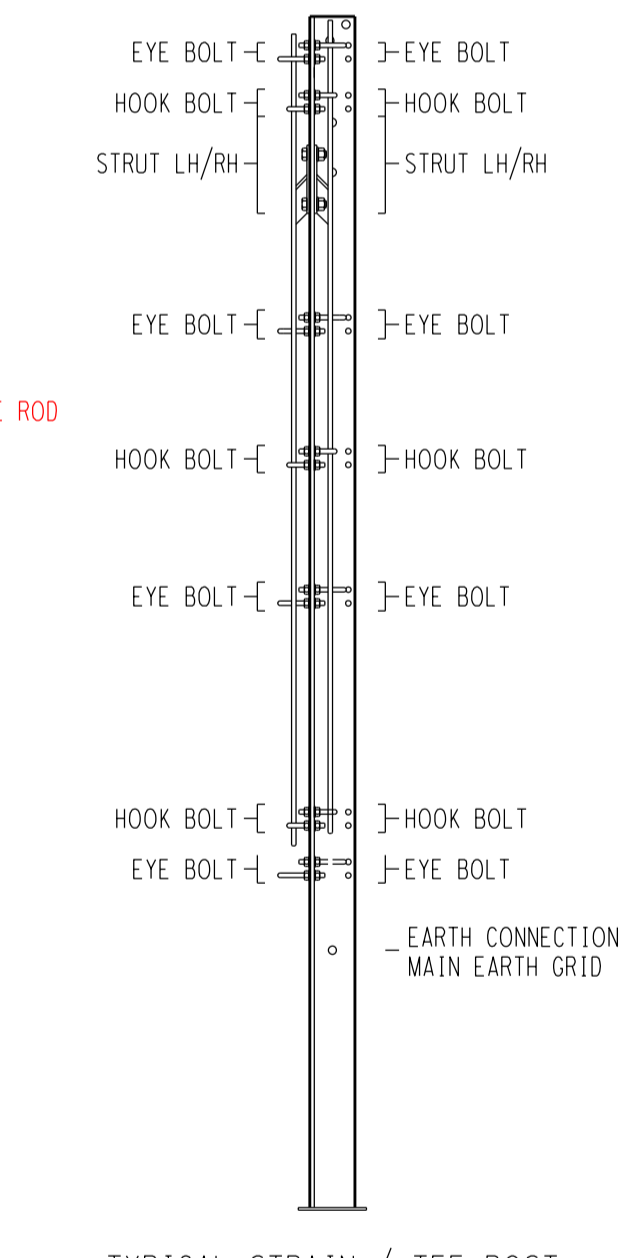
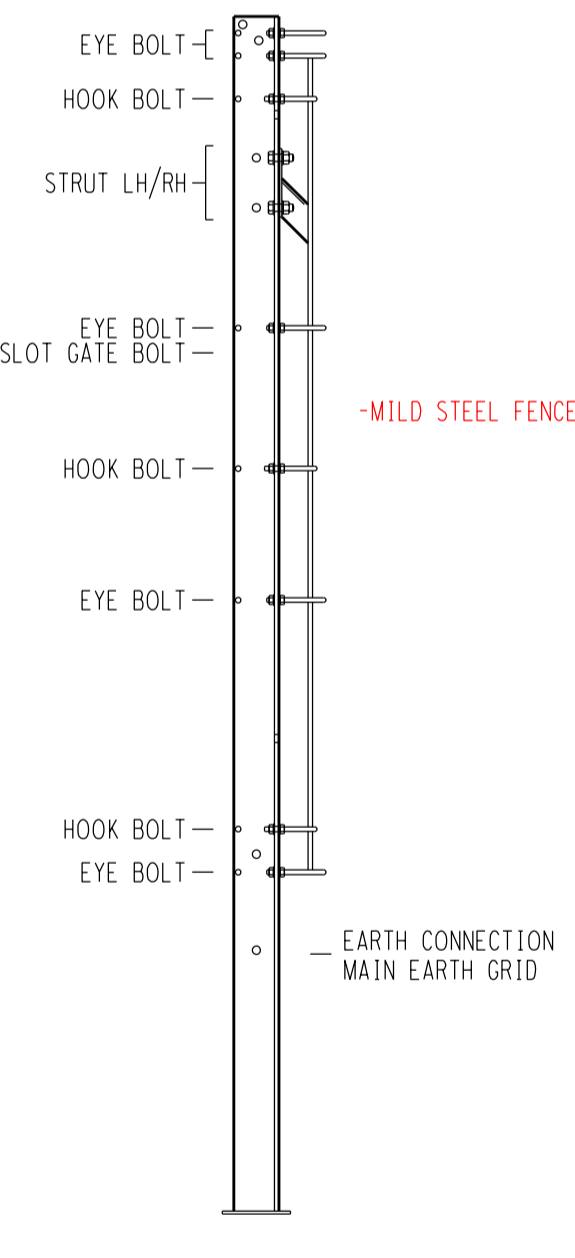
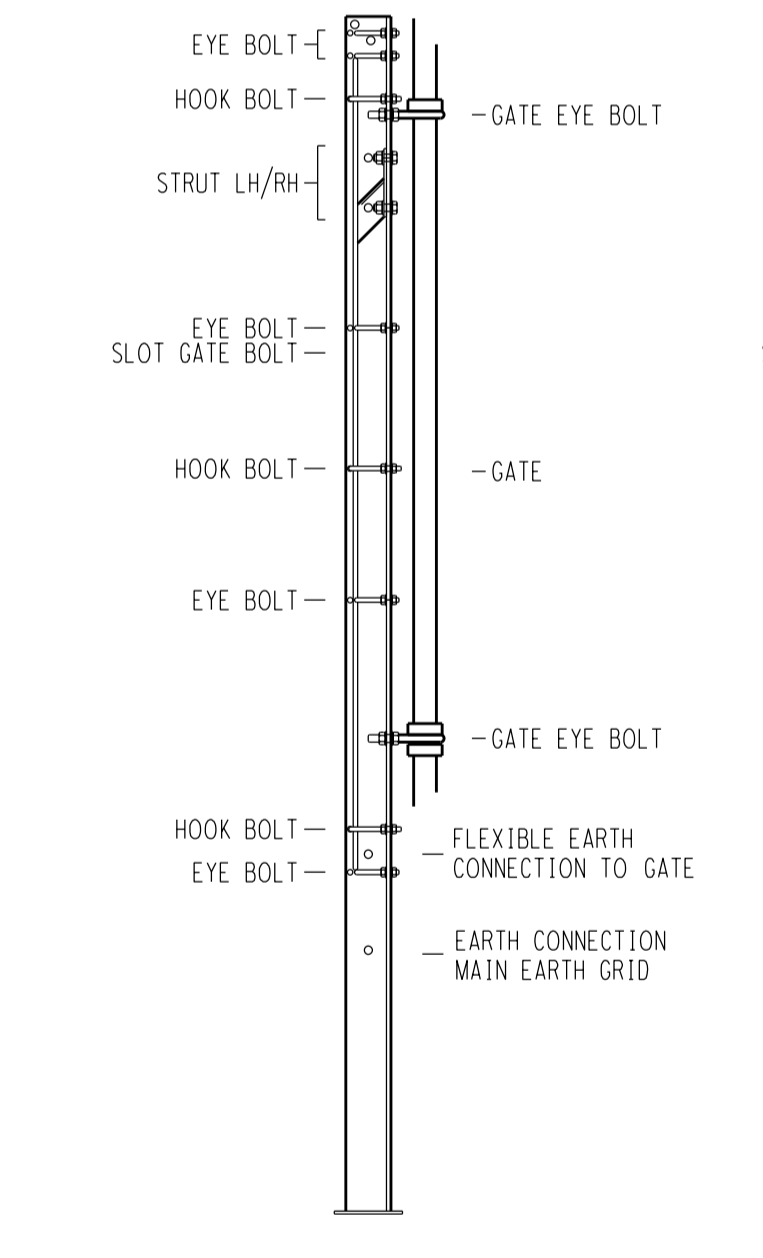
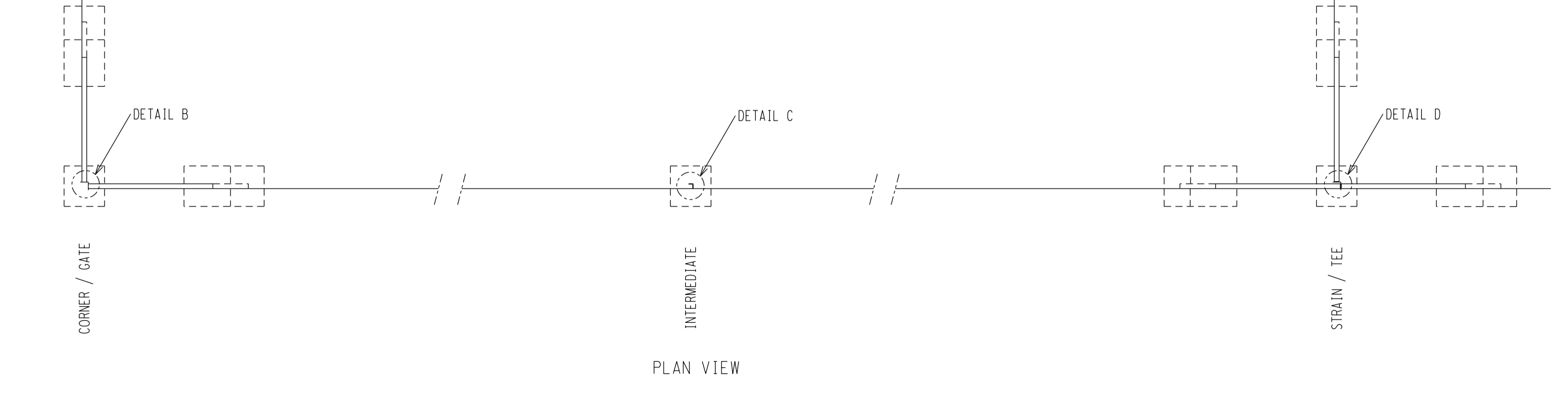
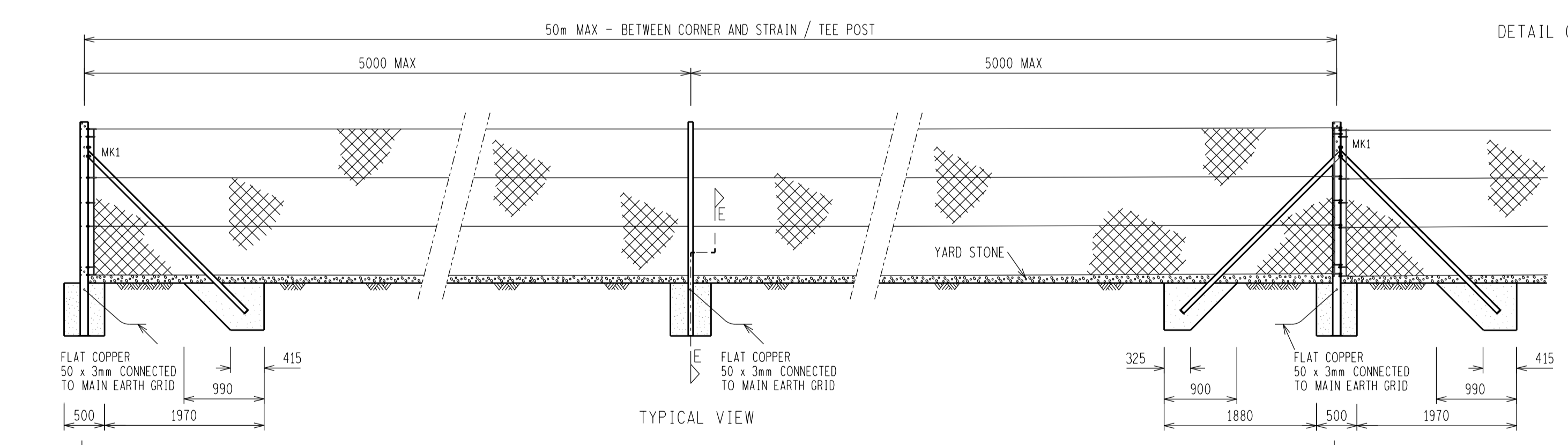
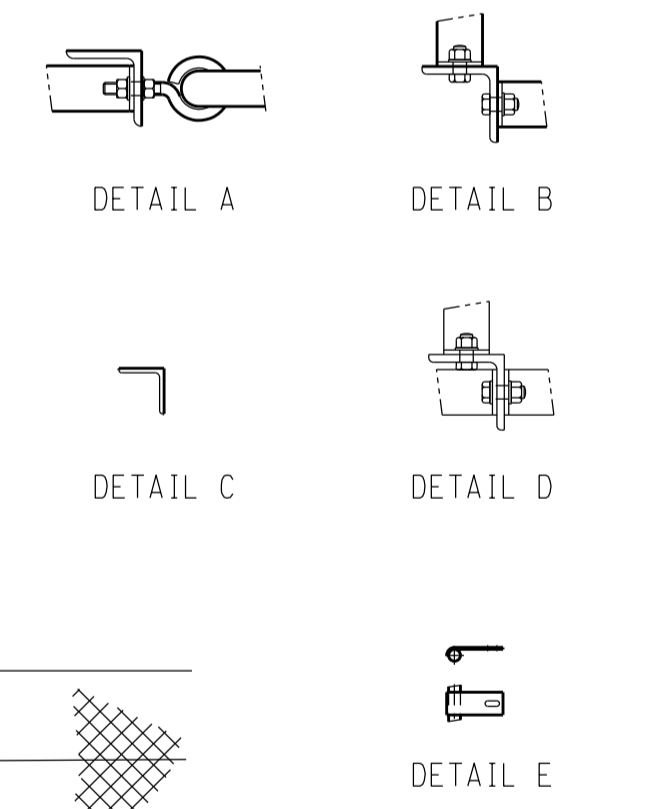
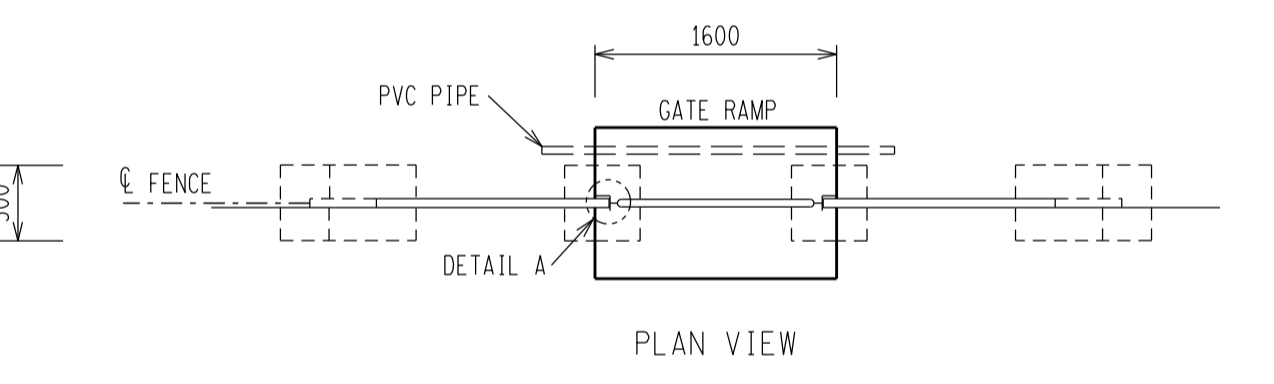
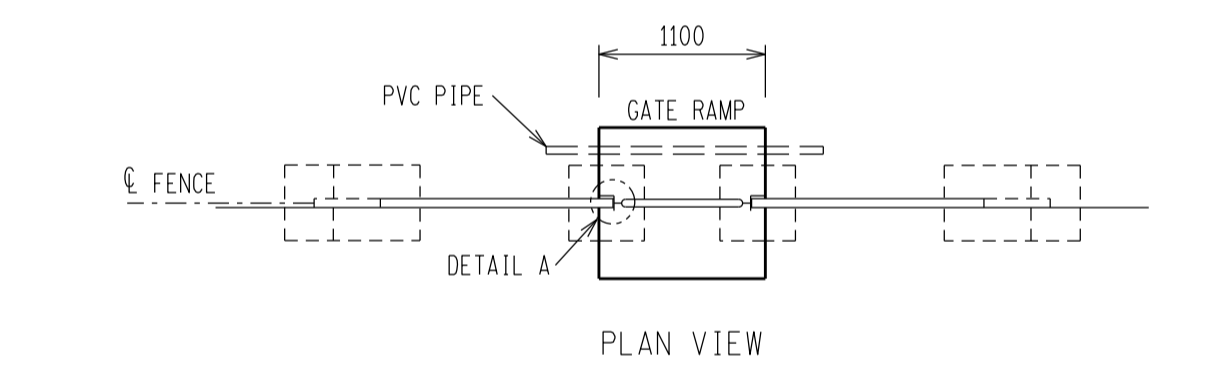
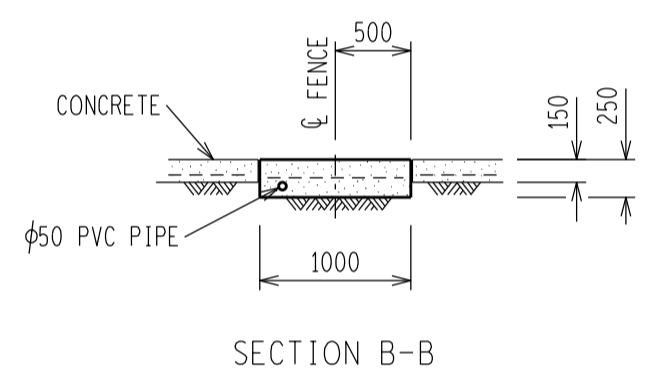
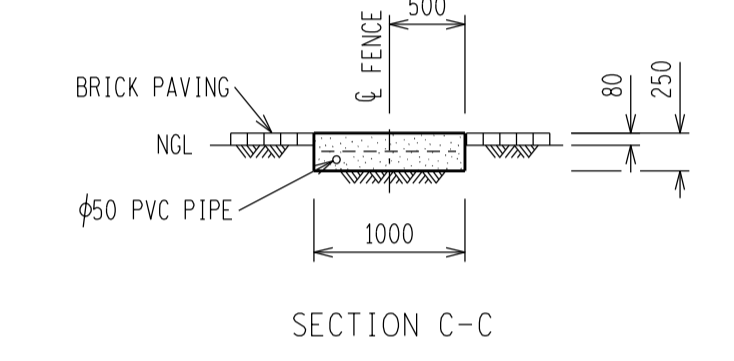
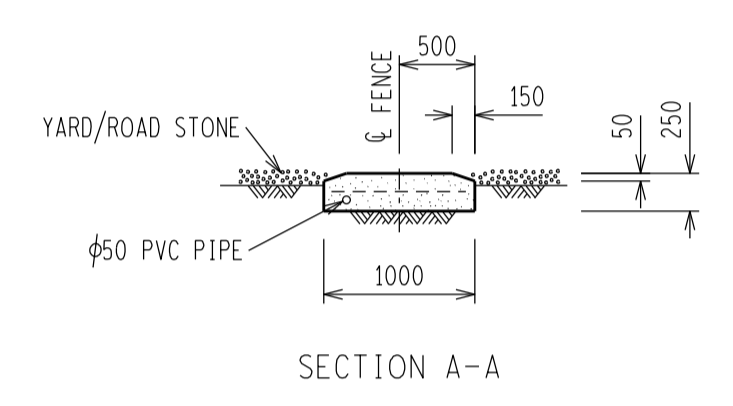
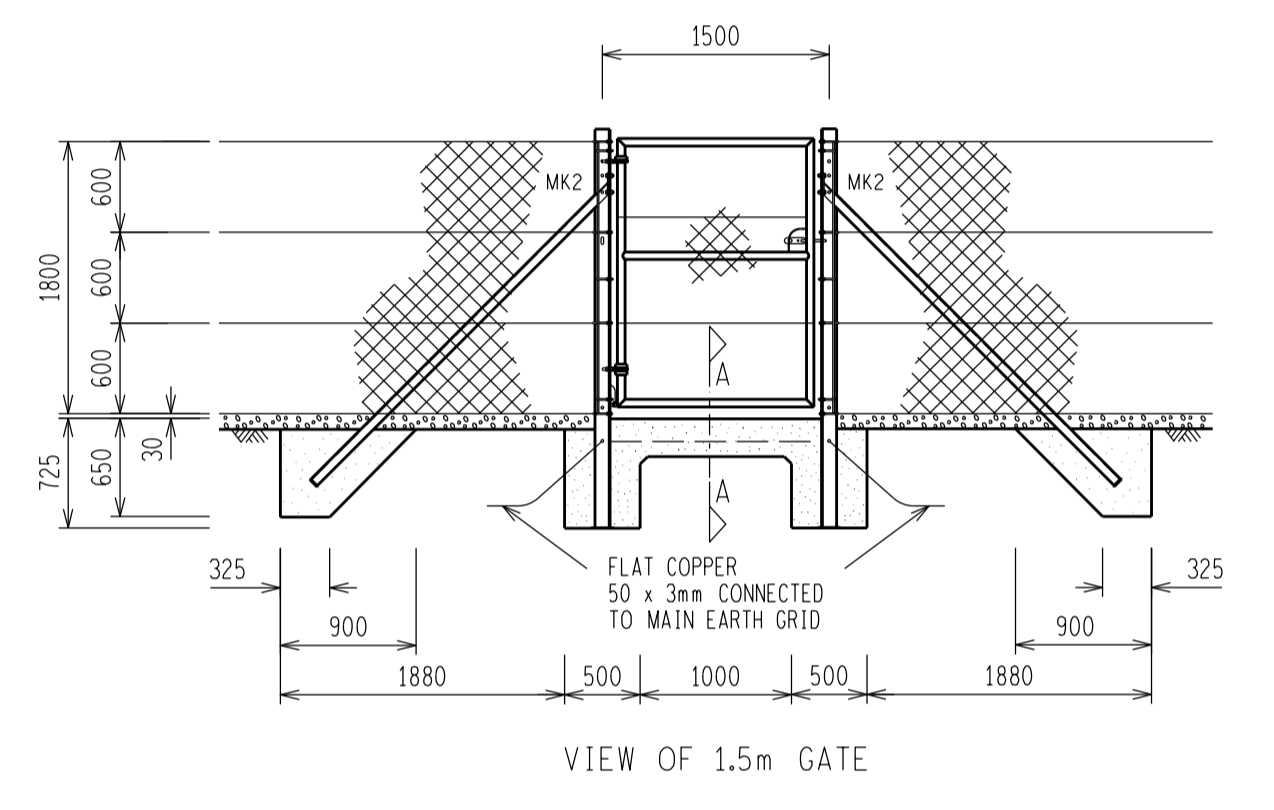
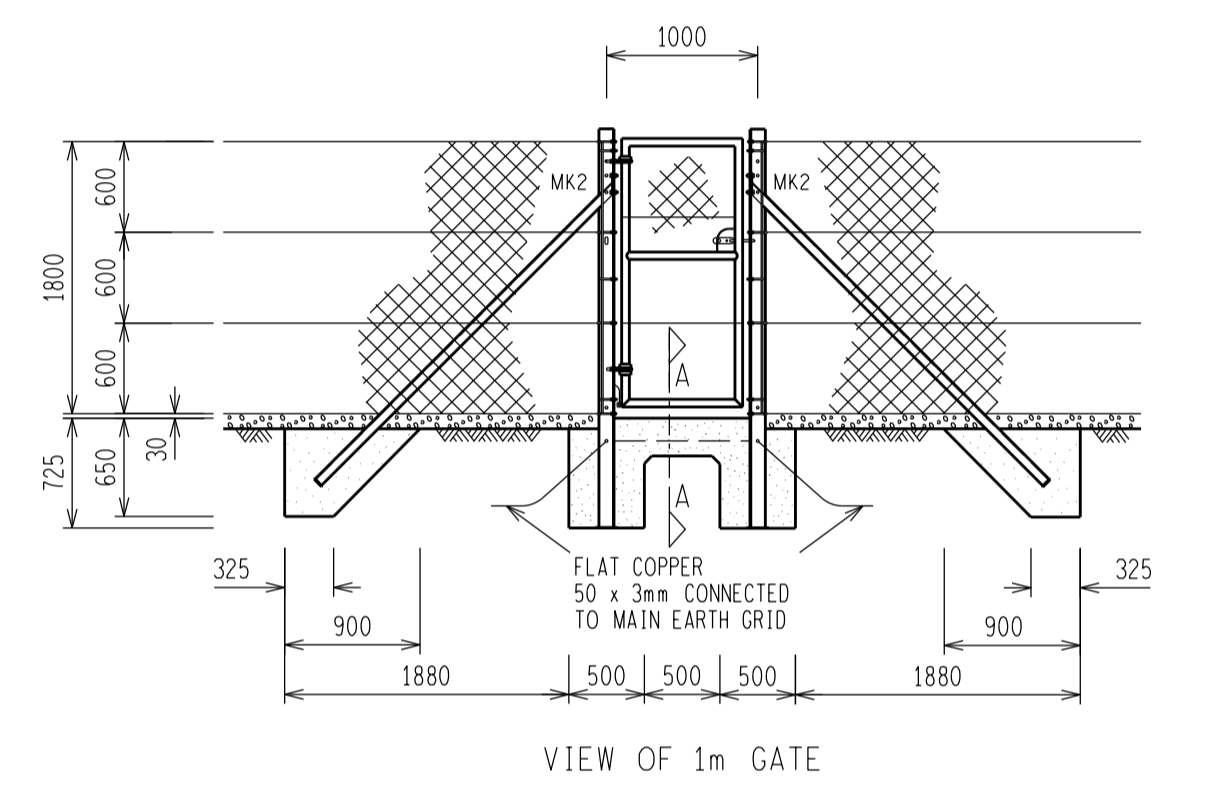
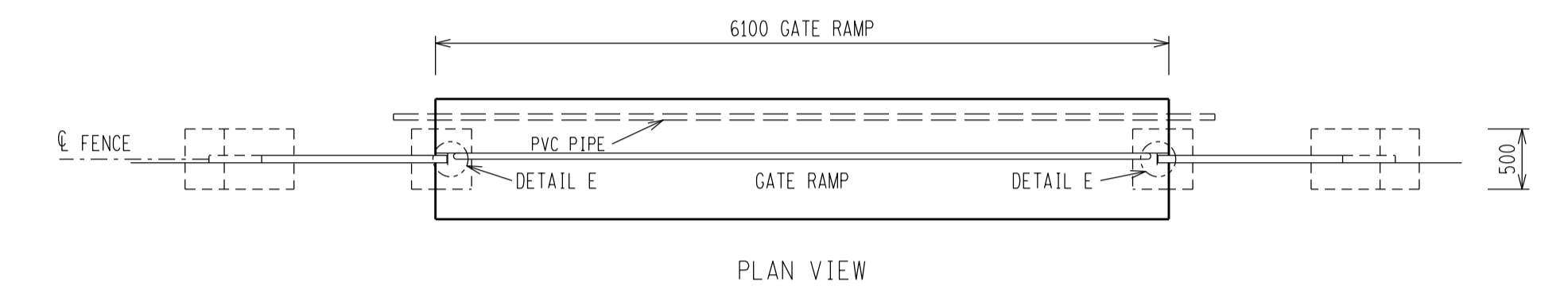
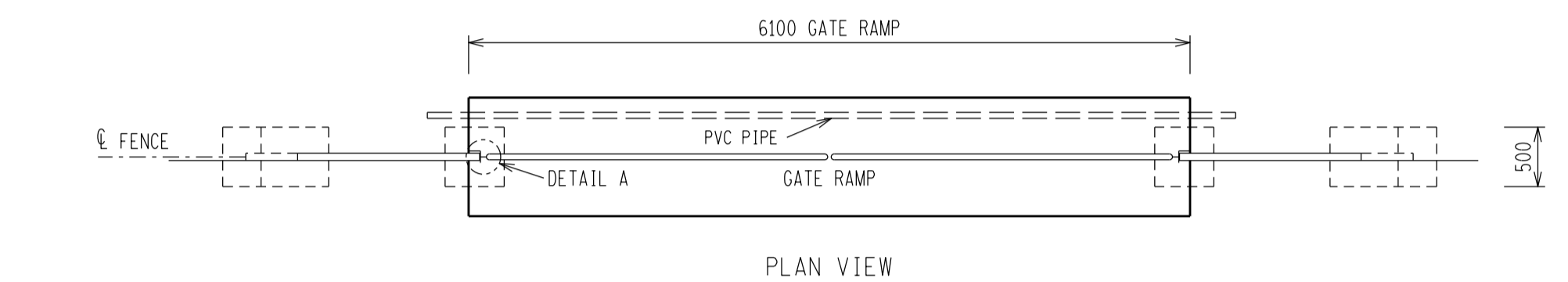
**B STANDARD ITEMS**

- 1 ALL FENCING WIRE TO COMPLY TO SANS 675.
- 2 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 3 BINDING WIRE - 2mm CLASS 'A' HEAVY GALVANISED WIRE OR HOGG RINGS
- 4 STRAIN WIRE - 4mm CLASS 'A' HEAVY GALVANISED WIRE. BINDING OF STRAIN WIRE TO HAVE A 5 WRAP FINISH
- 5 RAZOR WIRE FLAT WRAP - 500mm CLASS 'A' HEAVY GALVANISED FLAT WRAP. BOUND TO TOP 3 STRAIN WIRES WITH 2mm CLASS 'A' HEAVY GALVANISED WIRE WITH 3 TWIST EACH. EACH 500mm CIRCLE TO BE FASTENED IN THREE PLACES
- 6 DIAMOND MESH CLASS 'A' HEAVY GALVANISED (1800 x 50 x 3.15mm) BOUND TO THE BOTTOM 4 STRAIN WIRES WITH 2mm CLASS 'A' HEAVY GALVANISED WIRE TIES WITH 3 TWISTS EACH AT 300mm CENTRES.
- 7 STRAIN WIRES TO BE STRAINED WITH EYE BOLTS FROM THE GATE, CORNER AND STRAIN / TEE POST
- 8 DIAMOND MESH IS TO BE STRAINED BY USING A φ10mm x 1.8m ROD PASSING VERTICALLY THROUGH THE END COIL OF THE MESH

**C EARTHING**

- 1 ALL GATE LEAVES MUST BE BONDED TO HINGED GATE POSTS USING 70mm x 350mm LONG FLEXIBLE PVC COVERED COPPER CONDUCTOR (WELDING CABLE) LUG EACH END WITH TINNED COPPER LUGS DRILLED φ16mm AND COVERED WITH HEAT SHRINK. EACH LUG TO BE FASTENED WITH TWO M16 x 40mm GALVANISED BOLTS, NUTS AND WASHERS TO EARTH LUGS ON THE GATE AND EARTH POINT ON THE POSTS
- 2 ALL CORNER, GATE AND STRAIN / TEE POST MUST BE EARTH TO THE MAIN EARTH GRID USING 50 x 3mm FLAT COPPER AND A φ16mm GALVANISED BOLT, NUT AND WASHER
- 3 EARTHING OF INTERMEDIATE POST MUST NOT EXCEED 20m AND MUST BE EARTH TO THE MAIN EARTH GRID USING 50 x 3mm FLAT COPPER AND A φ16mm GALVANISED BOLT, NUT AND WASHER

MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg
1	M16	4.8	2	35	1	1	2	120	0.15
2	M16	4.8	2	40	1	1	2	120	0.16



D-DT-5237	SHEET 28	MANUFACTURING DETAILS
DRG NO.	SHEET NO.	REFERENCE DRAWINGS

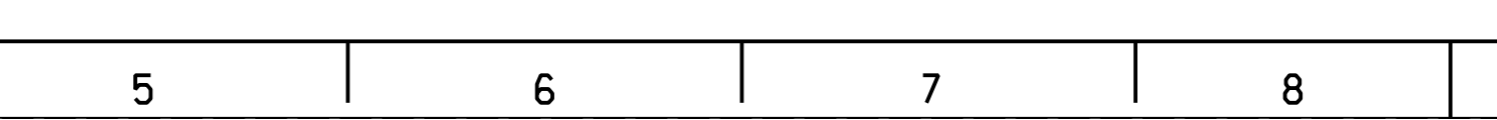
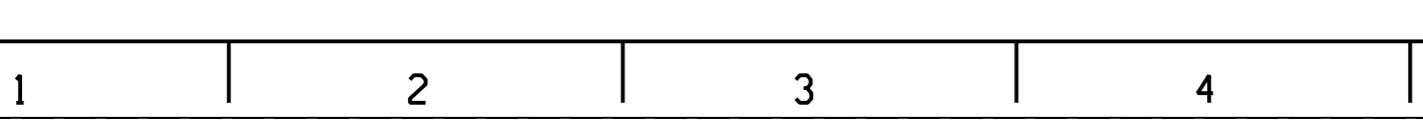
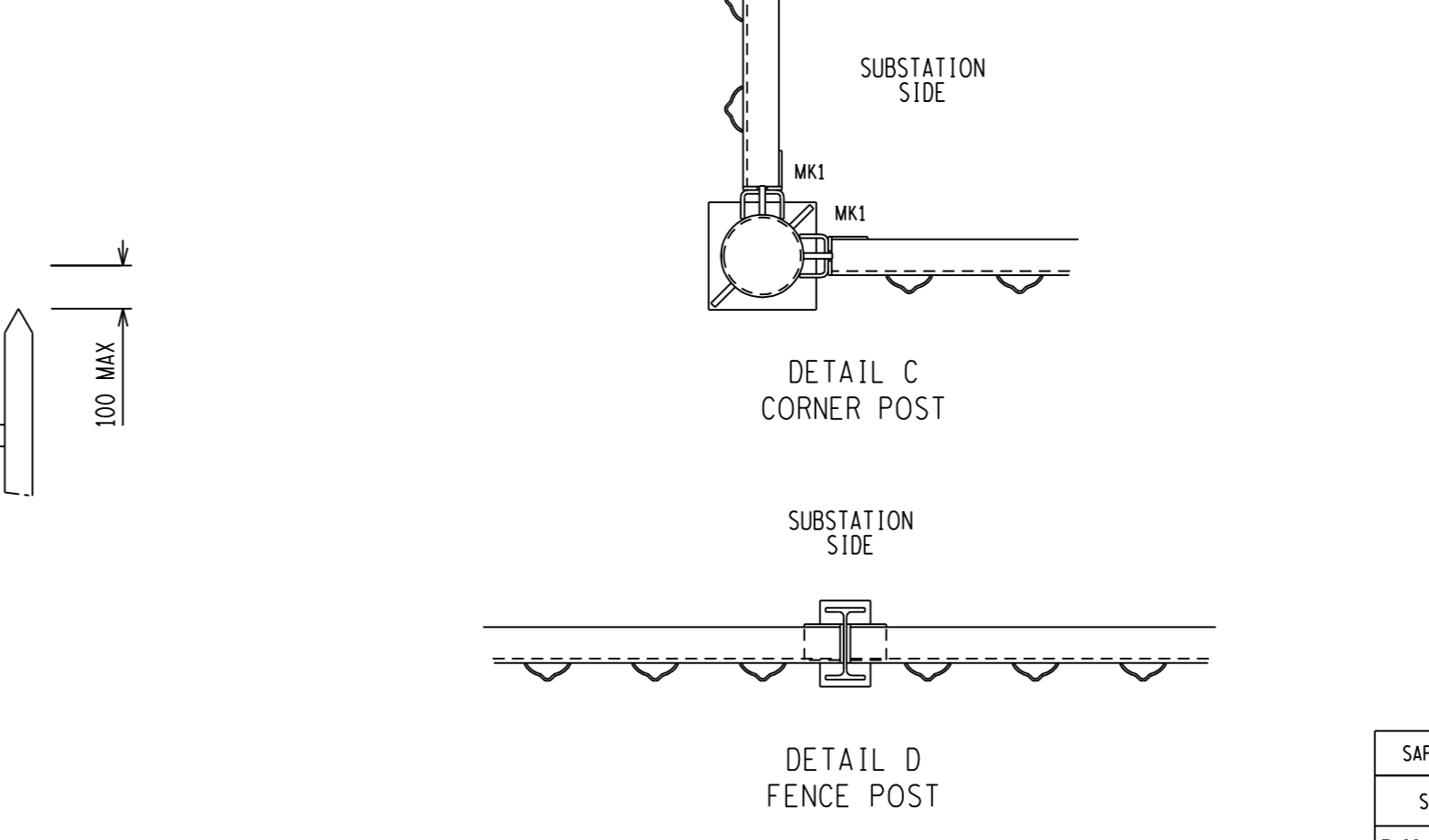
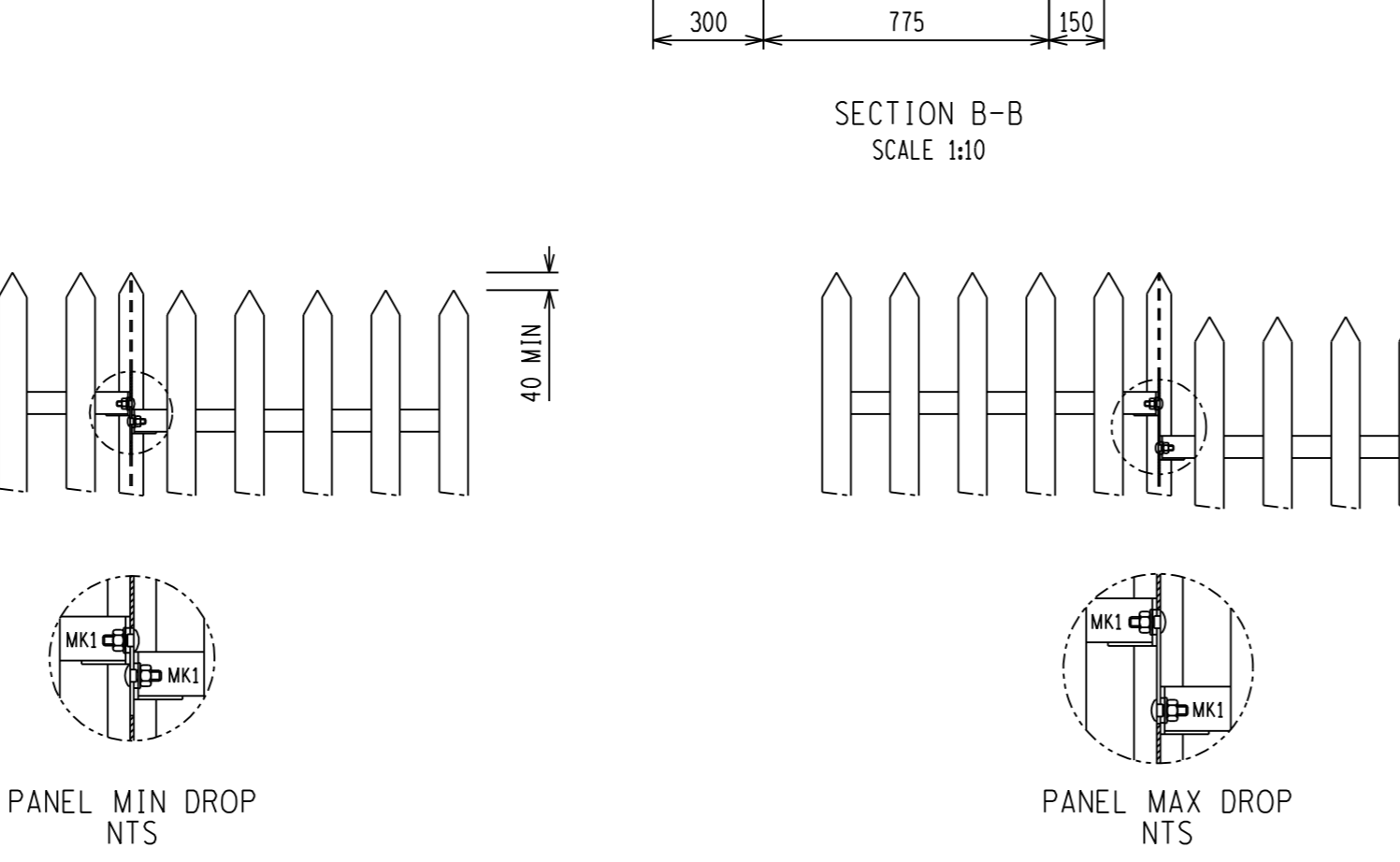
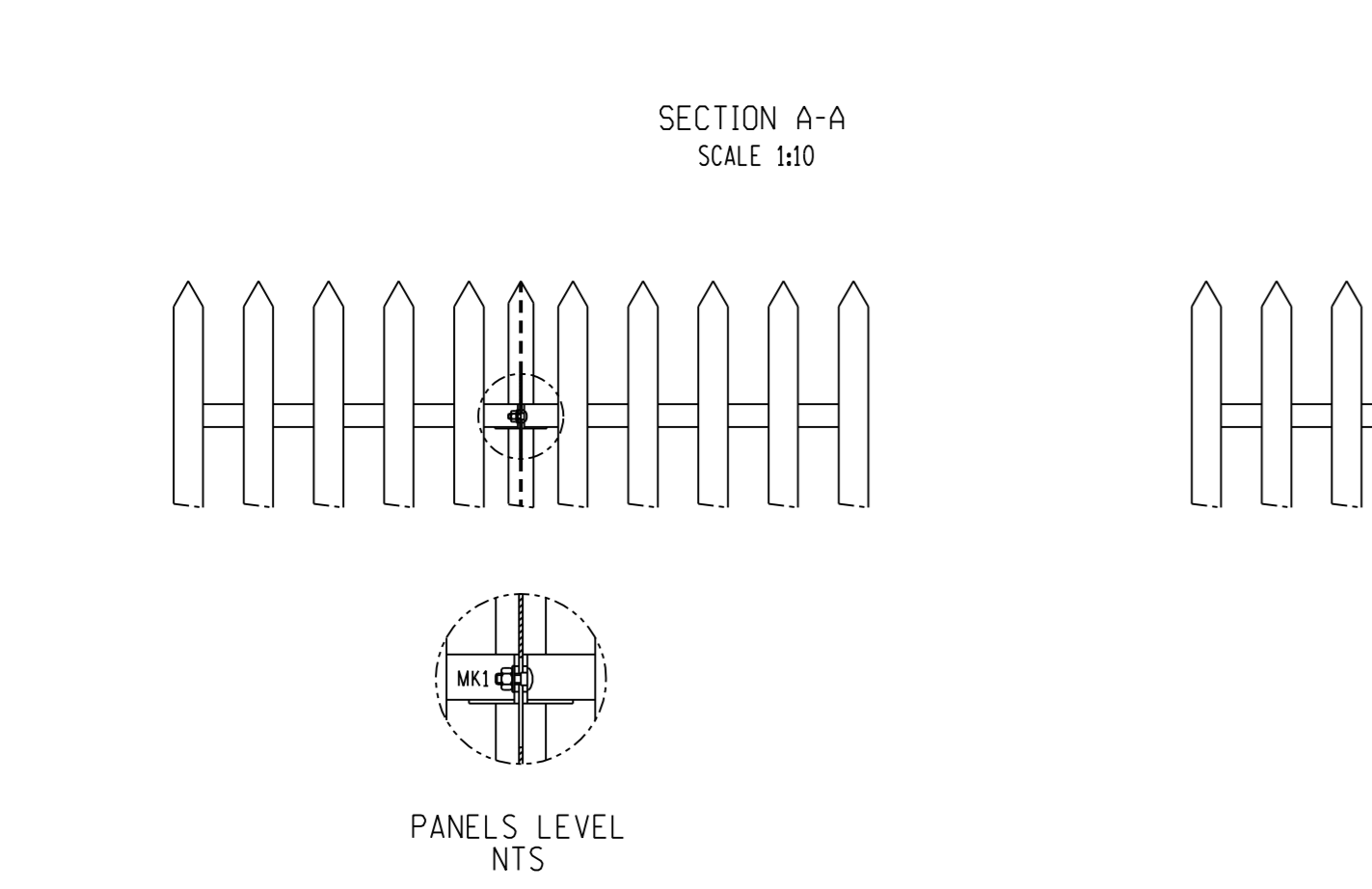
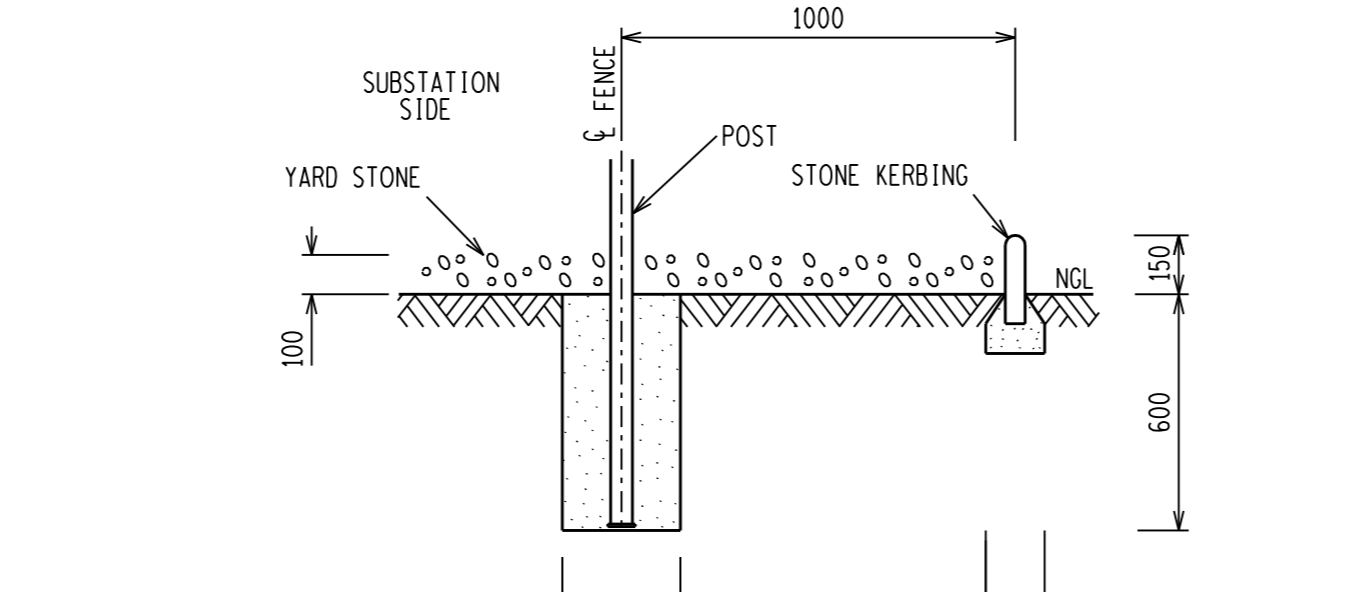
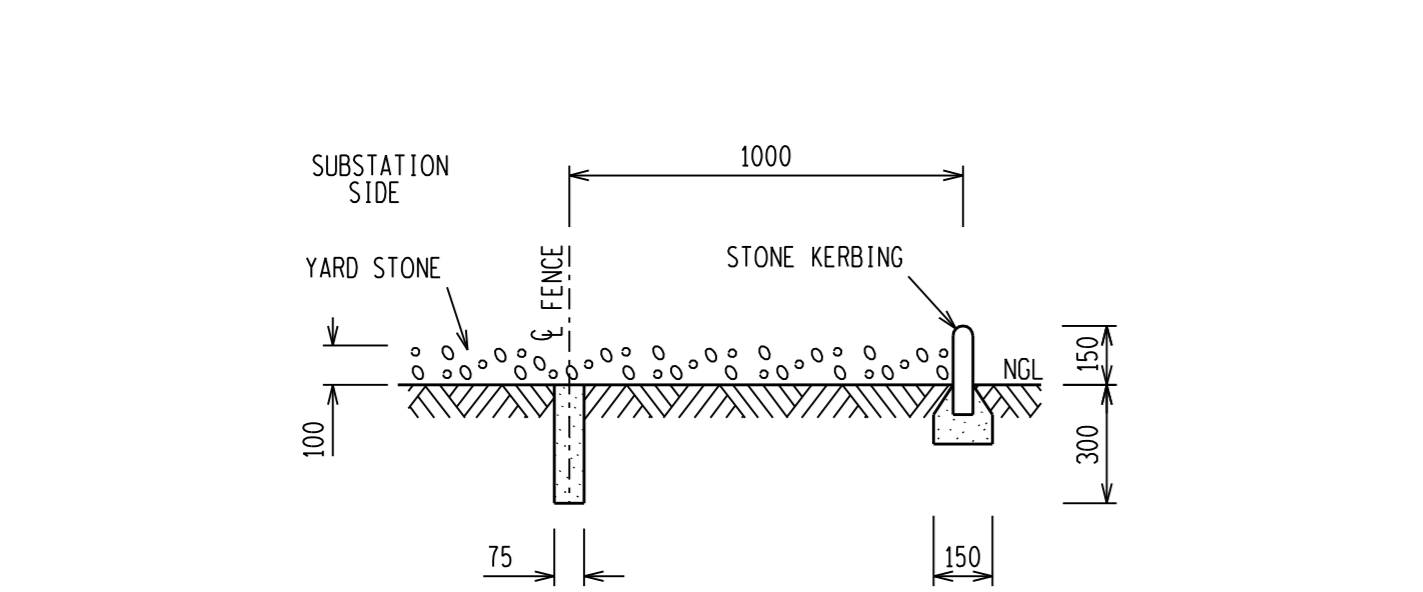
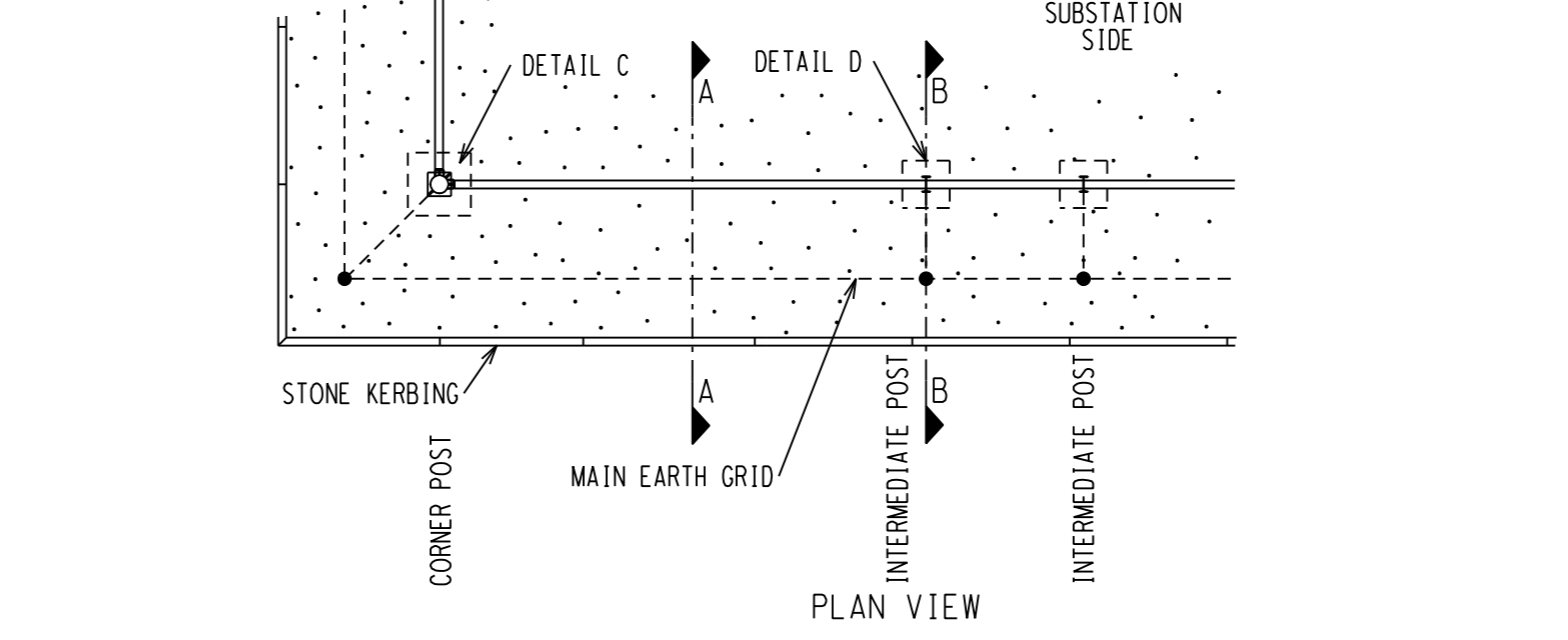
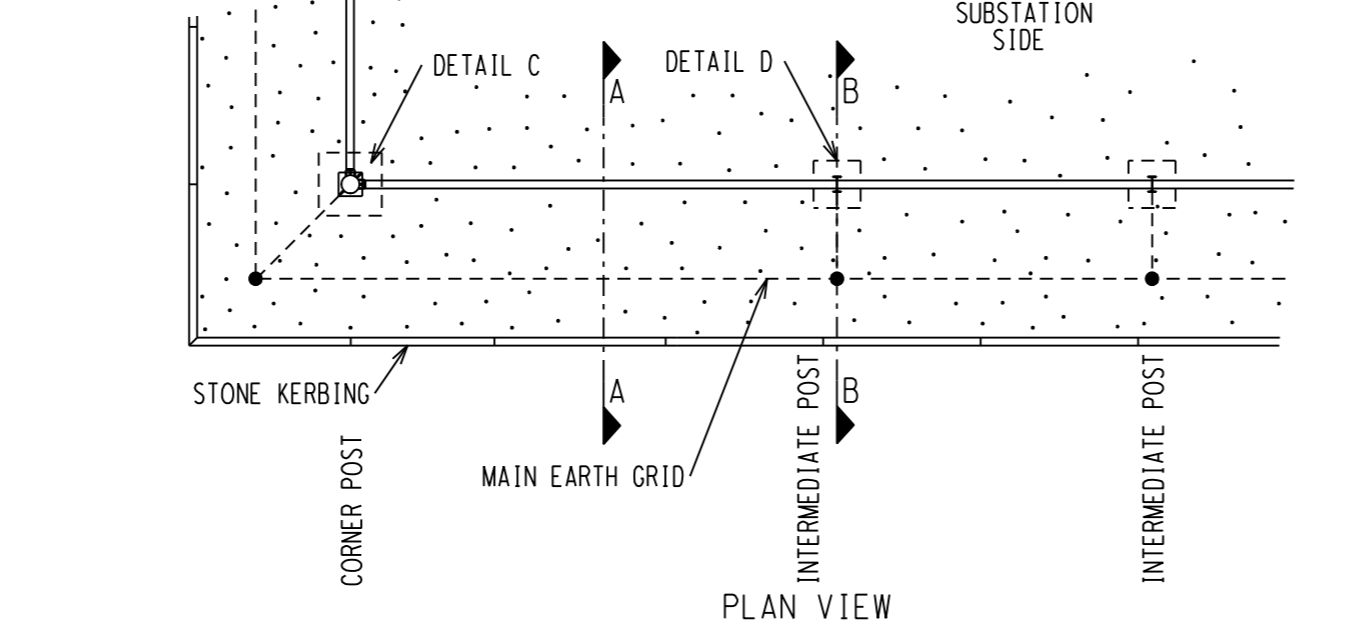
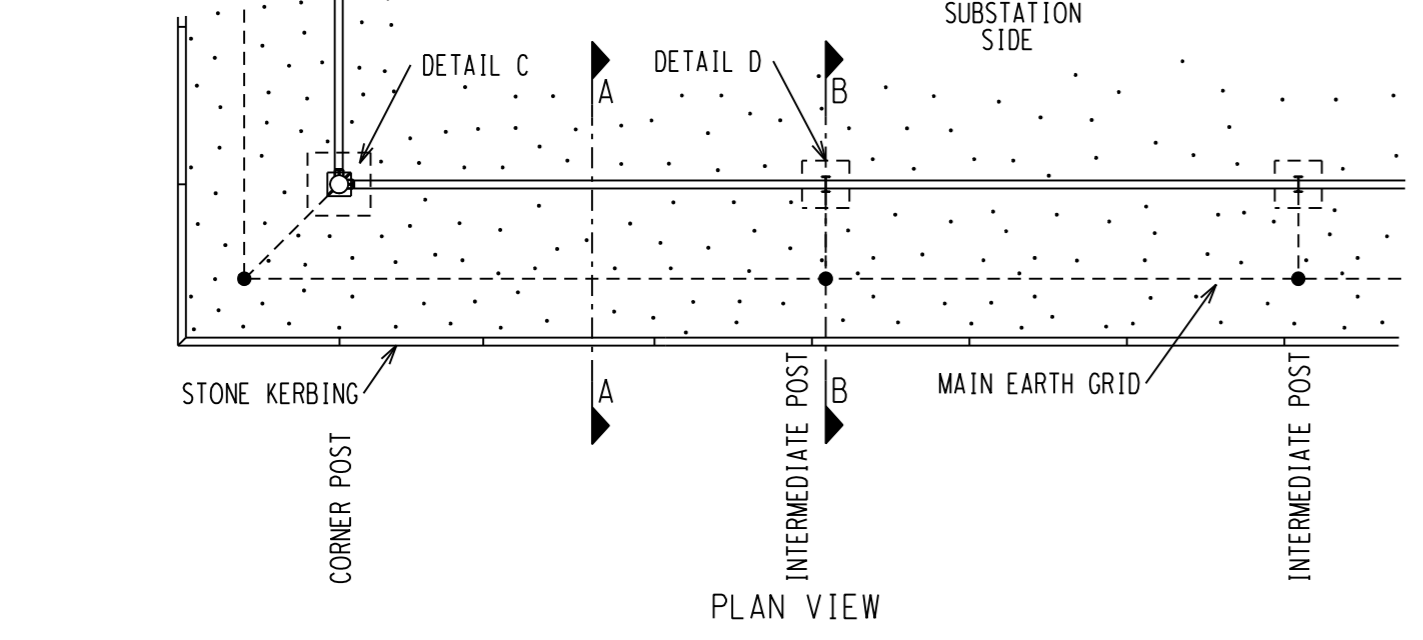
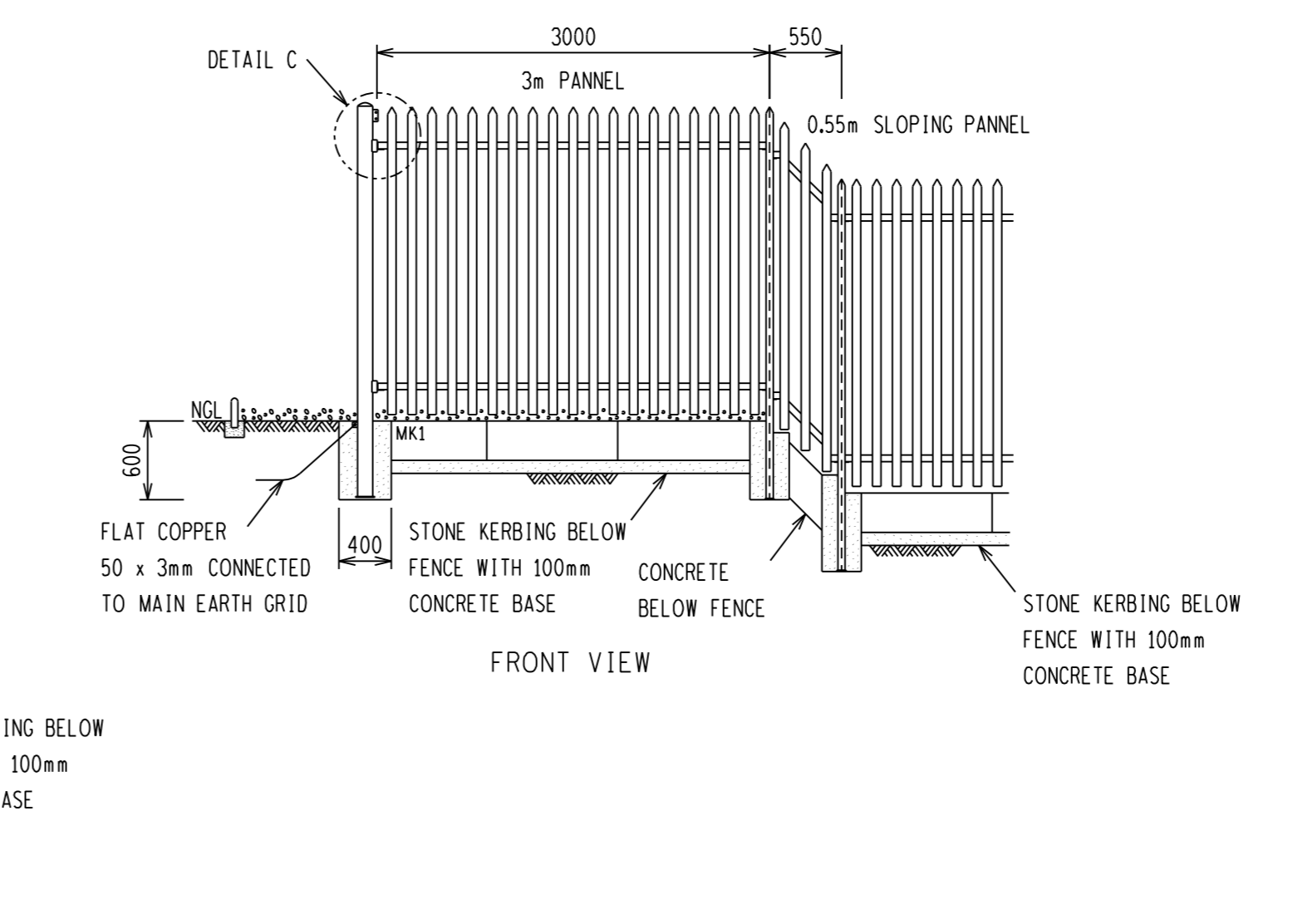
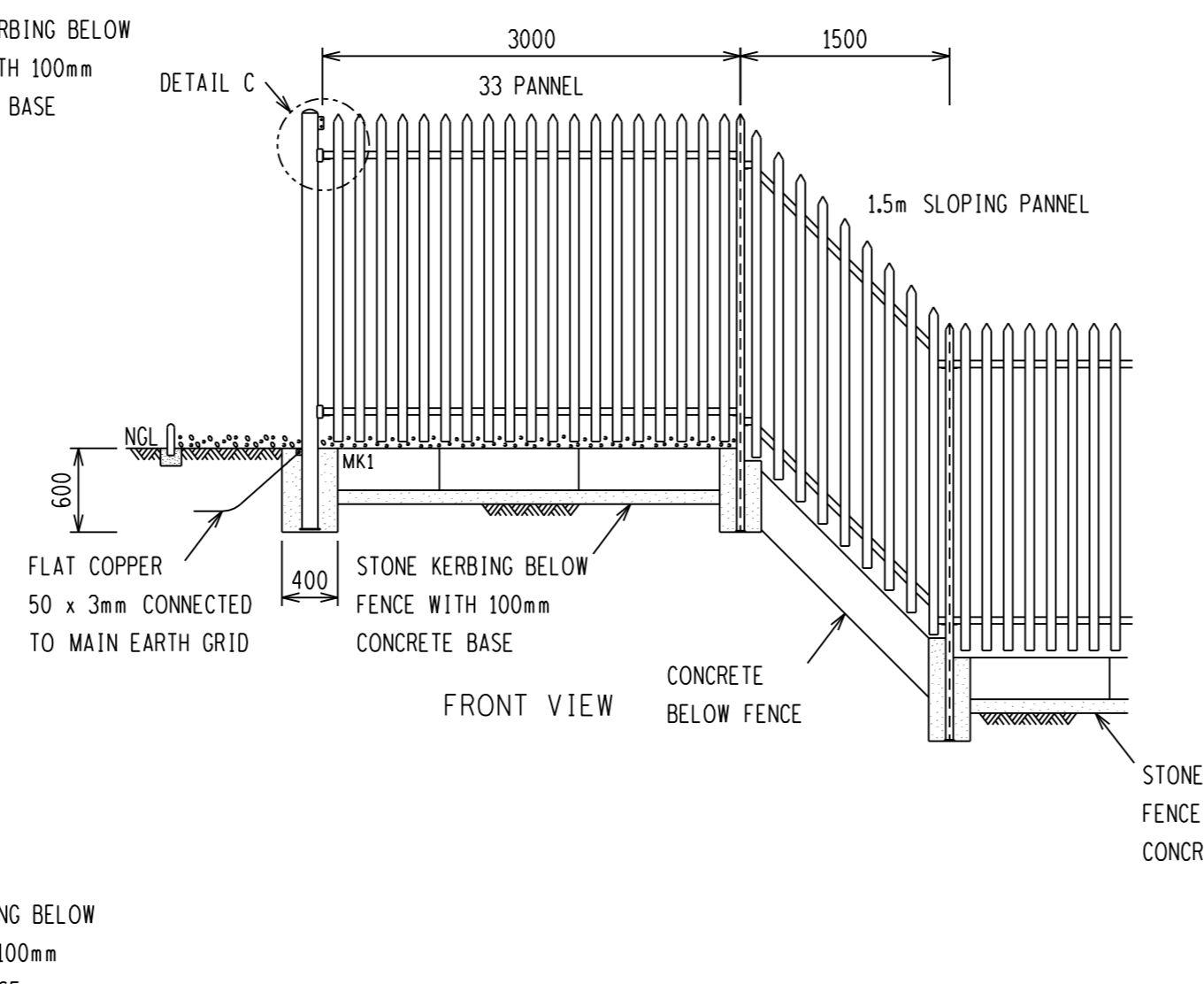
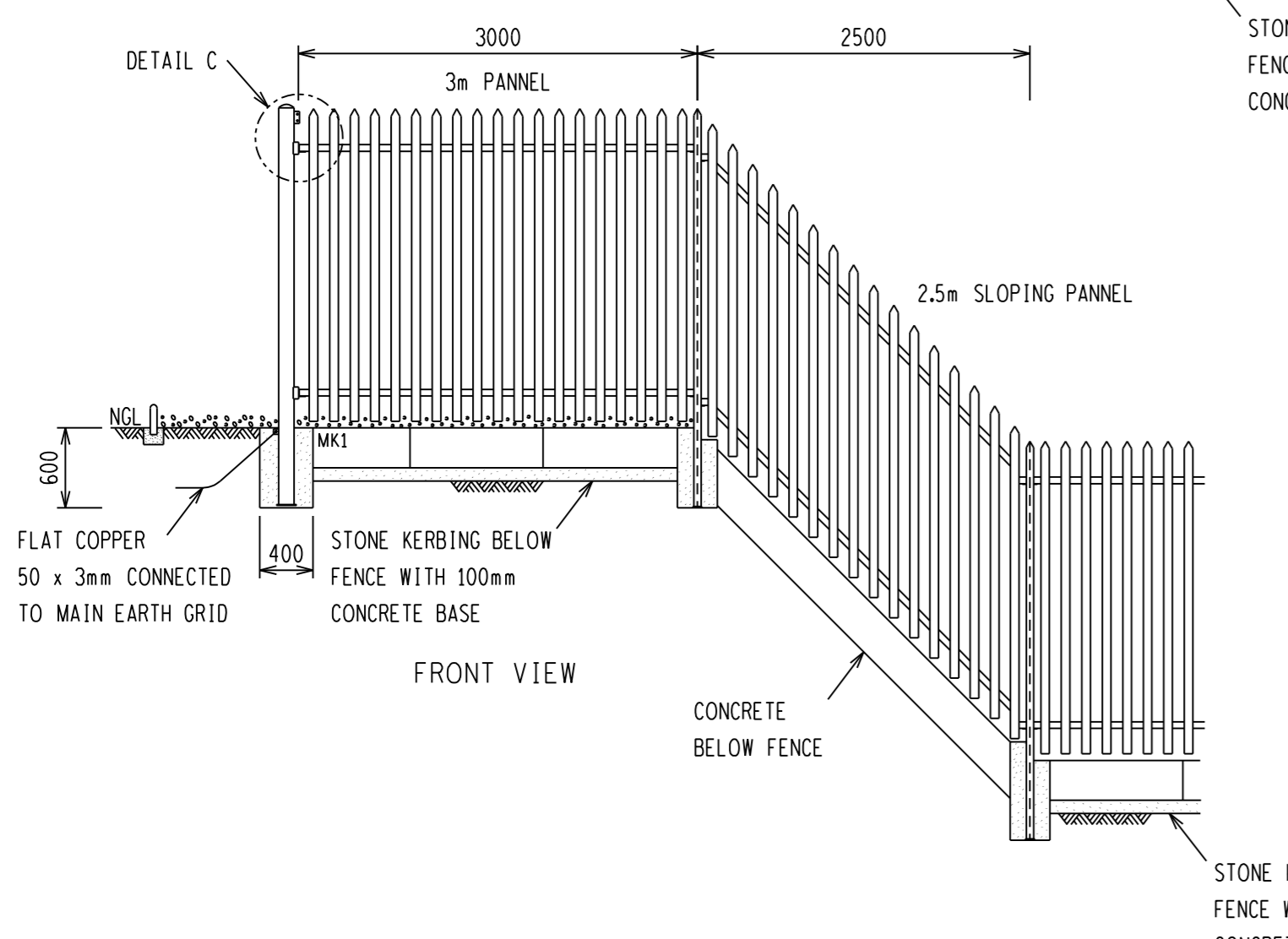
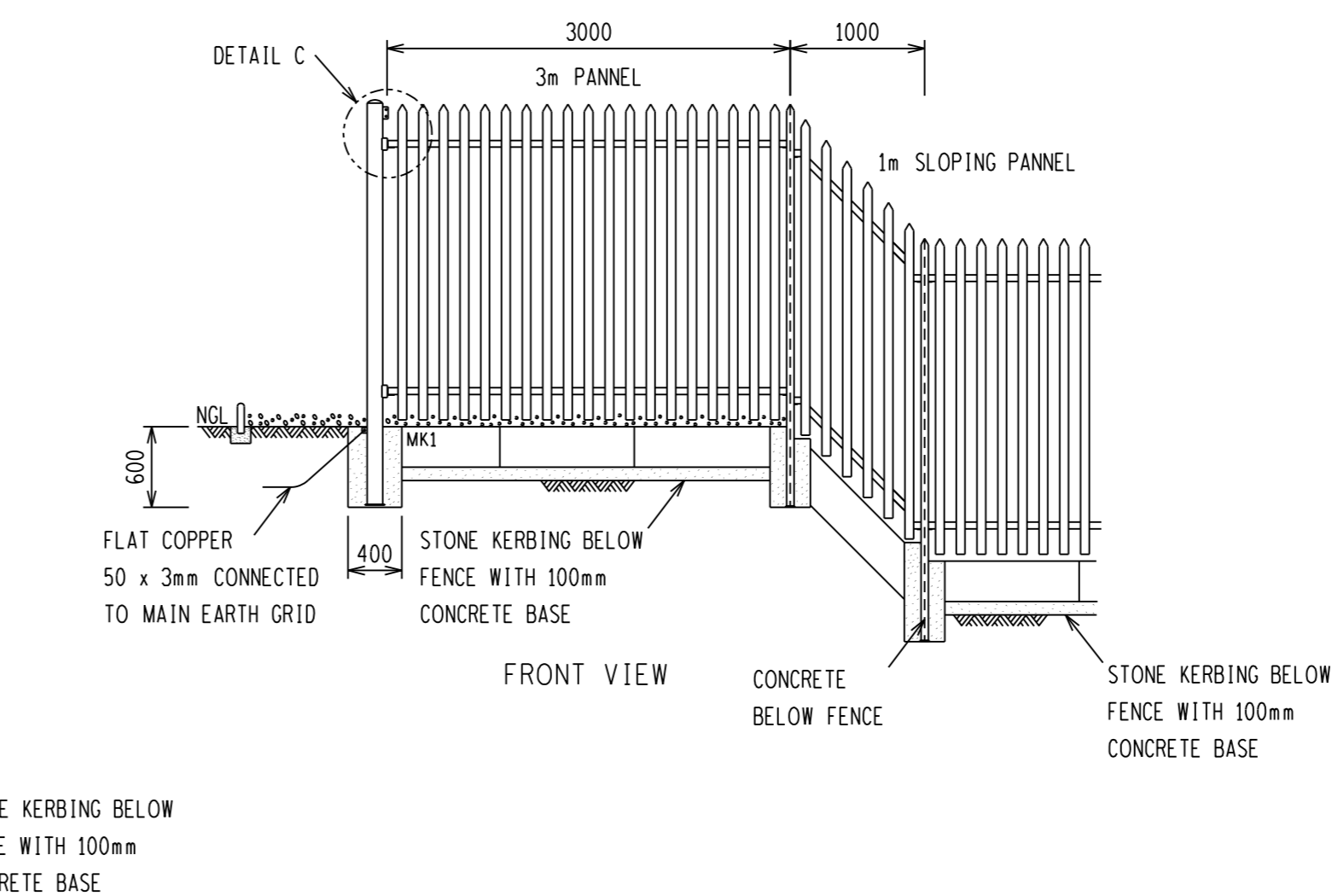
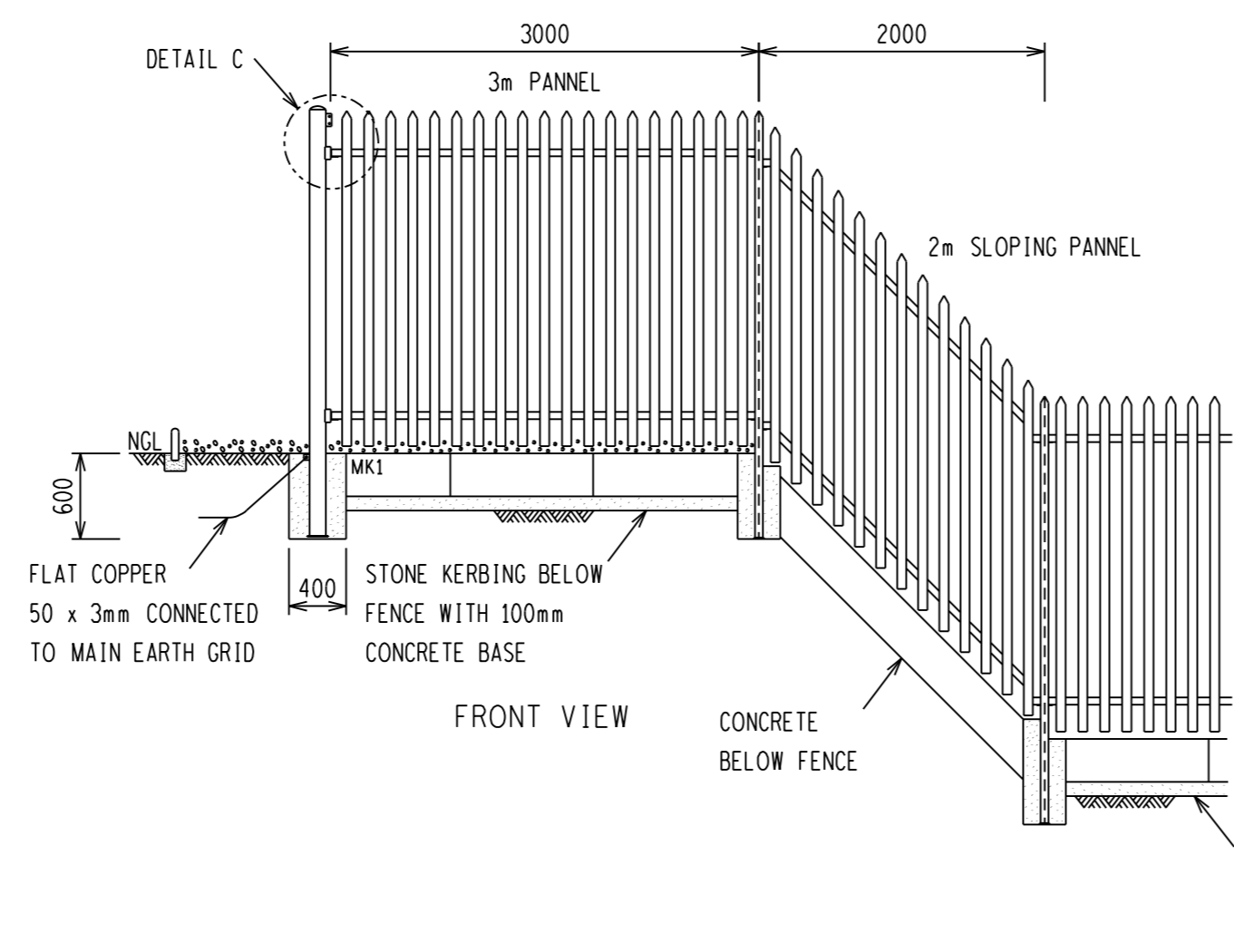
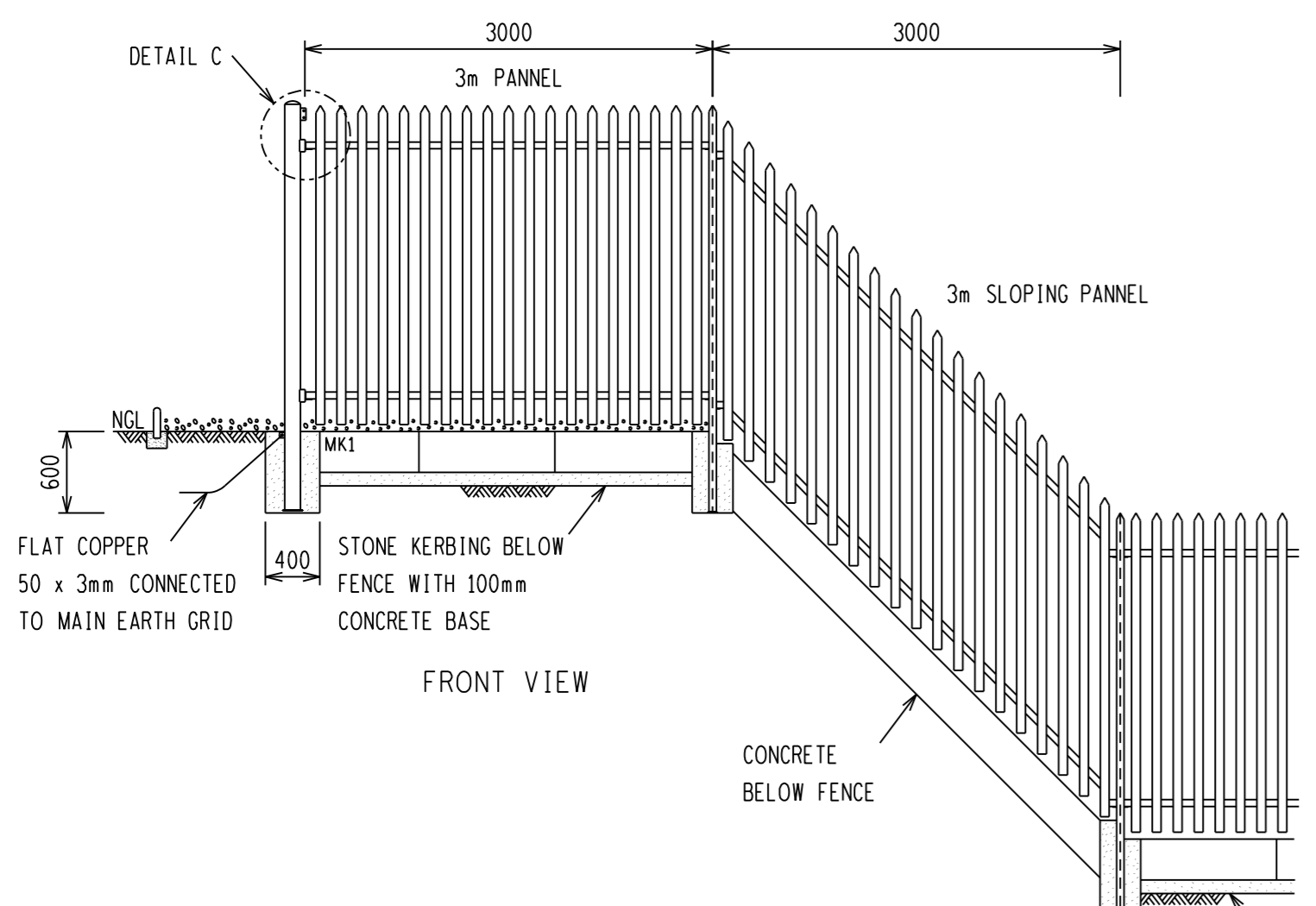
THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS					
REV	REVISION DESCRIPTION	BY	CHKD	DATE	PROJECT NO.
1	CHANGED SPACING BETWEEN STONE KERBING & FENCE TO 1200mm. TEXT - CONCRETE KERBING BELOW FENCE ADDED.	NSH	BMH	NW	19/02/2018
0	FIRST ISSUE				

**Eskom**  
 AUTH: B HILL  
 DATE: 22/02/2012  
 CHKD: N WEBBER

**SECURITY FENCE**  
 1.8m STEEL POST & DIAMOND MESH  
 WITH NO OVERHANG  
 ASSEMBLY AND SECTIONS

SAP No. 0567710	DATE: 22/02/2012	SET	SHEET	REVISION
SCALE 1:50	DRAWN: G BEETGE		2A	1

D-DT-5237			2A	1
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**NOTES:**  
**A. CONCRETE**  
 1 CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200  
 2 CONCRETE STRENGTH AT 28 DAYS = 25MPa  
 3 CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS = 15MPa  
 4 COMPACTION OF THE BOTTOM OF FENCE POST SHALL BE COMPACTED TO 93% OF MOD. AASHTO  
 5 NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIX  
 6 CONCRETE KERBING MAY BE USED AS AN ALTERNATIVE TO CAST CONCRETE IN THE AREA BELOW THE BOUNDARY. FENCE KERBING MUST BE SUPPORTED IN CONCRETE. SIZE OF KERBING (1000 x 300 x 75mm). NO CONCRETE OR KERBING IS TO BE PLACED BELOW INTERNAL FENCE  
 7 YARD STONE 26/38mm - ROAD STONE 13mm  
 8 6.17 REINFORCING TO BE USED IN ALL GATE RAMPS  
 9 #50mm CLASS 6 PVC PIPE PLUGGED AT BOTH ENDS TO BE LAID IN THE CONCRETE GATE RAMP OF THE 5m, 1.5m AND 1m GATES  
**B. EARTHING**  
 1 BOLTS, NUTS, WASHERS & SHEARNUTS TO BE IN ACCORDANCE WITH SANS 1700.  
 2 ALL CORNER, GATE / TEE POST MUST BE EARTHED TO THE MAIN EARTH GRID USING 50 x 3mm FLAT COPPER AND A M16 GALVANISED BOLT, NUT AND WASHER  
 3 EARTHING OF INTERMEDIATE POST MUST NOT EXCEED 20M AND MUST BE EARTHED TO THE MAIN EARTH GRID USING 50 x 3mm FLAT COPPER AND A M16 GALVANISED BOLT, NUT AND WASHER

BOLT WITH SHEARNUT SCHEDULE									
MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg
1	M12	4.8	1.75	35	1	1	1	-	0.05

REV	DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
0	FIRST ISSUE					

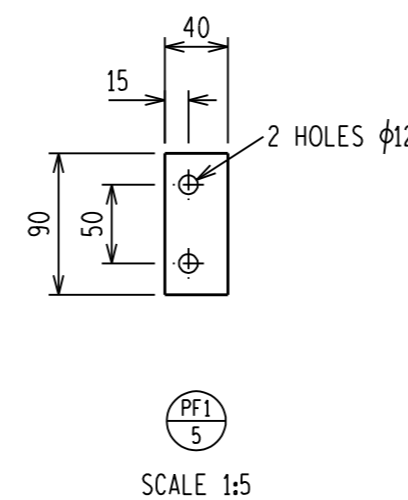
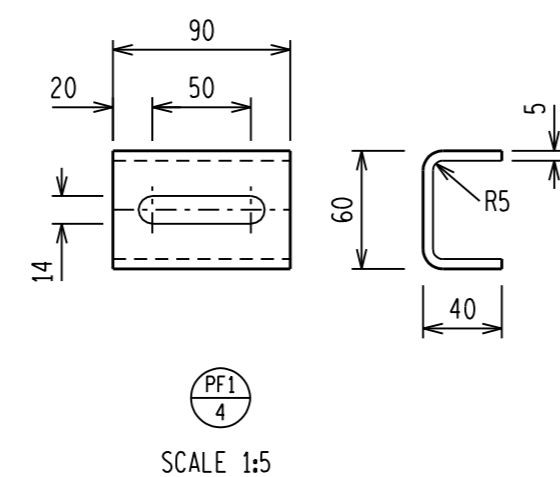
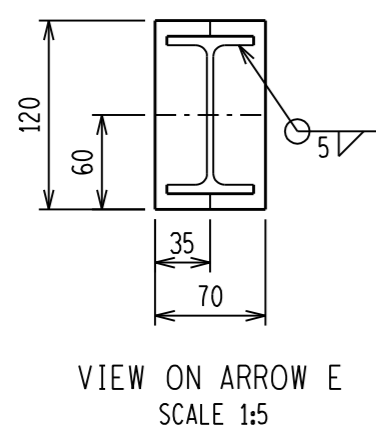
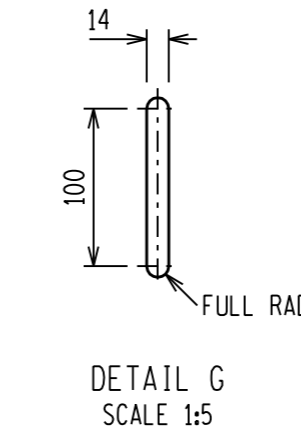
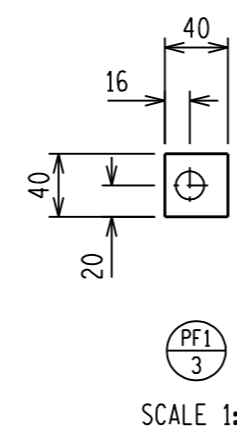
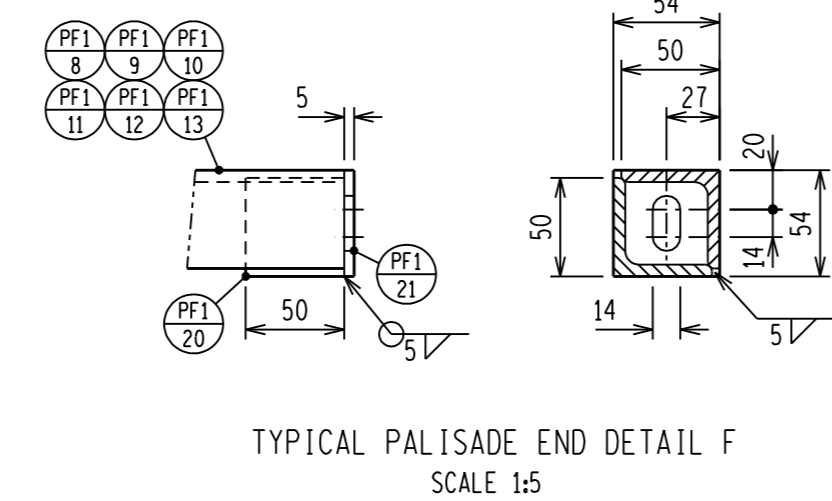
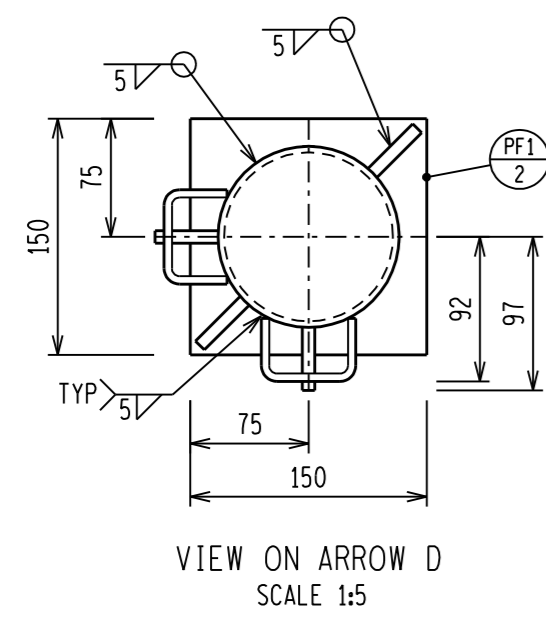
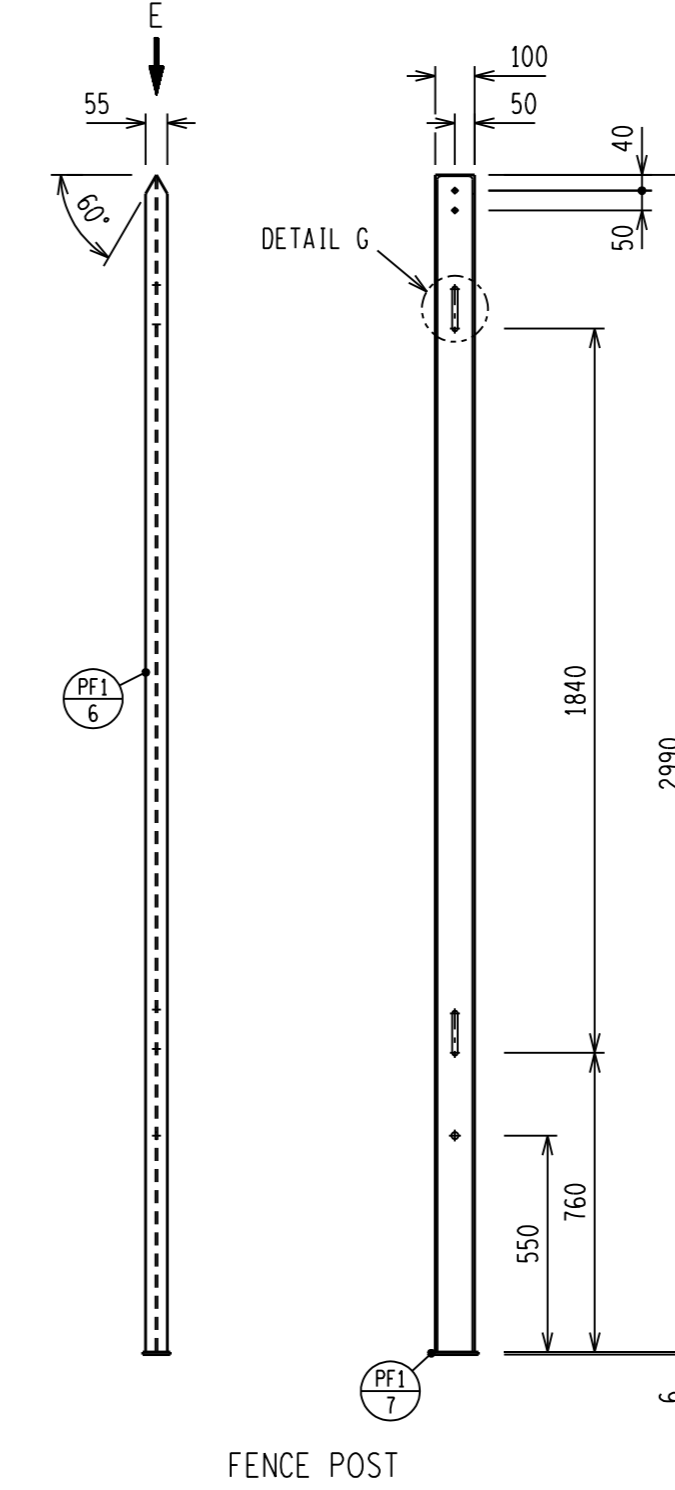
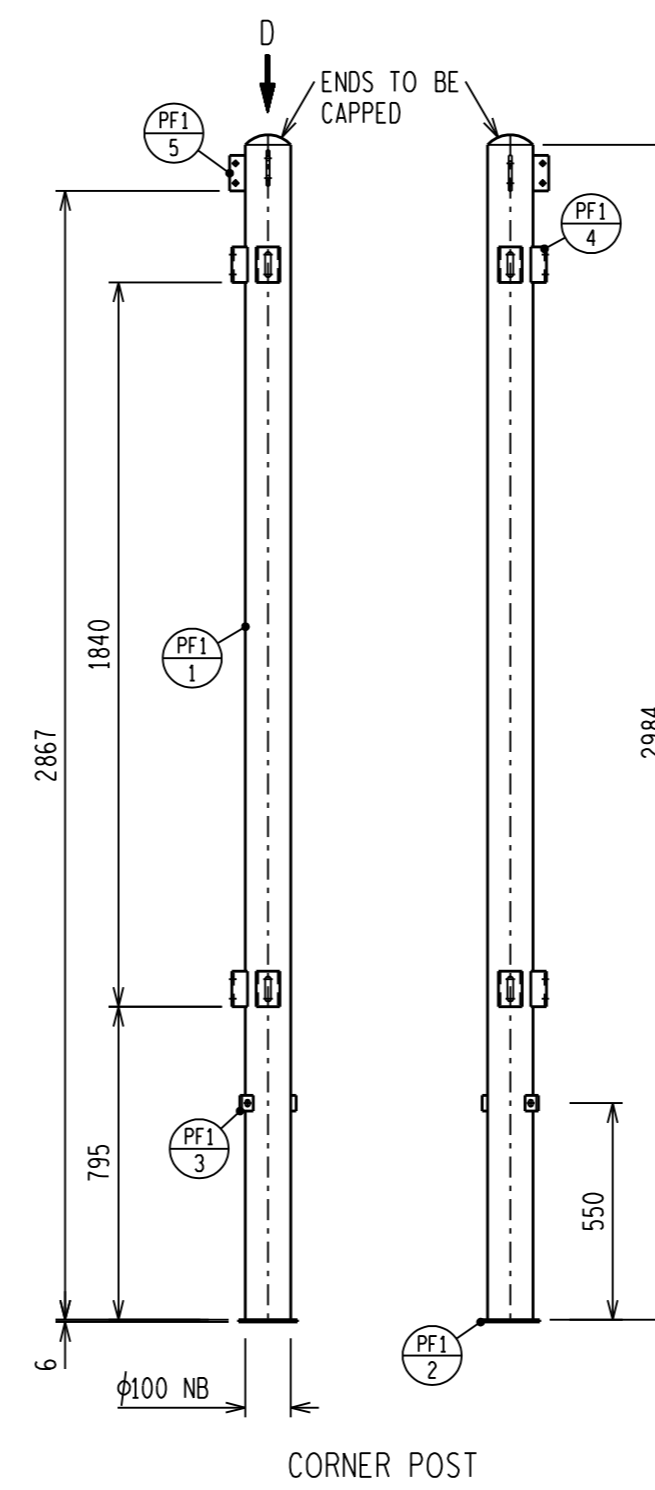
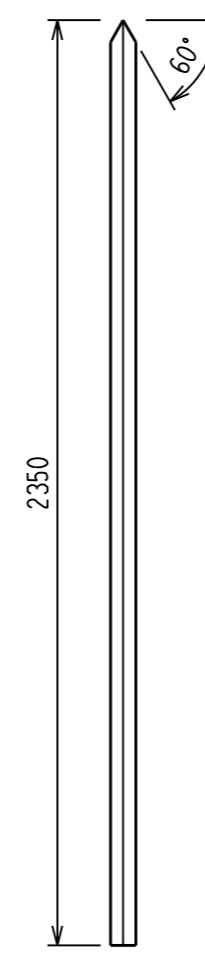
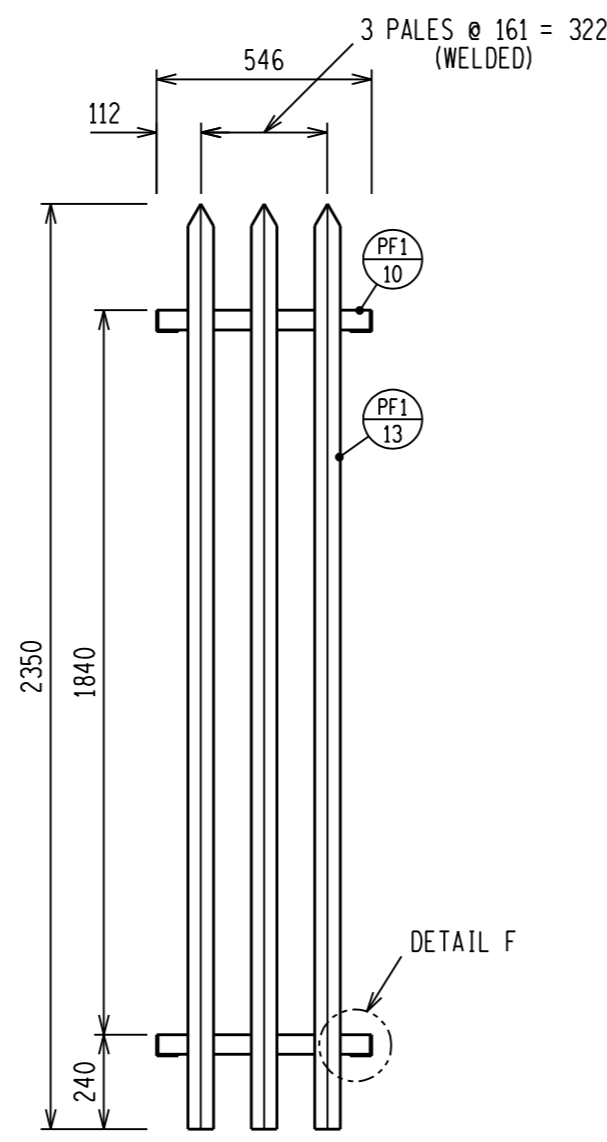
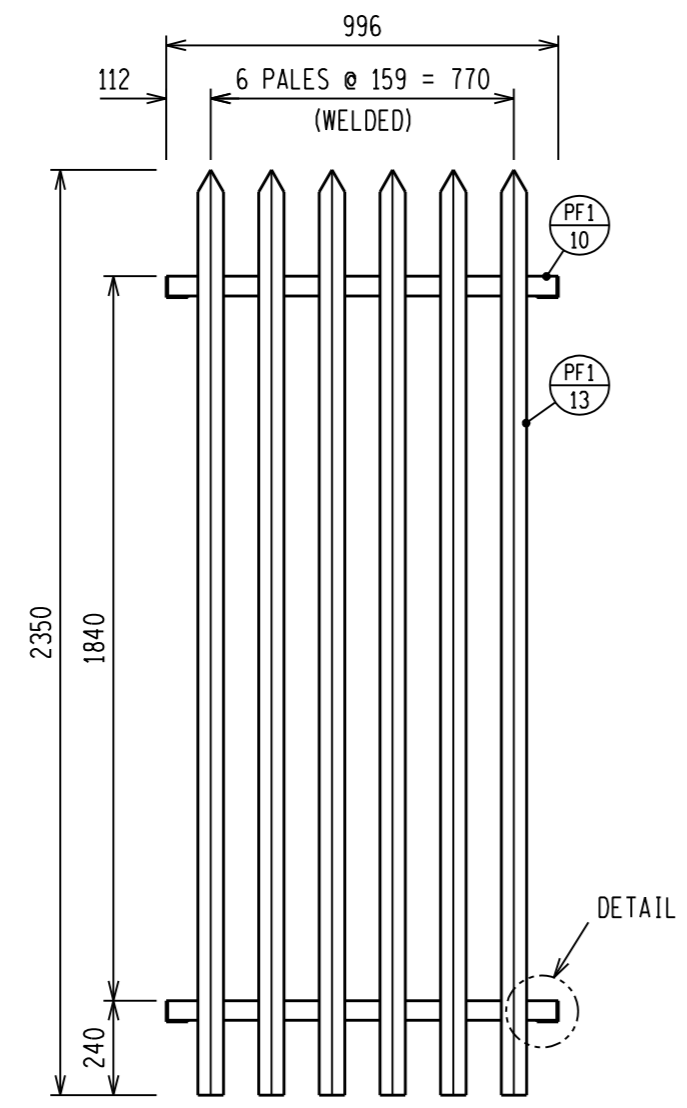
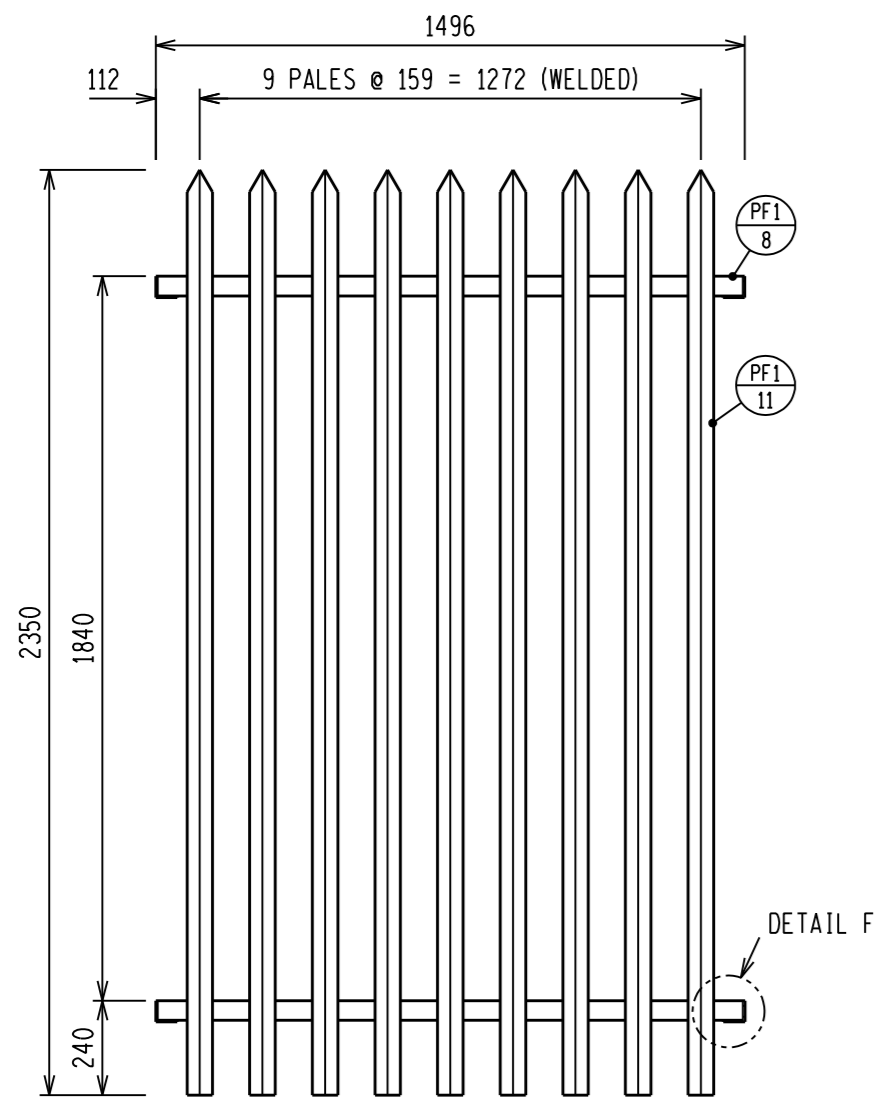
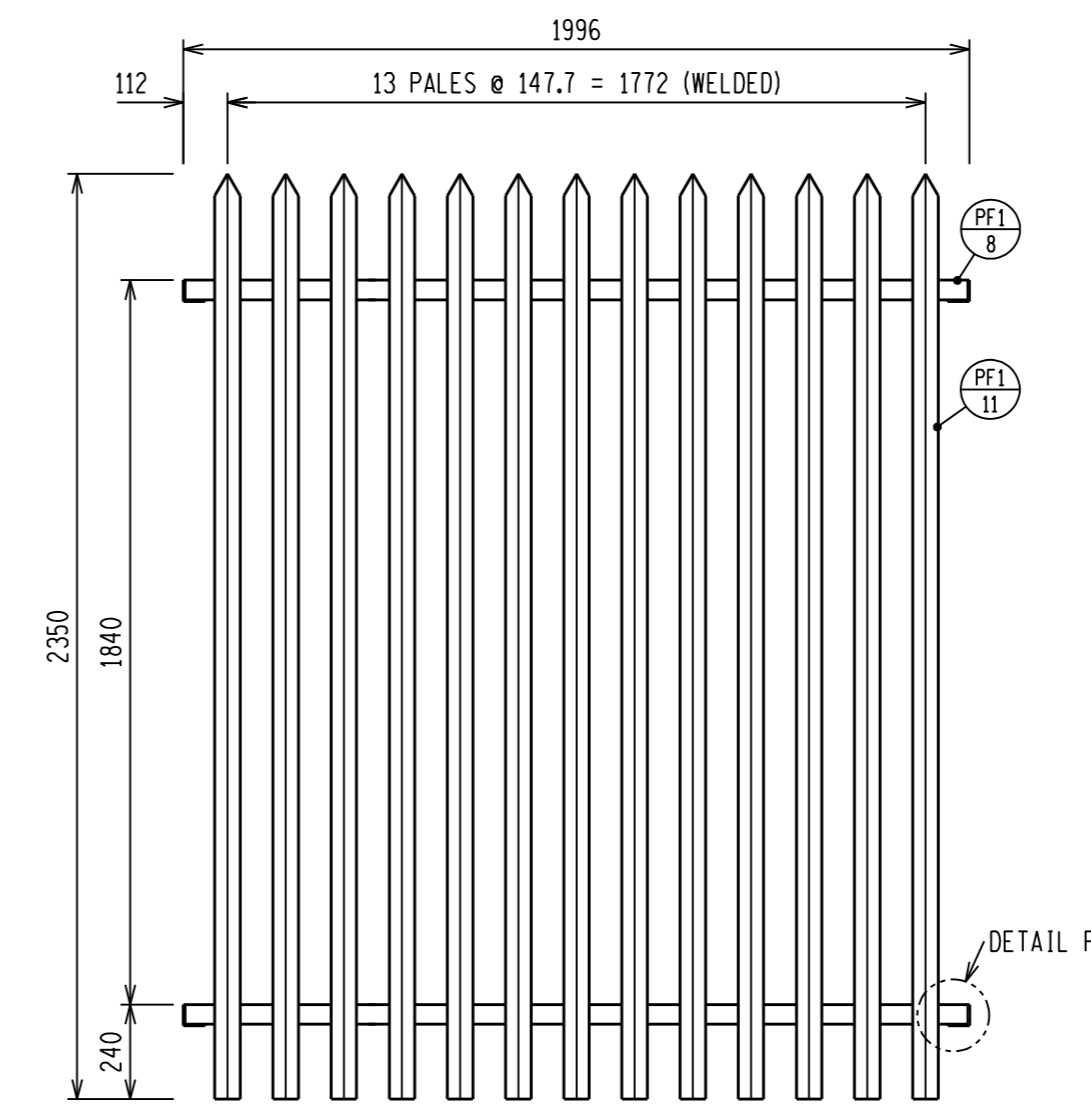
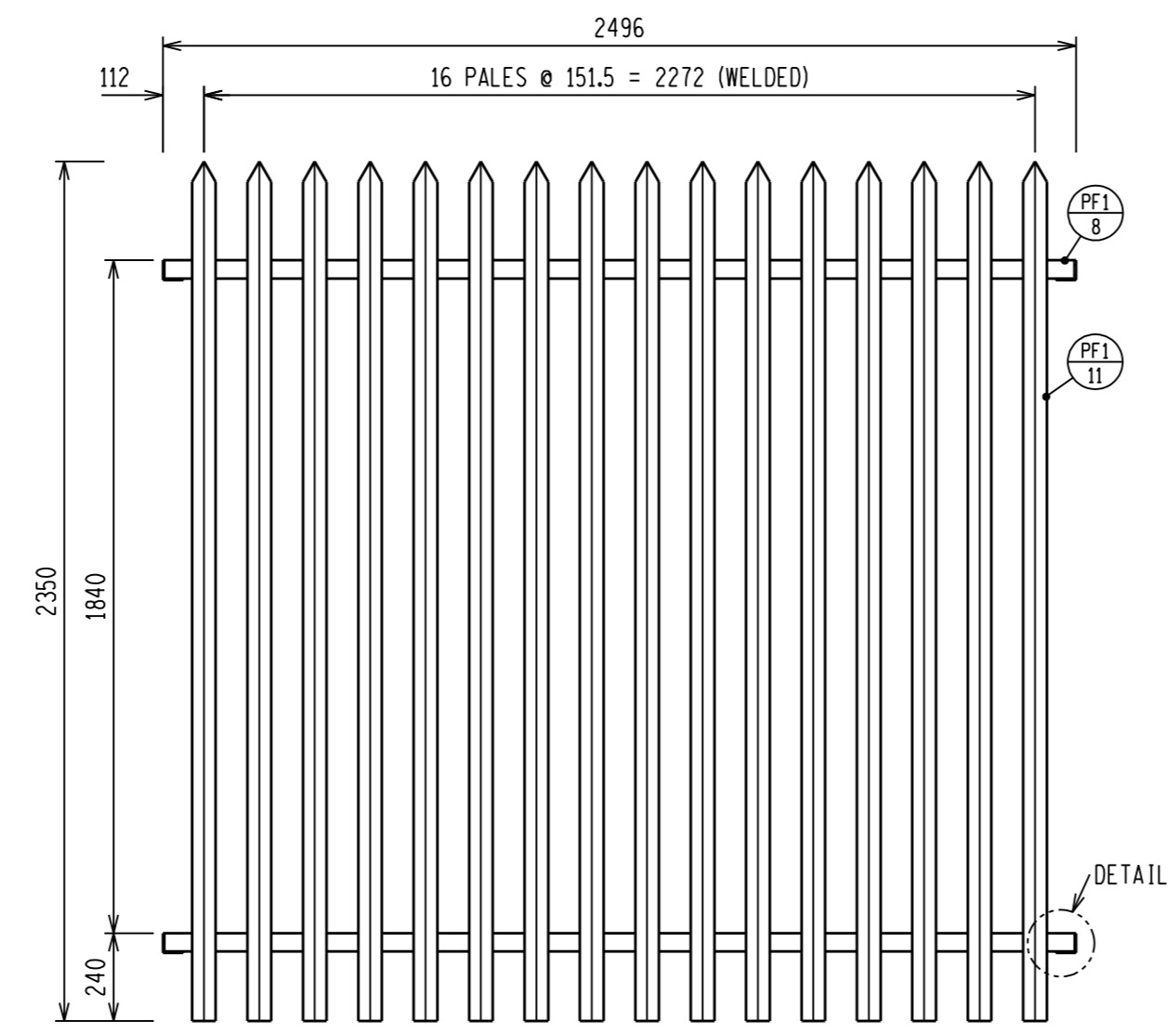
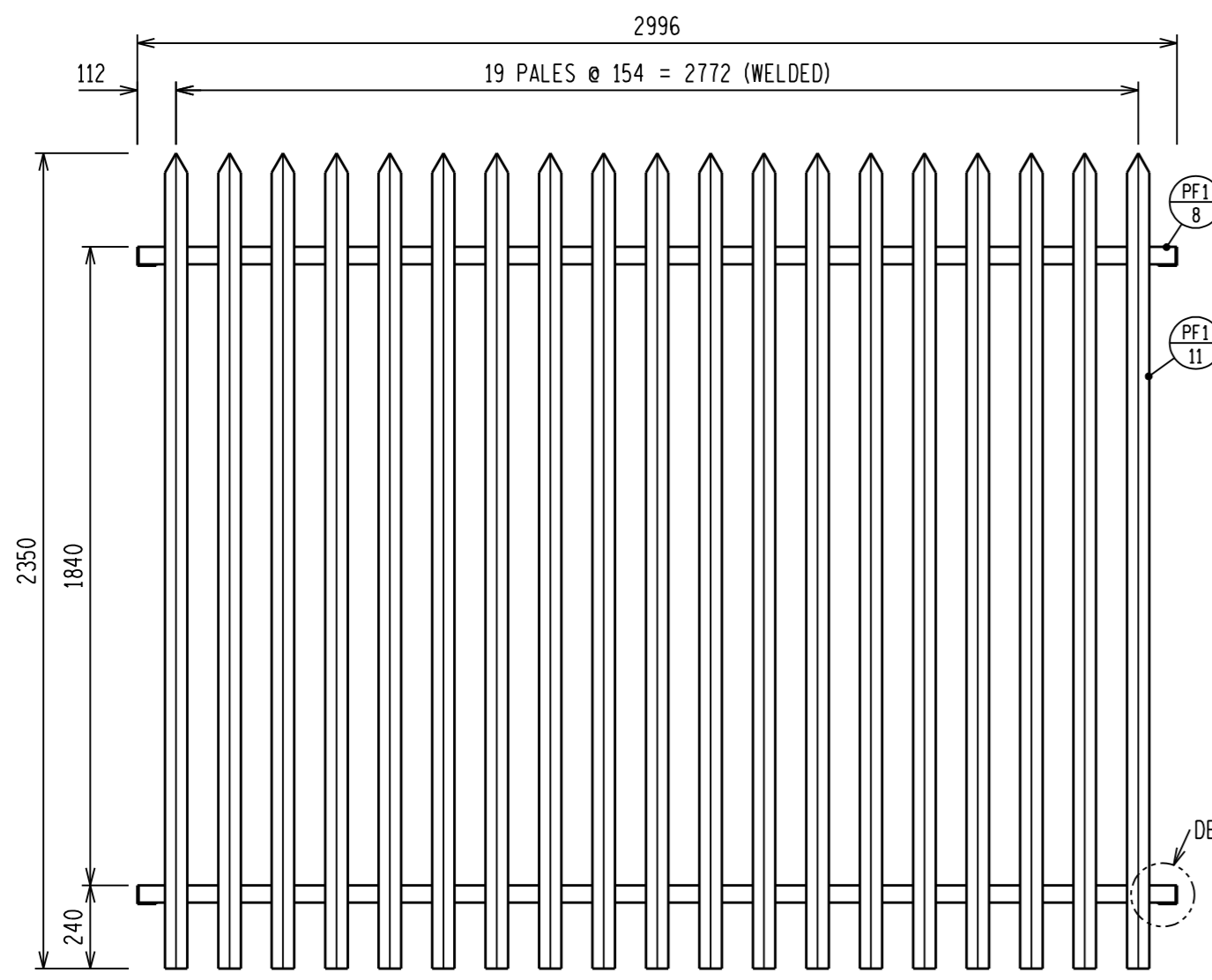
  

SAP No. 0567715		DATE: 22/02/2012	SET	SHEET	REVISION
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THIS DRAWING IS THE PROPERTY OF ESKOM		DATE: 22/02/2012	7A 0		

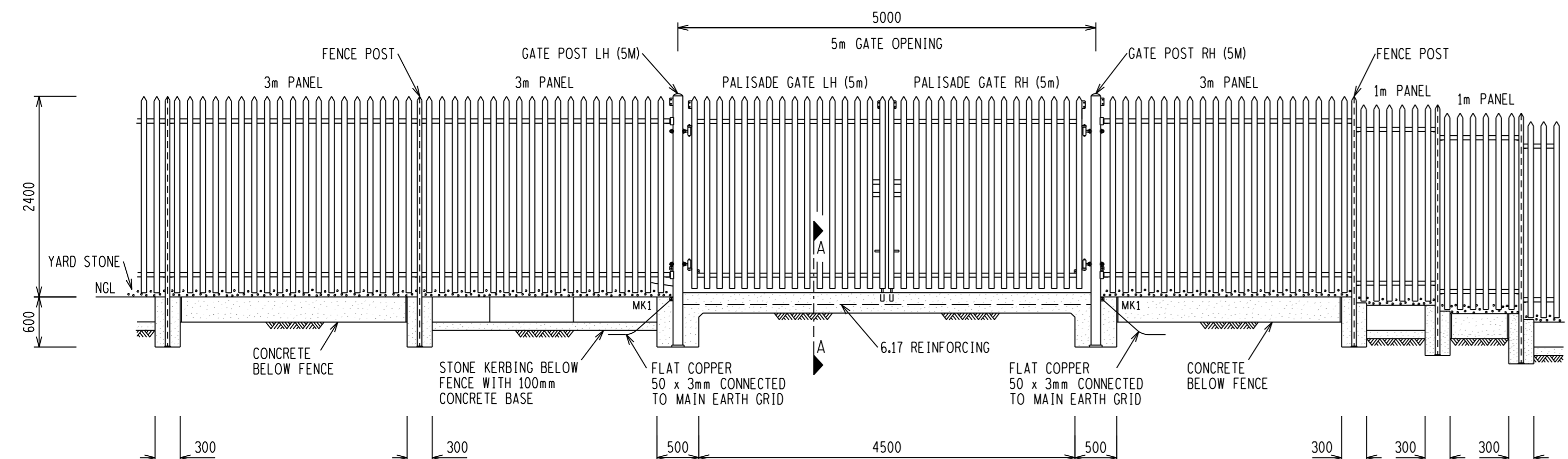
NOTES:

- 1 ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
- 2 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
- 3 GRADE OF STEEL TO BE SANS 1431 GRADE 350WA.
- 4 ALL WELDS TO BE SEALED WELDED.
- 5 STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
- 6 STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANISING.
- 7 ALL MARKINGS TO BE STAMPED ON TO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANISING.
- 8 NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
- 9 NO SECTIONS TO BE BUTT WELDED.
- 10 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF + - 1.5mm.
- 11 DRILL  $\phi 6$  BREATHING HOLES INTO ALL SEAL WELDED TUBES FOR GALVANISING.
- 12 POST FOOT PLATE TO BE TAG WELDED ONLY.
- 13 ALL HOLES TO BE  $\phi 18$  UNLESS OTHERWISE STATED.

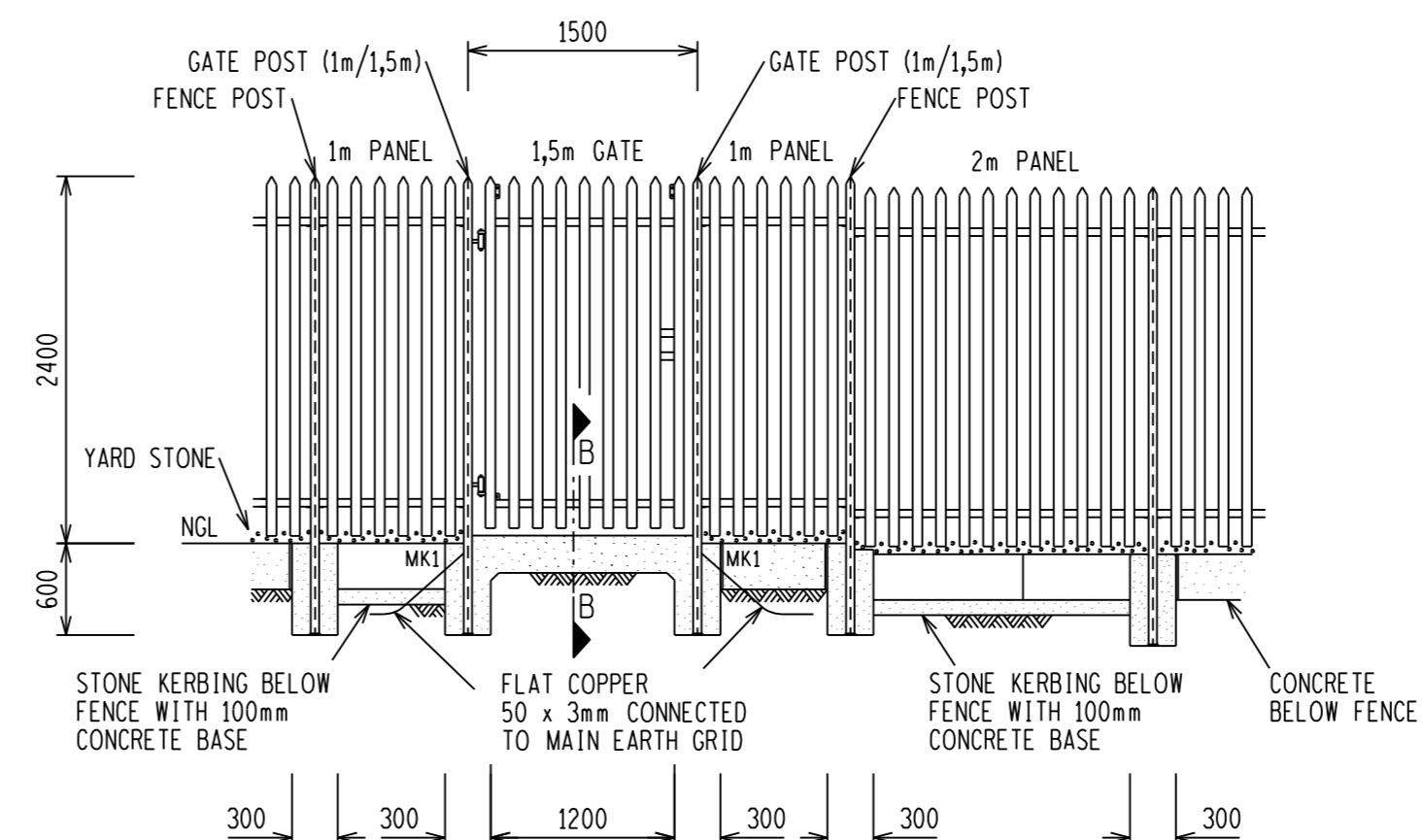
ITEM	QTY	SCHEDULE OF MATERIAL	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
1		CORNER POST			
PF1-1	1	MILD STEEL TUBING $\phi 100$ NB - MED CLASS	2984	2.98	31.65
PF1-2	1	MILD STEEL PLATE 150 x 6	150	0.15	1.06
PF1-3	2	MILD STEEL FLAT BAR 40 x 6	40	0.08	0.15
PF1-4	2	MILD STEEL PLATE 90 x 5	134	0.27	0.94
PF1-5	2	MILD STEEL FLAT BAR 40 x 6	90	0.09	0.17
1		FENCE POST			
PF1-6	1	IPE 100 x 55 x 6,7kg/m	2990	2.99	19.78
PF1-7	1	MILD STEEL PLATE 120 x 6	70	0.07	0.40
1		3m / 2.5 / 2m / 1.5m / 1m / 0.55m PALISADE PANEL			
PF1-8	1	MILD STEEL ANGLE 50 x 50 x 6 (3m)	2986	5.97	26.68
PF1-9	1	MILD STEEL ANGLE 50 x 50 x 6 (2.5m)	2486	4.97	22.22
PF1-10	1	MILD STEEL ANGLE 50 x 50 x 6 (2m)	1986	3.97	17.75
PF1-11	1	MILD STEEL ANGLE 50 x 50 x 6 (1.5m)	1486	2.97	13.28
PF1-12	1	MILD STEEL ANGLE 50 x 50 x 6 (1m)	986	1.97	8.81
PF1-13	2	MILD STEEL ANGLE 50 x 50 x 6 (0.55m)	536	1.07	4.79
PF1-14	19	STD PALISADE 'D' SECTION 65 x 3 x 22 (3m)	2350	44.65	72.33
PF1-15	16	STD PALISADE 'D' SECTION 65 x 3 x 22 (2.5m)	2350	37.60	60.91
PF1-16	13	STD PALISADE 'D' SECTION 65 x 3 x 22 (2m)	2350	30.55	49.49
PF1-17	9	STD PALISADE 'D' SECTION 65 x 3 x 22 (1.5m)	2350	21.15	34.26
PF1-18	6	STD PALISADE 'D' SECTION 65 x 3 x 22 (1m)	2350	14.10	22.84
PF1-19	3	STD PALISADE 'D' SECTION 65 x 3 x 22 (0.55m)	2350	7.03	11.39
PF1-20	4	MILD STEEL ANGLE 50 x 50 x 6	50	0.20	0.89
PF1-21	4	MILD STEEL PLATE 54 x 5	54	0.22	0.55



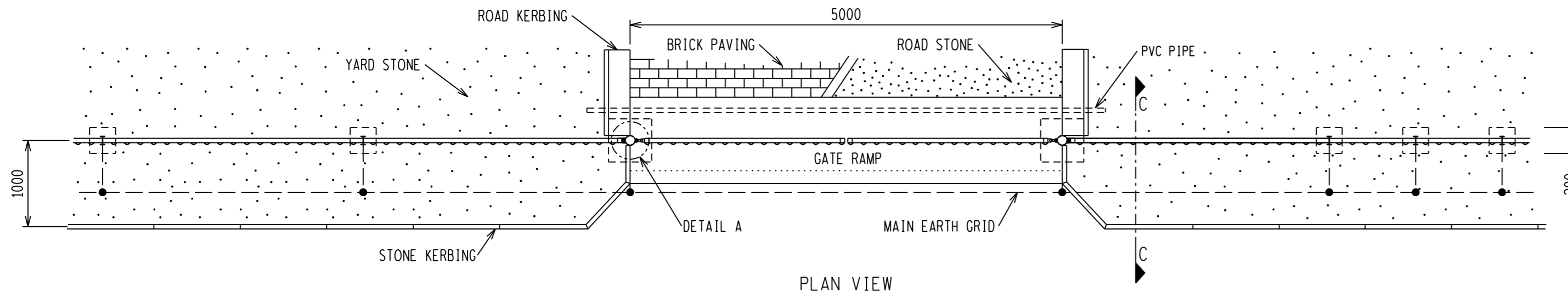
D-DT-5237 SHEET 7L ELECTRIC FENCE (BEHIND) MANUFACTURING DETAILS		D-DT-5237 SHEET 7G ELECTRIC GATES ASSEMBLY & SECTIONS	
D-DT-5237 SHEET 7M ELECTRIC FENCE (BEHIND) ASSEMBLY & SECTIONS		D-DT-5237 SHEET 7F MANUAL GATES MANUFACTURING DETAILS	
D-DT-5237 SHEET 7J ELECTRIC FENCE (TOP) ASSY & MANUF. DETAILS		D-DT-5237 SHEET 7E MANUAL GATES ASSEMBLY & SECTIONS	
D-DT-5237 SHEET 7I ELECTRIC GATES (TOP) ASSY & MANUF. DETAILS		D-DT-5237 SHEET 7D SLOPING PANELS MANUFACTURING DETAILS	
D-DT-5237 SHEET 7N ELECTRIC GATES 5m MANUFACTURING DETAILS		D-DT-5237 SHEET 7C SLOPING PANELS ASSEMBLY & SECTIONS	
D-DT-5237 SHEET 7H ELECTRIC GATES 4m MANUFACTURING DETAILS		D-DT-5237 SHEET 7A PANELS ASSEMBLY & SECTIONS	
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:	DRG NO.
THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS			
0	FIRST ISSUE		
REV	REVISION DESCRIPTION	BY	CHKD AUTH DATE PROJECT NO.
Eskom		SECURITY FENCE 2.4m STEEL PALISADE PANELS MANUFACTURING DETAILS	
AUTH:	B HILL	SET	SHEET REVISION
DATE:	26/04/2012	D-DT-5237	
CHKD:	N WEBBER	7B	0
DATE:	22/04/2012		
SCALE 1:20	DRAWN: G BEETGE		
THIS DRAWING IS THE PROPERTY OF ESKOM		DATE: 22/04/2012	



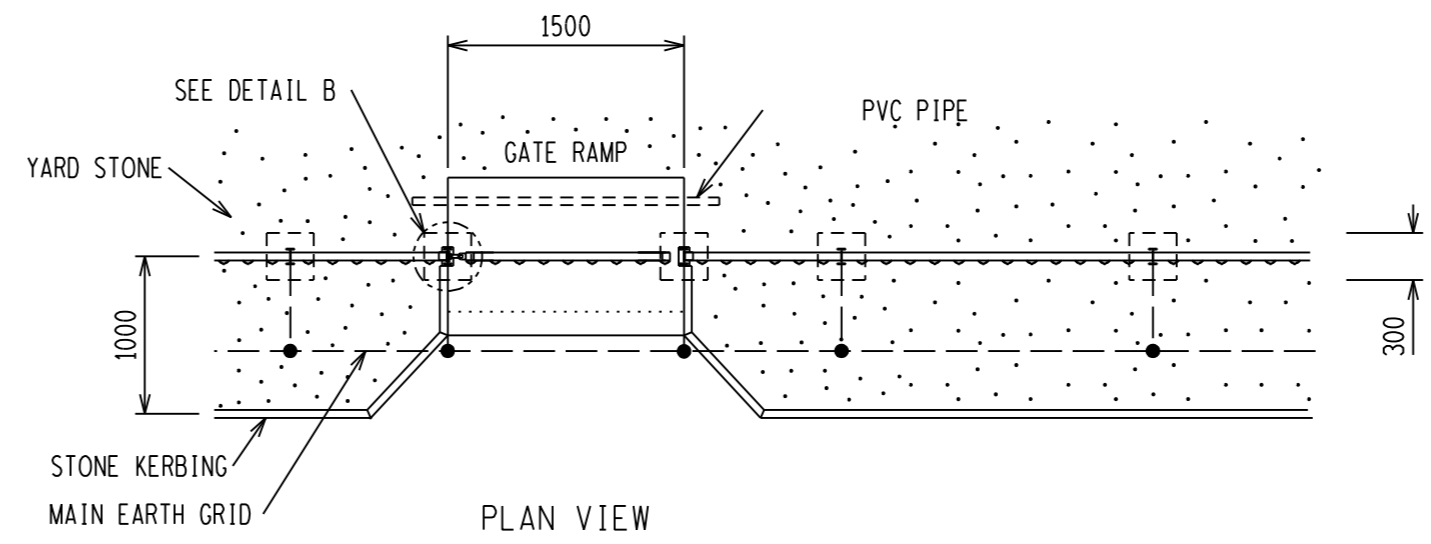
FRONT VIEW OF 5m GATE



FRONT VIEW OF 1.5m GATE



PLAN VIEW



PLAN VIEW

**NOTES:**

**A. CONCRETE**

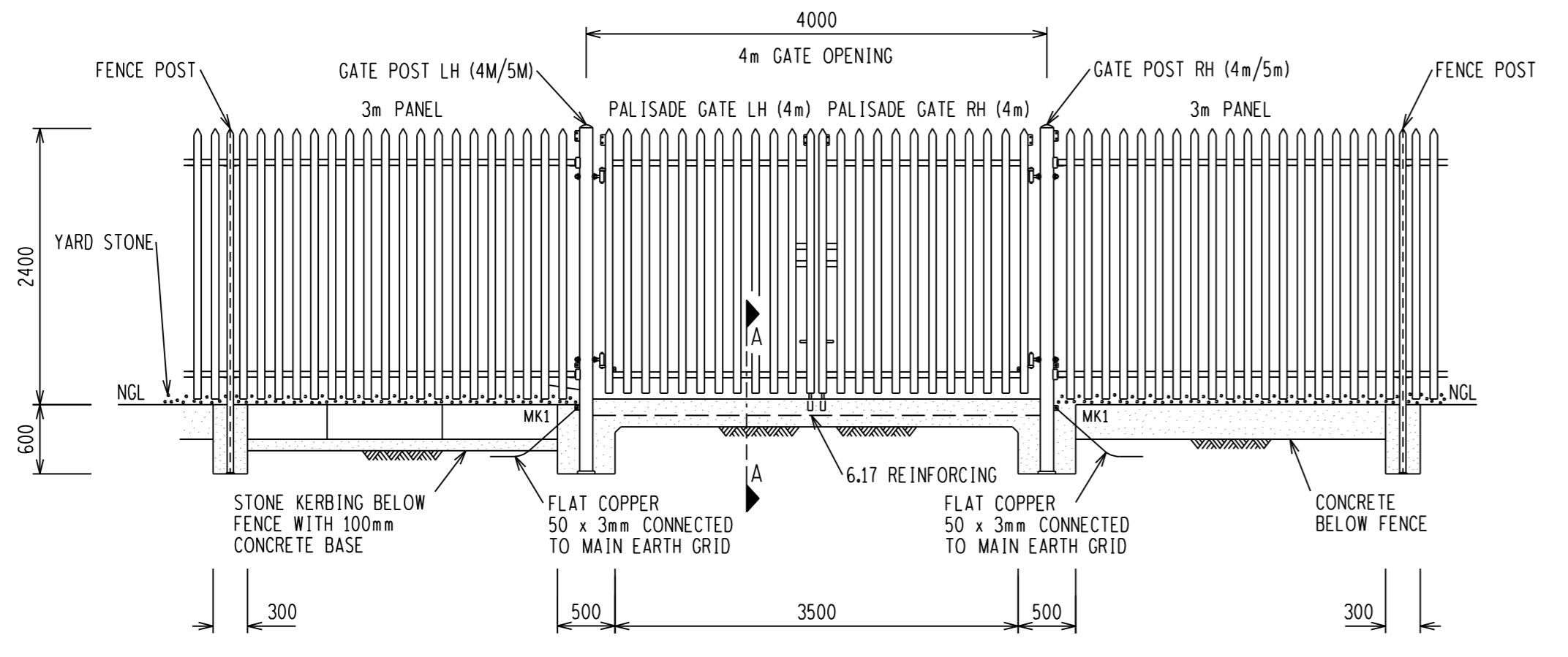
- 1 CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200
- 2 CONCRETE STRENGTH AT 28 DAYS = 25MPa
- 3 CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS = 15MPa
- 4 COMPACTION OF THE BOTTOM OF FENCE POST SHALL BE COMPACTED TO 93% OF MOD.AASHTO
- 5 NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIX
- 6 CONCRETE KERBING MAY BE USED AS AN ALTERNATIVE TO CAST CONCRETE IN THE AREA BELOW THE BOUNDARY. FENCE KERBING MUST BE SUPPORTED IN CONCRETE. SIZE OF KERBING (1000 x 300 x 75mm). NO CONCRETE OR KERBING IS TO BE PLACED BELOW INTERNAL FENCE
- 7 YARD STONE 26/38mm - ROAD STONE 13mm
- 8 6.17 REINFORCING TO BE USED IN ALL GATE RAMPS
- 9 Ø50mm CLASS 6 PVC PIPE PLUGGED AT BOTH ENDS TO BE LAID IN THE CONCRETE GATE RAMP OF THE 5m, 1.5m AND 1m GATES

**B. EARTHING**

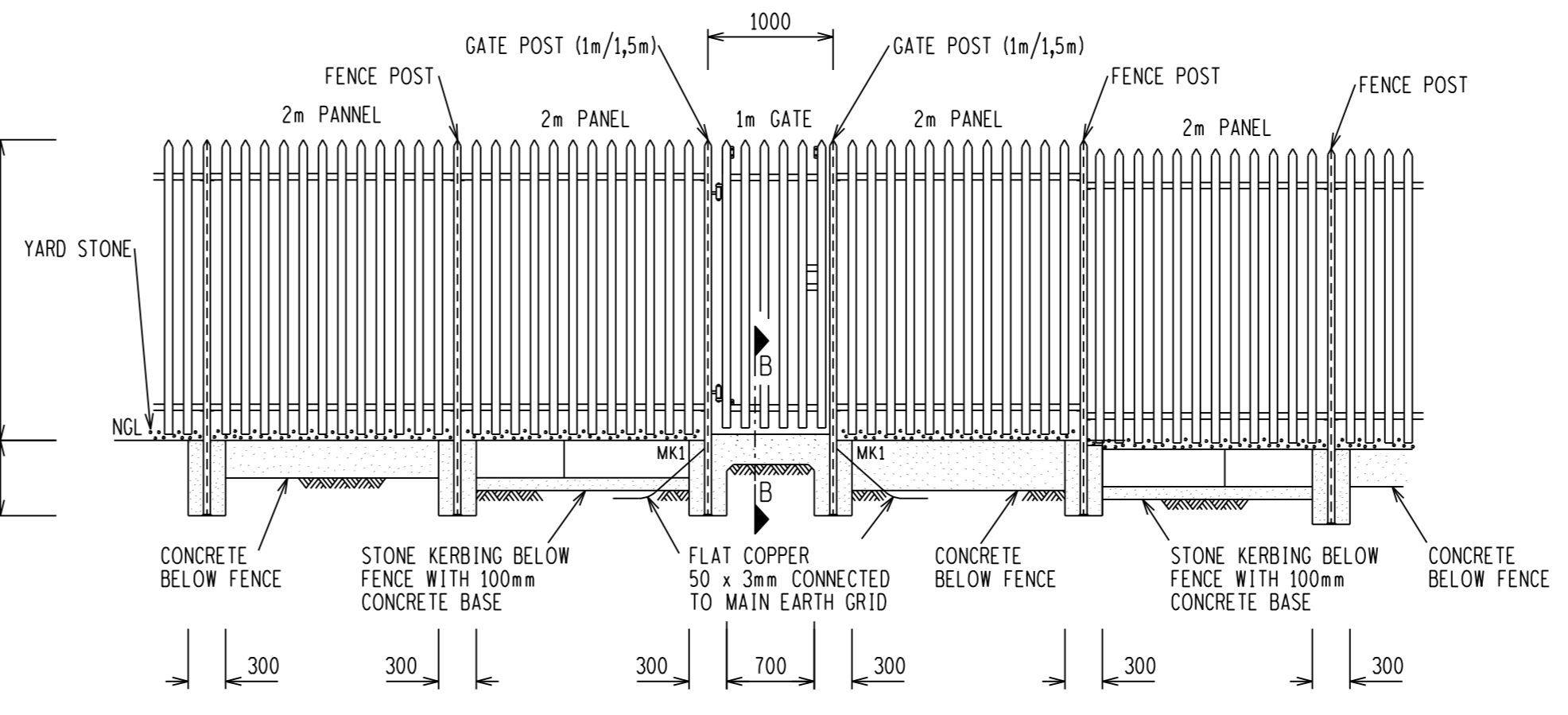
- 1 BOLTS,NUTS,WASHERS & SHEARNUTS TO BE IN ACCORDANCE WITH SANS 1700.
- 2 ALL GATE LEAVES MUST BE BONDED TO HINGED GATE POST USING 47mm x 350mm LONG FLEXIBLE PVC COVERED COPPER CONDUCTOR (WELDING CABLE) LUG EACH END WITH TINNED COPPER LUGS DRILLED Ø16mm AND COVERED WITH HEAT SHRINK. EACH LUG TO BE FASTENED WITH TWO M16 x 40mm GALVANISED BOLT, NUTS AND WASHERS TO EARTH LUGS ON THE GATE AND EARTH POINT ON THE POST
- 3 ALL CORNER, GATE / TEE POST MUST BE EARTHED TO THE MAIN EARTH GRID USING 50 x 3mm FLAT COPPER AND A M16 GALVANISED BOLT, NUT AND WASHER
- 4 EARTHING OF INTERMEDIATE POST MUST NOT EXCEED 20M AND MUST BE EARTHED TO THE MAIN EARTH GRID USING 50 x 3mm FLAT COPPER AND A M16 GALVANISED BOLT, NUT AND WASHER

BOLT SCHEDULE									
MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg
1	M16	4.8	2	35	1	1	2	120	0.15

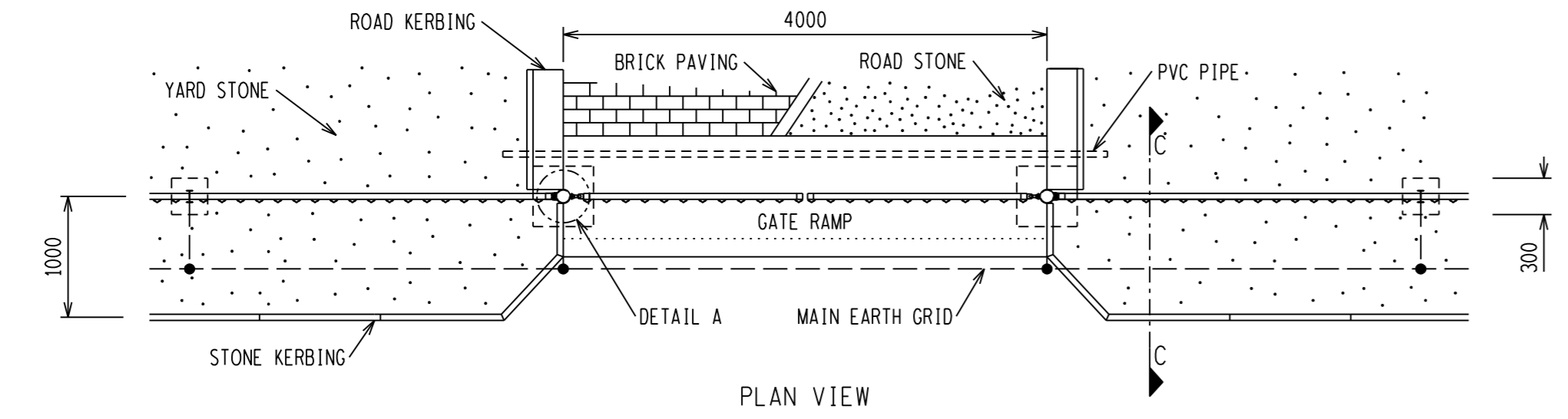
BOLT WITH SHEARNUT SCHEDULE									
MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg
2	M12	4.8	1.75	35	1	1	1	-	0.05



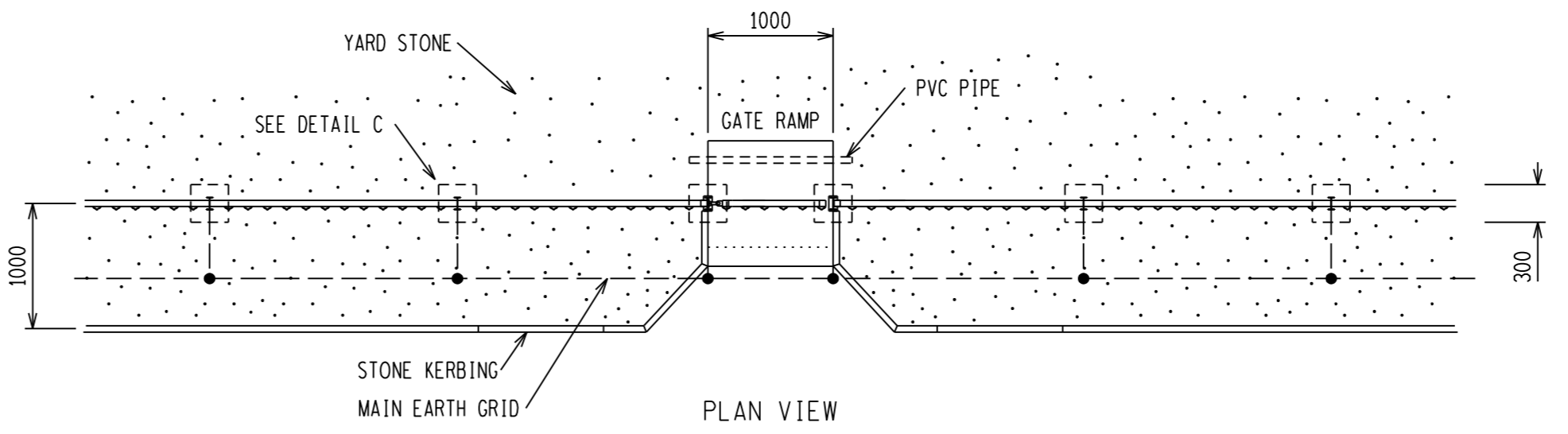
FRONT VIEW OF 4m GATE



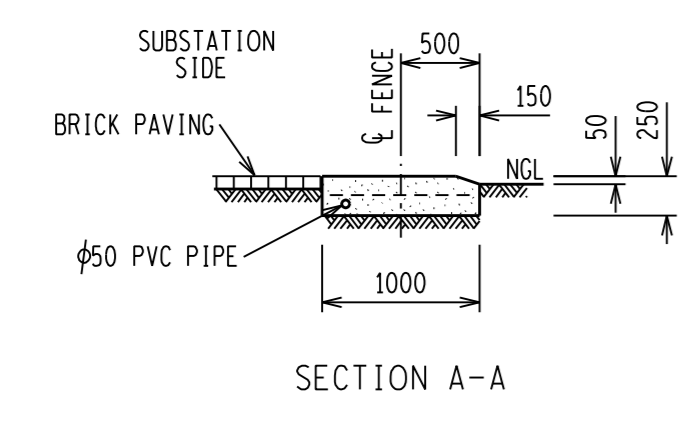
FRONT VIEW OF 1m GATE



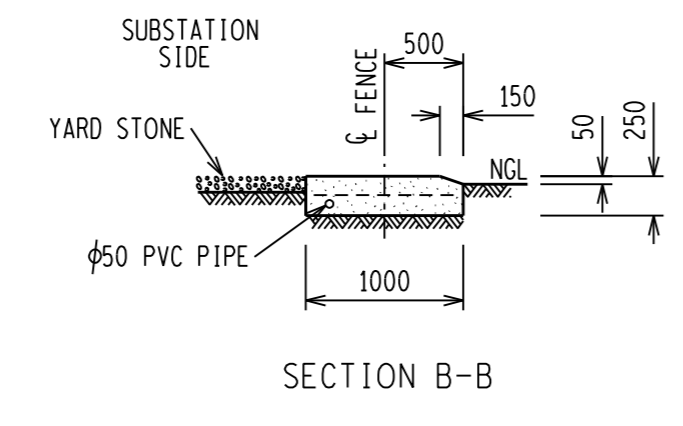
PLAN VIEW



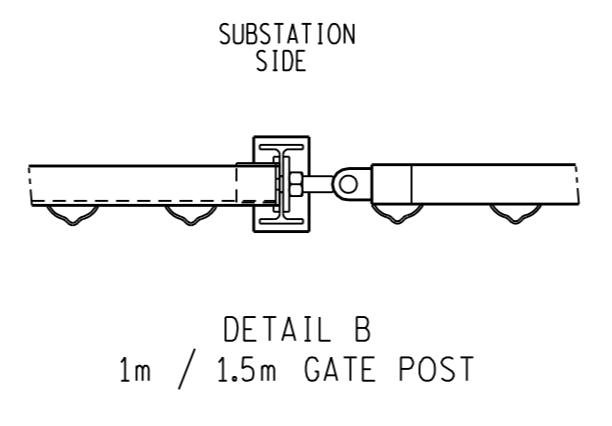
PLAN VIEW



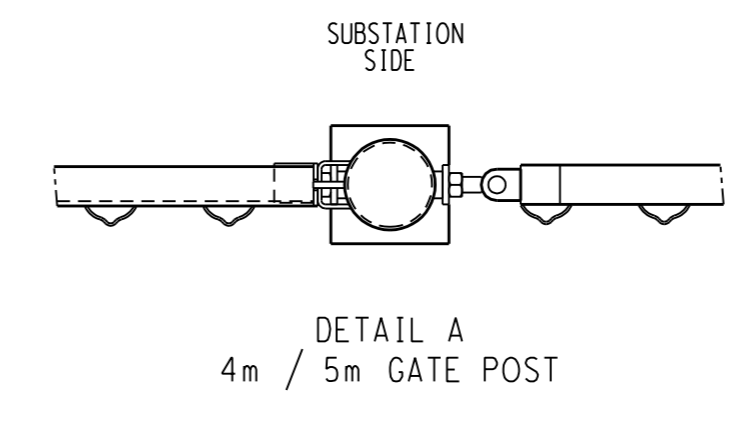
SECTION A-A



SECTION B-B



DETAIL B 1m / 1.5m GATE POST



DETAIL A 4m / 5m GATE POST

DRG NO.	SHEET NO.	REFERENCE DRAWINGS:	DRG NO.	SHEET NO.	REFERENCE DRAWINGS:
D-DT-5237	SHEET 7L	ELECTRIC FENCE (BEHIND) MANUFACTURING DETAILS	D-DT-5237	SHEET 7G	ELECTRIC GATES ASSEMBLY & SECTIONS
D-DT-5237	SHEET 7M	ELECTRIC FENCE (BEHIND) ASSEMBLY & SECTIONS	D-DT-5237	SHEET 7F	MANUAL GATES MANUFACTURING DETAILS
D-DT-5237	SHEET 7J	ELECTRIC FENCE (TOP) ASSY & MANUFACTURING DETAILS	D-DT-5237	SHEET 7D	SLOPING PANELS MANUFACTURING DETAILS
D-DT-5237	SHEET 7I	ELECTRIC GATES 5m MANUFACTURING DETAILS	D-DT-5237	SHEET 7C	SLOPING PANELS ASSEMBLY & SECTIONS
D-DT-5237	SHEET 7H	ELECTRIC GATES 4m MANUFACTURING DETAILS	D-DT-5237	SHEET 7B	PANELS MANUFACTURING DETAILS
D-DT-5237	SHEET NO:	REFERENCE DRAWINGS:	D-DT-5237	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
0	FIRST ISSUE					

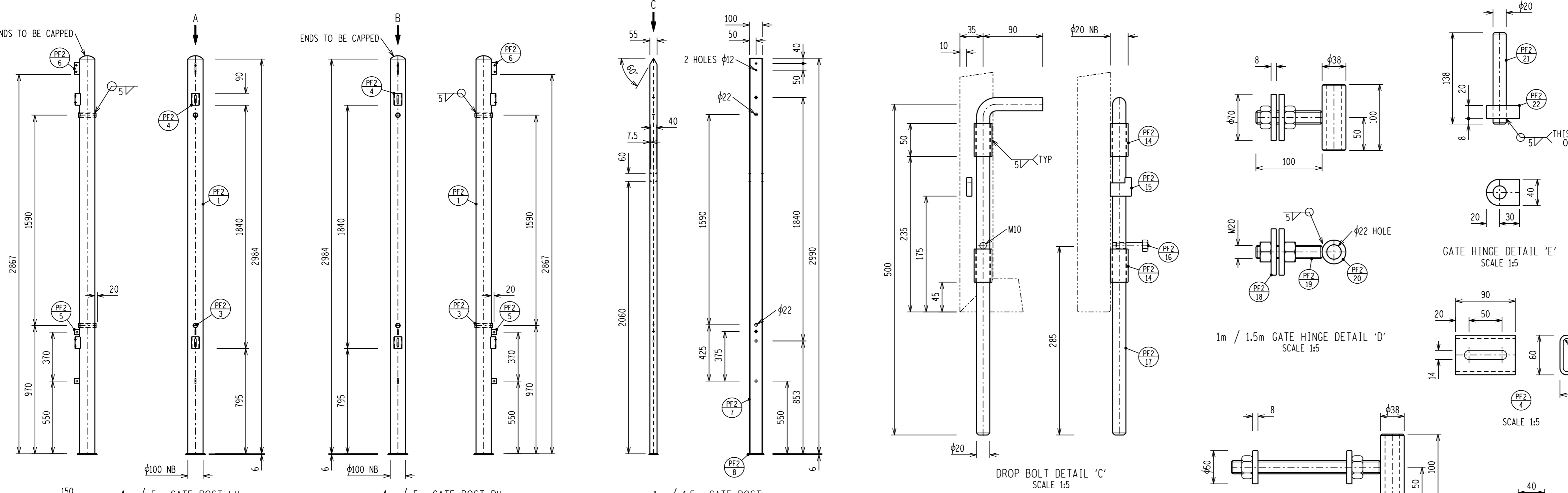
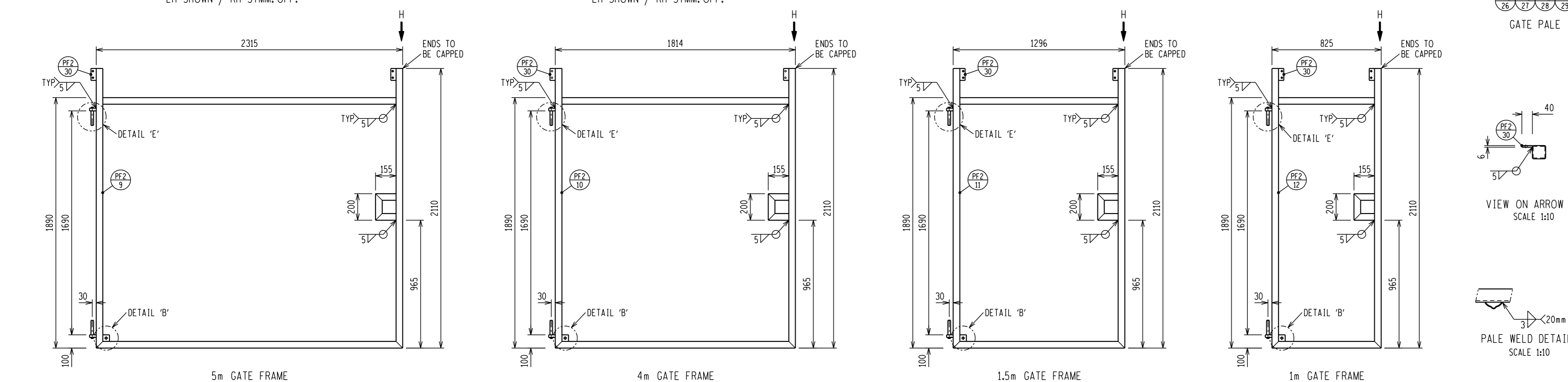
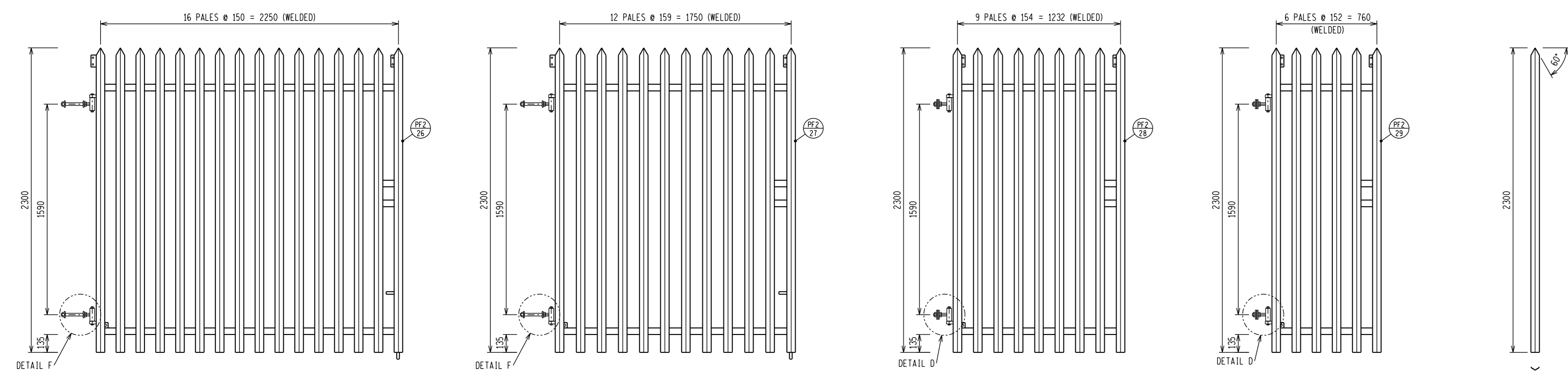
**Eskom**

**SECURITY FENCE**  
2.4m STEEL PALISADE  
MANUAL GATES 1m, 1.5m, 2m & 2.5m  
ASSEMBLY & SECTIONS

AUTH: B HILL  
DATE: 22/02/2012  
CHKD: N WEBBER

SAP No. 0567708	DATE: 22/02/2012	SET	SHEET	REVISION
SCALE 1:50	DRAWN: G BEEJEE		7E	0
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 22/02/2012			

D-DT-5237



- NOTES:
- ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
  - ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
  - GRADE OF STEEL TO BE SANS 1431 GRADE 350WA.
  - ALL WELDS TO BE SEALED WELDED.
  - STEELWORK TO BE HOT DIP GALVANISED TO SANS 121.
  - STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANISING.
  - ALL MARKINGS TO BE STAMPED ON TO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANISING.
  - NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
  - NO SECTIONS TO BE BUTT WELDED.
  - ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF + - 1.5mm.
  - DRILL Ø6 BREATHING HOLES INTO ALL SEAL WELDED TUBES FOR GALVANISING.
  - POST FOOT PLATE TO BE TAG WELDED ONLY.
  - ALL HOLES TO BE Ø18 UNLESS OTHERWISE STATED.

ITEM	QTY	SCHEDULE OF MATERIAL	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
1		4m / 5m GATE POSTS			
PF2-1	1	MILD STEEL TUBING Ø100 NB - MED CLASS	2984	2.98	31.65
PF2-2	1	MILD STEEL PLATE 150 x 6	150	0.15	1.06
PF2-3	2	MILD STEEL TUBING Ø20 NB - MED CLASS	134	0.27	0.36
PF2-4	2	MILD STEEL PLATE 90 x 5	134	0.27	0.94
PF2-5	2	MILD STEEL FLAT BAR 40 x 6	40	0.08	0.15
PF2-6	1	MILD STEEL FLAT BAR 40 x 6	90	0.09	0.17
1		1m / 1.5m GATE POST			
PF2-7	1	IPE 100 x 55 x 6,7kg/m	2990	2.99	19.78
PF2-8	1	MILD STEEL PLATE 120 x 6	70	0.07	0.40
1		5m / 4m / 1.5m / 1m PALISADE GATE			
PF2-9	1	MILD STEEL SQ TUBE 50 x 50 x 3 (5m GATE)	-	9.26	38.71
PF2-10	1	MILD STEEL SQ TUBE 50 x 50 x 3 (4m GATE)	-	8.16	34.11
PF2-11	1	MILD STEEL SQ TUBE 50 x 50 x 3 (1.5m GATE)	-	7.22	30.18
PF2-12	1	MILD STEEL SQ TUBE 50 x 50 x 3 (1m GATE)	-	6.28	26.25
PF2-13	1	MILD STEEL FLAT BAR 50 x 6	50	0.05	0.12
PF2-14	2	MILD STEEL TUBING Ø20 NB (4m & 5m LH GATE)	50	0.10	0.14
PF2-15	1	MILD STEEL PLATE 32 x 8 (4m & 5m LH GATE)	28	0.03	0.04
PF2-16	2	HEX. HD BOLT M10 x 50 (4m & 5m LH GATE)	-	-	-
PF2-17	2	MILD STEEL ROUND BAR Ø20 (4m & 5m LH GATE)	580	0.58	1.43
PF2-18	2	MILD STEEL PLATE Ø70 x 8 (1m & 1.5m GATE)	70	0.14	0.48
PF2-19	1	M20 THREADED ROD (1m & 1.5m GATE)	100	0.10	0.24
PF2-20	1	MILD STEEL ROUND BAR Ø38 (1m & 1.5m GATE)	100	0.10	0.89
PF2-21	1	MILD STEEL ROUND BAR Ø20	146	0.29	0.71
PF2-22	1	MILD STEEL PLATE 50 x 20	40	0.04	0.19
PF2-23	4	MILD STEEL PLATE Ø50 x 8 (4m & 5m GATE)	50	0.20	0.56
PF2-24	2	M20 THREADED ROD (4m & 5m GATE)	225	0.45	1.10
PF2-25	2	MILD STEEL ROUND BAR Ø38 (4m & 5m GATE)	100	0.20	0.48
PF2-26	16	STD PALISADE 'D' SECTION 65 x 3 x 22 (5m)	2300	36.80	58.84
PF2-27	12	STD PALISADE 'D' SECTION 65 x 3 x 22 (4m)	2300	27.60	44.13
PF2-28	9	STD PALISADE 'D' SECTION 65 x 3 x 22 (1.5m)	2300	20.70	33.10
PF2-29	6	STD PALISADE 'D' SECTION 65 x 3 x 22 (1m)	2300	14.80	23.66
PF2-30	6	MILD STEEL FLAT BAR 40 x 6	90	0.54	1.02

REV	FIRST ISSUE	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
0	FIRST ISSUE						

**Eskom**

AUTH: B HILL  
DATE: 26/04/2012  
CHKD: N WEBBER  
DATE: 22/04/2012

SCALE 1:20  
THIS DRAWING IS THE PROPERTY OF ESKOM  
DATE: 22/04/2012

**SECURITY FENCE**  
2.4m STEEL PALISADE  
MANUAL GATES 1m, 1.5m, 2m & 2.5m  
MANUFACTURING DETAILS

D-DT-5237

SET	SHEET	REVISION
	7F	0

NOTES:

A. CONCRETE

- 1 CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200
- 2 CONCRETE STRENGTH AT 28 DAYS = 25MPa
- 3 CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS = 15MPa
- 4 COMPACTION OF THE BOTTOM OF FENCE POST SHALL BE COMPACTED TO 93% OF MOD.AASHTO
- 5 NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIX
- 6 CONCRETE KERBING MAY BE USED AS AN ALTERNATIVE TO CAST CONCRETE IN THE AREA BELOW THE BOUNDARY FENCE. KERBING MUST BE SUPPORTED IN CONCRETE. SIZE OF KERBING (1000 x 300 x 75mm) NO CONCRETE OR KERBING IS TO BE PLACED BELOW INTERNAL FENCE
- 7 YARD STONE 26/38mm - ROAD STONE 13mm
- 8 6.17 REINFORCING TO BE USED IN ALL GATE RAMPS
- 9 50mm  $\phi$  PVC PIPE PLUGGED AT BOTH ENDS TO BE LAID IN THE CONCRETE GATE RAMP OF THE SLIDING GATE

B. EARTHING

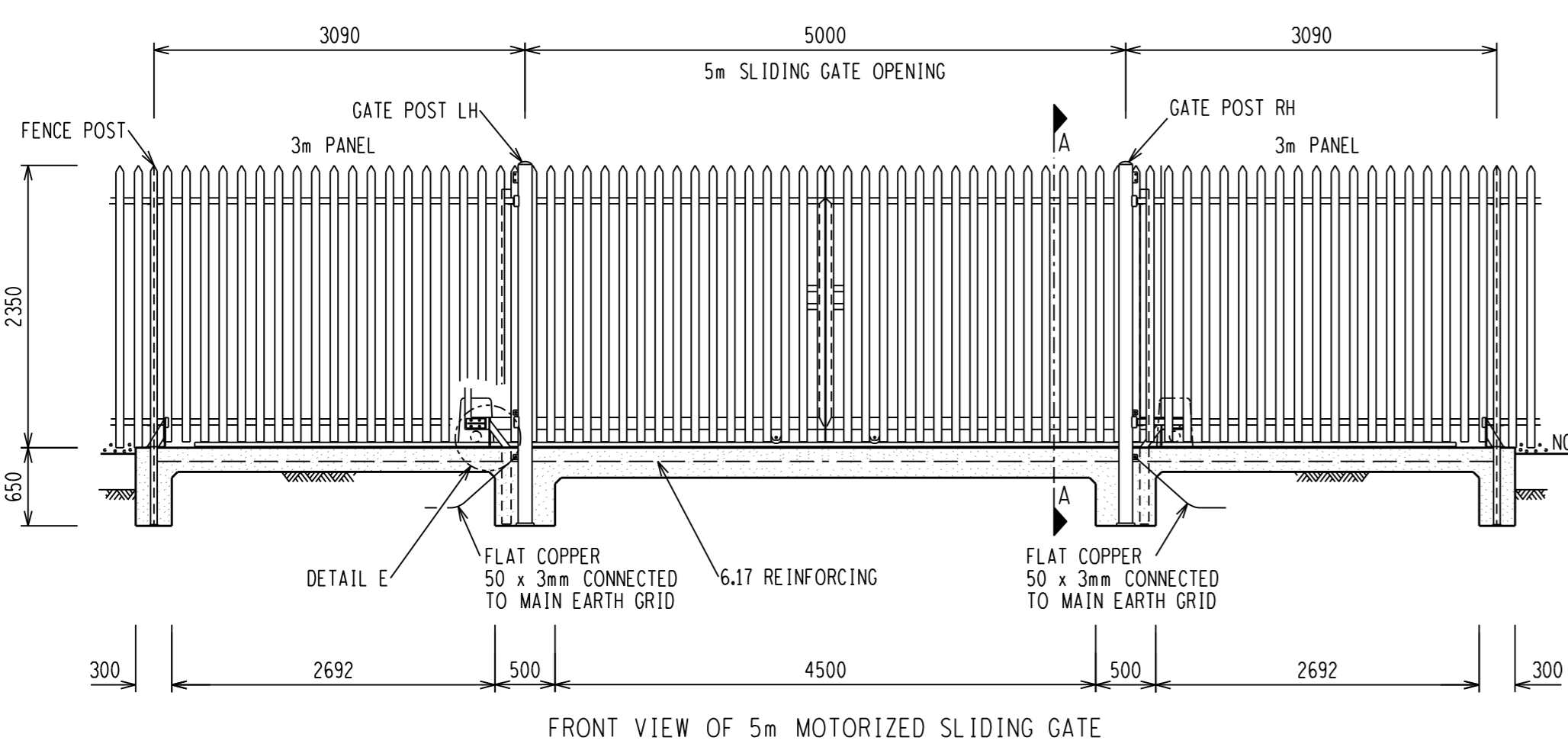
- 1 ALL GATE LEAVES MUST BE BONDED TO HINGED GATE POST USING 70mm x 350mm LONG FLEXIBLE PVC COVERED COPPER CONDUCTOR (WELDING CABLE) LUG EACH END WITH TINNED COPPER LUGS DRILLED  $\phi$ 16mm AND COVERED WITH HEAT SHRINK. EACH LUG TO BE FASTENED WITH TWO M16 x 40mm GALVANISED BOLT, NUTS AND WASHERS TO EARTH LUGS ON THE GATE AND EARTH POINT ON THE POST
- 2 ALL CORNERS, GATES AND STRAIN / TEE POSTS MUST BE EARTHED TO THE MAIN EARTH GRID USING 50 x 3mm FLAT COPPER AND A M16 GALVANISED BOLT, NUT AND WASHER
- 3 EARTHING OF INTERMEDIATE POST MUST NOT EXCEED 20m AND MUST BE EARTH TO THE MAIN EARTH GRID USING 50 x 3mm FLAT COPPER AND A M16 GALVANISED BOLT, NUT AND WASHER

C. GATE / GATE MOTOR

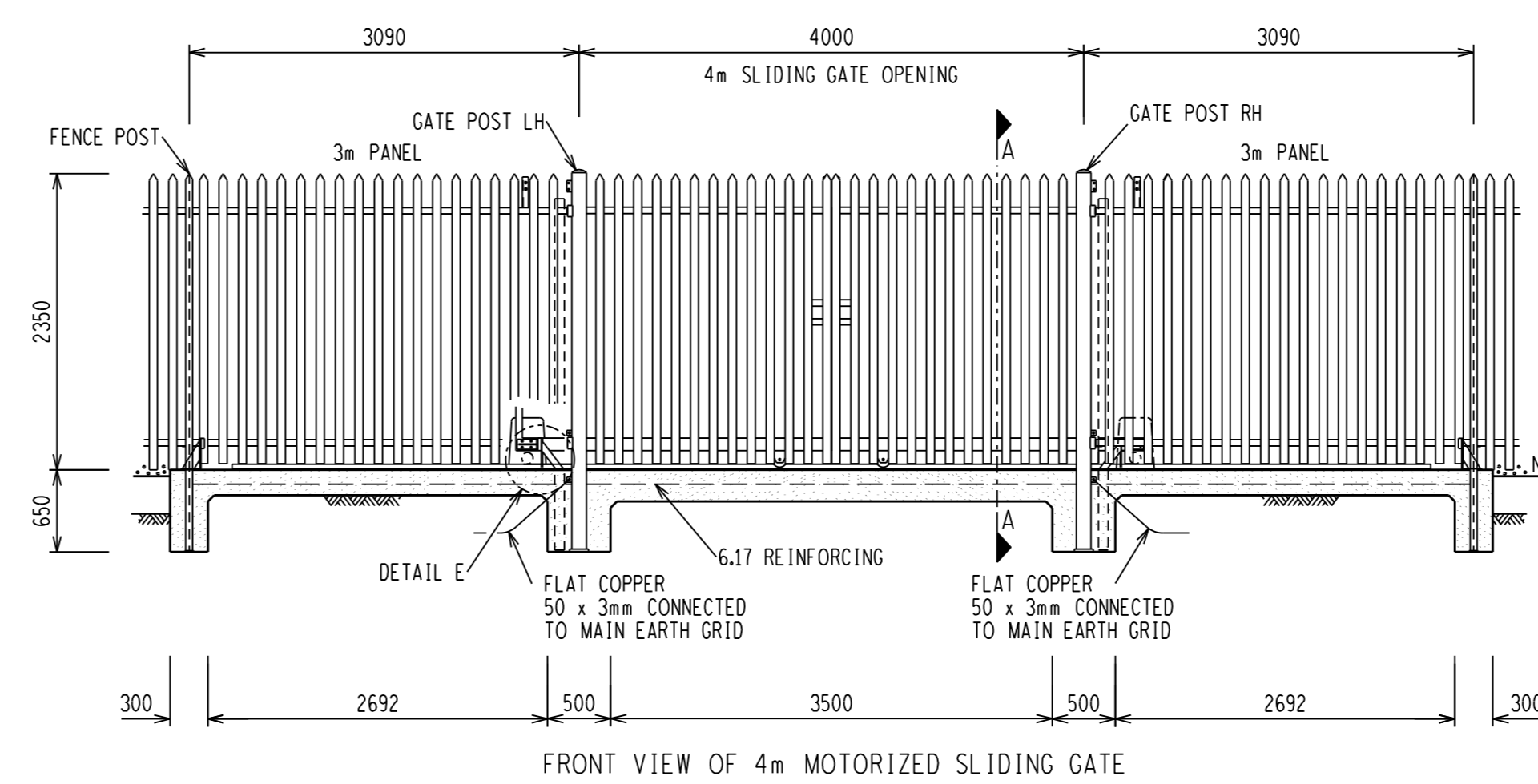
- 1 SLIDING GATE / FOUNDATIONS AND WHEEL RAIL ARE DESIGNED FOR A CENTURION D5 LIGHT INDUSTRIAL MOTOR WITH A 2.8M STEEL RACK PER GATE. INSTALLED ACCORDING TO SUPPLIER SPECIFICATIONS.
- 2 POSITION MOTOR AND END STOPS WITH RAIL AND GATE IN POSITION
- 3 RAIL WHEELS TO BE  $\phi$ 100 x 30 (GALVANISED) WITH SEALED ROLLER BEARINGS
- 4 RAIL TO BE PARALLEL TO FENCE AND RAWL BOLTED TO FOUNDATION WITH M12 RAWL BOLTS. RAIL JOINT NOT TO BE GREATER THAN 2mm
- 5 THE TOP NYLON ROLLERS MUST BE SET / ADJUSTED TO HAVE A MAX CLEARANCE OF 2mm BETWEEN ROLLERS AND GUIDE RAIL TO PREVENT LIFTING OF GATE IN CLOSED POSITION
- 6 CABLE TO BE RUN FROM CONTROL BUILDING AND CONNECT TO THE MOTOR DISTRIBUTION BOARD
- 7 SLIDING GATE RAIL / GATE POSTS / SUPPORT POST AND MOTOR TO BE EARTHED TO SUBSTATION EARTH GRID
- 8 GATE CONTACTS (2 OFF) MUST BE USED, ONE FOR ELECTRICAL FENCE HIGH TENSION CABLE AND THE OTHER ONE FOR GATE EARTH

BOLT SCHEDULE										
MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg	
1	M10	4.8	1.5	30	4	4	4	28	0.12	
2	M12	4.8	1.75	100	4	4	4	48	0.57	
3	M16	4.8	2	40	2	2	2	120	0.32	

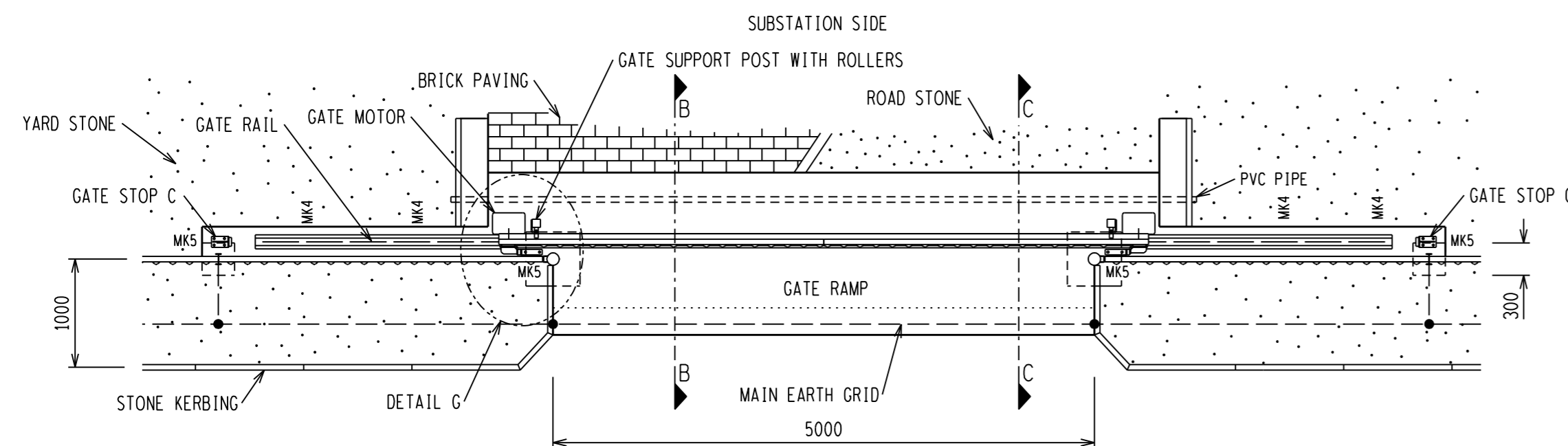
RAWL BOLT SCHEDULE										
MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg	
4	M12	4.8	1.75	125	22	22	22	48	3.48	
5	M16	4.8	2	125	6	6	6	120	1.88	



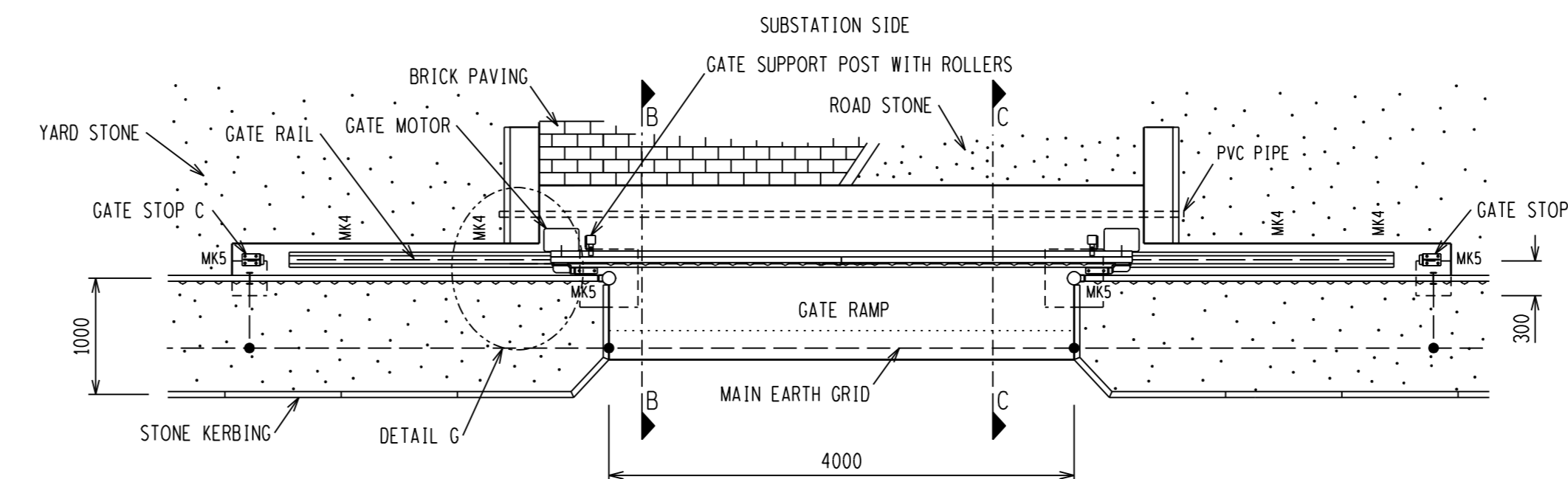
FRONT VIEW OF 5m MOTORIZED SLIDING GATE



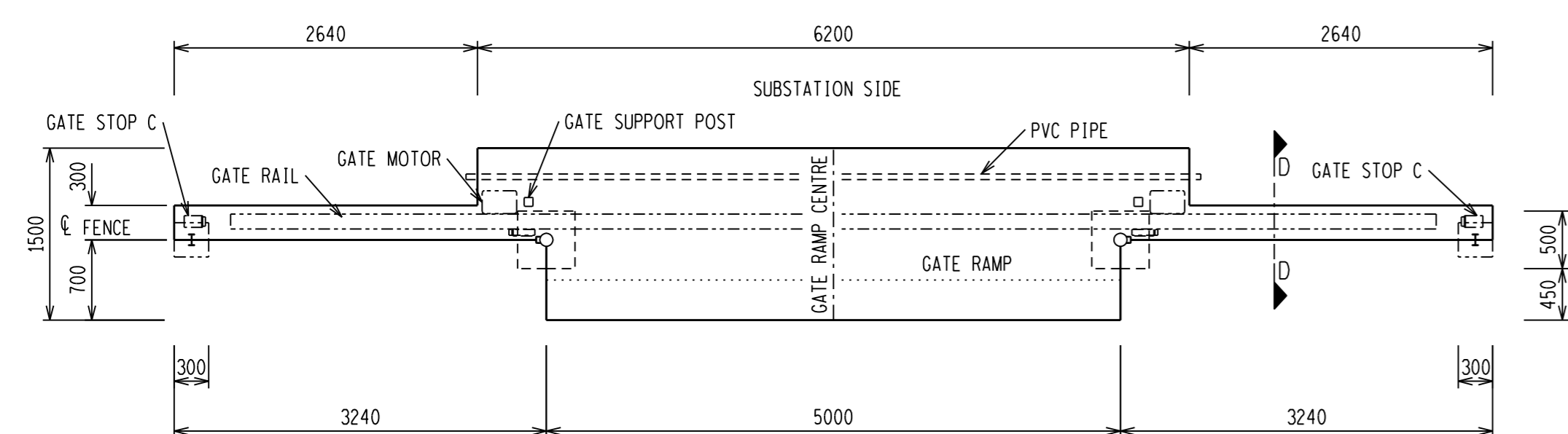
FRONT VIEW OF 4m MOTORIZED SLIDING GATE



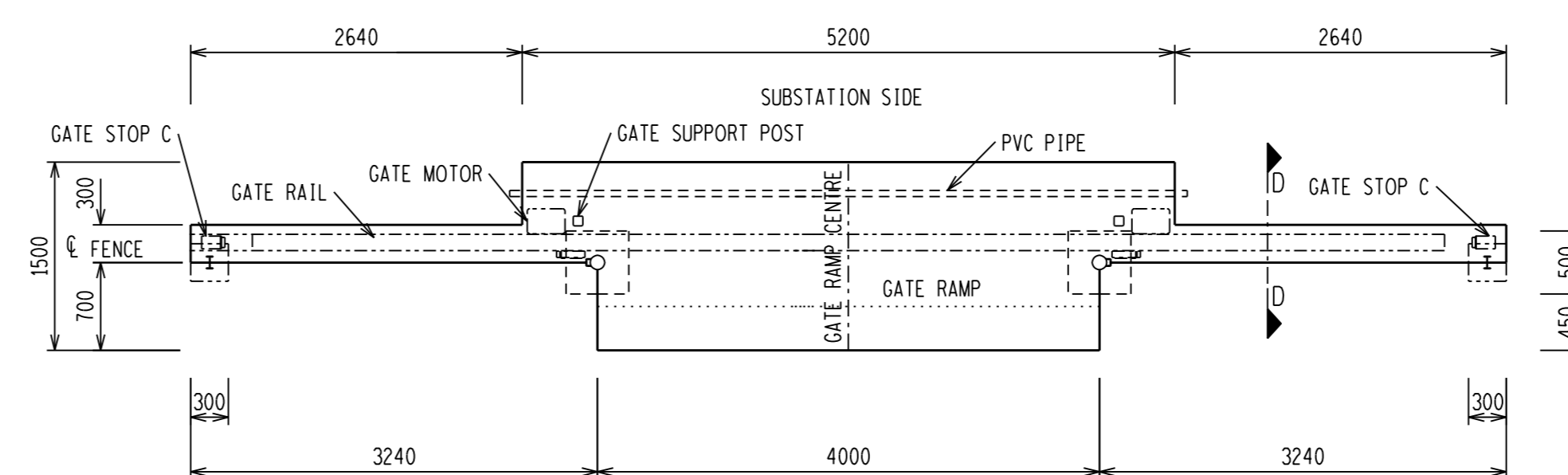
PLAN VIEW FOR MOTORIZED SLIDING GATE



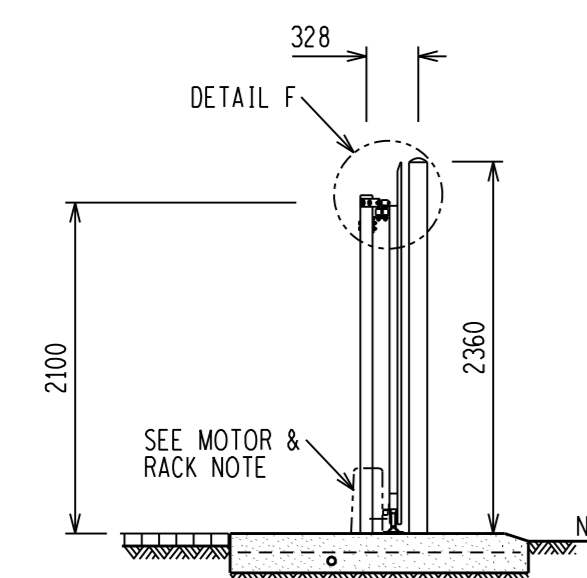
PLAN VIEW FOR MOTORIZED SLIDING GATE



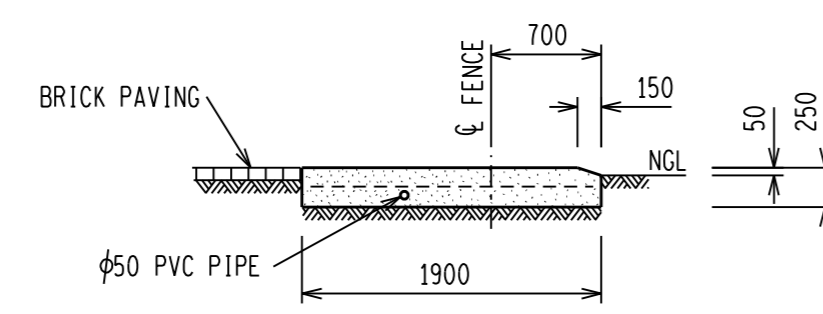
FOUNDATION PLAN VIEW FOR MOTORIZED SLIDING GATE



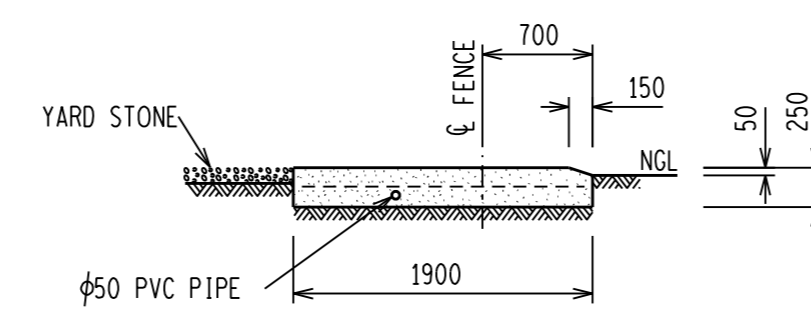
FOUNDATION PLAN VIEW FOR MOTORIZED SLIDING GATE



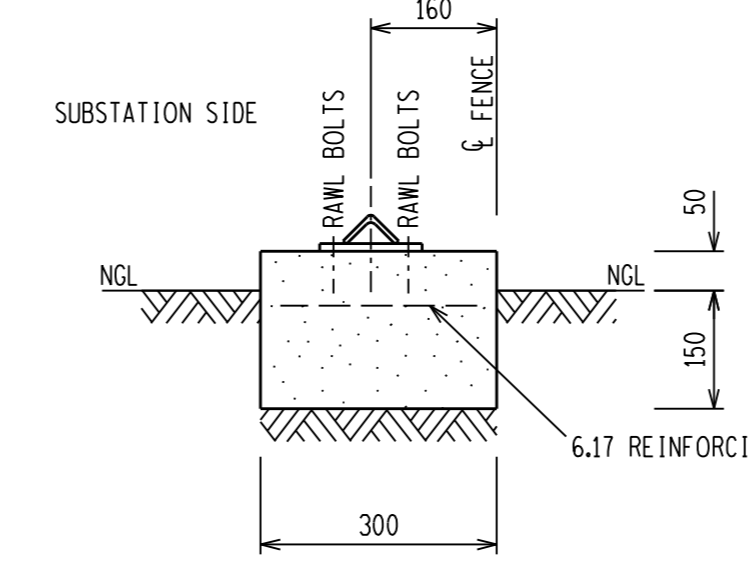
SECTION A-A



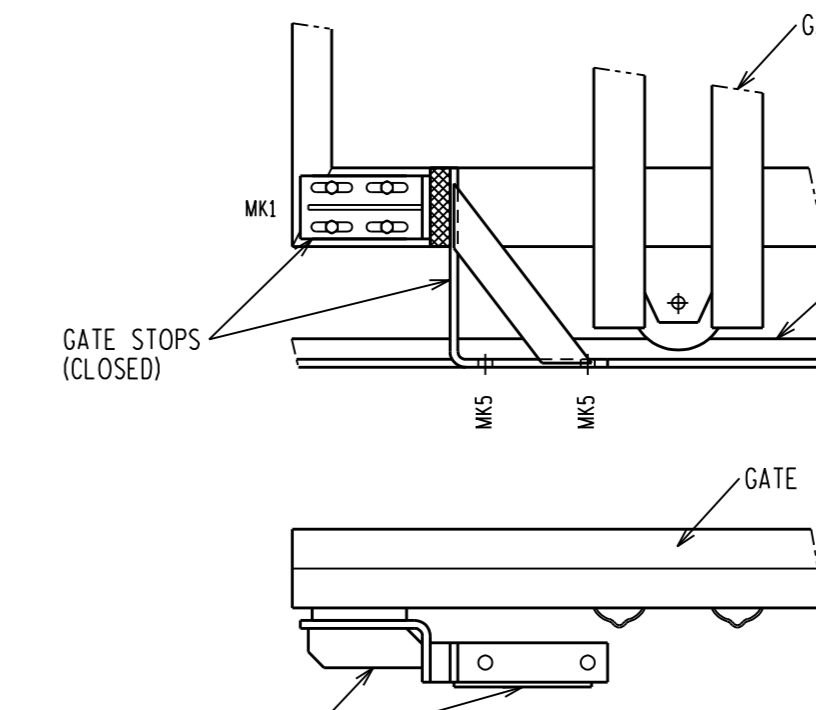
SECTION B-B



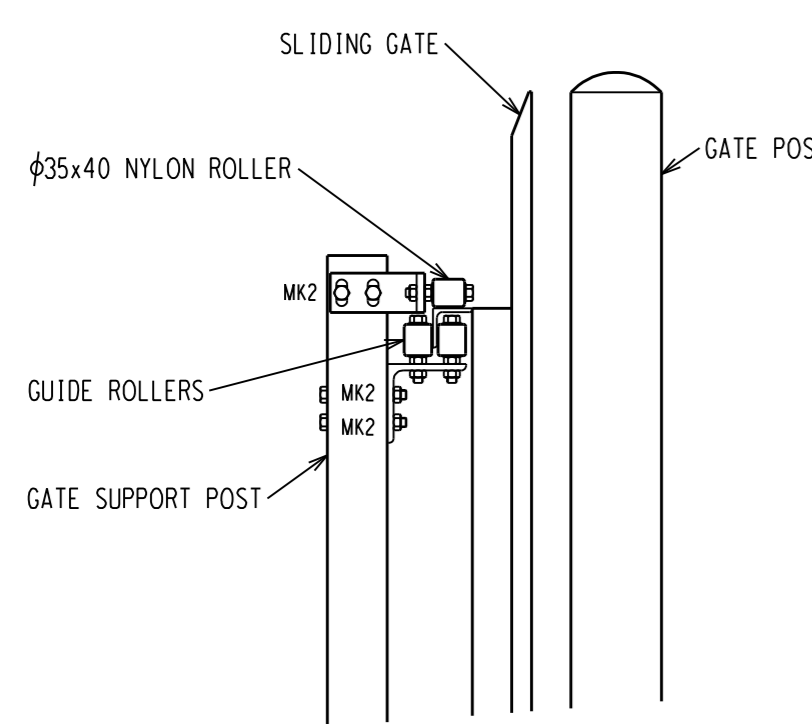
SECTION C-C



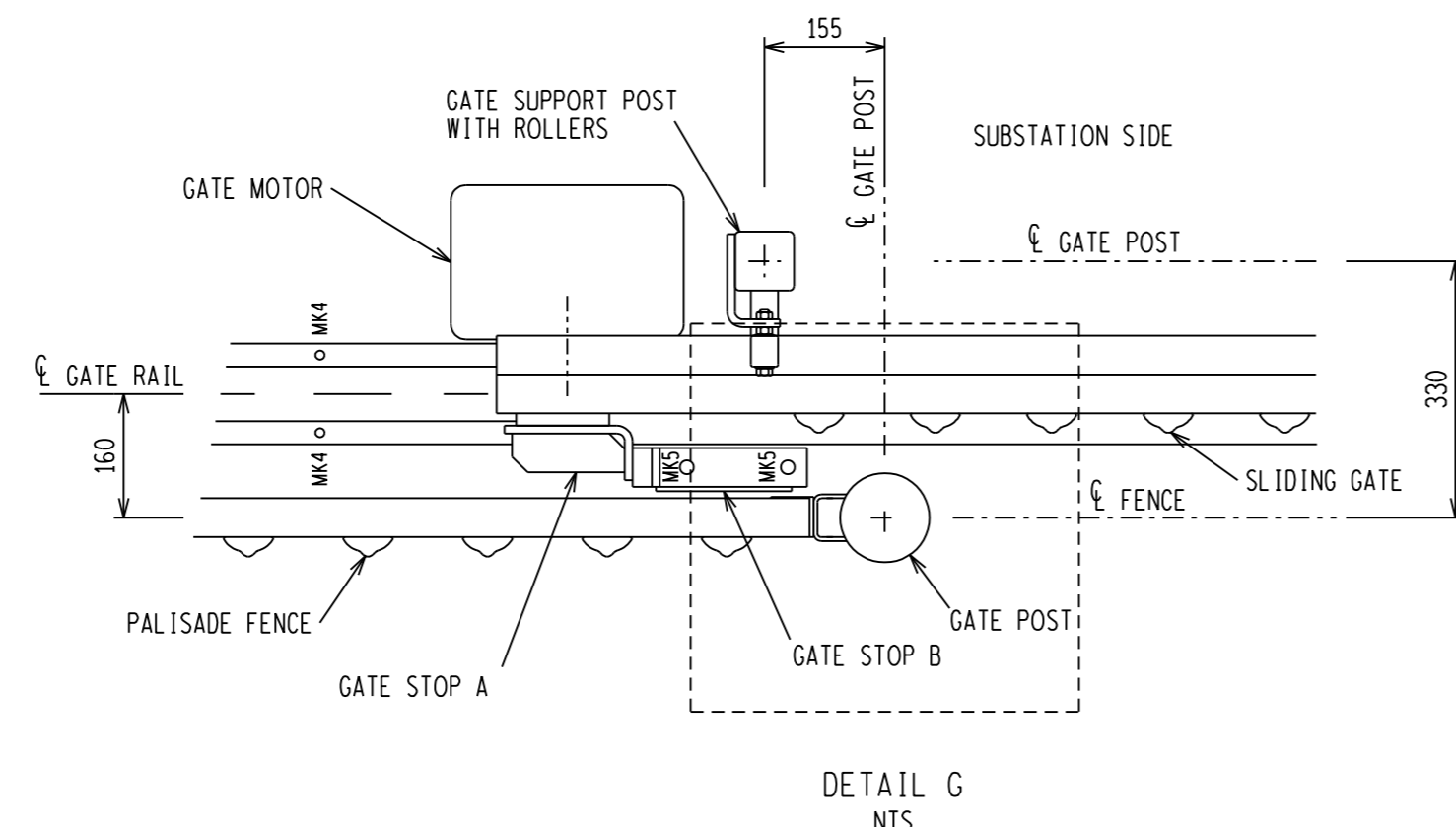
SECTION D-D SCALE 1:5



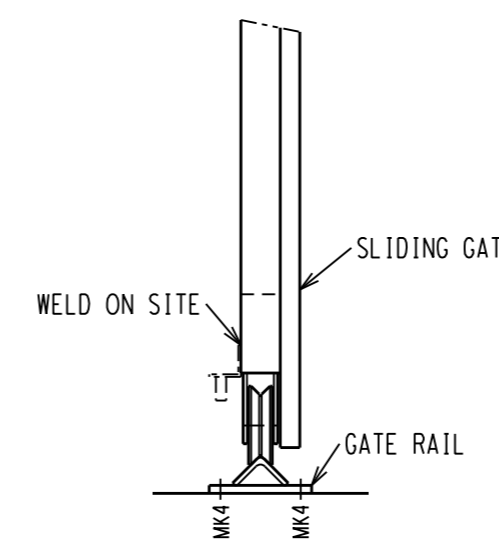
DETAIL E SCALE 1:5



DETAIL F SCALE 1:5



DETAIL G NTS



DETAIL OF RAIL AND WHEEL SCALE 1:5

DRG NO.	SHEET NO.	REFERENCE DRAWINGS:	DRG NO.	SHEET NO.	REFERENCE DRAWINGS:
D-01-5237	SHEET 7L	ELECTRIC FENCE (BEHIND) MANUFACTURING DETAILS	D-01-5237	SHEET 7F	MANUAL GATES MANUFACTURING DETAILS
D-01-5237	SHEET 7M	ELECTRIC FENCE (BEHIND) ASSEMBLY & SECTIONS	D-01-5237	SHEET 7E	MOTORIZED SLIDING GATE (ASSEMBLY & SECTIONS)
D-01-5237	SHEET 7J	ELECTRIC FENCE (TOP) ASSEMBLY & MANUFACTURING DETAILS	D-01-5237	SHEET 7D	SLOPING PANELS MANUFACTURING DETAILS
D-01-5237	SHEET 7I	ELECTRIC GATES 5m MANUFACTURING DETAILS	D-01-5237	SHEET 7C	SLOPING PANELS ASSEMBLY & SECTIONS
D-01-5237	SHEET 7H	ELECTRIC GATES 4m MANUFACTURING DETAILS	D-01-5237	SHEET 7B	PANELS MANUFACTURING DETAILS
D-01-5237	SHEET 7G	ELECTRIC GATES 3m MANUFACTURING DETAILS	D-01-5237	SHEET 7A	PANELS ASSEMBLY & SECTIONS

REV	FIRST ISSUE	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
0	FIRST ISSUE						

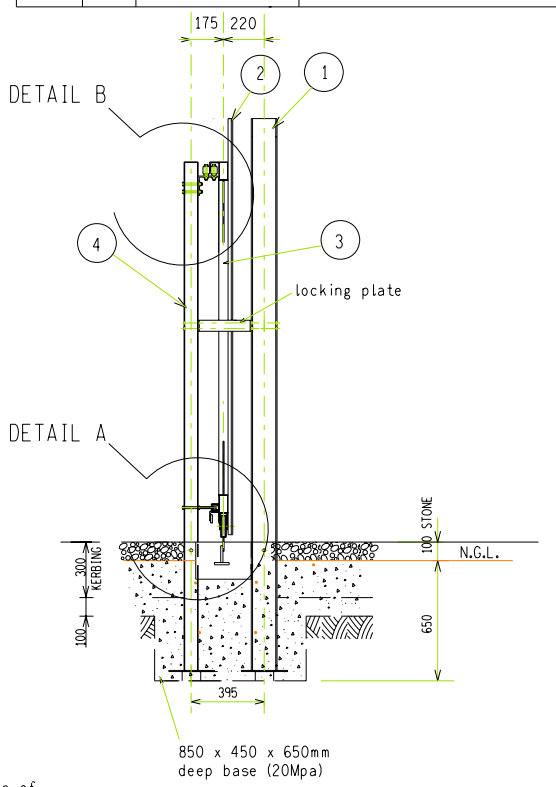
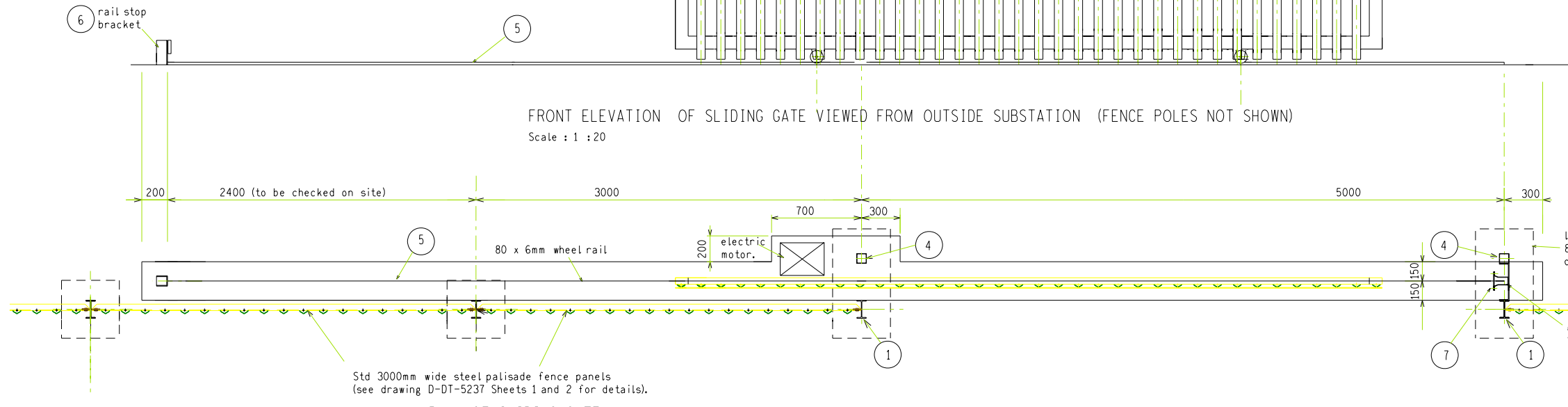
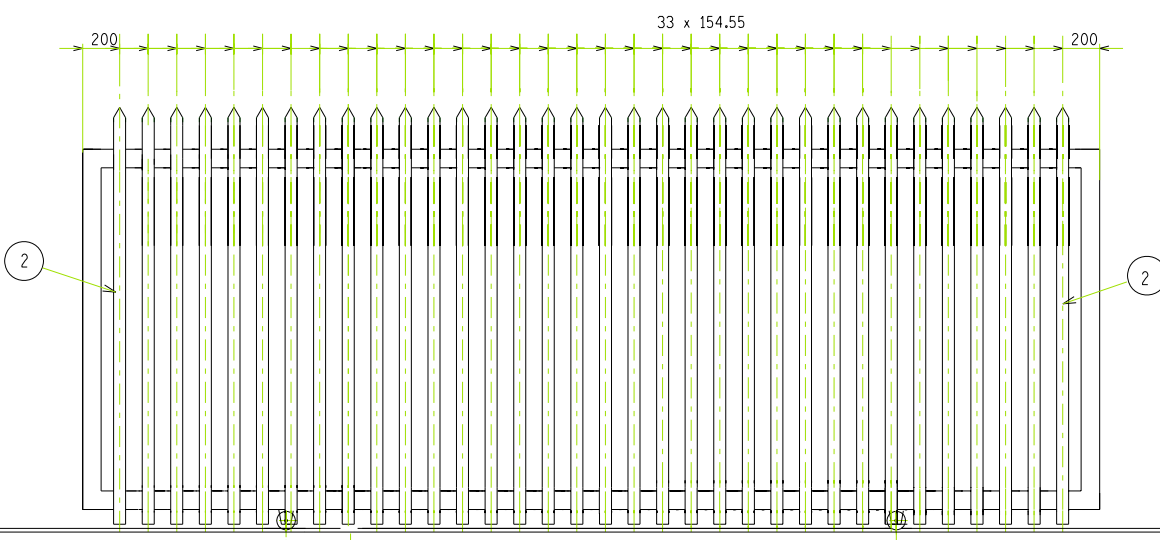
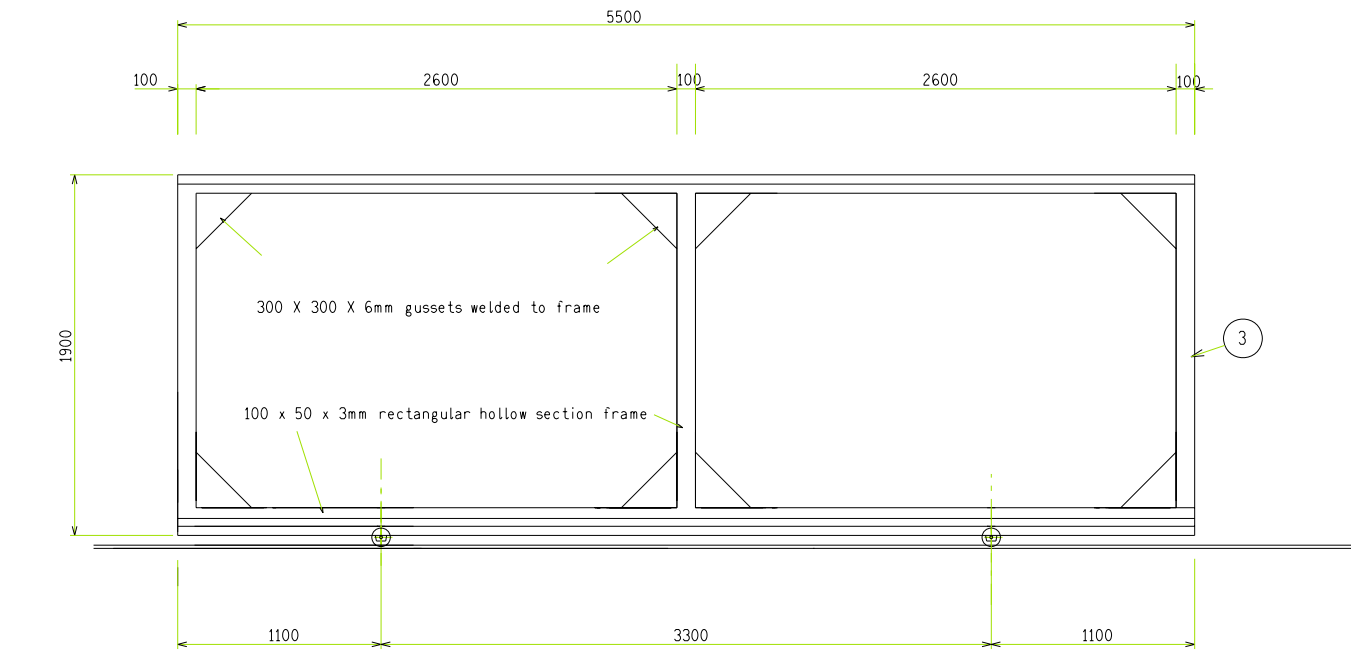
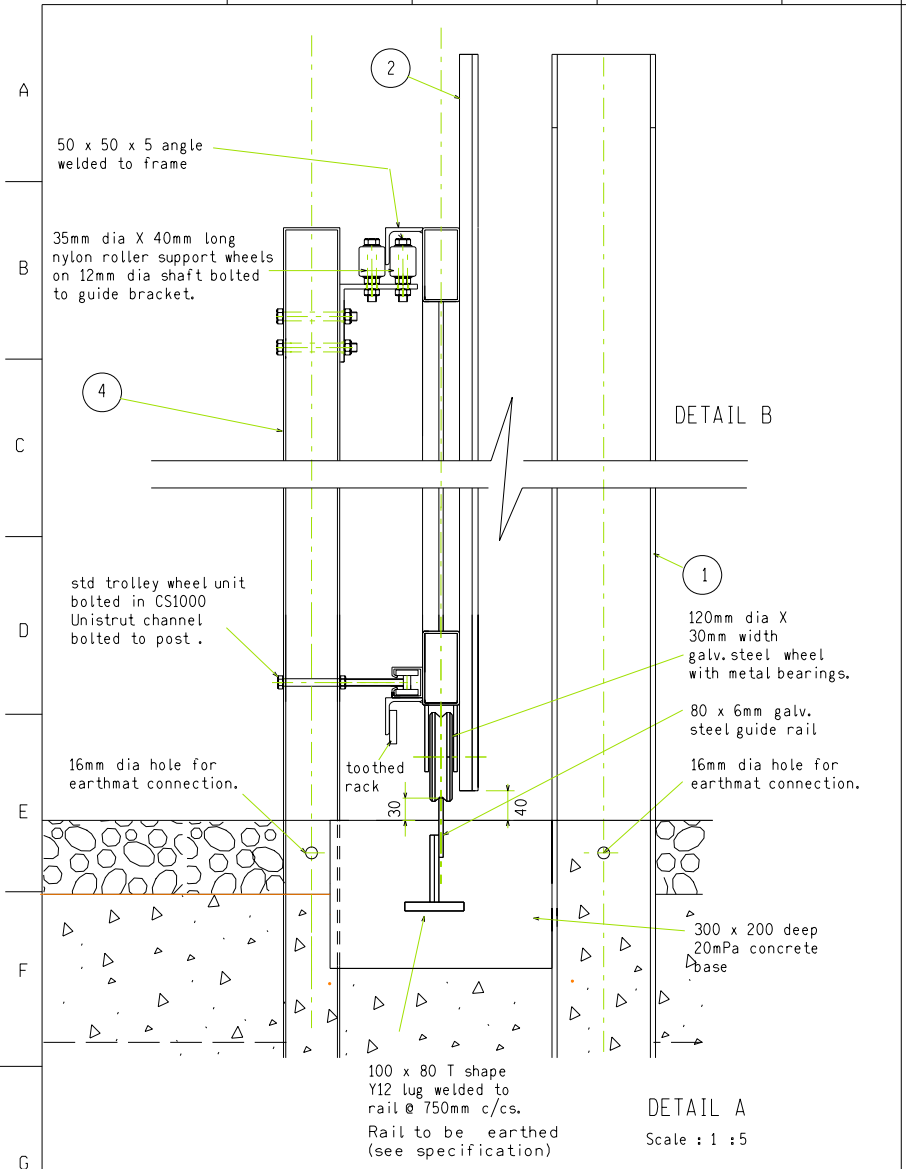
**Eskom**  
 AUTH: B HILL  
 DATE: 10/09/2012  
 CHKD: N WEBBER

SECURITY FENCE  
 2.4m STEEL PALISADE  
 ELECTRIC GATES 4m & 5m  
 ASSEMBLY AND SECTIONS

SAP No.	DATE:	SET	SHEET	REVISION
0567717	06/09/2012			
SCALE 1:50	DRAWN: G BEEETE		76	0
THIS DRAWING IS THE PROPERTY OF Eskom	DATE: 06/09/2012			







MATERIAL SCHEDULE			
ITEM	QUANTITY	PART NAME	MATERIAL DIMENSIONS
1	2	5m SLIDING GATE POSTS	IPE 140x73x10,05x2984 PLATE 250x250 x 6 FLAT 68 x 40x 2,5 - 2 REOD
2	34	GATE PALES	"CLASSIC PALISADE" D SECTION 3x65x22x2250 OR EQUAL APPROVED BY ESKOM WELDED TO GATE FRAME
3	1	SLIDING GATE FRAME	100 X 50 X 3MM WALL THICKNESS GALV.MILD STEEL RECTANGULAR SECTION (SEE REAR ELEVATION)  INCLUDES 8 NO. 300 X 300 X 6MM TRIANGULAR GUSSETS 2 NO. 5500 X 50 X 50 X 5MM REAR ANGLES. 2 NO 120 DIA X 30MM WIDTH STD WHEELS WITH BALL BEARING AXLE IN FRAME. 42 X 42 X 2,5 X 5500MM LONG UNISTRUT CHANNEL + TROLLEY WHEEL UNIT
4	2	SLIDING GATE REAR SUPPORT POSTS	76 X 76 X 3MM WALL THICKNESS 2750 MM HIGH GALV.MILD STEEL SQUARE SECTION 250 X 250 X 6MM BASE PLATE 76 X 76 X 3 MM TOP PLATE 105 X 105 X 6 MM ANGLE TO SUPPORT 2 NO. 35MM DIA NYLON GUIDE WHEELS
5	2	SLIDING GATE WHEEL RAILS (10MM GAP AT JOIN)	80 X 6MM X 5215MM LENGTH WITH Y12 T SHAPE LUGS @ 750MM C/CS. (RAIL LENGTH CHECKED ON SITE)
6	1	RAILS STOP BRACKET	80 X 80 X 6 MM BRACKET ON 200 X 80 X 60 BASE PLATE (SEE DRG D-WC-6108-19-07 FOR DETAILS)
7	1	LOCKING PLATE	60 X 3 MM BRACKET ON 60 X 6 PLATE (SEE DRG D-WC-6108-19-07 FOR DETAILS)

**SPECIFICATION OF MOTOR DRIVE**

MOTOR : 220V. SINGLE PHASE, 12 V.BACKUP DC TYPE AS CETERION D5 OR EQUAL APPROVED BY ESKOM.  
UNIT TO HAVE OPERATING SPEED OF 16M./MINUTE AND HAVE REMOTE CONTROL OPENING AND LOCKING DEVICE AS SUPPLIED BY CSSI (PTY).LTD OR EQUAL APPROVED.  
MOTOR TO BE PLACE IN POSITION SHOWN AND HAVE WEATHER AND CORROSION PROOF VENTILATED REMOVABLE COVER FOR EASY ACCESS AND MAINTENANCE.  
CABLE TO BE RUN FROM CONTROL BUILDING AND CONNECT TO THE DISTRIBUTION BOARD. MOTOR TO BE EARTHED.  
SLIDING GATE RAIL TO BE EARTHED TO SUBSTATION EARTH GRID IN RURAL SUBSTATIONS BUT NOT REQUIRED FOR URBAN SUBSTATIONS.

**NOTES**

1. ALL STRUCTURAL USE OF STEEL TO CONFORM TO SABS 0162. GRADE OF STEEL TO BE SABS 1431 GRADE 300WA.
2. ALL WELDS TO BE SEALED WELDED.
3. STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121
4. ALL STEELWORK TO BE FABRICATED, ERECTED & LEVELED TO A TOLERANCE OF + - 1.5mm.
5. ALL BOLTS & NUTS TO CONFORM TO SABS 135, STRENGTH GRADE 4.8.
6. MOVING PARTS TO BE RE-MACHINED AFTER GALVANISING AND WELL GREASED BEFORE ASSEMBLY.
7. ALL CONCRETE WORK TO BE 20mPA MIX (19MM STONE)
8. MODIFICATIONS TO THIS DESIGN TO BE APPROVED BY ESKOM BEFORE FABRICATION.

**FINISH :**

ALL GALVANISED SURFACES TO BE FILED AND WIRE BRUSH TREATED TO REMOVE LOOSE SCALE AND IMPERFECTIONS. SCRUB WITH DULUX "GALVKLEEN" OR SIMILAR APPROVED. RINSE WITH CLEAN WATER AND ALLOW TO DRY. FINISH TO BE NATURAL GALVANISED. NO PAINTING REQUIRED.

ALTERNATIVELY IF THIS GATE IS BEING CONSTRUCTED IN AN EXISTING FENCE SITUATION THE GATE TO BE DECORATED TO MATCH EXISTING FENCE.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

AUTH: B.P. HILL  
 DATE: 26/04/2007  
 CHDR: B.P. HILL  
 DATE: 26/04/2007  
 DRAM: V. van Zweel  
 DATE: 26/04/2007

**STANDARD SUBSTATION FENCING**  
**5,0m x 2400 PALISADE MOTORISED**  
**SLIDING GATE**

THIS DRAWING HAS BEEN CREATED ON A C.A.D. SYSTEM AND ANY AMENDMENT TO THE DRAWING MUST BE EFFECTED ONLY ON THE SAME C.A.D. SYSTEM

D-DT-5237  
 SET 16 SHEET 15 REVISION 0

**SUBSTATION EARTH GRID AND EARTH TAILS NOTES:**

1. THE MAIN EARTH GRID SHALL BE CONSTRUCTED FROM A 10mm DIAMETER ANNEALED COPPER ROD, BURIED AT LEAST 1000mm BELOW FINISHED GROUND LEVEL (UNLESS OTHERWISE INDICATED).
2. THE SUBSTATION EARTH GRID SHALL BE INSTALLED TO THE DIMENSIONS AS PER THE SUBSTATION EARTH GRID LAYOUT DRAWING.
3. ON FOUNDATION AND EARTHING DRAWINGS, ROD TRAVERSE CROSSINGS SHALL BE INDICATED BY AND THESE CROSSING SHALL BE JOINED AS PER D-DT-5240 SHT 2.
4. ALL JOINTS SHALL BE EXOTHERMICALLY WELDED OR OXY-ACETYLENE BRAZED, USING 3mm DIAMETER BRAZING RODS ACCORDING TO STANDARD EN1044 ITEM CP105.
5. WHERE THE EARTH GRID CLASHES WITH DEEPER FOUNDATIONS THE CONDUCTOR SHALL BE LAID 150mm BELOW THE FOUNDATIONS OR DEVIATED AROUND IT AS INDICATED ON D-DT-5240 SHT 3.
6. WHERE THE EARTH GRID CLASHES WITH DRAINS THE CONDUCTOR SHALL BE LAID 150mm BELOW IT AS DETAILED ON D-DT-5240 SHT 22.
7. WHERE A CONCRETE BLINDING IS CAST UNDER BUILDING FOUNDATIONS THE EARTH GRID MESHES ARE TO BE INSTALLED ON TOP OF THE BLINDING AND UNDER THE CONCRETE FOOTING OF COLUMNS ETC.
8. THE MAIN EARTH GRID SHALL BE 1000mm AWAY FROM THE INSIDE OF THE SUBSTATION SECURITY FENCE AND EXTEND BETWEEN 600mm AND 1000mm ON THE OUTSIDE OF THE SUBSTATION FENCE.
9. SUPPORT STRUCTURE EARTH TAILS SHALL BE 50X3mm FLAT ANNEALED COPPER BOLTED TO HOLDING DOWN BOLTS (UNLESS OTHERWISE INDICATED) AS DETAILED ON D-DT-5240 SHT 6.
10. WHERE AN EXTERNAL EARTH CONNECTION IS REQUIRED, THE 50X3mm FLAT COPPER SHALL BE BOLTED TO THE EQUIPMENT SUPPORT AS INDICATED ON D-DT-5240 SHT 6C.
11. THE NUMBER OF SUPPORT STRUCTURE EARTH CONNECTIONS SHALL DEPEND ON THE FAULT CURRENT (UNLESS OTHERWISE INDICATED):

DESIGN EARTH FAULT CURRENT	NUMBER OF EARTH TAILS PER STRUCTURE
25ka AND BELOW	2
BETWEEN 25ka AND 40ka	4

12. ADDITIONAL SUPPORT STRUCTURE EARTH TAILS FOR FAULT LEVELS ABOVE 25ka MUST BE IN ACCORDANCE WITH D-DT-5240 SHT 3.
13. WHERE EARTH TAILS CROSS THEY SHALL BE WELDED TOGETHER AS PER D-DT-5240 SHT 2.
14. ALL SUPPORT STRUCTURE HOLDING DOWN BOLTS SHALL BE M24 OR LARGER.
15. SACRIFIAL EARTH GRID ANODE SHALL BE INSTALLED FOR MILD TO SEVERE CORROSIVE SOIL CONDITIONS (<100 OHM.M). THE APPLICATION OF THESE ANODES WILL BE DETERMINED BY THE RESULTS OF THE SOIL TESTS CARRIED OUT BY ESKOM OR AN APPOINTED REPRESENTATIVE. WHERE THE REQUIRED, THE SACRIFIAL ANODES ARE TO BE MANUFACTURED AND CONNECTED TO THE MAIN EARTH GRID AS INDICATED ON D-DT-5240 SHT 11.
16. WHERE FLAT COPPER EARTH STRAPS RUNS ACROSS VERTICAL OR HORIZONTAL FLAT SURFACES OF CONCRETE OR BRICK, IT SHALL BE SECURED AT ALL CORNERS, INTERSECTIONS AND LENGTHS NOT LONGER THAN 1000mm AS INDICATED ON D-DT-5240 SHT 12 DETAIL A.
17. WHERE FLAT COPPER EARTH STRAPS RUN ON FINISHED FLOOR SURFACES e.g. ACROSS WALKWAYS, THE STRAP SHALL BE SECURED TO THE FLOOR AS INDICATED ON D-DT-5240 SHT 12 DETAIL A.

18. WHERE CONNECTIONS ARE MADE TO GALVANISED STEELWORK, THE SURFACE SHALL BE CLEANED AND COATED WITH ANTI OXIDIZING ELECTRICAL COMPOUND PRIOR TO BOLTING.
19. WHERE CONNECTIONS ARE MADE TO PAINTED STEELWORK, THE PAINT SHALL BE REMOVED OVER A MINIMAL AREA TO ALLOW FOR A GOOD CONTACT BETWEEN THE SURFACES. SURFACES SHALL BE COATED WITH ANTI OXIDIZING ELECTRICAL COMPOUND BEFORE BOLTING. AFTER BOLTING, ANY SCRAPED AREA NOT COVERED BY THE COPPER CONNECTION SHALL BE PAINTED USING THE ORIGINAL TYPE AND COLOUR OF PAINT.
20. TRANSFORMER PLINTH, SWITCH ROOM, CONTROL ROOM AND RUNWAY WELDED MESH REINFORCING SHALL BE BONDED TO THE MAIN EARTH GRID AT ONLY ONE POINT AS INDICATED ON D-DT-5240 SHT 10.
21. POWER TRANSFORMER EARTHING TO BE DONE ACCORDING TO D-DT-5240 SHT 5.
22. VOLTAGE TRANSFORMERS, CURRENT TRANSFORMERS, NECRTs AND JUNCTION BOXES ARE TO BE EARTH WITH FLEXIBLE COPPER TO THE EQUIPMENT SUPPORT AS INDICATED ON D-DT-5240 SHT 7.
23. ISOLATOR MECHANICAL BOX AND HANDLES ARE TO BE EARTHED IN ACCORDANCE WITH ISOLATOR MANUFACTURE'S SPECIFICATION, SEE D-DT-5240 SHT 8.
24. BUILDING ROOF EARTHING TO BE DONE AS SPECIFIED ON D-DT-5240 SHT 24.
25. FOR EARTH STRAP ARRANGEMENTS IN CABLE TRENCHES REFER TO DETAIL B ON D-DT-5240 SHEET 12.

D-DT-5240	SET 25 SHT 25	GUTTER EARTHING DETAIL	D-DT-5240	SET 25 SHT 11	SACRIFIAL EARTH GRID ANODE
D-DT-5240	SET 25 SHT 24	ROOF EARTHING DETAIL	D-DT-5240	SET 25 SHT 10	REINFORCING EARTHING DETAIL
D-DT-5240	SET 25 SHT 23	EARTH GRID TRENCH DETAIL	D-DT-5240	SET 25 SHT 9	SAFETY FENCE EARTHING DETAIL
D-DT-5240	SET 25 SHT 22	SUBSOIL TRENCH DETAIL	D-DT-5240	SET 25 SHT 8	TYPICAL ISOLATOR WITH SA EARTH
D-DT-5240	SET 25 SHT 21	MV 1-CORE CABLE TERM. AT META.	D-DT-5240	SET 25 SHT 7	VT, CT AND JB EARTHING DETAIL
D-DT-5240	SET 25 SHT 20	MV 3-CORE CABLE TERM. AT META.	D-DT-5240	SET 25 SHT 6C	TYPICAL SUPPORT EARTHING DETAIL
D-DT-5240	SET 25 SHT 19	MV 3-CORE CABLE TERM. AT TRAN.	D-DT-5240	SET 25 SHT 6B	TYPICAL TERTIARY COLUMN FDN
D-DT-5240	SET 25 SHT 18	SIGNAL DISTRIBUTION FRAMES	D-DT-5240	SET 25 SHT 6A	TYPICAL COLUMN FDN EARTHING DET
D-DT-5240	SET 25 SHT 17	PROCESS CONTROL CABLES	D-DT-5240	SET 25 SHT 6	TYPICAL FOUNDATION EARTHING DET
D-DT-5240	SET 25 SHT 16	GPO UNARMOURD TYPE 2 CABLE	D-DT-5240	SET 25 SHT 5	DETAIL OF TRFR CONCEALED EARTH.
D-DT-5240	SET 25 SHT 15	ARM. TELEPHONE & CONTR. CABLE	D-DT-5240	SET 25 SHT 4A	TYPICAL STAR DELTA TRFR EARTH.
D-DT-5240	SET 25 SHT 14	CONTROL PANEL EARTHING DETAIL	D-DT-5240	SET 25 SHT 4	TYPICAL AUTO TRFR EARTHING
D-DT-5240	SET 25 SHT 13	EARTHING OF SWITCH GEAR	D-DT-5240	SET 25 SHT 3	EARTH THROUGH FDN WITH uPVC.
D-DT-5240	SET 25 SHT 12	EARTH STRAP FIXING DETAILS	D-DT-5240	SET 25 SHT 2	COPPER JOINTS DETAILS
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:	DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS

5	REVISED GENERAL NOTES	BMH	JKR	T.MARAIS	05/04/2019	
4	NOTE 10 HOLDING DOWN BOLTS CHANGED	P.A.T.	T.MARAIS	T.MARAIS	28/03/2013	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



**EARTHING STANDARD  
GENERAL NOTES**

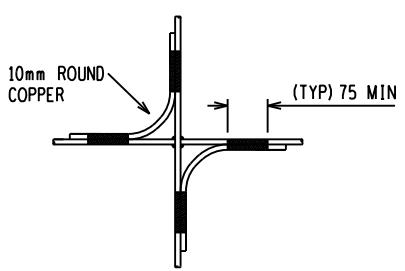
AUTH: C. CLARK  
DATE: 05/11/2004  
CHKD: C. CLARK

SAP No.	DATE: 05/11/2004	D-DT-5240	SET	SHEET	REVISION
SCALE 1:10	DRAWN: V VAN ZWEELE		25	1	5
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 01/11/2004				

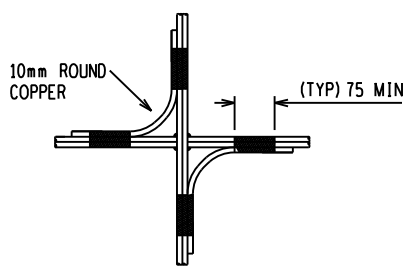
**NOTES:**

1. ALL JOINTS SHALL BE EXOTHERMICALLY WELDED OR OXY-ACETYLENE BRAZED, USING 3MM DIAMETER BRAZING RODS ACCORDING TO STANDARD EN1044 ITEM CP105.
2. ALL COPPER CONNECTIONS ARE TO BE BOUNDED TOGETHER AS INDICATED.
3. SEE D-DT-6044 FOR 10mm DIA ROUND COPPER DETAIL.
4. SEE D-DT-6045 FOR 50 x 3mm FLAT COPPER DETAIL.

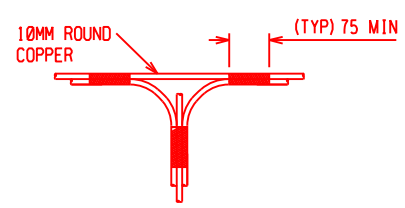
 - BRAZED OR EXOTHORMIC WELD



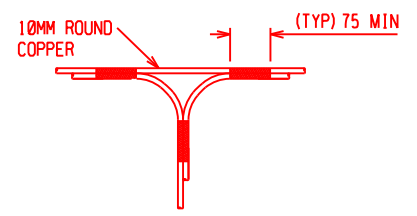
TYPE A  
ROUND COPPER JOINT



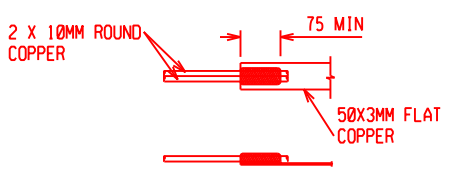
TYPE B  
DOUBLE ROUND COPPER JOINT



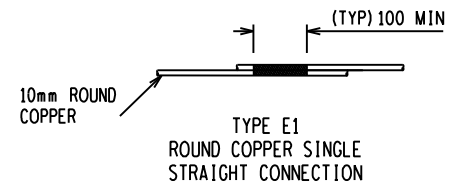
TYPE C1  
ROUND COPPER TEE JOINT



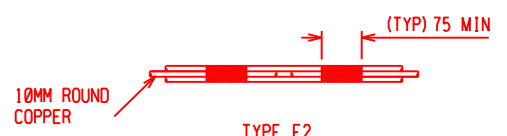
TYPE C2  
ROUND COPPER TEE JOINT



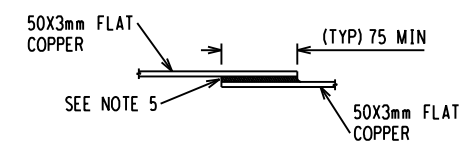
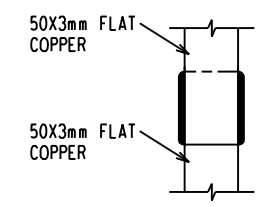
TYPE D  
2x ROUND COPPER TO FLAT  
COPPER STRAIGHT JOINT



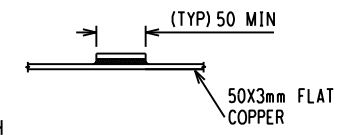
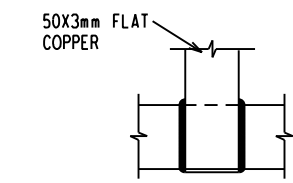
TYPE E1  
ROUND COPPER SINGLE  
STRAIGHT CONNECTION



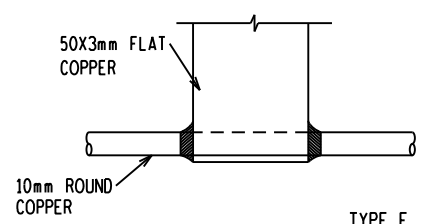
TYPE E2  
ROUND COPPER DOUBLE  
STRAIGHT JOINT



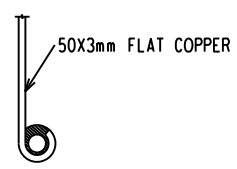
TYPE G  
STRAIGHT JOINT  
(NTS)



TYPE H  
T AND TRANSVERSE JOINT  
(NTS)




TYPE F  
ROUND COPPER TO FLAT COPPER JOINT  
(NTS)



D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
3	REVISED EARTHING JOINTS & ADDED TYPE C1, C2, D & E2	BMH	JKR	T. MARAIS	05/04/2019	
2	NOTES CHANGED AS PER DST 34-1245	P.A.T.	T. M.	V SINGH	27/02/2012	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

 Eskom

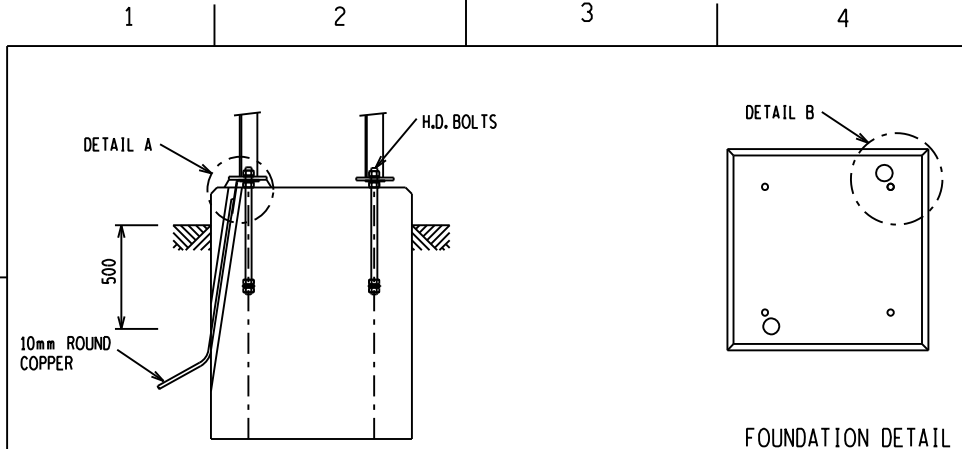
AUTH: C. CLARK

DATE: 05/11/2004

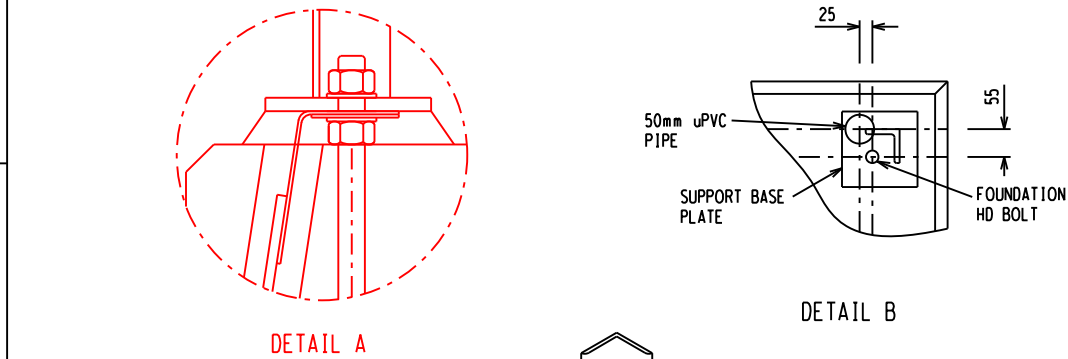
CHKD: C. CLARK

EARTHING STANDARD  
COPPER JOINTS  
DETAILS

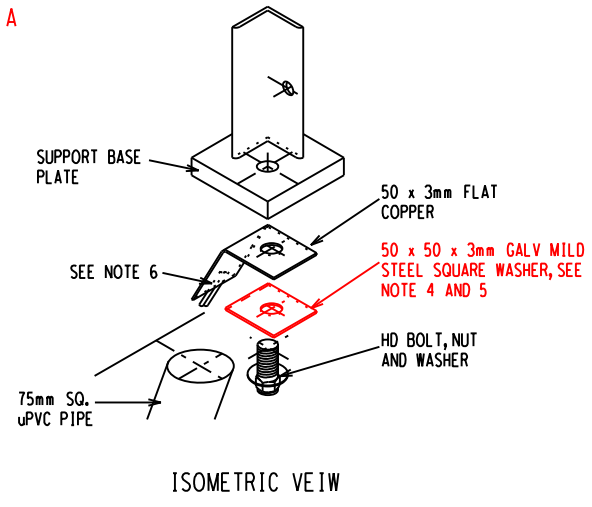
SAP No.	DATE: 05/11/2004	SET	SHEET	REVISION
SCALE 1:10	DRAWN: W VAN ZWEELE	D-DT-5240	25	2
THIS DRAWING IS THE PROPERTY OF ESKOM		DATE: 01/11/2004	3	



- NOTES:**
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE EARTH GRID LAYOUT & DETAILED FOUNDATION DRAWING.
  2. CIVIL WORKS SHOULD COMPLY TO THE DETAILED FOUNDATION DRAWING.
  3. WHERE CONNECTIONS ARE MADE TO GALVANISED STEELWORK, THE COPPER SURFACE SHALL BE COATED WITH ANTI-OXIDIZING ELECTRICAL COMPOUND.
  4. TO ENSURE A GOOD CONTACT BETWEEN THE 50 x 3mm FLAT COPPER & SUPPORT, USE A 50 x 50 x 3mm GALVANISED SQUARE WASHER BELOW THE 50 x 3mm FLAT COPPER.
  5. ENSURE THAT DIAMETER OF THE HOLE ON THE GALVANISED SQUARE WASHER IS 2mm BIGGER THAN THE DIAMETER OF THE HD BOLT.
  6. BRAZE 2 x 10mm ROUND COPPER WITH THE 50 x 3mm FLAT COPPER AS INDICATED ON D-DT-5240 SET 22 SHEET 2.



NB: APPLY ANTI-OXIDIZING COMPOUND BETWEEN THE WASHER/MILD STEEL AND 50 x 3mm FLAT COPPER

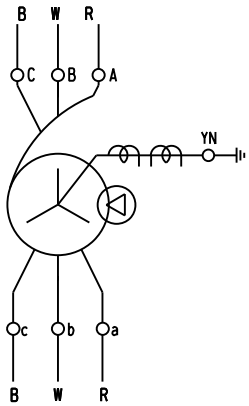


D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET No:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS					
				/ /	
3	REVISED CONNECTION DETAIL AND MODIFIED NOTES	B.M.H.	J.K.R.	T.MARAIS	05/04/2019
2	NOTES CHANGED AS PER DST 34-1245	P.A.T.	T.M.	V SINGH	27/02/2012
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE
					PROJECT NO.

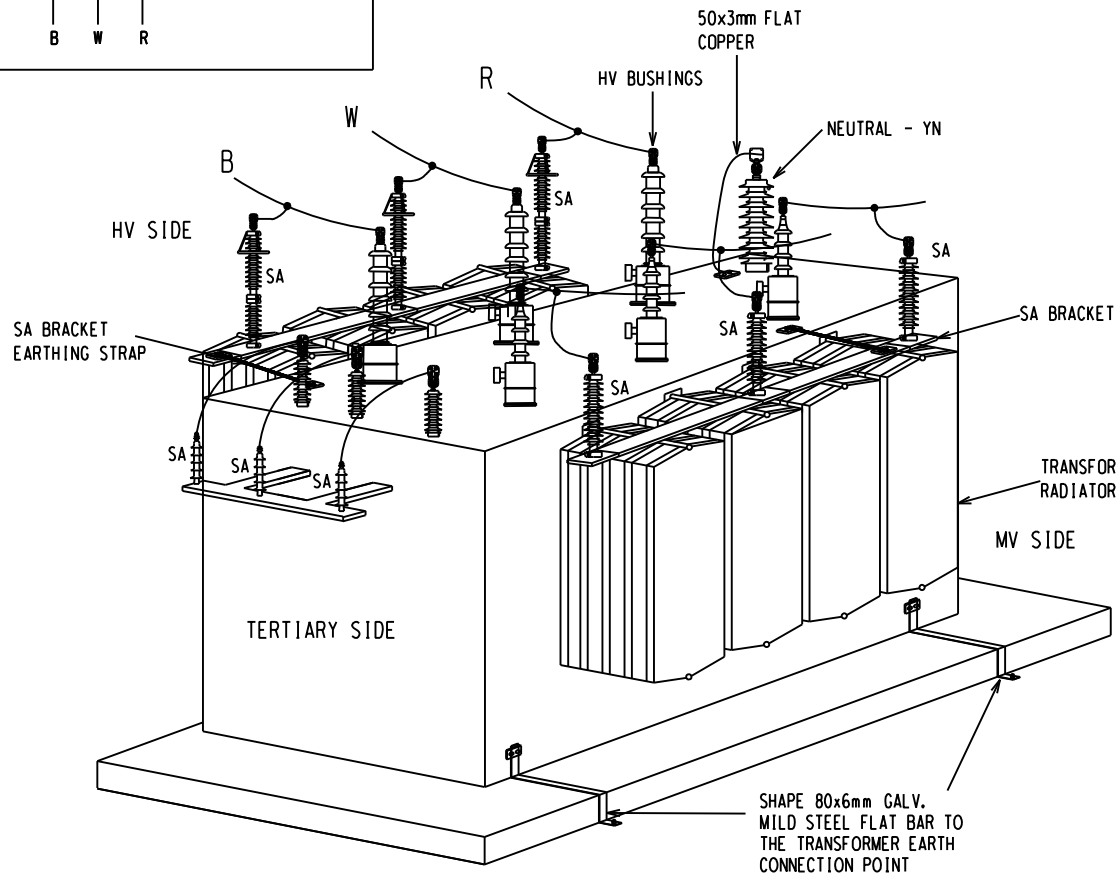
	<h2>EARTHING STANDARD</h2> <h3>EARTH THROUGH FOUNDATION WITH uPVC PIPE FROM 25KA TO 40KA</h3>			
	AUTH: C. CLARK			
	DATE: 13/03/2006			
CHKD: C. CLARK				
SAP No.	DATE: 13/03/2006	SET	SHEET	REVISION
SCALE 1:10	DRAWN: DJ LAUBSCHER	D-DT-5240	25	3
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 01/11/2004			3

TRANSFORMER CONNECTION DETAIL



NOTES:

- SURGE ARRESTOR EARTHING:
  - SURGE ARRESTOR BRACKET AND TRFR TANK TO BE USED AS THE EARTH PATH (i.e. NO COPPER EARTH TAILS FOR THE SURGE ARRESTORS).
  - SURGE ARRESTOR BRACKETS MUST BE BONDED TO THE TRFR TANK IF THE BRACKET IS MOUNTED ONTO THE TRANSFORMER DETACHABLE RADIATORS.
  - IN CASES WHERE INDIVIDUAL SURGE ARRESTOR BRACKETS ARE USED, THE EARTHING CONDUCTOR OF THESE BRACKETS ARE TO BE INTERLINKED AND CONNECTED TO THE TRANSFORMER EARTHING TERMINAL.
- TRFR NEUTRAL EARTHING:
  - WHEN PRESENT, TRFR NEUTRAL(S) MUST BE EARTHED INDIVIDUALLY VIA ITS OWN EARTHING TERMINAL USING 2 x 50 x 3mm FLAT COPPER EARTHING STRAPS LAID ONE UPON THE OTHER.
  - USE THE EXP STUP PALM BOLT CLAMP (D-DT-6027 SET 1 SHT 1) ON THE NEUTRAL BUSHING. BOLT THE 50 x 3mm FLAT COPPER ONTO THE PALM SECTION OF THE EXP CLAMP WITH 12mm STAINLESS STEEL BOLTS, NUTS AND 2 WASHERS.
- PAINTED BRACKETS MUST HAVE THE PAINT REMOVED TO ESTABLISH A GOOD METAL TO METAL CONTACT, NON-OXIDE GREASE MUST BE APPLIED TO ALL CONNECTIONS.
- WHERE NO EARTHING POINT IS AVAILABLE ON THE TRANSFORMER TANK, THE EARTHING POINTS ARE TO BE INDICATED BY THE PROJECT ENGINEER.
- WHERE EARTH TAILS RUN UP THE TRANSFORMER, THE 50 X 3MM FLAT COPPER HAS TO BE PAINTED WITH A GREY COLOUR. THE PAINT USED TO PAINT THE EARTH TAILS SHOULD MATCH THE COLOUR OR THE TRANSFORMER.
- AFTER INSTALLATION CONTINUITY SHALL BE TESTED BETWEEN ALL SURGE ARRESTOR BASES AND THE TRANSFORMER MILD STEEL EARTH STRAP IN ACCORDANCE WITH 240-84854974.



ISOMETRIC VIEW

D-DT-6027	SET 1 SHT 1	EXP STUD CLAMP
D-DT-5231	SHT 1B	TRANSFORMER PLINTH DETAIL
D-DT-5240	SET 25 SHT 5	TRANSFORMER PLINTH EARTHING DE.
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS

3	COMPLETE DRAWING & DETAIL REVISION	BMH	JKR	T. MARAIS	05/04/2019	
2	SHEET R-NUMBERED FROM SHEET 1A TO 4	DJL	CBC	CBC	13/03/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

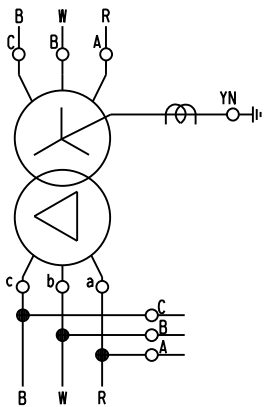


EARTHING STANDARD  
TYPICAL AUTO OR 132KV STAR  
STAR DELTA TRFR DETAIL

AUTH:	J.F. SCHOLTZ
DATE:	12/05/2003
CHKD:	J.F. SCHOLTZ
SAP No.	DATE: 12/05/2003
SCALE 1:10	DRAWN: D.C.R.
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 09/12/2002

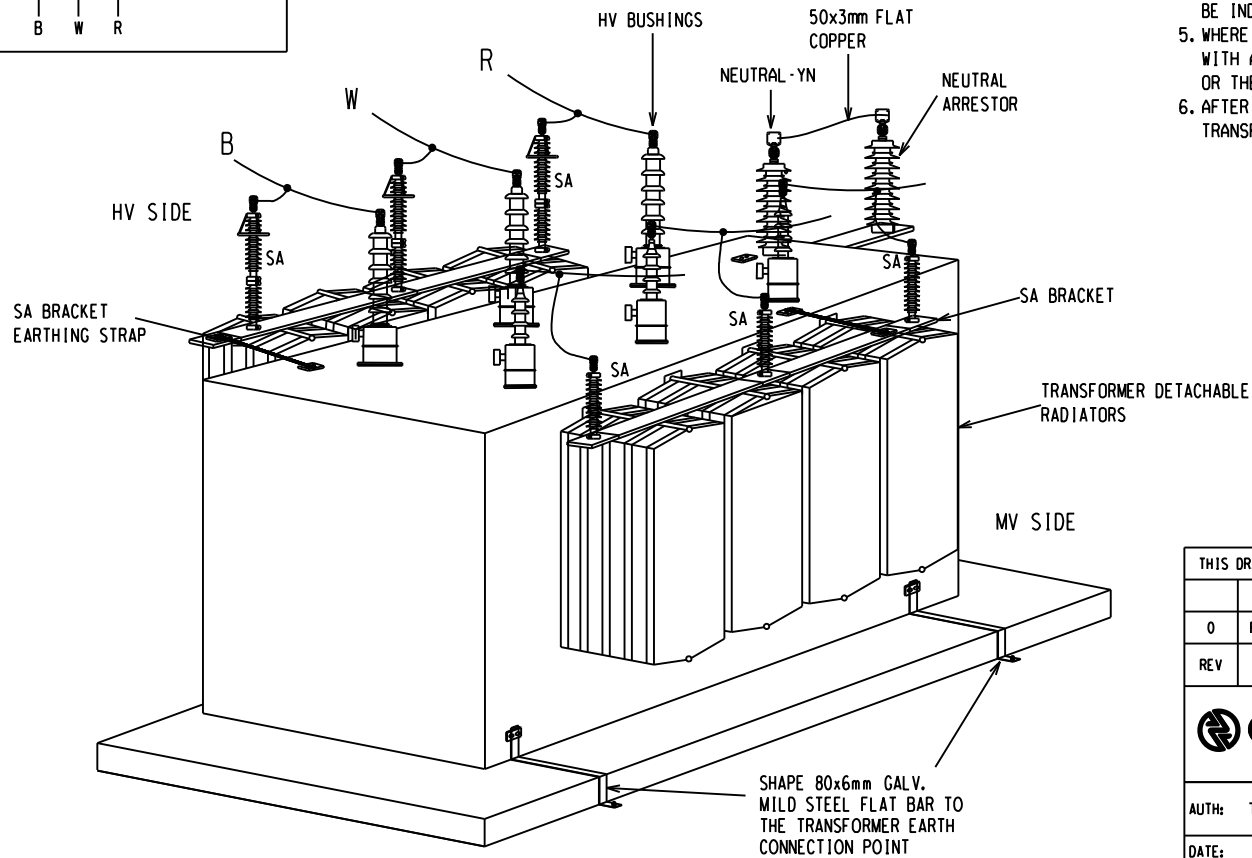
D-DT-5240	SET	SHEET	REVISION
	25	4	3

TRANSFORMER CONNECTION DETAIL



NOTES:

1. SURGE ARRESTOR EARTHING:
  - a) SURGE ARRESTOR BRACKET AND TRFR TANK TO BE USED AS THE EARTH PATH (i.e. NO COPPER EARTH TAILS FOR THE SURGE ARRESTORS).
  - b) SURGE ARRESTOR BRACKETS MUST BE BONDED TO THE TRFR TANK IF THE BRACKET IS MOUNTED ONTO THE TRANSFORMER DETACHABLE RADIATORS.
  - c) IN CASES WHERE INDIVIDUAL SURGE ARRESTOR BRACKETS ARE USED, THE EARTHING OF THESE BRACKETS ARE TO BE INTERLINKED AND CONNECTED TO THE TRANSFORMER EARTHING TERMINAL.
2. TRFR NEUTRAL EARTHING:
  - a) WHEN PRESENT, TRFR NEUTRAL(S) MUST BE EARTHED INDIVIDUALLY VIA ITS OWN EARTHING TERMINAL USING 2 x 50 x 3mm FLAT COPPER EARTHING STRAPS LAID ONE UPON THE OTHER.
  - b) USE THE EXP STUP PALM BOLT CLAMP (D-DT-6027 SET 1 SHT 1) ON THE NEUTRAL BUSHING. BOLT THE 50 x 3mm FLAT COPPER ONTO THE PALM SECTION OF THE EXP CLAMP WITH 12mm STAINLESS STEEL BOLTS, NUTS AND 2 WASHERS.
3. PAINTED BRACKETS MUST HAVE THE PAINT REMOVED TO ESTABLISH A GOOD METAL TO METAL CONTACT, NON-OXIDE GREASE MUST BE APPLIED TO ALL CONNECTIONS.
4. WHERE NO EARTHING POINT IS AVAILABLE ON THE TRANSFORMER TANK, THE EARTHING POINTS ARE TO BE INDICATED BY THE PROJECT ENGINEER.
5. WHERE EARTH TAILS RUN UP THE TRANSFORMER, THE 50 X 3MM FLAT COPPER HAS TO BE PAINTED WITH A GREY COLOUR. THE PAINT USED TO PAINT THE EARTH TAILS SHOULD MATCH THE COLOUR OR THE TRANSFORMER.
6. AFTER INSTALLATION CONTINUITY SHALL BE TESTED BETWEEN ALL SURGE ARRESTOR BASES AND THE TRANSFORMER MILD STEEL EARTH STRAP IN ACCORDANCE WITH 240-84854974.

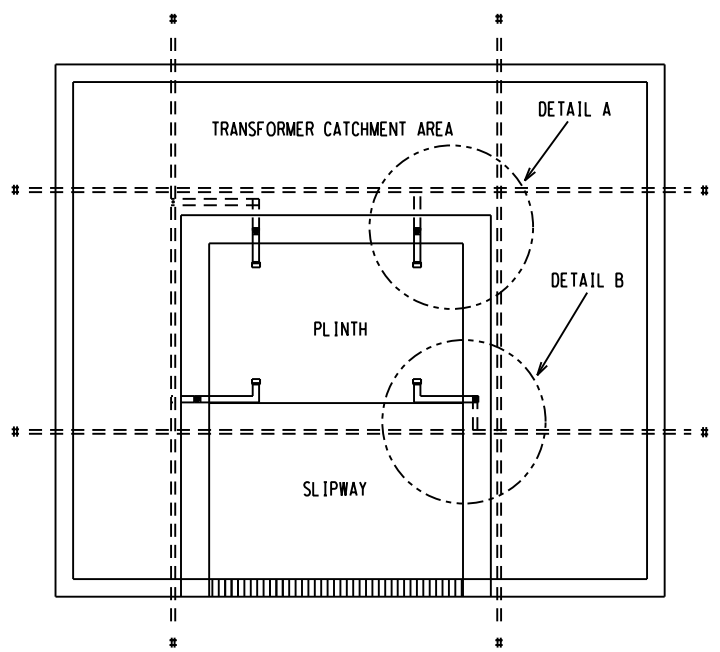


ISOMETRIC VIEW

D-DT-6027	SET 1 SHT 1	EXP STUD CLAMP
D-DT-5231	SHT 1B	TRANSFORMER PLINTH DETAIL
D-DT-5240	SET 25 SHT 5	TRANSFORMER PLINTH EARTHING DE.
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
0	FIRST ISSUE				/ /	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

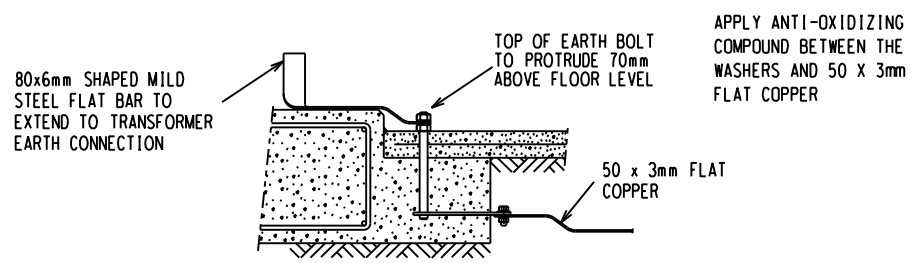
	<h2>EARTHING STANDARD</h2> <h3>TYPICAL 88KV STAR DELTA TRFR EARTHING DETAIL</h3>					
	AUTH: T. MARAIS					
	DATE: 05/04/2019					
CHKD: J.K. RAGHUBIR						
DATE: 05/04/2019						
SCALE 1:10		DRAWN: BM HLOMENDLINI		DATE: 20/02/2019		
THIS DRAWING IS THE PROPERTY OF ESKOM		<h1>D-DT-5240</h1>		SET	SHEET	REVISION
				25	4A	0



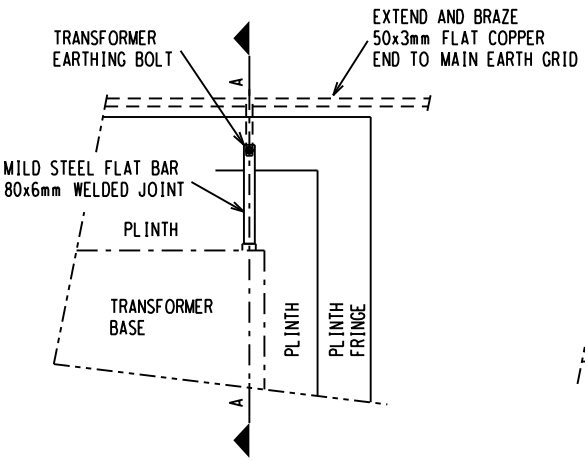
TYPICAL FRONT ENTRY TRANSFORMER BUND AREA  
PLAN VIEW

NOTES:

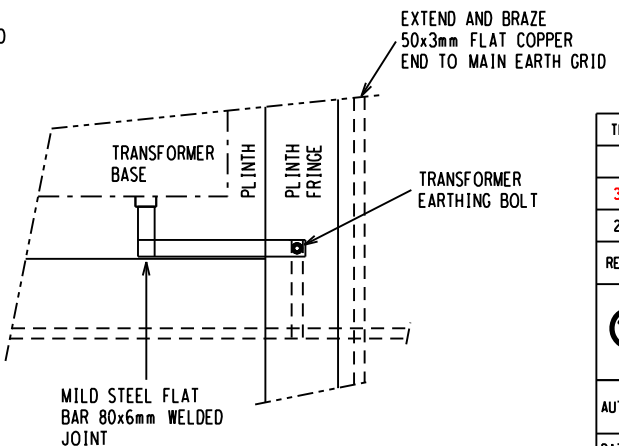
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE EARTH GRID LAYOUT & DETAILED FOUNDATION DRAWING.
2. CIVIL WORKS SHOULD COMPLY TO THE DETAILED FOUNDATION DRAWING, TRANSFORMER ENTRY OPTIONS VARY FROM FRONT ENTRY, RIGHT ENTRY, LEFT ENTRY AND REAR ENTRY.
3. A 80x6mm MILD GALVANISED STEEL BAR IS TO BE USED FOR TRANSFORMER EARTHING AS INDICATED ON SECTION A-A.
4. WHERE UNDERGROUND CONNECTIONS ARE MADE TO GALVANISED STEELWORK. THE COPPER SURFACE HAS TO BE TINNED AND COAT WITH ANTI-OXIDIZING ELECTRICAL COMPOUND.  
ALL TINNED COPPER MUST BE TREATED AS DESCRIBED PRIOR TO MAKING A CONNECTION  
A) WASH AND BRUSH TINNED AREA IN WATER AFTER TINNING;  
B) APPLY THIN LAYER OF NON-OXIDE GREASE ONLY TO TINNED AREAS FACING GALV STEELWORK.
5. FOR EARTHING BOLT SPECIFICATION SEE D-DT-5231 SHEET 1B.
6. \* - FLAT COPPER TO BE 500mm BELOW THE CONCRETE FLOOR AND EXTEND TO THE MAIN EARTH GRID.



SECTION A-A  
TYPICAL EARTHING BOLT  
FOUNDATION ASSEMBLY



DETAIL A  
TYPICAL EARTHING BOLT  
FOUNDATION ASSEMBLY



DETAIL B  
TYPICAL EARTHING BOLT  
FOUNDATION ASSEMBLY

D-DT-5231	SHT 1B	TRANSFORMER PLINTH DETAIL
D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO.	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
3	COMPLETE DRAWING AND CONNECTION DETAIL REVISION	BMH	JKR	T. MARAIS	05/04/2019	
2	NOTE ADDED TO SHOW CONNECTION TO MAIN EARTH GRID SHEET RE-NUMBERED FROM 1B TO SHEET 5.	DJL	CBC	CBC	13/03/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



EARTHING STANDARD  
DETAIL OF TRANSFORMER  
CONCEALED EARTHING

AUTH: J.F. SCHOLTZ  
DATE: 12/05/2003  
CHKD: J.F. SCHOLTZ

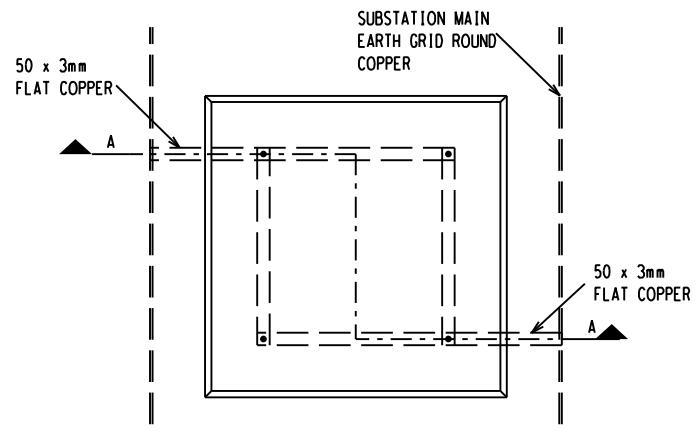
SAP No.  
SCALE 1:10  
THIS DRAWING IS THE PROPERTY OF ESKOM  
DATE: 12/05/2003  
DRAWN: D.C.R.  
DATE: 09/12/2002

D-DT-5240

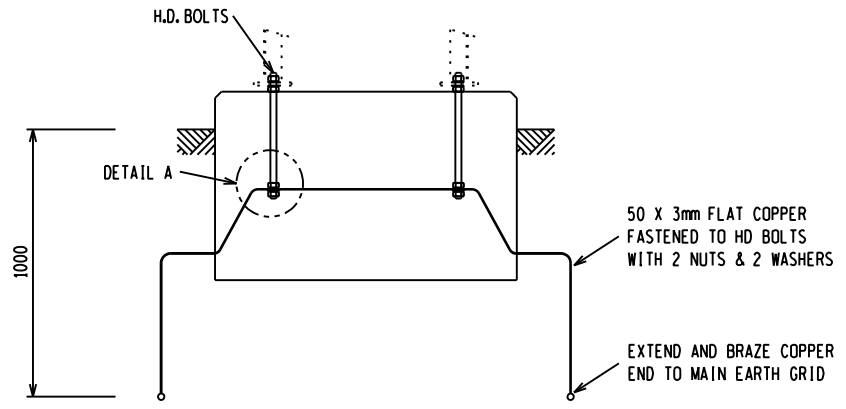
SET	SHEET	REVISION
25	5	3

1 2 3 4 5 6 7 8

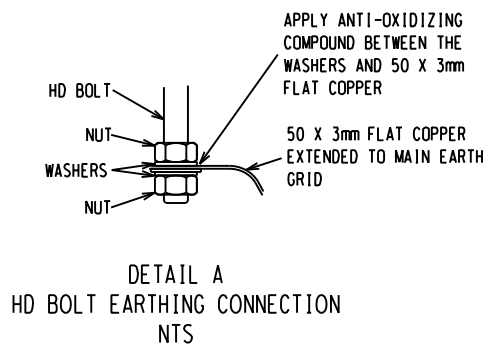
A  
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D  
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PLAN



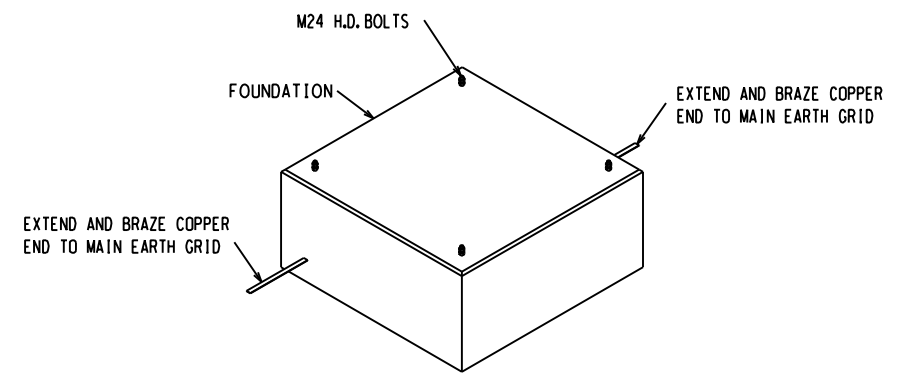
SECTION A-A



DETAIL A  
HD BOLT EARTHING CONNECTION  
NTS

**NOTES:**

1. FOUNDATION EARTHING METHODS VARY ACCORDING TO THE TYPE OF FOUNDATION.
2. FOR DETAILED FOUNDATION EARTHING, SEE MAIN SUBSTATION EARTH GRID LAYOUT DRAWING AND FOUNDATION DETAIL.
3. BOLT THE 50 x 3mm EARTH TAIL TO THE FOUNDATION HD BOLTS USING 2 NUTS AND 2 WASHERS.
4. FOUNDATION EARTH TAILS ARE TO BE CONNECTED TO DIFFERENT ROUND COPPER RODS.
5. ALL ELECTRICAL BOLTED CONNECTION ARE TO BE CLEANED AND FILLED WITH AN ANTI-OXIDIZING ELECTRICAL COMPOUND.



ISOMETRIC VIEW  
(NTS)

D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
3	COMPLETE DRAWING & DETAIL REVISION	BMH	JKR	T.MARAIS	05/04/2019	
2	SECTION THROUGH FOUNDATION ADDED SHOWING CONNECTION OF THE 50x3mm COPPER TO HOLDING DOWN BOLTS.	VvZ	CBC	CBC	19/02/2007	



EARTHING STANDARD  
TYPICAL EQUIPMENT FOUNDATION  
DETAIL

AUTH: J.F. SCHOLTZ  
DATE: 12/05/2003  
CHKD: J.F. SCHOLTZ

SAP No.	DATE: 12/05/2003
SCALE 1:10	DRAWN: J.F. SCHOLTZ
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 09/12/2002

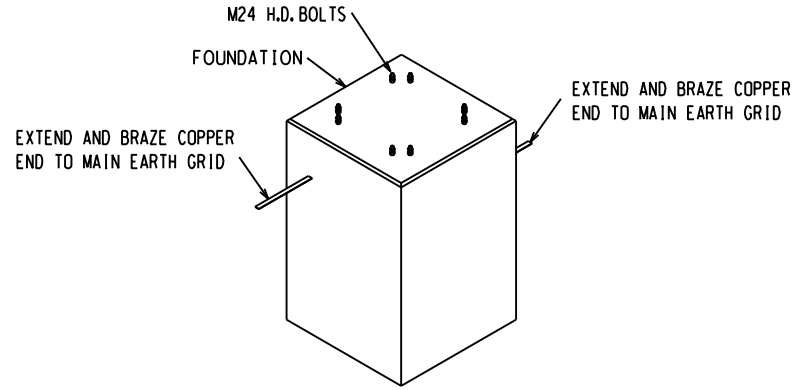
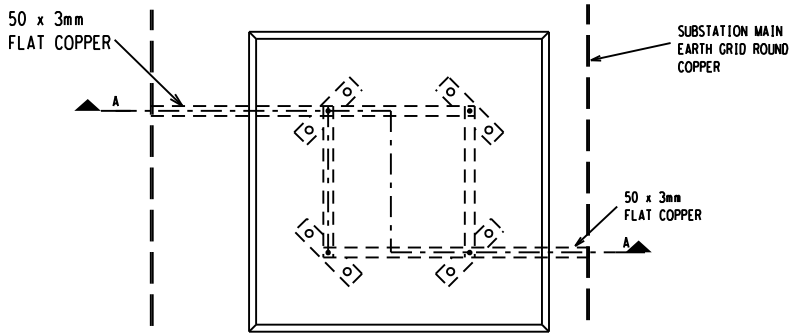
D-DT-5240	SET	SHEET	REVISION
	25	6	3

1 2 3 4 5 6 7 8 A3L

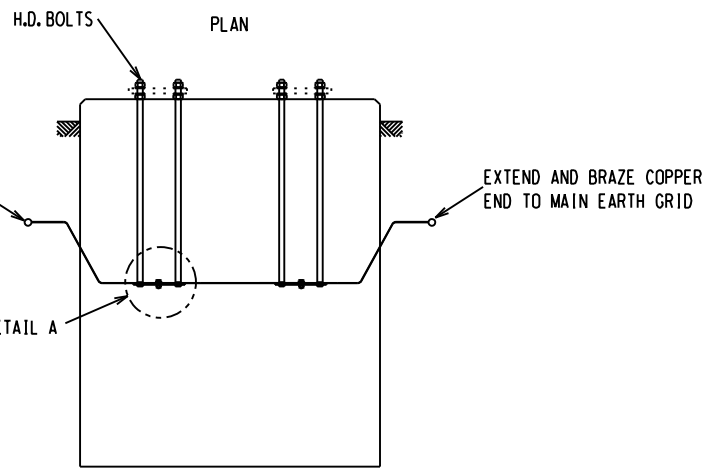


**NOTES:**

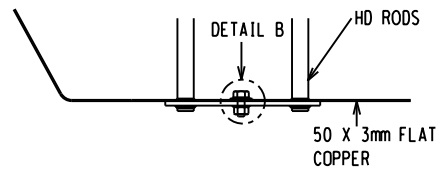
1. FOUNDATION EARTHING METHODS VARY ACCORDING TO THE TYPE OF FOUNDATION.
2. FOR DETAILED FOUNDATION EARTHING, SEE MAIN SUBSTATION EARTH GRID LAYOUT DRAWING AND FOUNDATION DETAIL.
3. BOLT THE 50 x 3mm EARTH TAIL TO THE MILD STEEL PLATE WITH A BOLT, NUT & 2 WASHERS.
4. FOUNDATION EARTH TAILS ARE TO BE CONNECTED TO DIFFERENT ROUND COPPER RODS.
5. ALL ELECTRICAL BOLTED CONNECTION ARE TO BE CLEANED AND FILLED WITH AN ANTI-OXIDIZING ELECTRICAL COMPOUND.



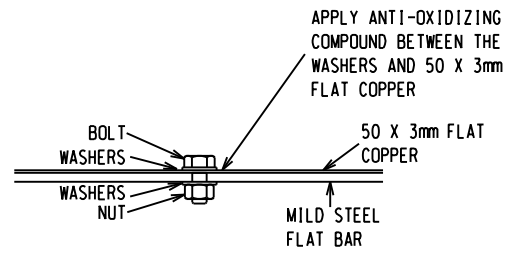
ISOMETRIC VIEW (NTS)



SECTION A-A



DETAIL A  
HD BOLT DETAIL



DETAIL B  
EARTHING CONNECTION DETAIL

D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO.	REFERENCE DRAWINGS

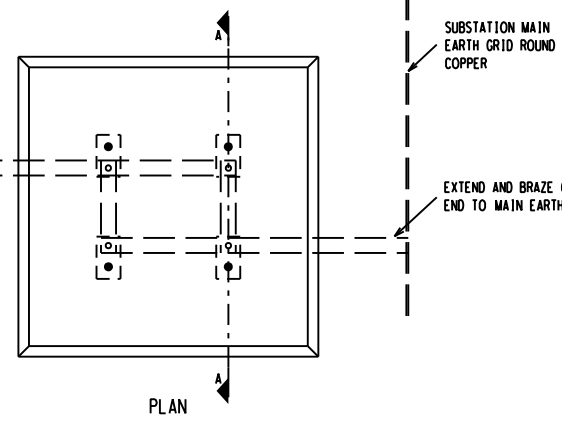
THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
0	FIRST ISSUE				/ /	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

**Eskom**  
AUTH: T. MARAIS  
DATE: 05/04/2019  
CHKD: J.K. RAGHUBIR

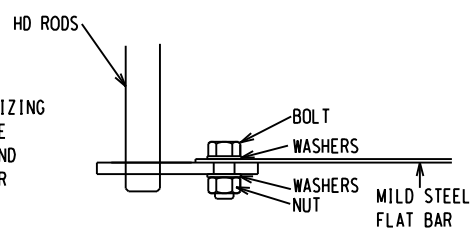
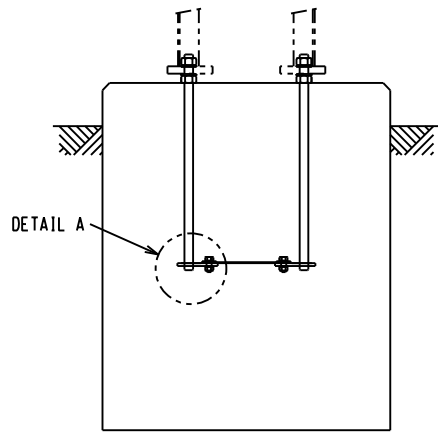
EARTHING STANDARD  
TYPICAL COLUMN FOUNDATION  
DETAIL

SAP No.	DATE: 05/04/2019	SET	SHEET	REVISION
SCALE 1 : 10	DRAWN: BM HLOMENDLINI	D-DT-5240	25	6A
THIS DRAWING IS THE PROPERTY OF Eskom	DATE: 20/02/2019			

50 X 3mm FLAT COPPER FASTENED TO MILD STEEL PLATE WITH A BOLT, NUT & 2 WASHERS



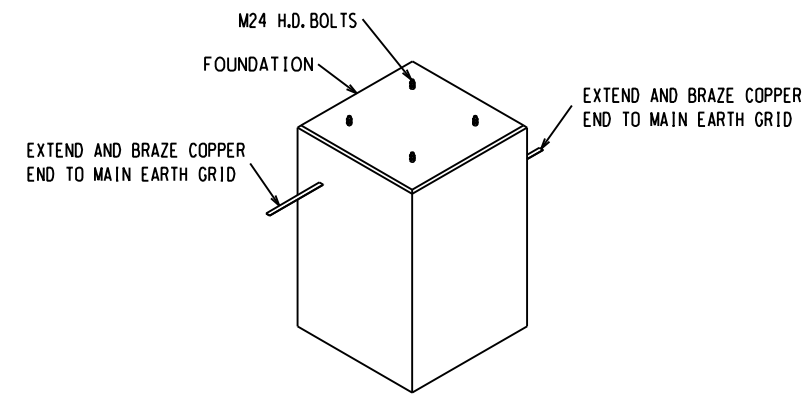
SUBSTATION MAIN EARTH GRID ROUND COPPER  
EXTEND AND BRAZE COPPER END TO MAIN EARTH GRID



NB: APPLY ANTI-OXIDIZING COMPOUND BETWEEN THE WASHER/MILD STEEL AND 50 X 3mm FLAT COPPER

**NOTES:**

1. FOUNDATION EARTHING METHODS VARY ACCORDING TO THE TYPE OF FOUNDATION.
2. FOR DETAILED FOUNDATION EARTHING, SEE MAIN SUBSTATION EARTH GRID LAYOUT DRAWING AND FOUNDATION DETAIL.
3. BOLT THE 50 x 3mm EARTH TAIL TO THE MILD STEEL PLATE WITH A BOLT, NUT & 2 WASHERS.
4. FOUNDATION EARTH TAILS ARE TO BE CONNECTED TO DIFFERENT ROUND COPPER RODS.
5. ALL ELECTRICAL BOLTED CONNECTION ARE TO BE CLEANED AND FILLED WITH AN ANTI-OXIDIZING ELECTRICAL COMPOUND.



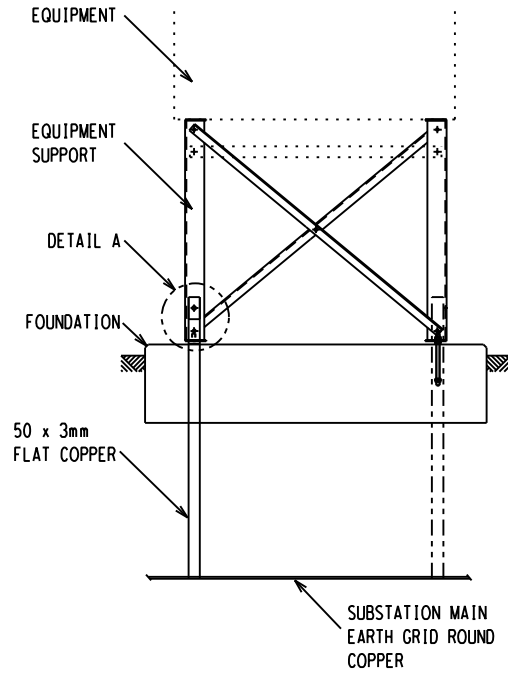
D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO.	REFERENCE DRAWINGS

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
0	FIRST ISSUE				/ /	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

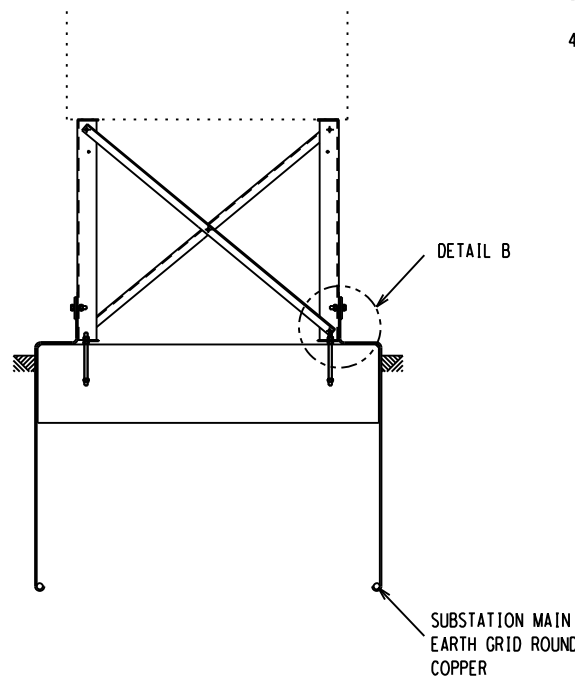
	<h2>EARTHING STANDARD</h2> <h3>TYPICAL TERTIARY COLUMN FOUNDATION DETAIL</h3>					
	AUTH: T. MARAIS					
	DATE: 05/04/2019					
	CHKD: J.K. RAGHUBIR					
SAP No.	DATE: 20/02/2019	SET	SHEET	REVISION		
SCALE 1:10	DRAWN: BM HLOMENDLINI	D-DT-5240		25	6B	0
THIS DRAWING IS THE PROPERTY OF ESKOM		DATE: 20/02/2019				

**NOTES:**

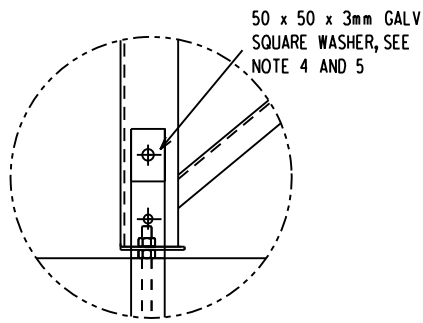
1. 50 x 3mm FLAT COPPER IS TO BE SHAPED AND EXTENDED TO THE MAIN SUBSTATION EARTH GRID.
2. BOLT THE 50 x 3mm EARTH TAIL TO THE EQUIPMENT STEELWORK WITH A GALVANISED BOLT ,NUT AND 2 WASHERS.
3. TO ENSURE A GOOD CONTACT BETWEEN THE 50 x 3mm FLAT COPPER & SUPPORT, USE A 50 x 50 x 3mm GALVANISED SQUARE WASHER BEHIND THE FLAT COPPER.
4. ENSURE THAT DIAMETER OF HOLE ON THE GALVANISED SQUARE WASHER IS 2mm BIGGER THAN THE DIAMETER OF THE HD BOLT.



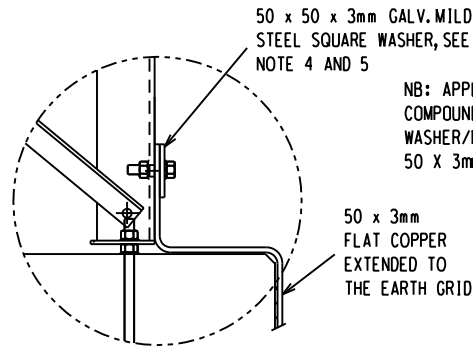
FRONT VIEW



SIDE VIEW



DETAIL A



DETAIL B

50 x 50 x 3mm GALV SQUARE WASHER, SEE NOTE 4 AND 5

50 x 50 x 3mm GALV. MILD STEEL SQUARE WASHER, SEE NOTE 4 AND 5

NB: APPLY ANTI-OXIDIZING COMPOUND BETWEEN THE WASHER/MILD STEEL AND 50 X 3mm FLAT COPPER

50 x 3mm FLAT COPPER EXTENDED TO THE EARTH GRID

D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS

0	FIRST ISSUE				//	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



**EARTHING STANDARD  
TYPICAL SUPPORT EARTHING  
DETAIL**

AUTH: T. MARAIS

DATE: 05/04/2019

CHKD: J.K. RAGHUBIR

DATE: 05/04/2019

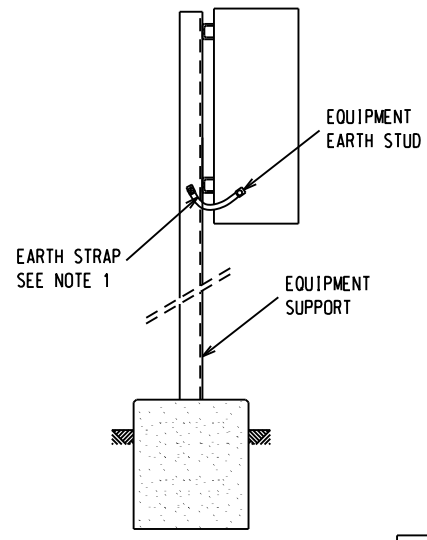
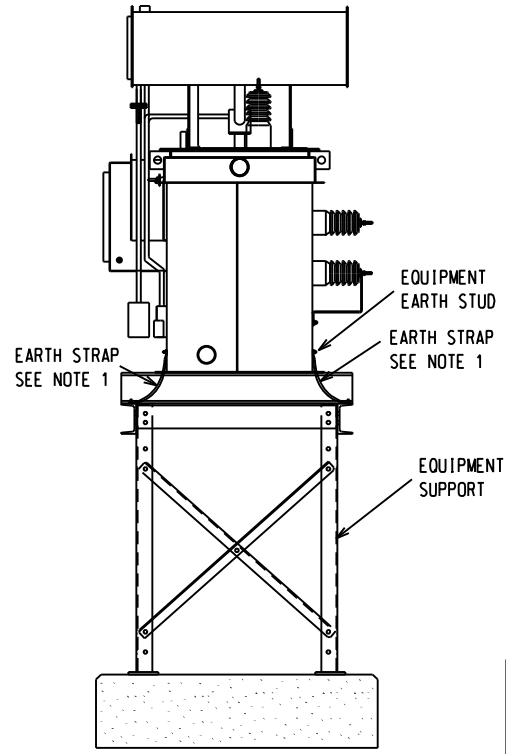
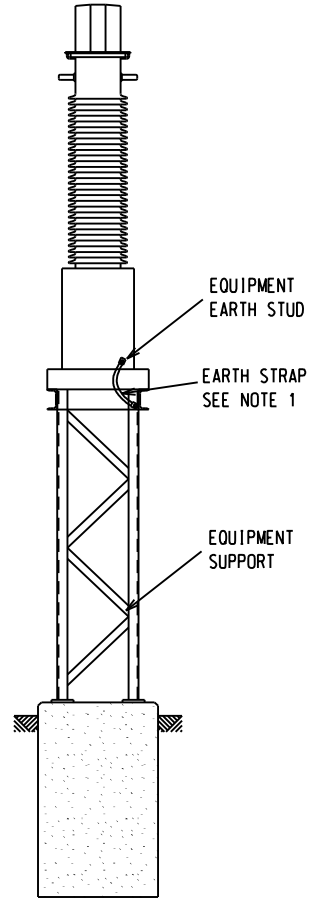
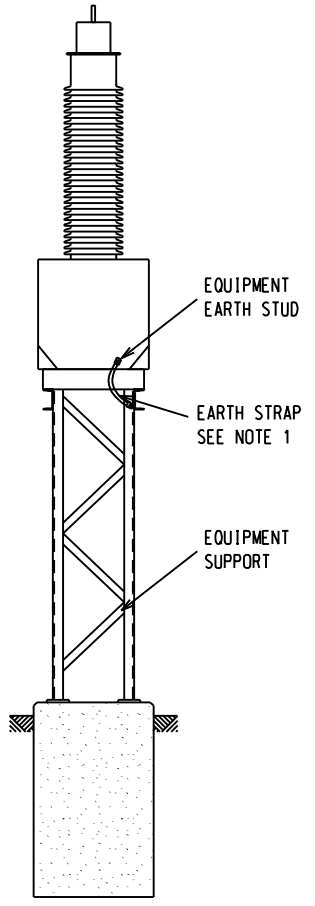
DRAWN: BM HLOMENDLINI

DATE: 20/02/2019

SAP No.	DATE: 05/04/2019	SET	SHEET	REVISION
SCALE 1:10	DRAWN: BM HLOMENDLINI	D-DT-5240	25	60
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 20/02/2019			

A  
B  
C  
D  
E  
F

1 2 3 4 5 6 7 8



**NOTES:**

1. 150mm<sup>2</sup> (300A) UV PROTECTED FLEXIBLE COPPER LEADS WITH 16mm LUGS ARE TO BE USED TO EARTH THE EQUIPMENT TO THE EQUIPMENT SUPPORT. ALL LUGS TO HAVE HEAT SHRINK COVERING OF 70mm, THE NON-CONNECTED AREA IS TO BE COVERED WITH THE HEAT SHRINK SLEEVE.
2. USE A M16 GALVANISED BOLT, NUT AND 2x WASHERS TO CONNECT THE FLEXIBLE LEAD ON THE EQUIPMENT STEELWORK.
3. CHECK EQUIPMENT EARTHING STUD BOLT SIZE PRIOR TO SUPPLY AND INSTALLING THE EQUIPMENT LUG, NUT AND WASHERS.
4. STEELWORK TO BE USED FOR EARTH PATH.
5. ALL ELECTRICAL BOLTED CONNECTION ARE TO BE CLEANED AND FILLED WITH AN ANTI-OXIDIZING ELECTRICAL COMPOUND.

D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS

2	COMPLETE DRAWING & DETAIL REVISION	BMH	JKR	T. MARAIS	05/04/2019	/ /
1	DESCRIPTION FOR CONNECTION TO EARTH MAT UPDATED SHEET RE-NUMBERED FROM SHEET 3 TO SHEET 7.	DJL	CBC	CBC	13/03/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

**Eskom**  
AUTH: J.F. SCHOLTZ  
DATE: 12/05/2003  
CHKD: J.F. SCHOLTZ

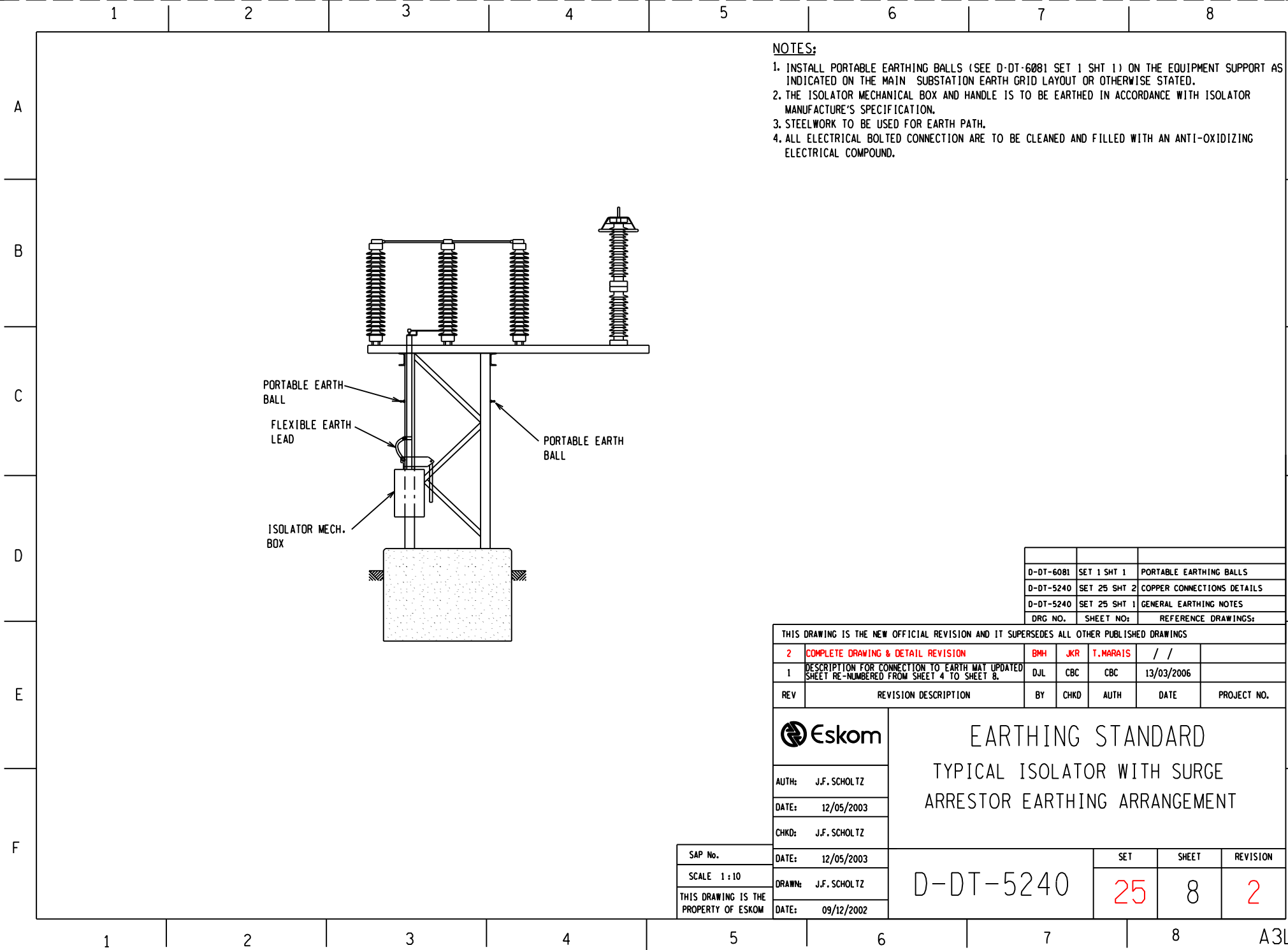
EARTHING STANDARD  
POST TYPE VT, CT AND JB  
EARTHING DETAIL

SAP No.  
SCALE 1:10  
THIS DRAWING IS THE PROPERTY OF ESKOM

DATE: 12/05/2003  
DRAWN: J.F. SCHOLTZ  
DATE: 09/12/2002

D-DT-5240	SET	SHEET	REVISION
	25	7	2

1 2 3 4 5 6 7 8



**NOTES:**

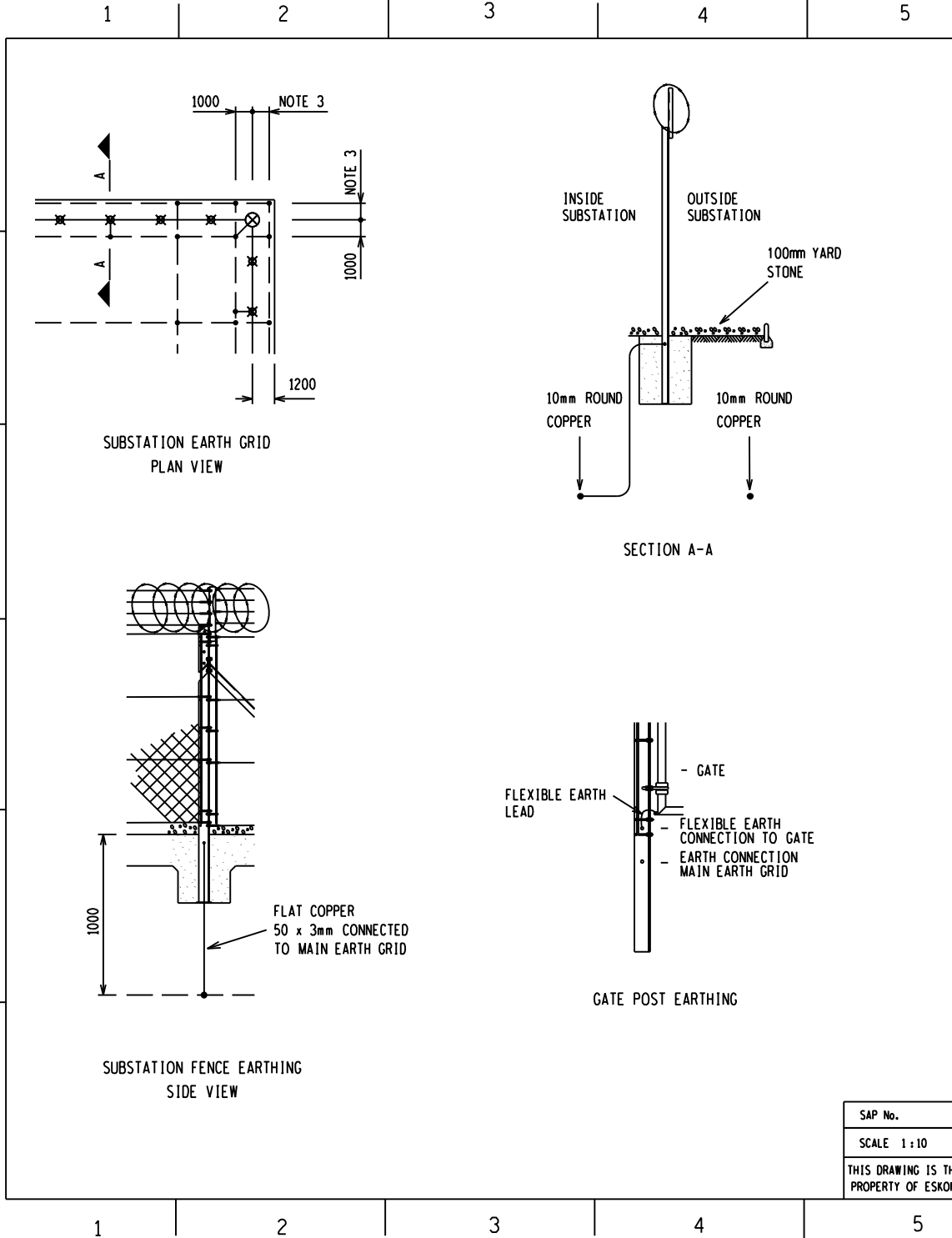
1. INSTALL PORTABLE EARTHING BALLS (SEE D-DT-6081 SET 1 SHT 1) ON THE EQUIPMENT SUPPORT AS INDICATED ON THE MAIN SUBSTATION EARTH GRID LAYOUT OR OTHERWISE STATED.
2. THE ISOLATOR MECHANICAL BOX AND HANDLE IS TO BE EARTHED IN ACCORDANCE WITH ISOLATOR MANUFACTURE'S SPECIFICATION.
3. STEELWORK TO BE USED FOR EARTH PATH.
4. ALL ELECTRICAL BOLTED CONNECTION ARE TO BE CLEANED AND FILLED WITH AN ANTI-OXIDIZING ELECTRICAL COMPOUND.

D-DT-6081	SET 1 SHT 1	PORTABLE EARTHING BALLS
D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS

2	COMPLETE DRAWING & DETAIL REVISION	BMH	JKR	T.MARAIS	/ /	
1	DESCRIPTION FOR CONNECTION TO EARTH MAT UPDATED SHEET RE-NUMBERED FROM SHEET 4 TO SHEET 8.	DJL	CBC	CBC	13/03/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

	<h2 style="margin: 0;">EARTHING STANDARD</h2> <h3 style="margin: 0;">TYPICAL ISOLATOR WITH SURGE ARRESTOR EARTHING ARRANGEMENT</h3>			
	AUTH: J.F. SCHOLTZ			
	DATE: 12/05/2003			
	CHKD: J.F. SCHOLTZ			
SAP No.	DATE: 12/05/2003	SET	SHEET	REVISION
SCALE 1:10	DRAWN: J.F. SCHOLTZ	D-DT-5240	25	8
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 09/12/2002			2



DRAWING SCHEDULE	
LEGEND	DESCRIPTION
— — —	MAIN EARTH MAT - Ø10mm ROUND COPPER BURIED BELOW GROUND LEVEL
— — —	EARTH TAILS 3mm x 50mm FLAT COPPER STRAPS
— + —	BRAZED JOINTS TO BE OXY-ACETYLENE BRAZED USING 3mm φ SILBRALLOY
— ⊗ —	SUBSTATION SECURITY FENCE
— — —	STONE KERB

- NOTES:**
- ESKOM SECURITY FENCE EARTHING AT INTERVALS NOT EXCEEDING 20m.
  - THE MAIN EARTH GRID SHOULD RUN ON THE INSIDE AND OUTSIDE OF THE SUBSTATION SECURITY FENCE AS INDICATED ON THE SUBSTATION EARTH GRID PLAN VIEW.
  - THE OUTER GRID IS TO BE BETWEEN 600mm AND 1000mm OUTSIDE THE SUBSTATION SECURITY FENCE AS SPECIFIED ON THE EARTH GRID LAYOUT.
  - ALL GATE POSTS AND EXTERNAL SECURITY FENCE CORNER POSTS ARE TO BE EARTH WITH 50 x 3mm FLAT COPPER EXTENDED TO THE MAIN SUBSTATION EARTH GRID.
  - BRING EARTH TAILS UP TO THE FENCE POST FROM THE MAIN EARTH GRID AND BOLT TO THE FENCE POST USING M16 GALVANISED BOLTS, NUT AND 2x WASHERS OR UNLESS OTHERWISE STATED.
  - FOR NON-METAL FENCES OR WALLS, THE EARTH GRID DOES NOT REQUIRE TO EXTEND BEYOND THE SUBSTATION PERIMETER.
  - 70mm<sup>2</sup> (150A) UV PROTECTED FLEXIBLE COPPER LEADS WITH 16mm LUGS ARE TO BE USED TO EARTH THE GATE TO THE GATE POST USING M16 GALVANISED BOLT, NUT AND 2x WASHERS. ALL LUGS TO HAVE HEAT SHRINK COVERING OF 70mm, THE NON-CONNECTED AREA IS TO BE COVERED WITH THE HEAT SHRINK SLEEVE.
  - ALL ELECTRICAL BOLTED CONNECTION ARE TO BE CLEANED AND FILLED WITH AN ANTI-OXIDIZING ELECTRICAL COMPOUND.
  - WHERE UNDERGROUND CONNECTIONS ARE MADE TO GALVANISED STEELWORK, THE COPPER SURFACE HAS TO BE TINNED AND COAT WITH ANTI-OXIDIZING ELECTRICAL COMPOUND.  
ALL TINNED COPPER MUST BE TREATED AS DESCRIBED PRIOR TO MAKING A CONNECTION  
A) WASH AND BRUSH TINNED AREA IN WATER AFTER TINNING;  
B) APPLY THIN LAYER OF NON-OXIDE GREASE ONLY TO TINNED AREAS FACING GALV STEELWORK.

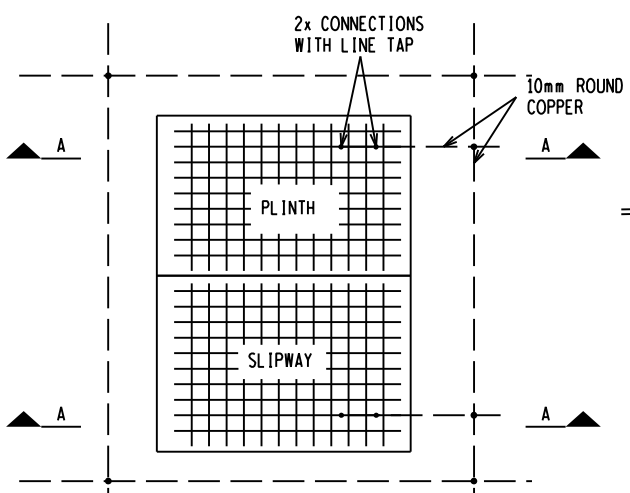
D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS					
4	COMPLETE DRAWING & DETAIL REVISION	B.M.H.	J.K.R.	T.MARAIS	05/04/2019
3	DIMENSIONS ON MAIN EARTH GRID CHANGED	P.A.T.	T.M.	V.SINGH	27/02/2012
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE
					PROJECT NO.

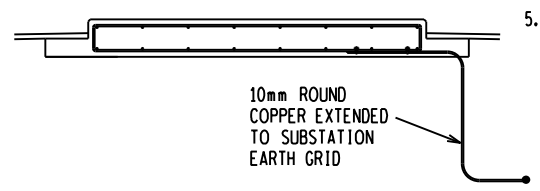
	<h2 style="margin: 0;">EARTHING STANDARD</h2> <h3 style="margin: 0;">SAFETY FENCE EARTHING</h3> <h3 style="margin: 0;">DETAIL</h3>			
	AUTH: C. CLARK			
	DATE: 05/11/2004			
	CHKD: C. CLARK			
SAP No.	DATE: 05/11/2004	SET	SHEET	REVISION
SCALE 1:10	DRAWN: V VAN ZWEEL	D-DT-5240	25	9
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 01/11/2004			4

1 2 3 4 5 6 7 8

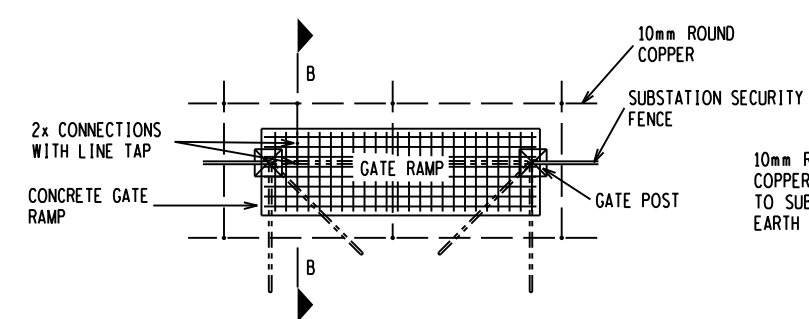
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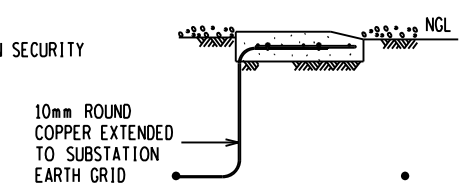
TRANSFORMER PLINTH AND SLIPWAY REINFORCEMENT MESH PLAN VIEW (FRONT ENTRY TRANSFORMER PLINTH)



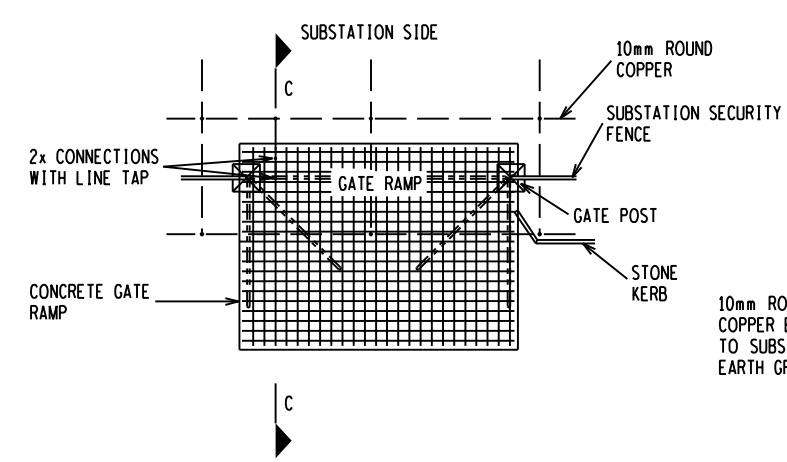
SECTION A-A



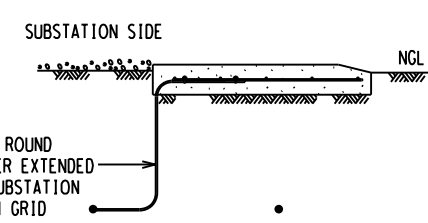
INTERNAL GATE RAMP REINFORCEMENT MESH PLAN VIEW



SECTION B-B



EXTERNAL GATE RAMP REINFORCEMENT MESH PLAN VIEW



SECTION C-C

**NOTES:**

1. REINFORCING MESH WILL BE BONDED TO THE MAIN EARTH GRID ON ONE SIDE ONLY.
2. A MINIMUM OF TWO CONNECTIONS BETWEEN THE 10mm ROUND COPPER AND THE REINFORCEMENT BAR MUST BE DONE WITH A LINE TAP CLAMP (D-DT-3048) COATED WITH NON-OXIDE GREASE BEFORE CONNECTION.
3. TRANSFORMER PLINTH VARY ACCORDING TO THE ENTRY ARRANGEMENT AND SIZE OF THE TRANSFORMER TO BE INSTALLED, SEE SET D-DT-5232 FOR CIVIL DETAIL.
4. REINFORCED LEAF CONCRETE GATE RAMP SHOULD EXTEND BY THE LENGTH OF THE GATE LEAF PLUS 600mm BEYOND THE SUBSTATION MAIN GATE, FOR EXTERNAL GATES ONLY.
5. ALL CIVIL WORKS FOR EXTERNAL, INTERNAL AND SLIDING GATE RAMPS TO CONFORM TO D-DT-5237.

D-DT-3048	SET 1 SHT 1	LINE TAP CLAMP
D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO.	REFERENCE DRAWINGS

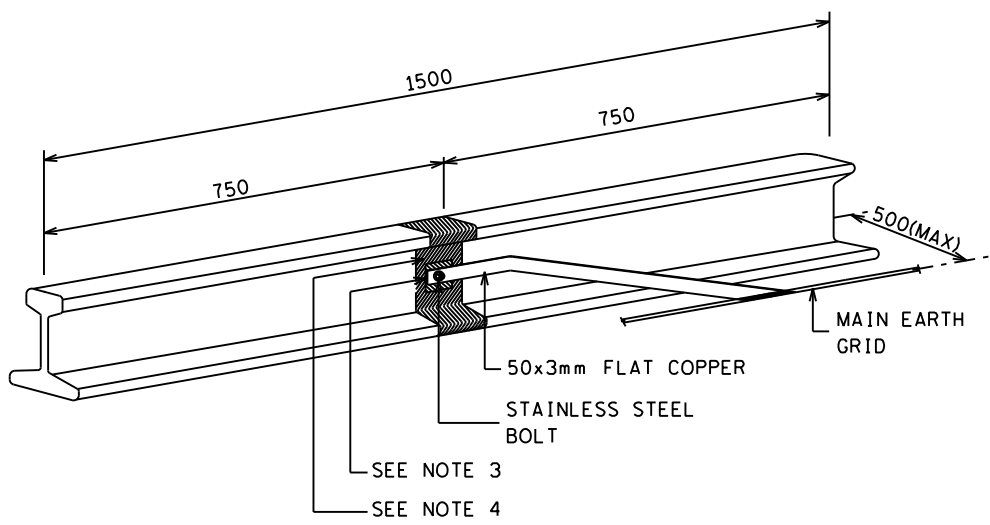
THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS					
2	COMPLETE DRAWING & DETAIL REVISION	BMH	JKR	T. MARAIS	05/04/2019
1	DESCRIPTION EARTH MAT UPDATED TO EARTH GRID. BOLTED CLAMP REVISED	DJL	CBC	CBC	13/03/2006
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE
					PROJECT NO.

AUTH: C.B. CLARK  
DATE: 13/03/2006  
CHKD: C.B. CLARK

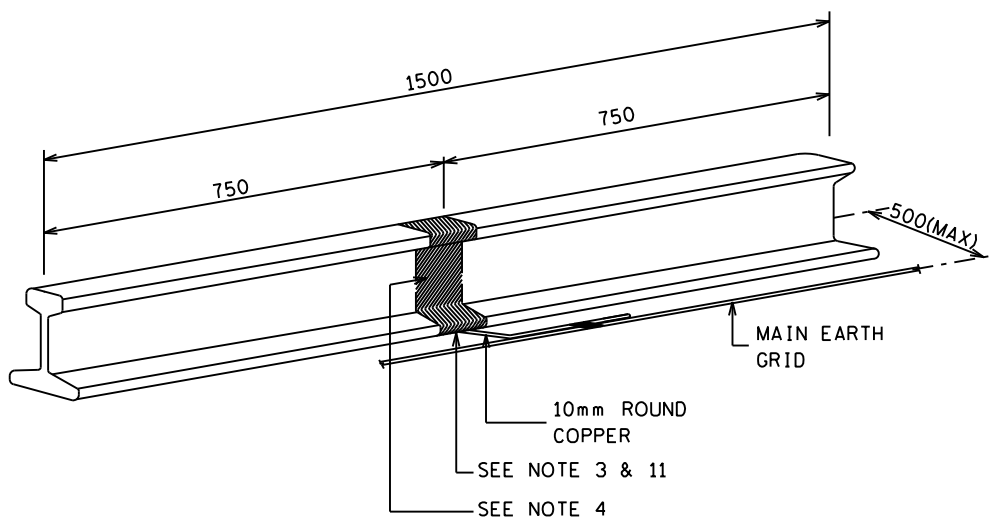
## EARTHING STANDARD REINFORCING EARTHING DETAIL

SAP No.	DATE: 13/03/2006	SET	SHEET	REVISION
SCALE 1:10	DRAWN: D.D. NGEGE	25	10	2
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 15/03/2005			

1 2 3 4 5 6 7 8



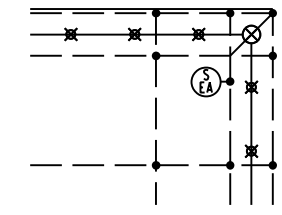
OPTION 1: SACRIFICIAL EARTH ANODE  
ISOMETRIC VEIW



OPTION 2: SACRIFICIAL EARTH ANODE  
ISOMETRIC VEIW

**NOTES:**

1. THE NUMBER AND POSITIONS OF THE SACRIFICIAL EARTH GRID ANODE IS TO BE INDICATED AS (EA) ON THE SUBSTATION EARTH GRID LAYOUT DRAWING.
  2. 57KG STEEL RAIL, FOR AREAS WHERE SOIL CONDITIONS ARE MILDLY TO SEVERELY CORROSIVE.
  3. CONTACT AREA OF APPROX. 80 x 80mm IS TO BE SCRAPED OF ON ONE SIDE OF THE ANODE TO EXPOSE THE CLEAN METAL.
  4. A STRIP OF APPROX. 150mm WIDE AROUND THE CENTER PORTION OF THE RAIL (WHICH INCLUDES THE CONNECTION PORTION) IS TO BE PAINTED WITH BITUMEN PAINT.
  5. SACRIFICIAL EARTH GRID ANODE TO BE BURIED 1000mm BELOW GROUND LEVEL IN A SEPERATE TRENCH FROM THE 10mm ROUND COPPER.
  6. USE EITHER OPTION 1 OR OPTION 2 TO CONNECT SACRIFICIAL ANODE TO THE MAIN EARTH GRID AS STATED BELOW.
- OPTION 1**
7. DRILL THE A 18mm HOLE ON THE POSITION INDICATED ON THE DRAWING.
  8. USE A 16mm STAINLESS STEEL BOLT, NUT AND 2 WASHERS TO BOLT THE 50x3mm FLAT COPPER ON THE STEEL RAIL.
  9. 50 x 3mm FLAT COPPER IS TO BE SHAPED AND EXTENDED TO THE MAIN SUBSTATION EARTH GRID.
  10. ALL ELECTRICAL BOLTED CONNECTION ARE TO BE CLEANED AND FILLED WITH AN ANTI-OXIDIZING ELECTRICAL COMPOUND.
- OPTION 2**
11. 10mm ROUND FLAT COPPER IS TO BE EXOTHEMIC WELDED TO THE STEEL RAIL.



TYPICAL SUBSTATION EARTH GRID TRENCH  
PLAN VEIW

D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS						
2	COMPLETE DRAWING AND DETAIL REVISION	BMH	JKR	T.MARAIS	05/04/2019	
1	DESCRIPTION EARTH MAT UPDATED TO EARTH GRID SHEET RE-NUMBERED FROM SHEET 13 TO SHEET 11.	DJL	CBC	CBC	13/03/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

	<h2 style="margin: 0;">EARTHING STANDARD</h2> <h3 style="margin: 0;">SACRIFICIAL EARTH GRID ANODE</h3> <h3 style="margin: 0;">DETAIL</h3>						
	AUTH: J.F. SCHOLTZ						
	DATE: 21/05/2003						
	CHKD: J.F. SCHOLTZ						
SAP No.	DATE: 21/05/2003	<h1 style="font-size: 2em; margin: 0;">D-DT-5240</h1>			SET	SHEET	REVISION
SCALE :	DRAWN: D.C.R.				25	11	2
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 09/12/2002						

SAP No.	DATE: 21/05/2003
SCALE :	DRAWN: D.C.R.
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 09/12/2002



1

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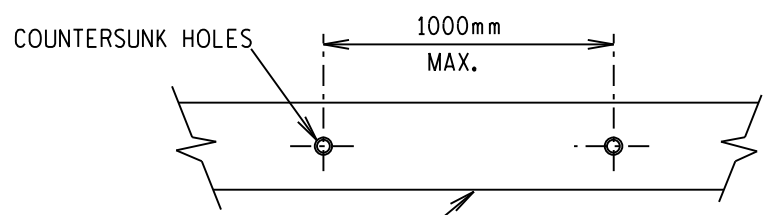
4

### EARTH STRAP FIXING - DETAIL 'A'

USED WHERE STRAP HAS TO RUN ON TOP OF FINISHED FLOOR IN WALKWAYS OR UP AGAINST THE WALL. ONLY COUNTERSUNK SCREWS TO BE USED.

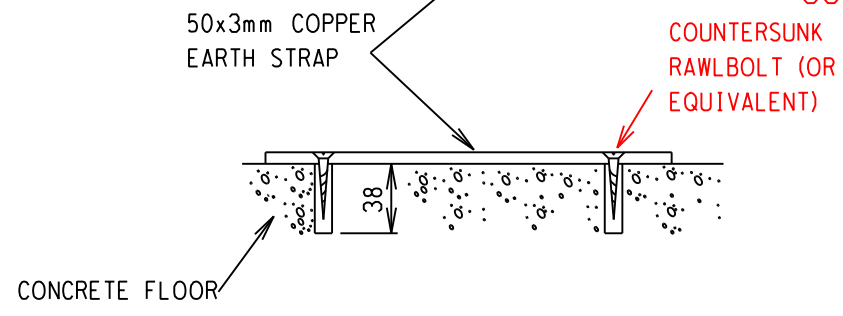
A

A



B

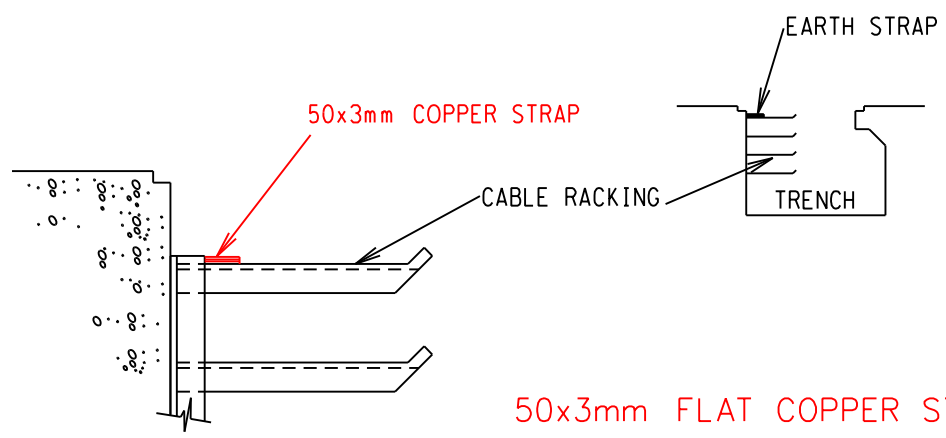
B



### CONTROL ROOM TRENCH EARTH STRAP - DETAIL 'B'

C

C



50x3mm FLAT COPPER STRAP TO BE LAID ON TOP CABLE RACK AND FIXED AT EVERY SECOND RACK

D

D

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS

2	REVISED CABLE RACK EARTHING METHOD	BMH	JKR	T.MARAIS	05/04/2019	
1	DESCRIPTION EARTH MAT UPDATED TO EARTH GRID BOLTED CLAMP REVISED.	DJL	CBC	CBC	13/03/06	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

E

E



# EARTHING STANDARD

## EARTH STRAP FIXING DETAILS

AUTH:	J.F. SCHOLTZ
DATE:	21/05/2003
CHKD:	J.F. SCHOLTZ
DATE:	21/05/2003
DRAWN:	J.F. SCHOLTZ
DATE:	09/12/2002

# D-DT-5240

SET	SHEET	REVISION
25	12	2

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4 A4L

A

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C

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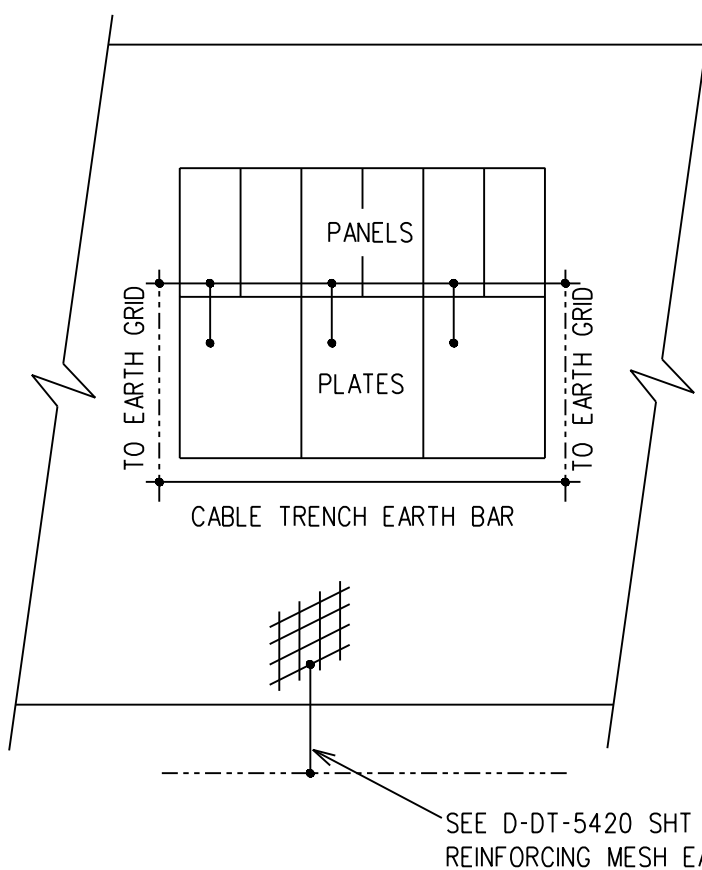
D

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F



**GENERAL NOTES:**

- 1. MESH IN CONCRETE TO BE EARTHED AT ONE PLACE ONLY TO MAIN EARTH GRID.
- 2. THE CIVIL CONTRACTOR IS TO ENSURE THE MESH IN THE FLOOR IS CONTINUOUS.
- 3. IF APPLICABLE, PLATES TO BE SUPPLIED BY SWITCHGEAR MANUFACTURE AS PER D-DT-5238.

**EARTH GRID CONNECTION:**

- 1. SWITCHGEAR TO BE EARTHED IN ACCORDANCE WITH THE OEM REQUIREMENTS/RECOMMENDATION OR TYPE TESTED EARTHING DESIGN WHERE AVAILABLE.
- 2. IN THE ABSENCE OF THIS INFORMATION, APPLY TWO EARTH CONNECTIONS TO A COMBINATION OF SWITCHGEAR PANELS UP TO A LENGTH OF 15M.

THIS DRAWING IS THE NEW OFFICIAL REVISION. IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS.

2	UPDATED DRAWING NOTES	BMH	JKR	T. MARAIS	05/04/2019	
1	SHEET RE-NUMBERED FROM SHEET 11 TO SHEET 13	DJL	CBC	CBC	13/03/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



# EARTHING STANDARD EARTHING OF SWITCH GEAR

AUTH: J.F. SCHOLTZ

DATE: 21/05/2003

CHKD: J.F. SCHOLTZ

DATE: 21/05/2003

DRAWN: J.F. SCHOLTZ

DATE: 10/12/2002

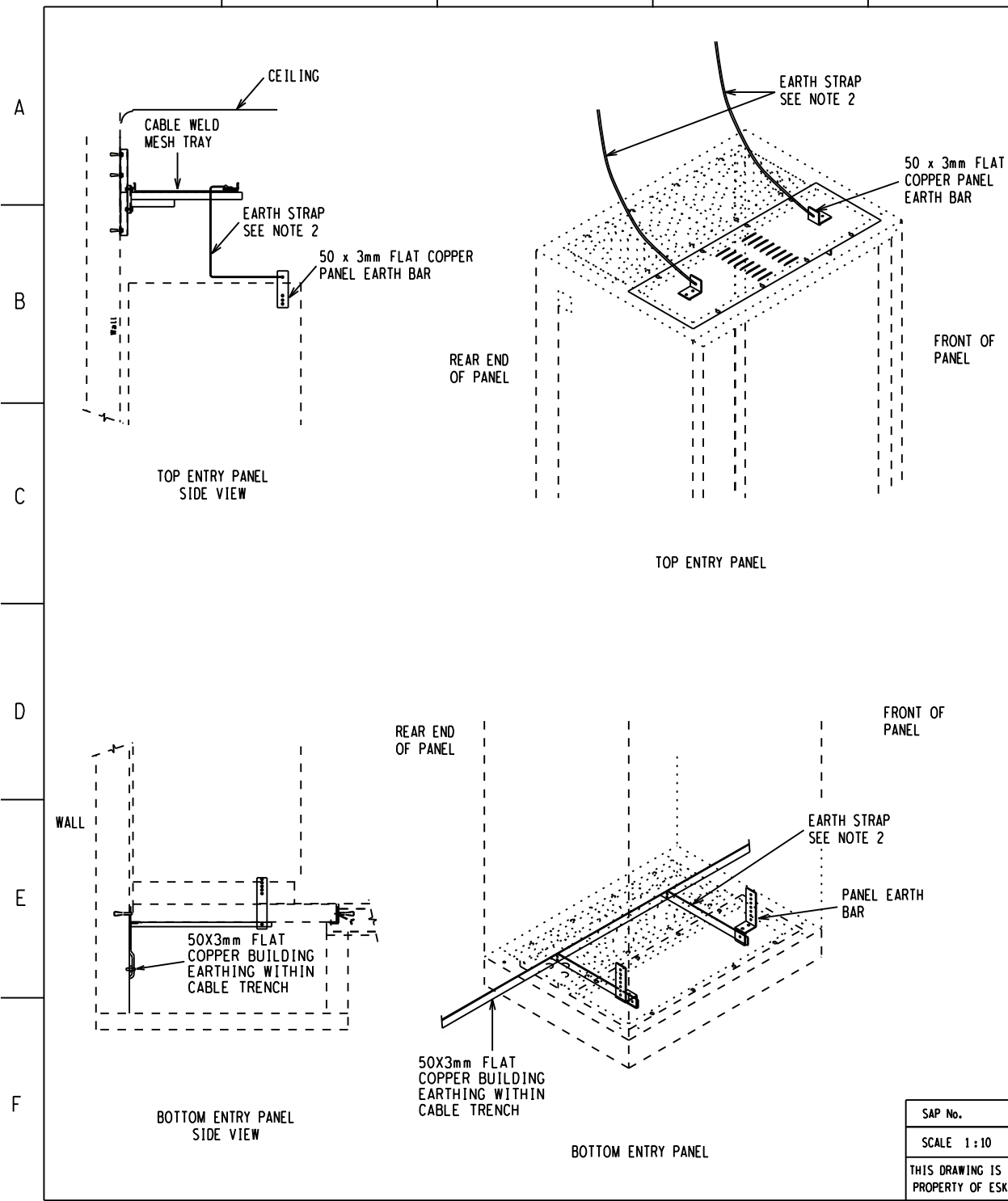
## D-DT-5240

SET	SHEET	REVISION
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25

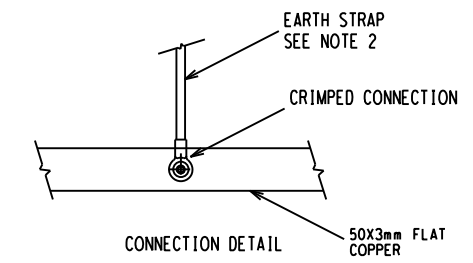
13

2



**NOTES:**

1. SWING FRAME CABINET EARTHING SHOULD BE DONE AS PER STANDARD 240-64100247 AND D-DT-5400.
2. EACH PANEL TO BE EARTHED USING A 25mm WIDE COPPER STRAP OR BRAID OR ROUND BAR WITH ATLEAST 75mm<sup>2</sup> COSS-SECTIONAL AREA. IF THE DISTANCE FROM THE PANEL TO THE TRENCH EXCEEDS 5m THEN TWO PARALLEL STRAPS, SEPERATED BY THE WIDTH OF THE CABINET MUST BE USED.
3. FOR CONTROL BUILDING EARTHING, SEE CONTROL BUILDING EARTHING DRAWING/LAYOUT.
4. ALL EARTHING IN THE PANEL SHOULD BE DONE IN ACCORDANCE WITH STANDARD 240-64100247.
5. IF A 25 X 3mm FLAT COPPER IS USED, EACH 25 X 3mm FLAT COPPER IS TO BE BOLTED TO THE BUILDING EARTHING CONDUCTOR AND PANEL EARTH BAR WITH A M12 STAINLESS BOLT, NUT AND 2 WASHERS TO CONNECT THE 25 X 3mm FLAT.
6. WHERE FLEXIBLE EARTH STRAPS ARE USED, EACH FLEXIBLE EARTH STRAP IS TO BE LUGGED TO THE BUILDING EARTHING CONDUCTOR AND PANEL EARTH BAR AS INDICATED ON THE DETAIL BELOW.



D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO.	REFERENCE DRAWINGS

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS					
3	COMPLETE DRAWING & DETAIL REVISION	BMH	JKR	T. MARAIS	05/04/2019
2	SWING FRAME CABINET SPEC. NO. CORRECTED	P.A.T.	T. M.	V. SINGH	27/02/2012
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE
					PROJECT NO.

	<h2 style="margin: 0;">EARTHING STANDARD</h2> <h3 style="margin: 0;">CONTROL PANEL EARTHING</h3> <h3 style="margin: 0;">DETAIL</h3>			
	AUTH: C. CLARK			
	DATE: 13/03/2006			
	CHKD: C. CLARK			
SAP No.	DATE: 13/03/2006	SET	SHEET	REVISION
SCALE 1:10	DRAWN: NGEDE D.D.	D-DT-5240	25	14
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 11/03/2005			3

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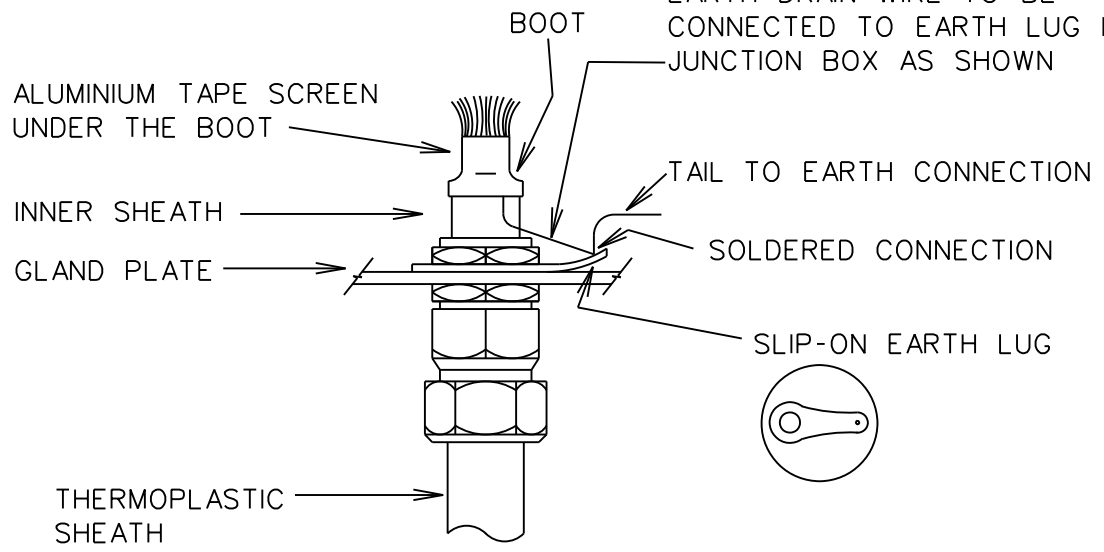
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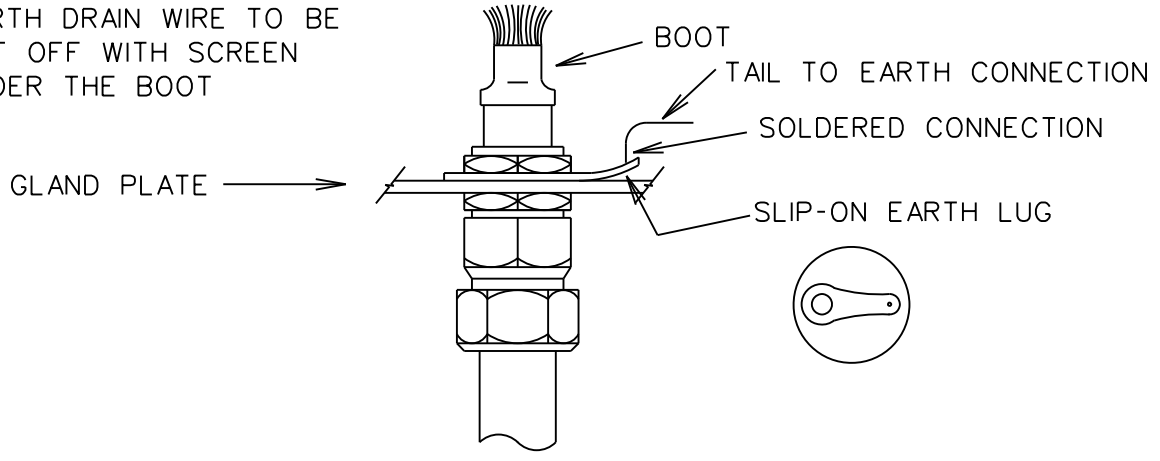
### OUTGOING CABLES

ONLY ON OUTGOING CABLES  
EARTH DRAIN WIRE TO BE  
CONNECTED TO EARTH LUG IN  
JUNCTION BOX AS SHOWN



### INCOMING CABLES

ONLY ON INCOMING CABLES  
EARTH DRAIN WIRE TO BE  
CUT OFF WITH SCREEN  
UNDER THE BOOT



THIS DRAWING IS THE NEW OFFICIAL REVISION. IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS.

2	CHANGED SET NUMBER	BMH	JKR	T.MARAIS	05/04/2019	
1	TITLE BLOCK UPDATED	VvZ	JSF	JSF	13/03/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



# EARTHING STANDARD ARMOURED TELEPHONE & SCREENED CONTROL CABLES AT JUNCTION BOX

AUTH: J.F. SCHOLTZ  
 DATE: 21/05/2003  
 CHKD: J.F. SCHOLTZ  
 DATE: 21/05/2003  
 DRAWN: J.F. SCHOLTZ  
 DATE: 10/12/2002

## D-DT-5240

SET	SHEET	REVISION
25	15	2

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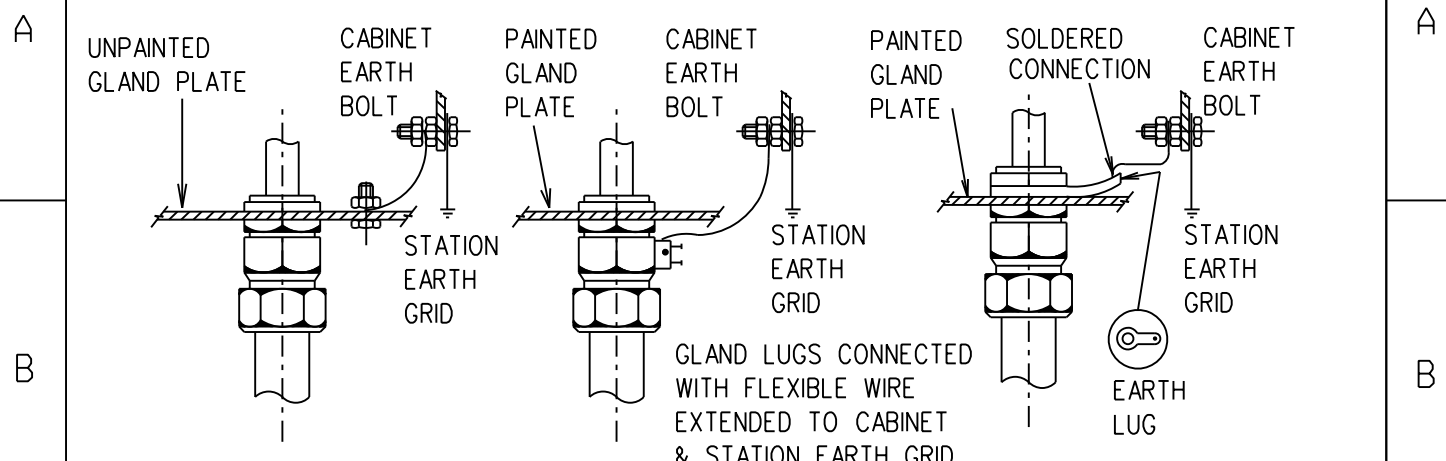
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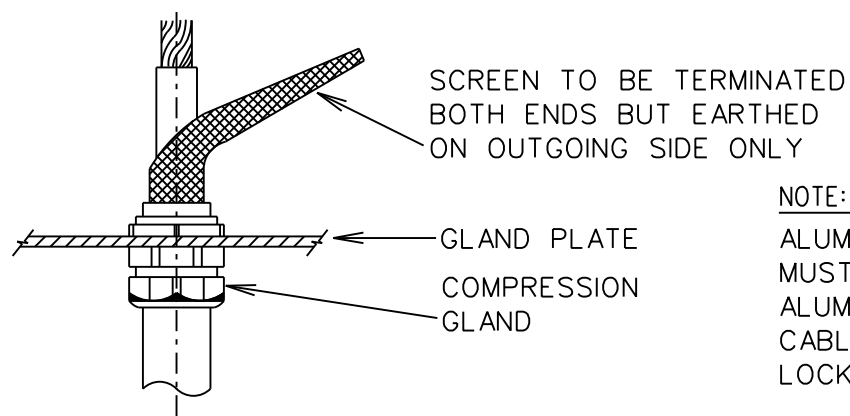
4

### ARMoured MULTICORE CONTROL AND TELEPHONE



NOTE :  
CABLE ARMOURING TO BE BONDED AT BOTH SIDES.

### G.P.O. UNARMoured TYPE 'Z' CABLE



NOTE:  
ALUMINIUM GLANDS MUST BE USED ON ALUMINIUM ARMoured CABLES (DOUBLE LOCK TYPE)

THIS DRAWING IS THE NEW OFFICIAL REVISION. IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS.

2	CHANGED SET NUMBER	BMH	JKR	T. MARAIS	05/04/2019	
1	TITLE BLOCK UPDATED	VvZ	JSF	JSF	13/03/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



# EARTHING STANDARD ARMoured MULTICORE CONTROL & TELEPHONE OR G.P.O. UNARMoured TYPE 'Z' CABLE

AUTH:	J.F. SCHOLTZ
DATE:	21/05/2003
CHKD:	J.F. SCHOLTZ
DATE:	21/05/2003
DRAWN:	J.F. SCHOLTZ
DATE:	10/12/2002

D-DT-5240

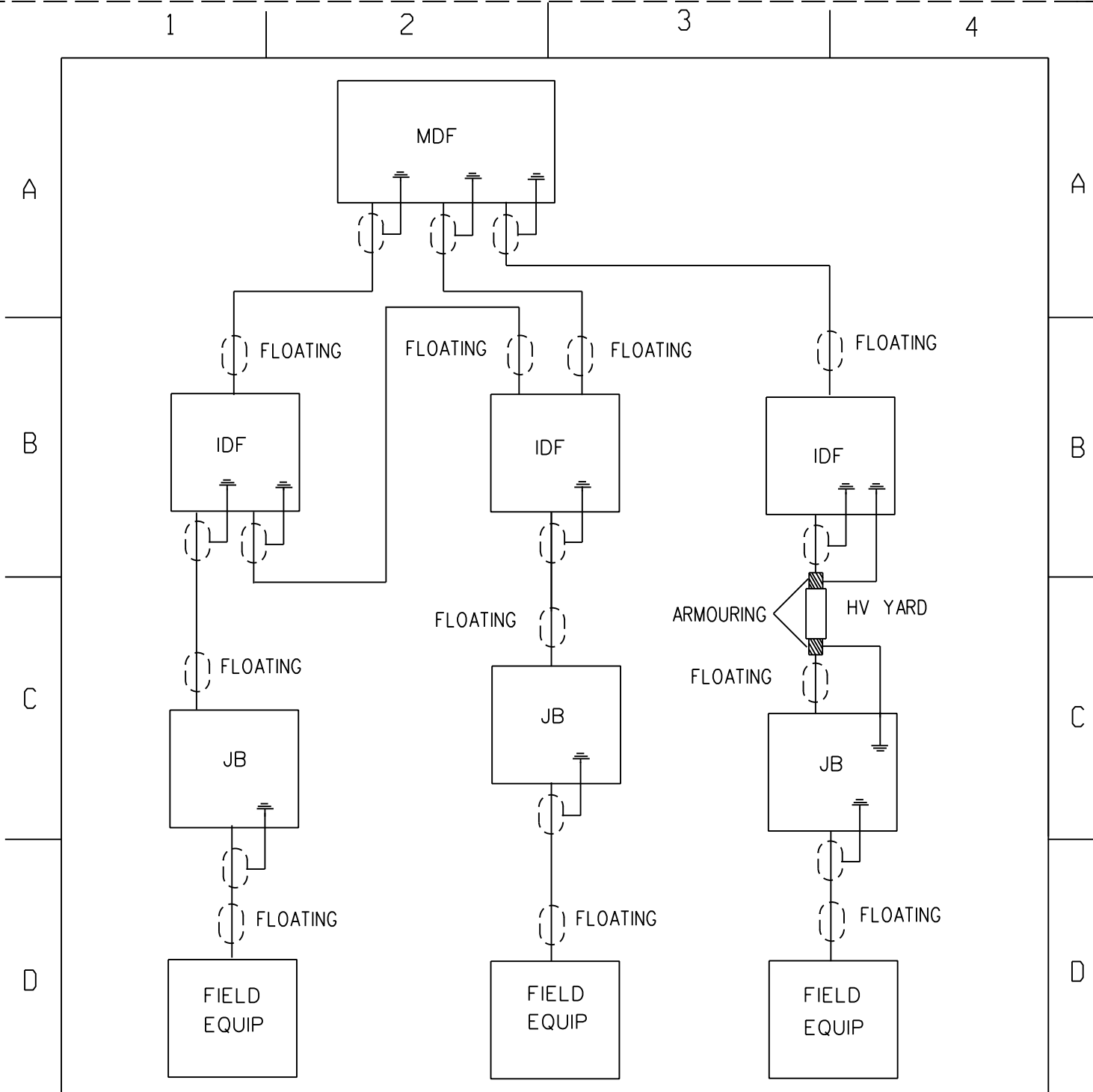
SET	SHEET	REVISION
25	16	2

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THIS DRAWING IS THE NEW OFFICIAL REVISION. IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS.

2	CHANGED SET NUMBER	BMH	JKR	T.MARAIS	05/04/2019	
1	TITLE BLOCK UPDATED	VvZ	JSF	JSF	13/03/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



# EARTHING STANDARD EARTHING OF TELEPHONE OR PROCESS CONTROL CABLES

AUTH: J.F. SCHOLTZ

DATE: 21/05/2003

CHKD: J.F. SCHOLTZ

DATE: 21/05/2003

DRAWN: J.F. SCHOLTZ

DATE: 10/12/2002

## D-DT-5240

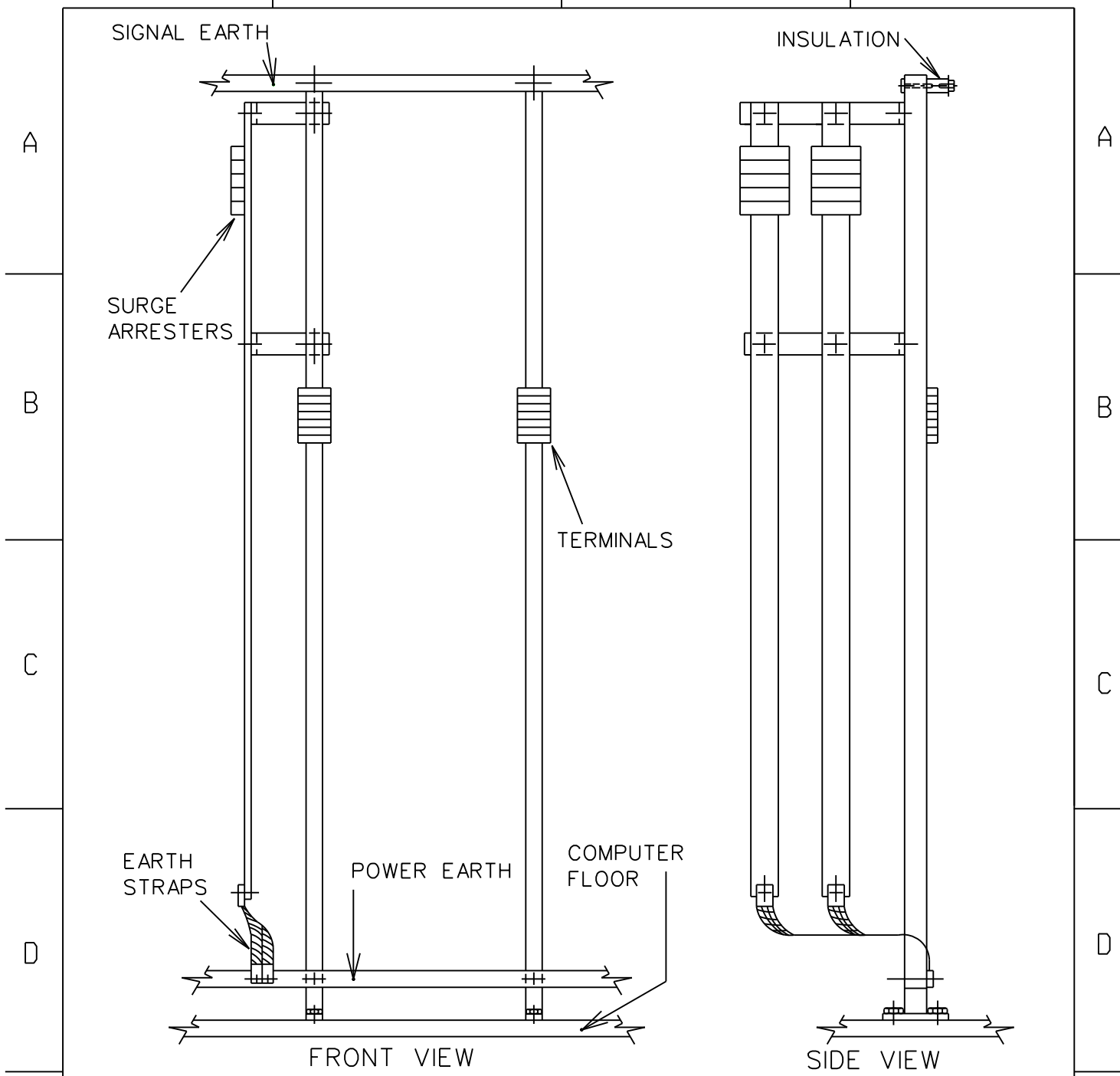
SET	SHEET	REVISION
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THIS DRAWING IS THE NEW OFFICIAL REVISION. IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS.

2	CHANGED SET NUMBER	BMH	JKR	T.MARAIS	05/04/2019	
1	TITLE BLOCK UPDATED	VvZ	JSF	JSF	13/03/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



# EARTHING STANDARD

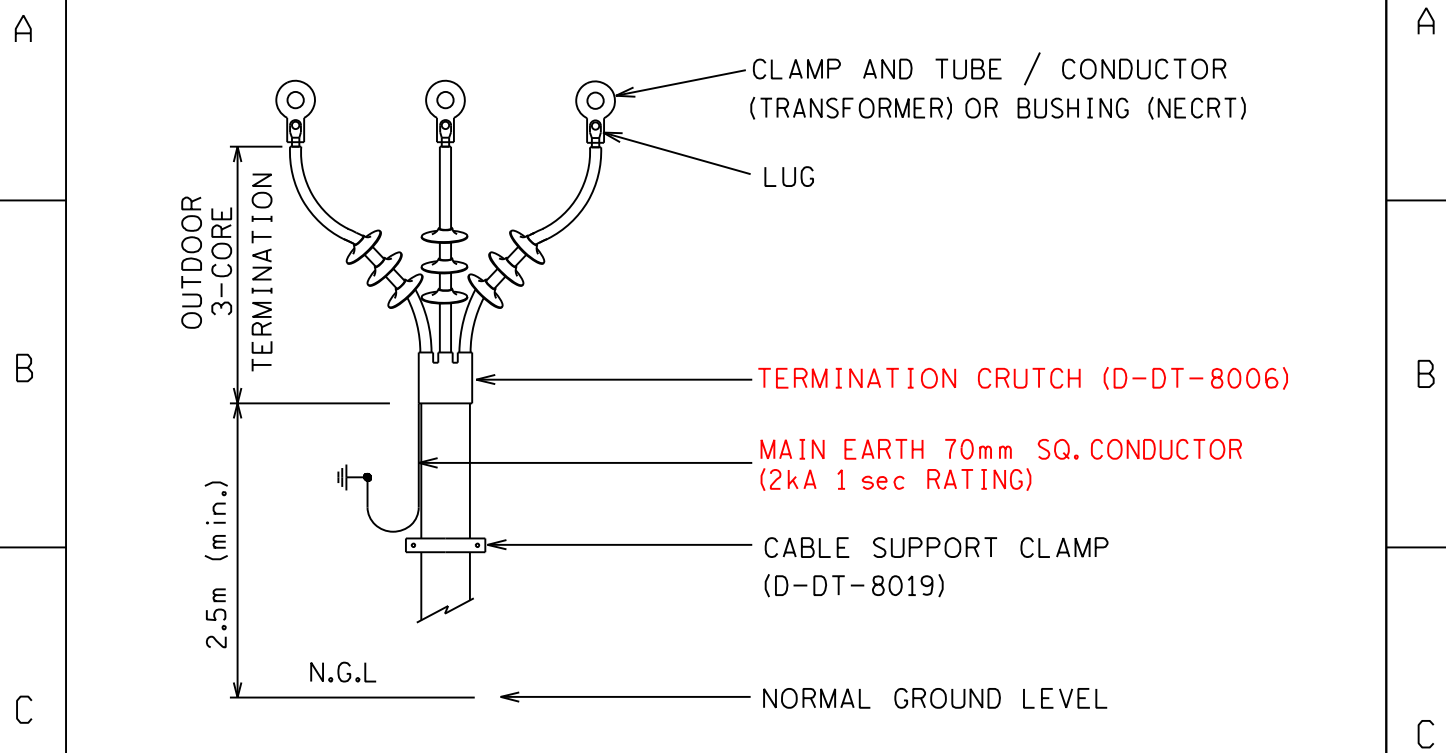
## EARTHING OF

### SIGNAL DISTRIBUTION FRAMES

AUTH:	J.F. SCHOLTZ
DATE:	21/05/2003
CHKD:	J.F. SCHOLTZ
DATE:	21/05/2003
DRAWN:	J.F. SCHOLTZ
DATE:	10/12/2002

D-DT-5240

SET	SHEET	REVISION
25	18	2



**NOTES:**

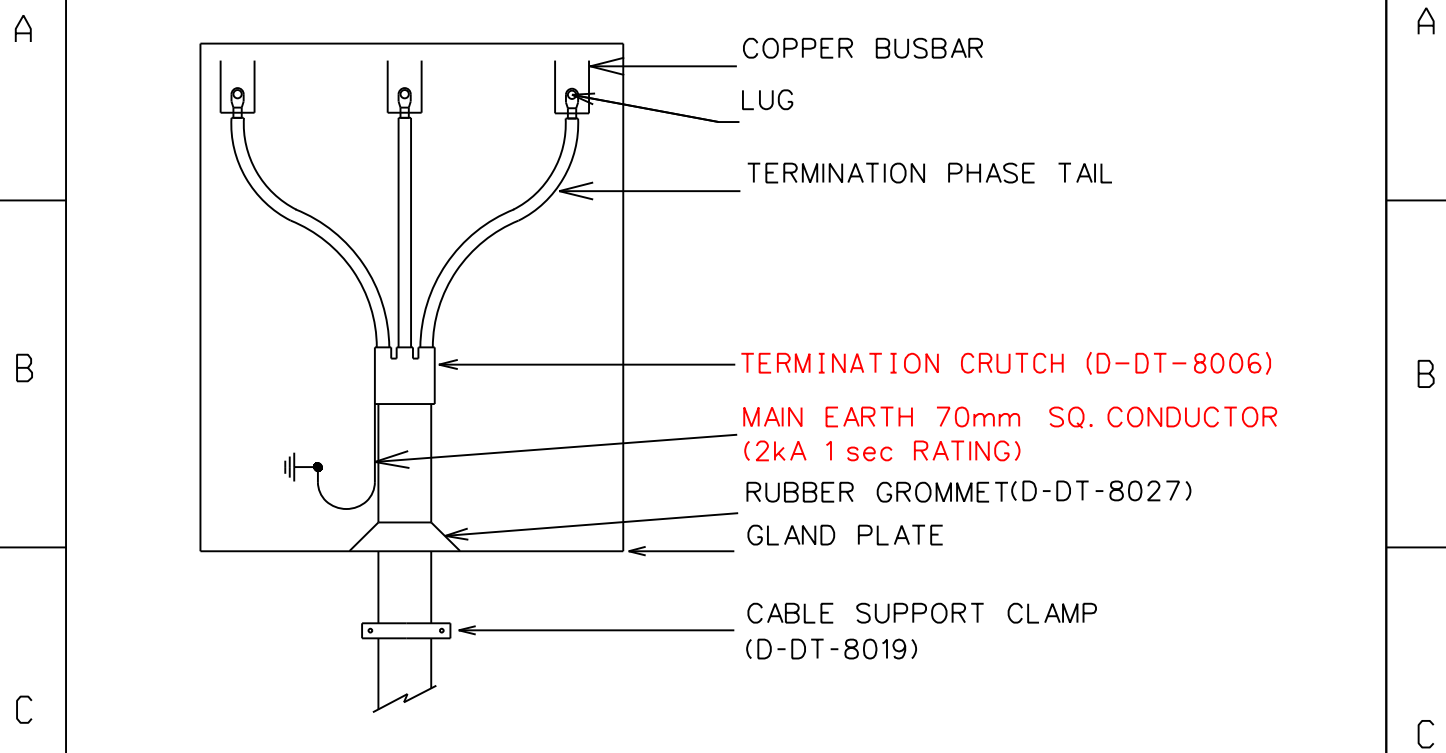
1. MAIN EARTH CONDUCTOR (BRAID) OF CABLE TERMINATION TO BE BONDED TO EARTHED STRUCTURE / NECRT EARTH TERMINAL PROVIDED.
2. 3-CORE CABLE TO BE EARTHED AT BOTH ENDS.
3. EARTHING, BONDING AND TERMINATION SHALL BE DONE IN ACCORDANCE WITH 240-56030619 AND 240-56063710.
4. FOR GENERATION AND TRANSMISSION; FAULT LEVEL MUST BE DETERMINED FOR THE EARTH FAULT CURRENT TO SELECT THE CABLING TYPE AND BRAID SIZE.

THIS DRAWING IS THE NEW OFFICIAL REVISION. IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
3	UPDATED DRAWING NOTES	BMH	JKR	T. MARAIS	05/04/2019	
2	TITLE BLOCK UPDATED	P.A.T.	C. BOSCH	T. NKUMBULE	13/03/2006	

	<h1>EARTHING STANDARD</h1> <h2>MV 3-CORE CABLE TERMINATION AT TRANSFORMER / NECRT</h2>			
	AUTH: R. KELLY			
	DATE: 13/03/2006			
	CHKD: C.B. CLARK			
	DATE: 13/03/2006			
	DRAWN: D.D.NGECE			
DATE: 04/03/2005				
<h1>D-DT-5240</h1>		SET <span style="font-size: 2em; color: red;">25</span>	SHEET <span style="font-size: 2em;">19</span>	REVISION <span style="font-size: 2em; color: red;">3</span>





**NOTES:**

1. MAIN EARTH CONDUCTOR (BRAID) OF CABLE TERMINATION TO BE BONDED TO EARTHED TERMINAL PROVIDED.
2. 3-CORE CABLE TO BE EARTHED AT BOTH ENDS.
3. EARTHING, BONDING AND TERMINATION SHALL BE DONE IN ACCORDANCE WITH 240-56030619 AND 240-56063710.

THIS DRAWING IS THE NEW OFFICIAL REVISION. IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
2	UPDATED DRAWING NOTES	BMH	JKR	T. MARAIS	05/04/2019	
1	NOTE 3 SPEC. CORRECTED	P.A.T.	T. NKUMBULE	V. SINGH	27/02/2012	

	<h1>EARTHING STANDARD</h1> <h2>MV 3-CORE CABLE TERMINATION</h2> <h3>AT METALCLAD SWITCHGEAR</h3>			
	AUTH: R. KELLY			
	DATE: 13/03/2006			
	CHKD: C.B. CLARK			
	DATE: 13/03/2006			
	DRAWN: D.D.NGECE			
DATE: 04/03/2005	D-DT-5240	SET	SHEET	REVISION
		25	20	2

1 2 3 4 5 6 7 8

A

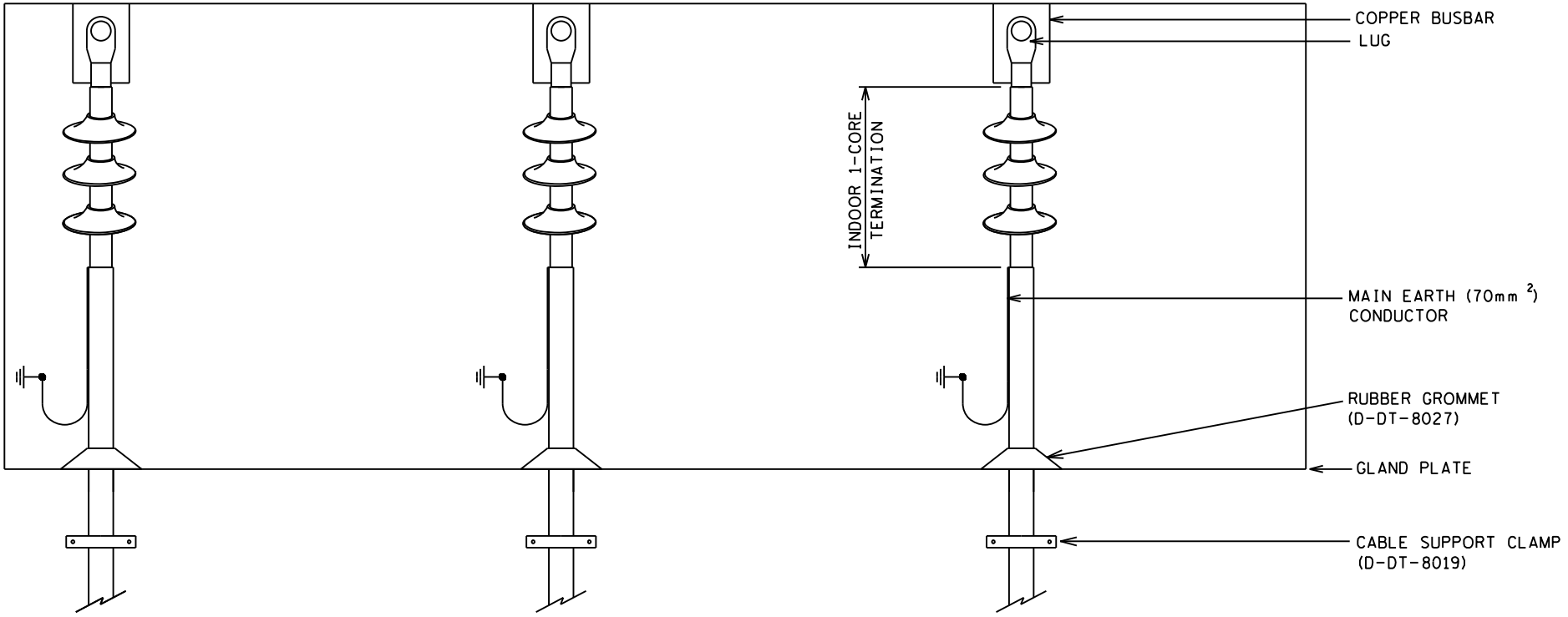
B

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COPPER BUSBAR LUG  
 MAIN EARTH (70mm<sup>2</sup>) CONDUCTOR  
 RUBBER GROMMET (D-DT-8027)  
 GLAND PLATE  
 CABLE SUPPORT CLAMP (D-DT-8019)

INDOOR 1-CORE TERMINATION

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS

2	UPDATED DRAWING NOTES	BMH	JKR	T. MARAIS	05/04/2019	
1	NOTES CHANGED AS PER DST 34-1245	P.A.T.	T. NKUMBULE	V. SINGH	27/02/2012	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



EARTHING STANDARD  
 TYPE 1 OR 2 MV 1-CORE CABLE TERMINATION  
 AT METAL ENCLOSED SWITCHGEAR

AUTH: R. KELLY  
 DATE: 13/03/2006  
 CHKD: C. CLARK

SAP No. :  
 SCALE :  
 THIS DRAWING IS THE PROPERTY OF ESKOM  
 DATE: 13/03/2006  
 DRAWN: D.D. NGECE  
 DATE: 04/02/2005

D-DT-5240

SET	SHEET	REVISION
25	21	2

**NOTES:**  
 1. THE SINGLE CORE CABLES TO BE EARTHED AT ONE END ONLY i.e. IN THE METAL ENCLOSED SWITCHGEAR CABLE BOX.  
 2. EARTHING, BONDING AND TERMINATION SHALL BE DONE IN ACCORDANCE WITH 240-56030619 AND 240-56063710.

1 2 3 4 5 6 7 8 A3L

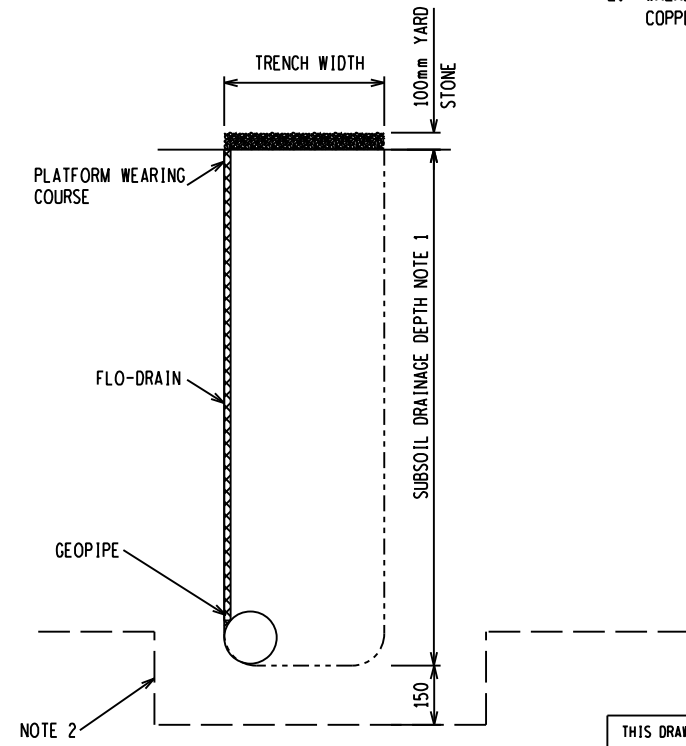
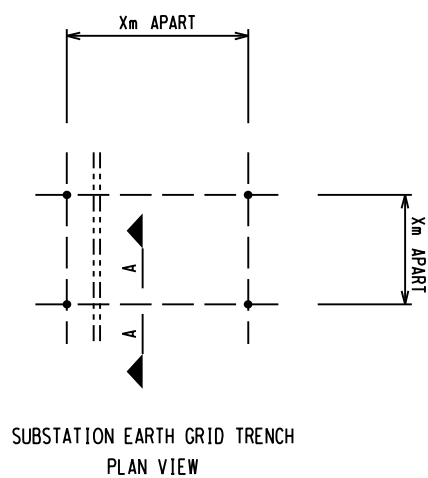
1 2 3 4 5 6 7 8

A  
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DRAWING SCHEDULE

LEGEND	DESCRIPTION
— — — —	MAIN EARTH MAT - Ø10mm ROUND COPPER BURIED BELOW GROUND LEVEL
===== ===== =====	SUBSOIL DRAINAGE

- NOTES:
- SUBSOIL DRAINAGE DEPTH IS DEPENDENT ON THE CIVIL ENGINEERING/PLATFORM DESIGN.
  - WHERE THE EARTH GRID CLASHES OR PASSES UNDER SUBSOIL DRAINAGE, THE ROUND COPPER SHOULD BE BURIED 150MM BELOW THE SUBSOIL DRAINAGE SYSTEM.



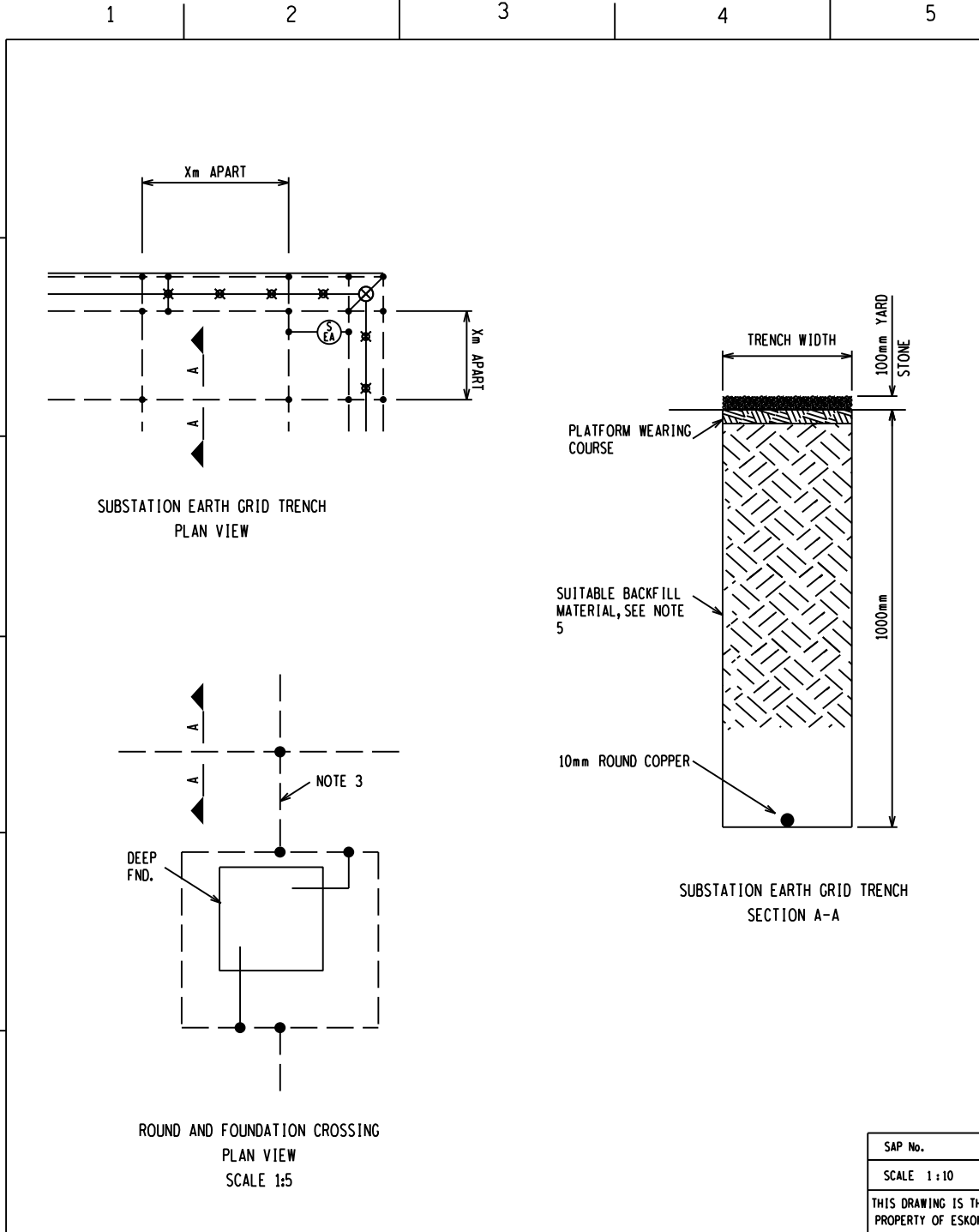
SUBSOIL DRAINAGE TRENCH  
TYPICAL FLODRAIN SYSTEM  
SECTION A-A

D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS
D-DT-5240	SET 25 SHT 1	GENERAL EARTHING NOTES
DRG NO.	SHEET NO.	REFERENCE DRAWINGS

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
0	FIRST ISSUE				/ /	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

	<h2 style="margin: 0;">EARTHING STANDARD</h2> <h3 style="margin: 0;">SUBSOIL TRENCH</h3> <h3 style="margin: 0;">DETAIL</h3>						
	AUTH:	T. MARAIS					
	DATE:	05/04/2019					
	CHKD:	J. K. RAGHUBIR					
SAP No.	DATE:	D-DT-5240			SET	SHEET	REVISION
SCALE 1:10	DATE:	D-DT-5240			25	22	0
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE:	D-DT-5240			25	22	0
	DATE:	D-DT-5240			25	22	0

1 2 3 4 5 6 7 8



DRAWING SCHEDULE	
LEGEND	DESCRIPTION
— — —	MAIN EARTH MAT - Ø10mm ROUND COPPER BURIED BELOW GROUND LEVEL
— — —	EARTH TAILS 3mm x 50mm FLAT COPPER STRAPS
⊕ — ⊕	JOINTS TO BE OXY-ACETYLENE BRAZED, USING 3mm SOLDER ACCORDING TO STANDARD EN1044 ITEM CP105
⊕	SACRIFICIAL EARTH ANODE, SEE D-DT-5240 SHT 11
⊗ — ⊗	SUBSTATION SECURITY FENCE

- NOTES:**
- ALL CONNECTIONS TO BE DONE AS PER D-DT-5240 SHT 2.
  - 10mm DIAMETER ROUND COPPER TO BE BURIED 1000mm BELOW GROUND LEVEL OR UNLESS OTHERWISE SPECIFIED ON THE MAIN SUBSTATION EARTH GRID LAYOUT.
  - WHERE ROUND COPPER CLASHES WITH DEEP FOUNDATIONS SUCH AS COLUMN FOUNDATIONS OR OIL DAMS, THE ROUND COPPER SHOULD WELDED BE AND EXTENDED AROUND THE FOUNDATION AS INDICATED.
  - WHERE THE EARTH GRID IS TO BE LAID IN A ROCKY AREA, BACKFILL 200mm OF SUITABLE MATERIAL AND COMPACT PRIOR TO LAYING THE 10mm ROUND COPPER.
  - BACKFILL AND COMPACT THE TRENCHES AT OPTIMUM MOISTURE CONTENT WITH A MECHANICAL PLATE COMPACTOR IN LAYER NOT EXCEEDING 300mm TO A DENSITY OF 93% MOD-AASHTO.

DRG NO.	SHEET NO:	REFERENCE DRAWINGS:
D-DT-5240	SET 25 SHT 11	SACRIFICIAL EARTH GRID ANODE
D-DT-5240	SET 25 SHT 9	SUBSTATION FENCE EARTHING DETAIL
D-DT-5240	SET 25 SHT 2	COPPER CONNECTIONS DETAILS

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
0	FIRST ISSUE			///		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

	<b>EARTHING STANDARD</b> <b>EARTH GRID TRENCH DETAIL</b>				
	AUTH: T. MARAIS				
	DATE: 05/04/2019				
	CHKD: J.K. RAGHUBIR				
SAP No. SCALE 1:10 THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 05/04/2019 DRAWN: BM HLOMENDLINI DATE: 20/02/2019	D-DT-5240	SET 25	SHEET 23	REVISION 0

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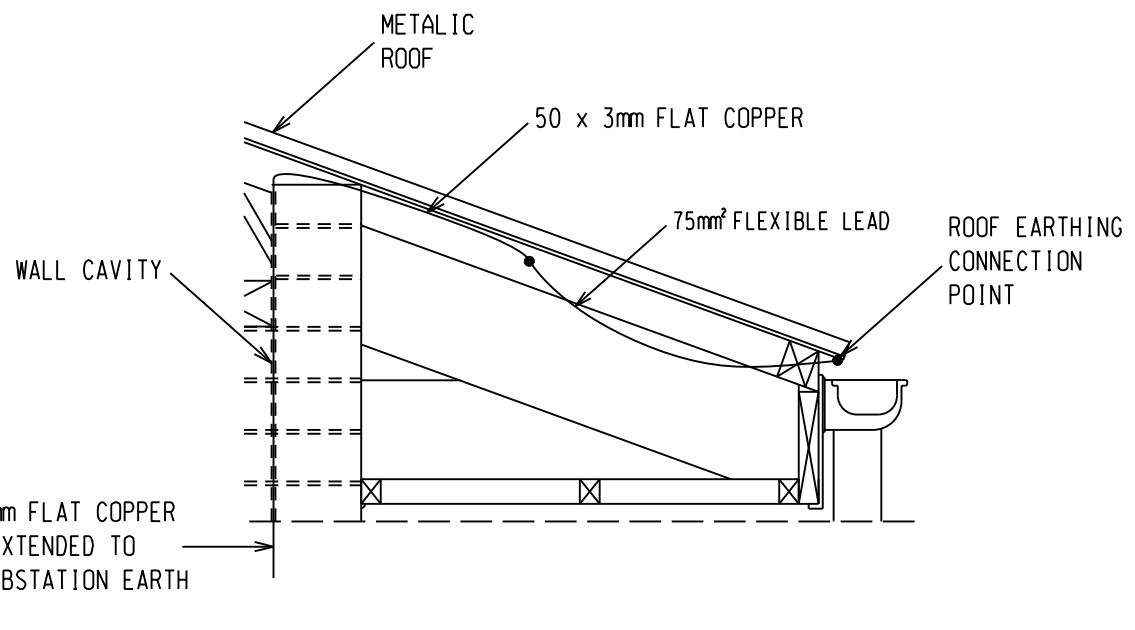
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ROOF EARTHING CONNECTION DETAIL  
NTS

NOTES:

1. 50 x 3mm FLAT COPPER SHALL RUN VIA THE WALL CAVITY TO THE POINT WHERE THE ROOF WILL BE EARTHED.
2. BOLT FLEXIBLE LEAD TO THE 50 x 3mm WITH A BI-METALIC LUG.
3. BOLT FLEXIBLE LEAD TO ROOF USING STAINLESS STEEL BOLTS, NUTS AND 2 WASHERS ABOVE THE GUTTER AREA.
4. EXTEND THE 50 x 3mm EARTH TAIL AND BRAZE TO THE MAIN EARTH GRID.
5. ROOF TO BE EARTH AT TWO DIAGONALLY OPPOSITE POINTS.
6. ALL ELECTRICAL BOLTED CONNECTION ARE TO BE CLEANED AND FILLED WITH AN ANTI-OXIDIZING ELECTRICAL COMPOUND.
7. WHERE METAL GUTTER ARE USED, THE GUTTER SHOULD BE CONNECTED TO THE ROOF CONNECTION POINT VIA EARTHING FLEXIBLE STRAP.

D

D

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E

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0	FIRST ISSUE	BHM			/ /	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

F

F



EARTHING STANDARD  
ROOF EARTHING  
DETAIL

AUTH:	T. MARAIS
DATE:	05/04/2019
CHKD:	J.K. RAGHUBIR
DATE:	05/04/2019
DRAWN:	BM HLOMENDLINI
DATE:	20/02/2019

D-DT-5240

SET	SHEET	REVISION
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NON-METALIC ROOF

ALUMINIUM GUTTER  
M16 BOLT, NUT AND  
2 WASHERS

MAKE A 60 x 60 OPENING  
IN FASCIA TO FIT A  
50 x 50 EARTHTAIL CLAMP  
SEE DRG. 0.54/393 SHT. C6

φ10mm COPPER ROD FIXED TO CLAMP  
SEE DRG. 0.54/393 SHT. C7

φ20mm GALVANISED PIPE  
FIXED TO WALL WITH  
GALV. SADDLES

φ10mm COPPER ROD FROM MAIN EARTHMAT  
TO BE TIED TO EACH INDIVIDUAL GUTTER.

B

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TYPICAL SECTION

NOTES:

1. ALL EARTHING TO BE DONE IN ACCORDANCE TO D-DT-5240.
2. THE EARTHTAIL CLAMP MUST BE FIXED TIGHTLY AGAINST THE GUTTER.
3. THE 50 x 50mm AREA OF THE CLAMP AT THE GUTTER MUST BE SANDED TO EXPOSED METAL.
4. AFTER THE CLAMP IS FITTED, THE AREA AROUND IT MUST BE SEALED WITH AN EXTERIOR UV RESISTANT ACRYLIC SEALER (SIKA SIKAFLEX F1 OR SIMILAR) TO PREVENT THE INCREASE OF WATER.
5. IF GUTTERS ARE NOT CONTINUOUS AND IS DEVIDED, EACH MUST BE EARTHED SEPERATELY AND FIXED TO THE MAIN EARTH GRID.

D

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E

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0	FIRST ISSUE	BHM			15/08/2018	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



# EARTHING STANDARD GUTTER OR EXTERNAL ROOF EARTHING DETAIL

F

F

AUTH:	T.MARAIS
DATE:	05/04/2019
CHKD:	J.K. RAGHUBIR
DATE:	05/04/2019
DRAWN:	BM HLOMENDLINI
DATE:	20/02/2019

## D-DT-5240

SET	SHEET	REVISION
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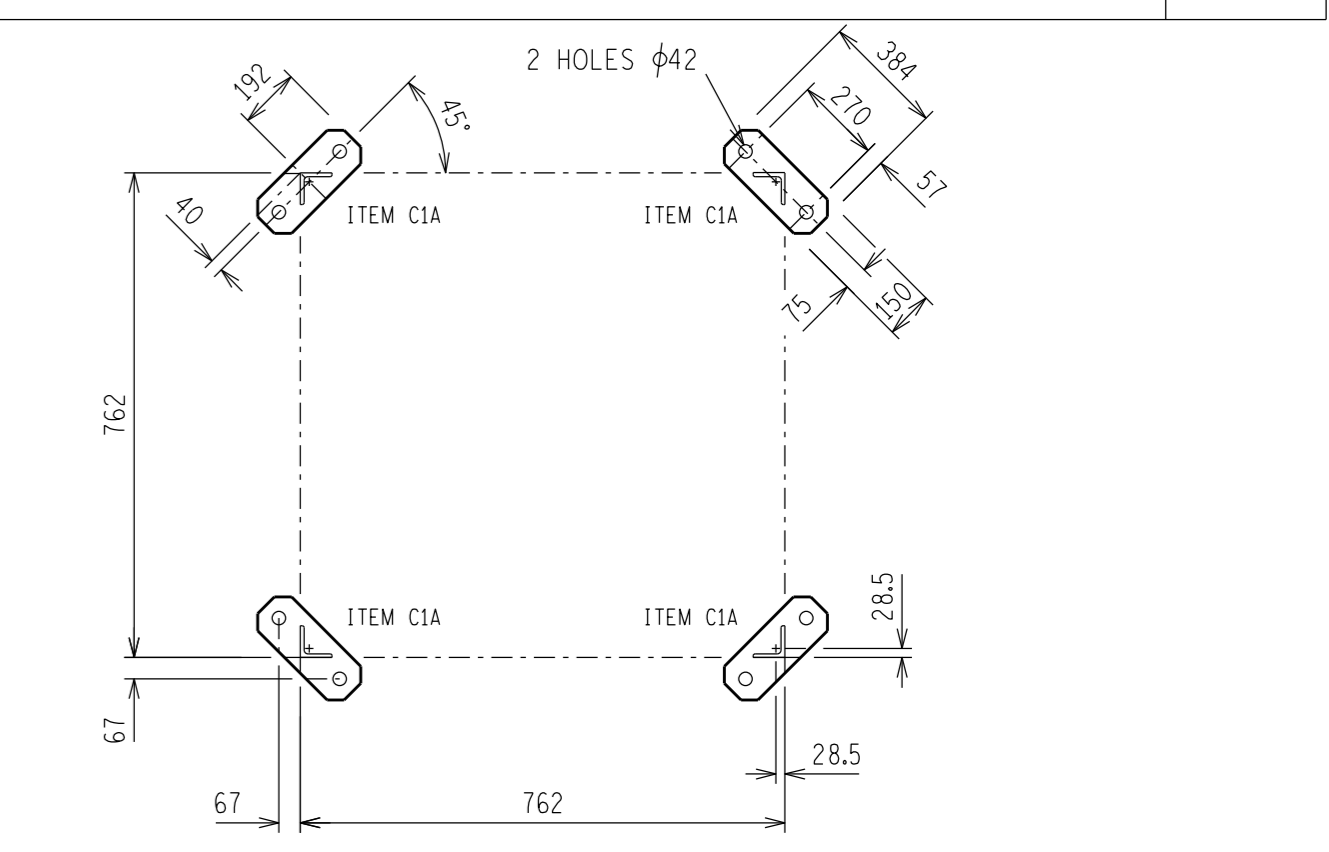
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- NOTES:
- 1 ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
  - 2 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
  - 3 ALL STEEL TO BE GRADE S355JR/350WA (EXCEPT ANGLES ≤ 45mm TO BE MILD STEEL).
  - 4 ALL WELDS TO BE SEALED WELDED.
  - 5 STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
  - 6 STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
  - 7 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
  - 8 ALL MARKINGS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
  - 9 NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
  - 10 NO SECTIONS TO BE BUTT WELDED.
  - 11 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF + - 1.5mm.
  - 12 ALL HOLES TO BE 22mm DIA UNLESS OTHERWISE STATED.
  - 13 WHERE BEAM IS CONNECTED TO COLUMN, MEMBER C6 IS TO BE REMOVED AND BOLT TO BE REPLACED WITH LONGER BOLT (M&K ADDITIONAL).
  - 14 GRIND HEEL TO FIT INSIDE 100x100x12 ANGLE.

MAXIMUM DESIGNED BENDING MOMENT				
ITEM	ANGLE OF PULL	MAXIMUM BENDING MOMENT (kNm)	FOUNDATION (mm)	COLUMN SECTION (mm)
132/C	STRAIGHT LINE PULL	208	LENGTH : 1500	
	15 DEGREE ANGLE PULL	168	BREATH : 1500	
	30 DEGREE ANGLE PULL	150	HEIGHT : 2450	

BOLT SCHEDULE									
MARK	BOLT SIZE	MILD STEEL GRADE	PITCH	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg
1	M20	4.8	2.5	45	4	4	8	225	1.26
2	M20	4.8	2.5	45	12	12	12	225	3.58
3	M20	4.8	2.5	50	60	60	60	225	18.36
4	M20	4.8	2.5	55	48	48	96	225	16.13
5	M20	4.8	2.5	60	8	8	8	225	2.66
MASS OF BOLTS, WASHERS AND NUTS									41.99

STEEL SCHEDULE AND MASS					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
C1	4	MILD STEEL ANGLE 100 x 100 x 12	6903	27.61	491.49
C1A	4	MILD STEEL PLATE 150 x 35	384	1.54	57.86
C2	4	MILD STEEL ANGLE 80 x 80 x 10	4649	18.60	221.29
C3	28	MILD STEEL ANGLE 50 x 50 x 6	862	24.14	107.88
C4	32	MILD STEEL ANGLE 50 x 50 x 6	862	27.58	123.30
C6	12	MILD STEEL ANGLE 50 x 50 x 6	857	10.28	45.96
C7	4	MILD STEEL ANGLE 50 x 50 x 6	903	3.61	16.15
C8	4	MILD STEEL ANGLE 50 x 50 x 6	903	3.61	16.15
C9	4	MILD STEEL ANGLE 50 x 50 x 6	903	3.61	16.15
C10	4	MILD STEEL ANGLE 50 x 50 x 6	857	3.43	15.32
C11	4	MILD STEEL ANGLE 90 x 90 x 10	714	2.86	38.27
TOTAL MASS =					1149.82



D-DT-5252	SHEET 1C	SUPPORT FOUNDATION ROCK PILED
D-DT-5252	SHEET 1B	SUPPORT FOUNDATION ROCK PINNED
D-DT-5252	SHEET 1A	SUPPORT. FON. SOIL TYPE 1 & 2
DRG. NO.	SHEET NO.	REFERENCE DRAWINGS

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
3	ADDED A HOLE ON ITEM C/2 & UPDATED DRAWING NOTES	BMH	NSH	NWN	23/11/2015	
2	C1 BALLLOON ADDED	MEB	GJB	NWM	19/03/2013	
1	MARK 3 & 4 REPOSITIONED ON COLUMN SECTION	MEB	GJB	NWM	22/01/2013	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

**Eskom**

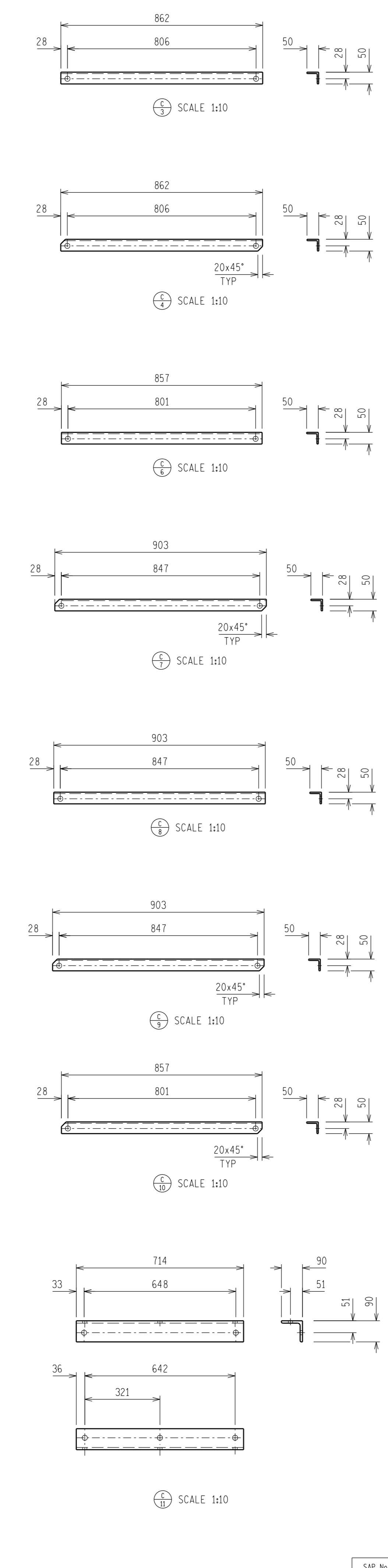
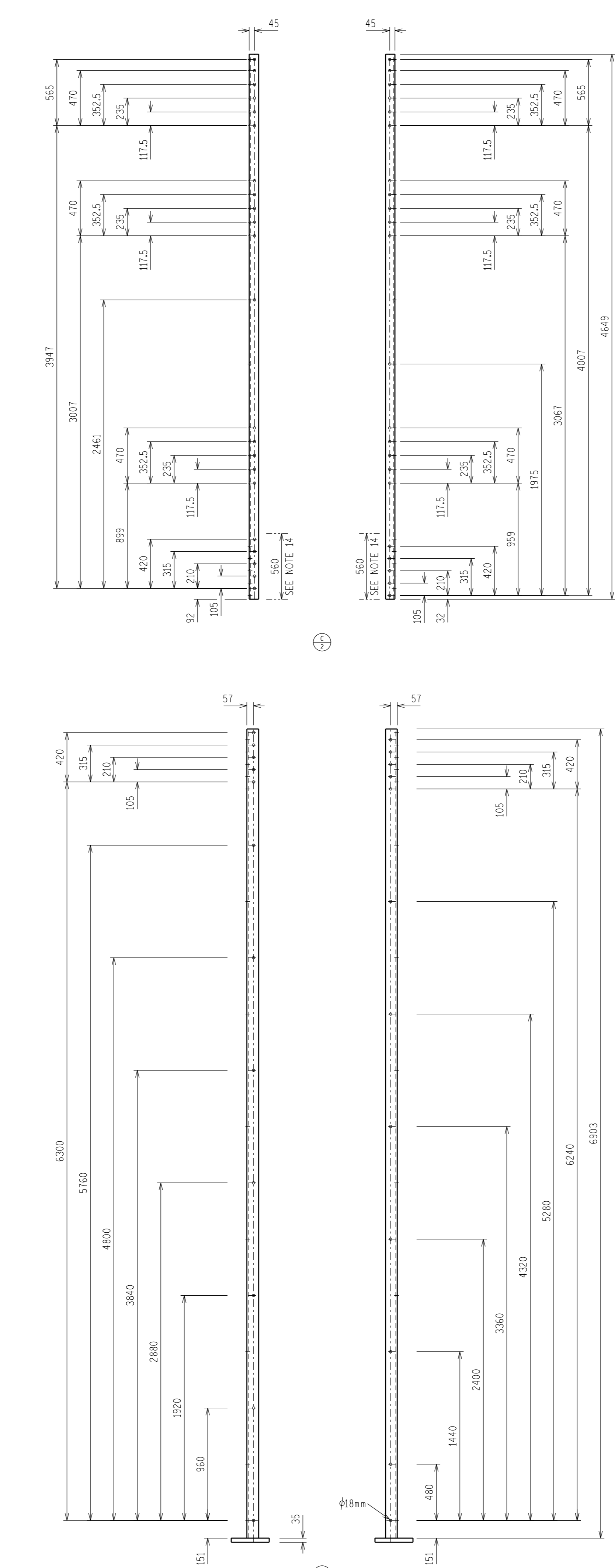
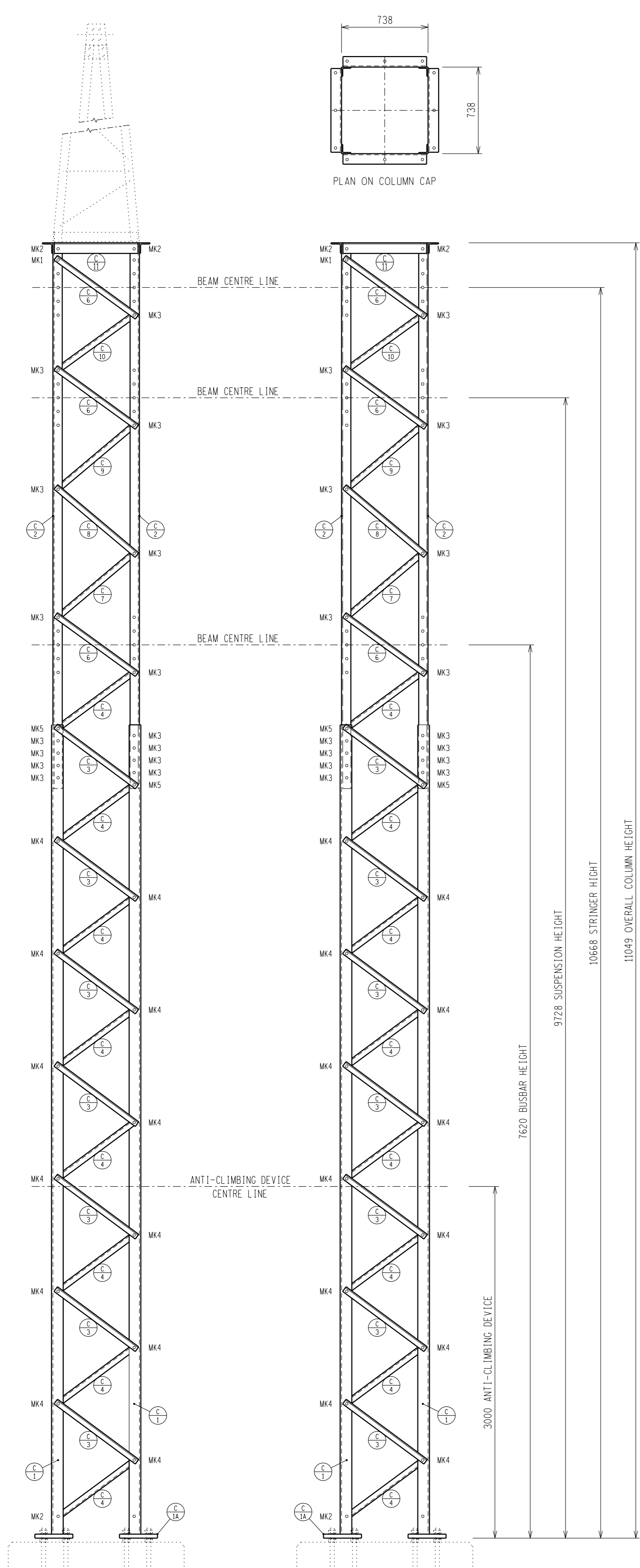
AUTH: B HILL  
DATE: 03/11/2011  
CHKD: N WEBBER

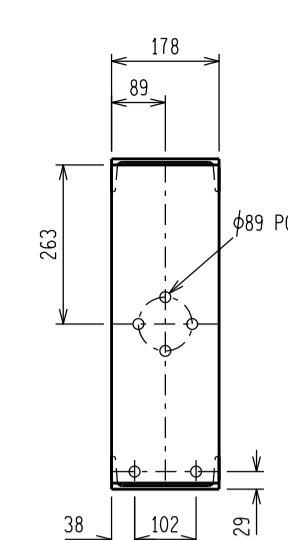
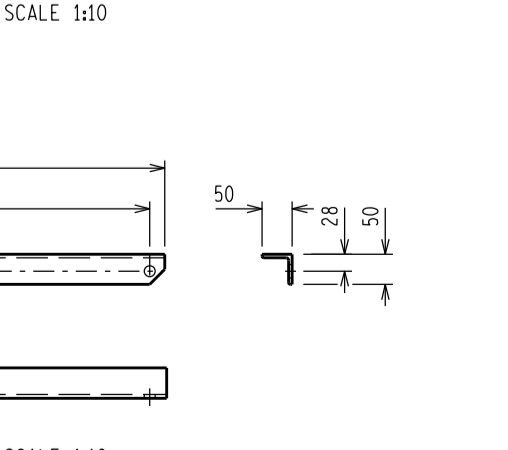
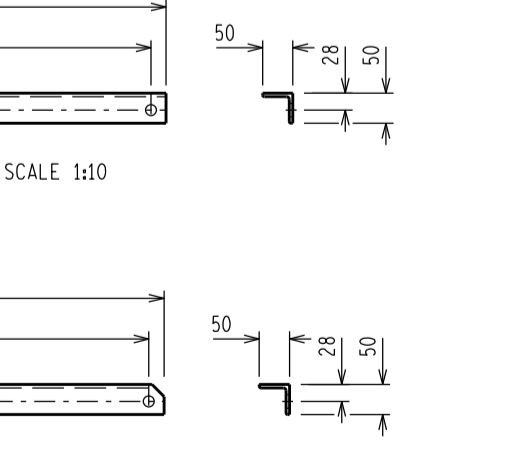
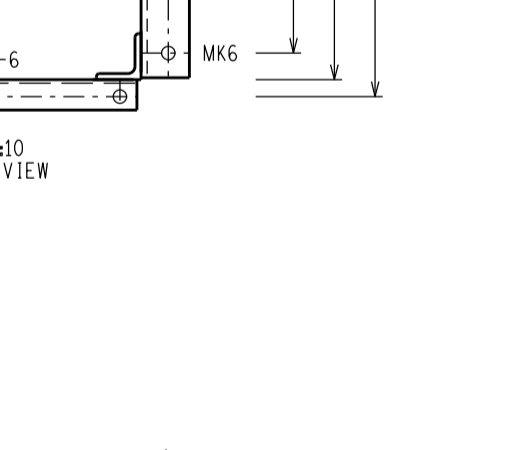
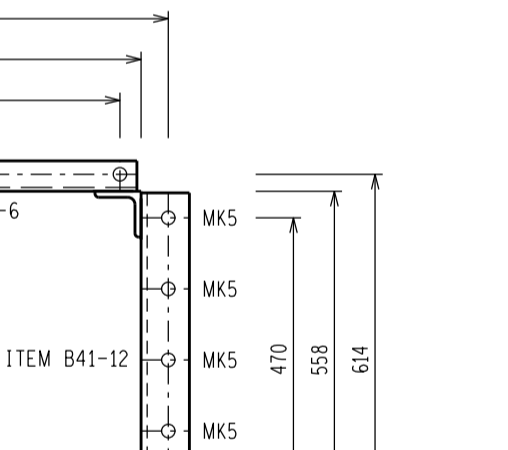
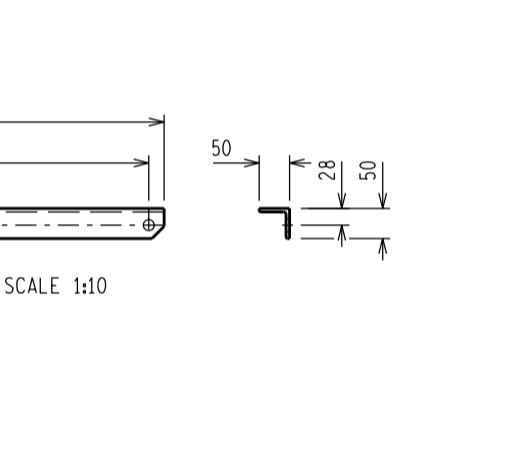
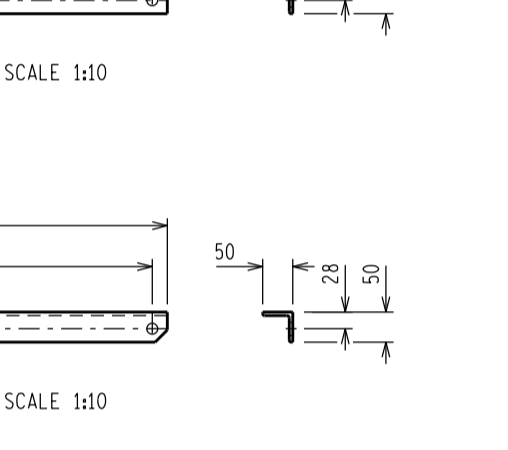
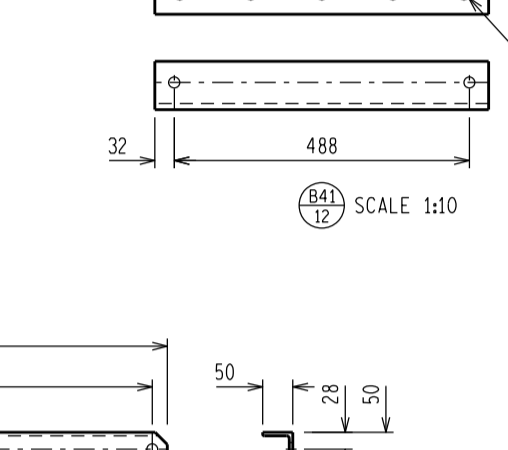
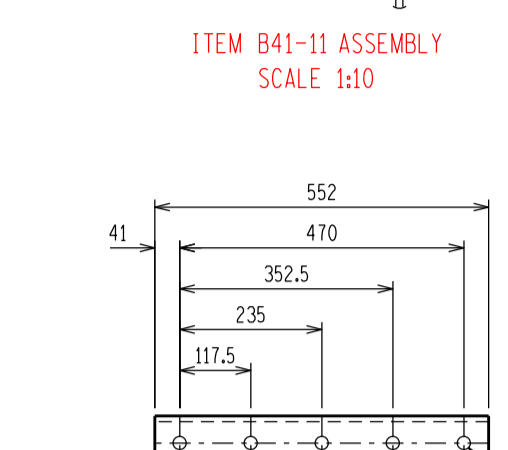
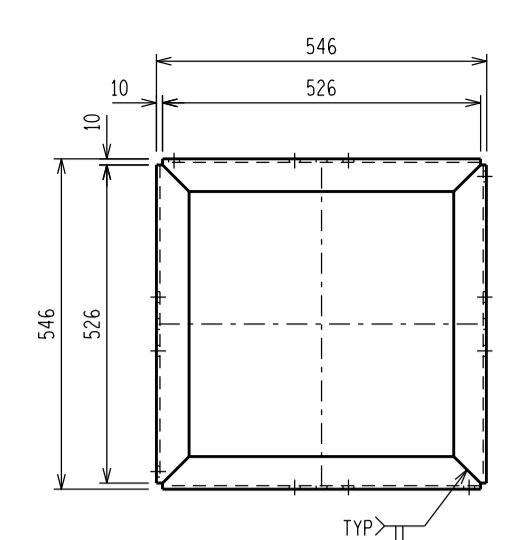
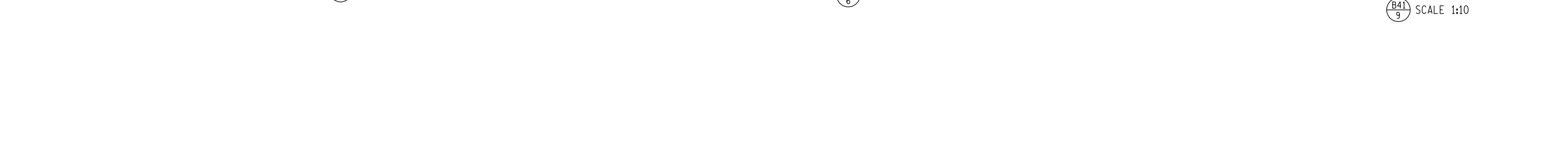
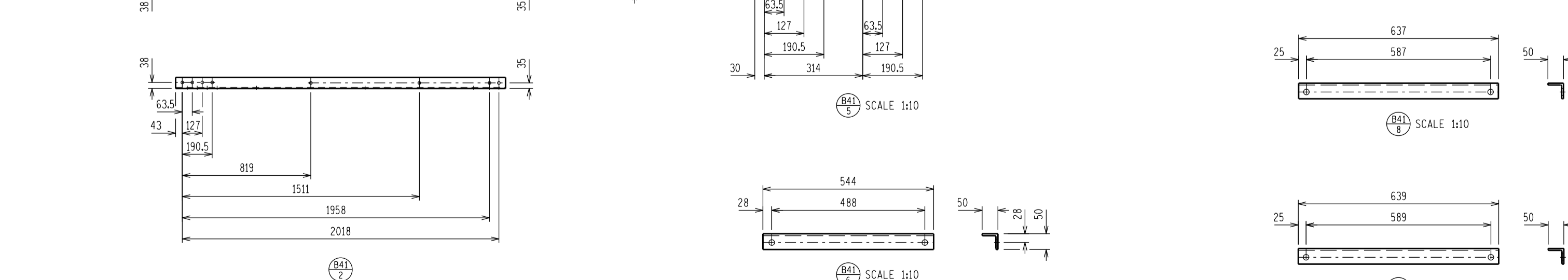
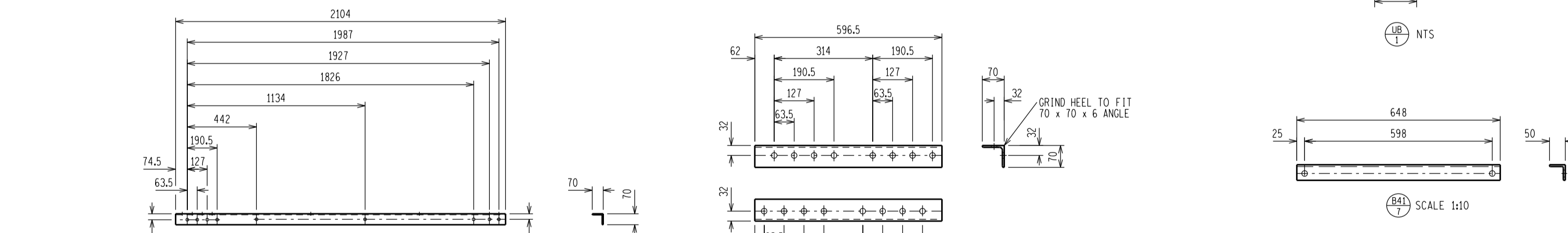
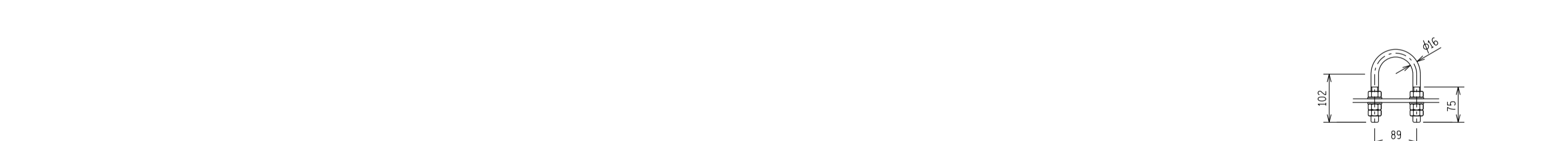
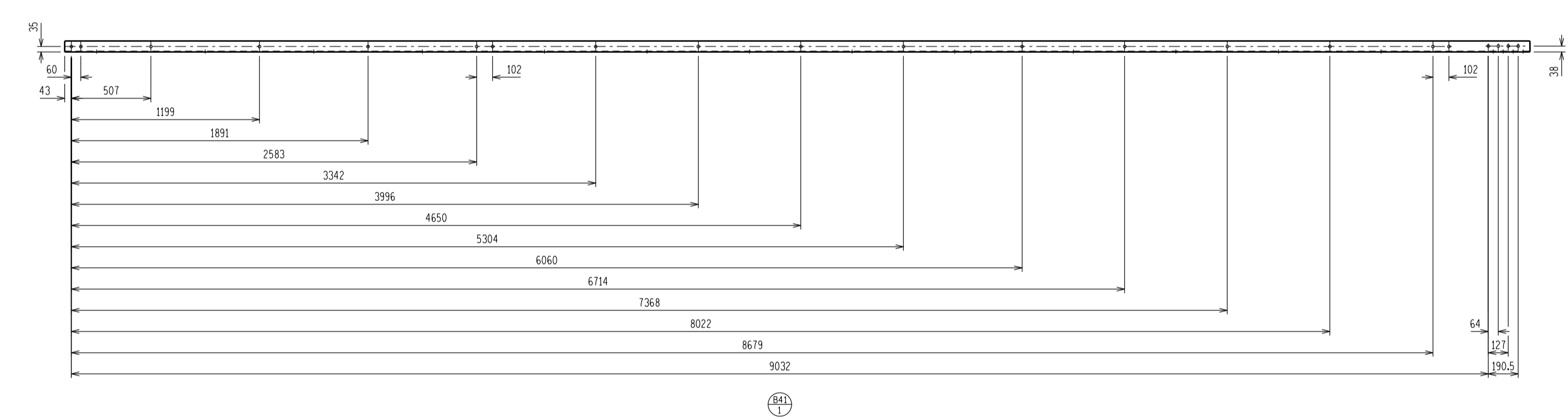
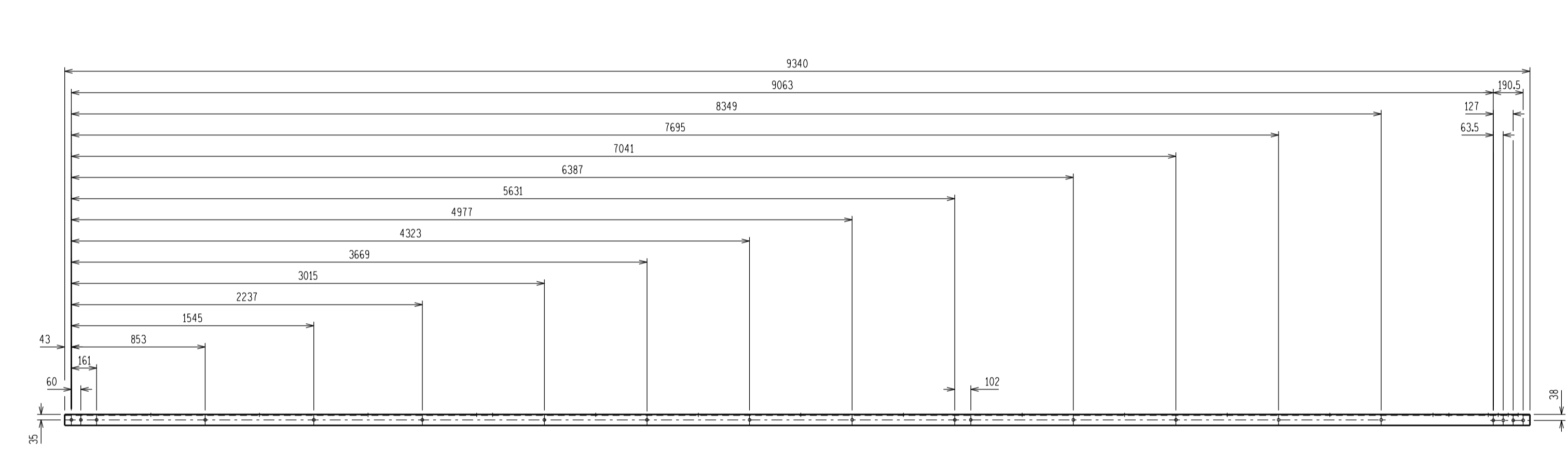
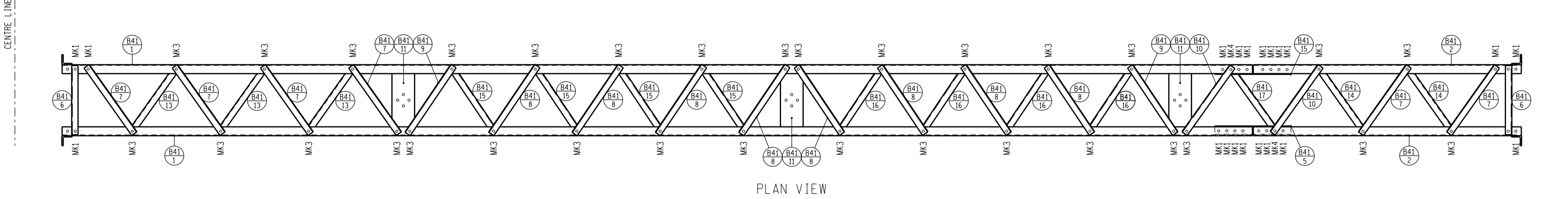
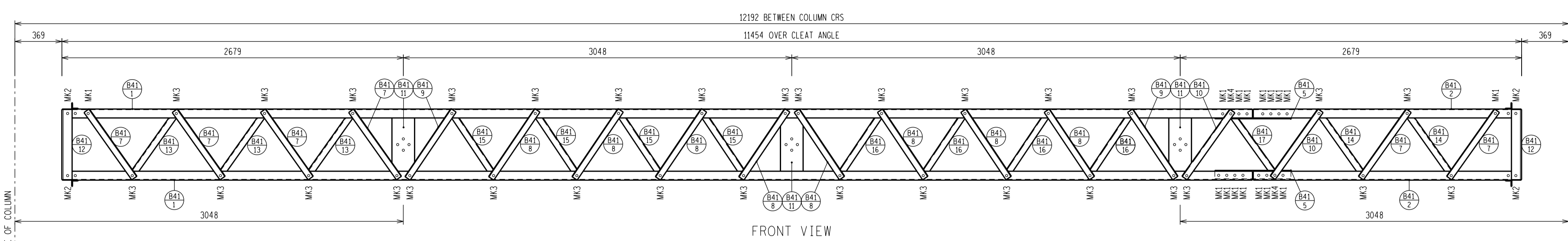
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SCALE: 1:25  
DATE: 29/10/2011  
DRAWN: G BEETGE  
DATE: 28/10/2011

**COLUMN - 132/C**  
LATTICE STEEL  
STEELWORK MANUFACTURING  
DETAILS AND ASSEMBLY

D-DT-5252

SET	SHEET	REVISION
	2A	3





- NOTES:**
- ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
  - ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
  - ALL STEEL TO BE GRADE S355JR/350WA (EXCEPT ANGLES  $\leq 45\text{mm}$  TO BE MILD STEEL).
  - ALL WELOS TO BE SEALED WELDED.
  - STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
  - STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
  - BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
  - ALL MARKINGS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
  - NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
  - NO SECTIONS TO BE BUTT WELDED.
  - ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF  $\pm 1.5\text{mm}$ .
  - ALL HOLES TO BE 18mm DIA UNLESS OTHERWISE STATED.

BEAM RATING SCHEDULE			
ITEM	DESCRIPTION	MOUNTING HEIGHT (m)	MAXIMUM LOADING PER PHASE (kN)
132/40/1	STRINGER STRAIN	10.668	4.5

BOLT SCHEDULE									
MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS KG
1	M16	4.8	2	40	72	72	144	120	12.24
2	M16	4.8	2	40	8	8	8	120	1.27
3	M16	4.8	2	45	128	128	256	120	22.78
4	M16	4.8	2	50	8	8	16	120	1.49
5	M20	4.8	2	50	16	16	16	225	4.90
6	M20	4.8	2	55	4	4	8	225	1.34
<b>MASS OF BOLTS, WASHERS AND NUTS</b>									<b>39.53</b>

STEEL SCHEDULE AND MASS					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
B41-1	4	MILD STEEL ANGLE 70 x 70 x 6	9340	37.36	238.35
B41-2	4	MILD STEEL ANGLE 70 x 70 x 6	2104	8.42	53.46
B41-5	4	MILD STEEL ANGLE 70 x 70 x 6	596.5	2.39	15.22
B41-6	4	MILD STEEL ANGLE 50 x 50 x 6	544	2.18	9.73
B41-7	24	MILD STEEL ANGLE 50 x 50 x 6	648	15.55	69.52
B41-8	32	MILD STEEL ANGLE 50 x 50 x 6	637	20.38	91.12
B41-9	8	MILD STEEL ANGLE 50 x 50 x 6	639	5.11	22.85
B41-10	8	MILD STEEL ANGLE 50 x 50 x 6	644	5.15	23.03
B41-11	12	TF CHANNEL 178 x 54 x 15kg/m	526	6.31	92.78
B41-12	4	MILD STEEL ANGLE 80 x 80 x 10	552	2.21	26.27
B41-13	12	MILD STEEL ANGLE 50 x 50 x 6	648	7.78	34.76
B41-14	8	MILD STEEL ANGLE 50 x 50 x 6	648	5.18	23.17
B41-15	16	MILD STEEL ANGLE 50 x 50 x 6	637	10.19	45.56
B41-16	16	MILD STEEL ANGLE 50 x 50 x 6	637	10.19	45.56
B41-17	4	MILD STEEL ANGLE 50 x 50 x 6	640	2.56	11.44
LUB-1	0	1/4" BOLT MILD STEEL ROUND BAR $\phi 16$	385	385	-
<b>TOTAL MASS =</b>					<b>802.82</b>

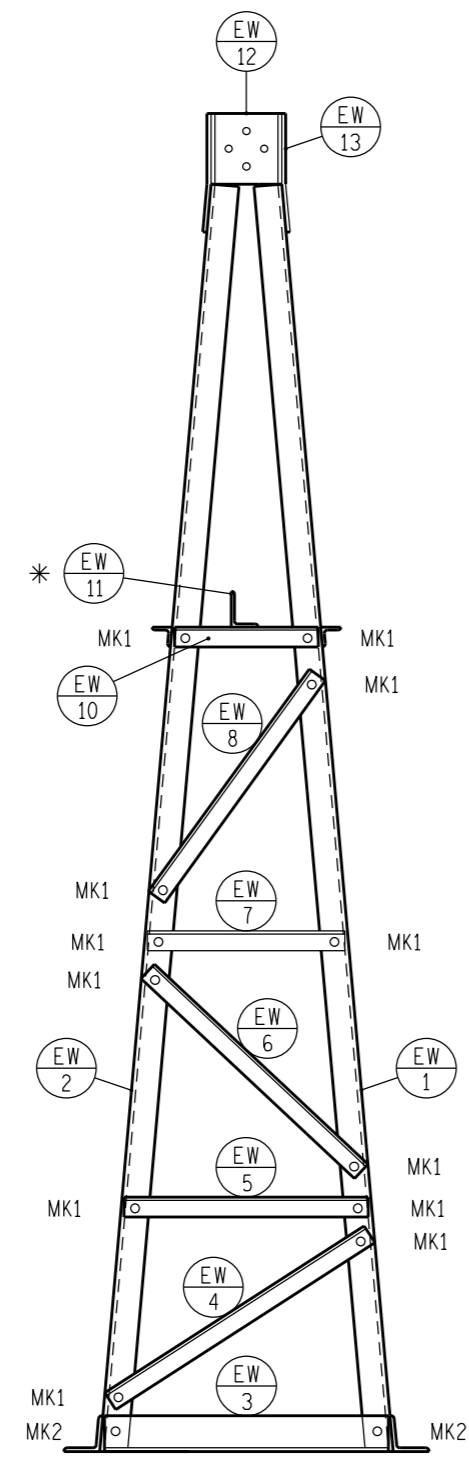
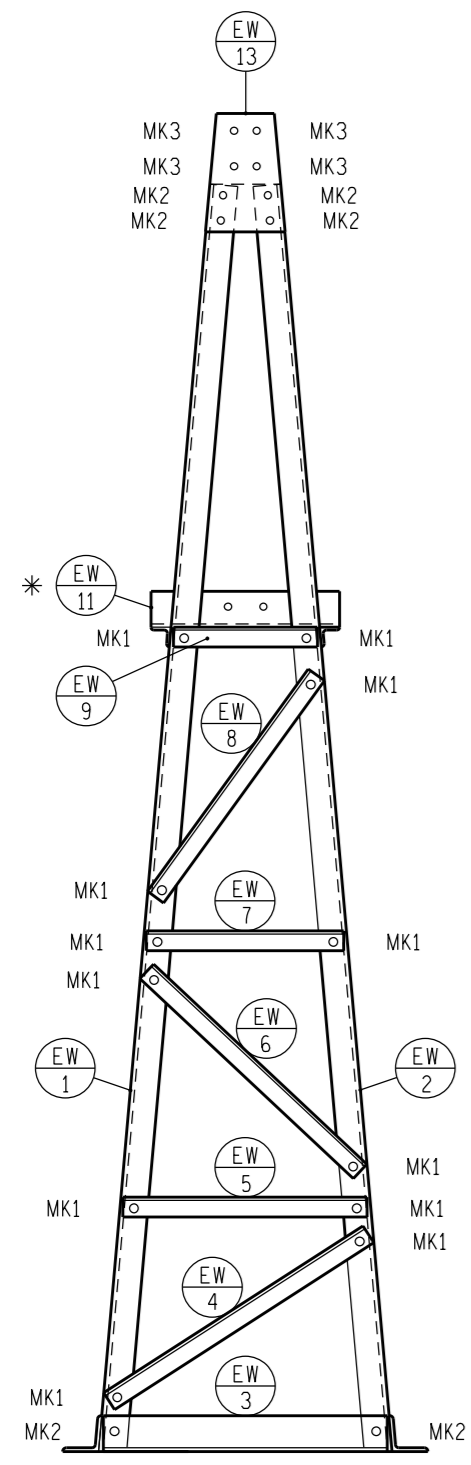
D-DT-5252	SHEET 2A	COLUMN - 132/C
DRG. NO.	SHEET NO.	REFERENCE DRAWINGS

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS				
REV	REVISION DESCRIPTION	BY	CHKD	DATE
2	UPDATED THE NAME OF ITEM B41-11	MDB	GJB	19/03/2013
1	BEAM RATING SCHEDULE ADDED	MDB	GJB	19/03/2013
0	FIRST ISSUE			

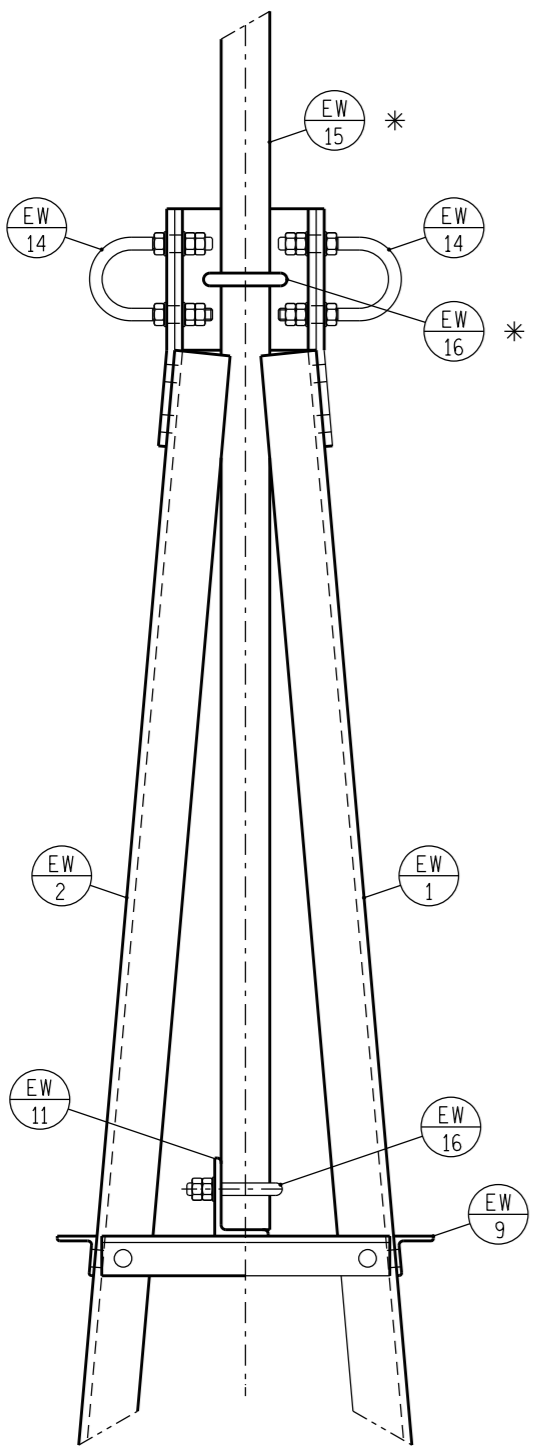
	<b>BEAM - 132/40/1</b> LATTICE STEEL STEELWORK MANUFACTURING DETAILS AND ASSEMBLY			
	AUTH: B HILL DATE: 14/11/2011 CHKD: N WEBBER	DATE: 11/11/2011 DRAWING: G BEETGE DATE: 11/11/2011	SET:	SHEET: 2D

SAP No. 0559310  
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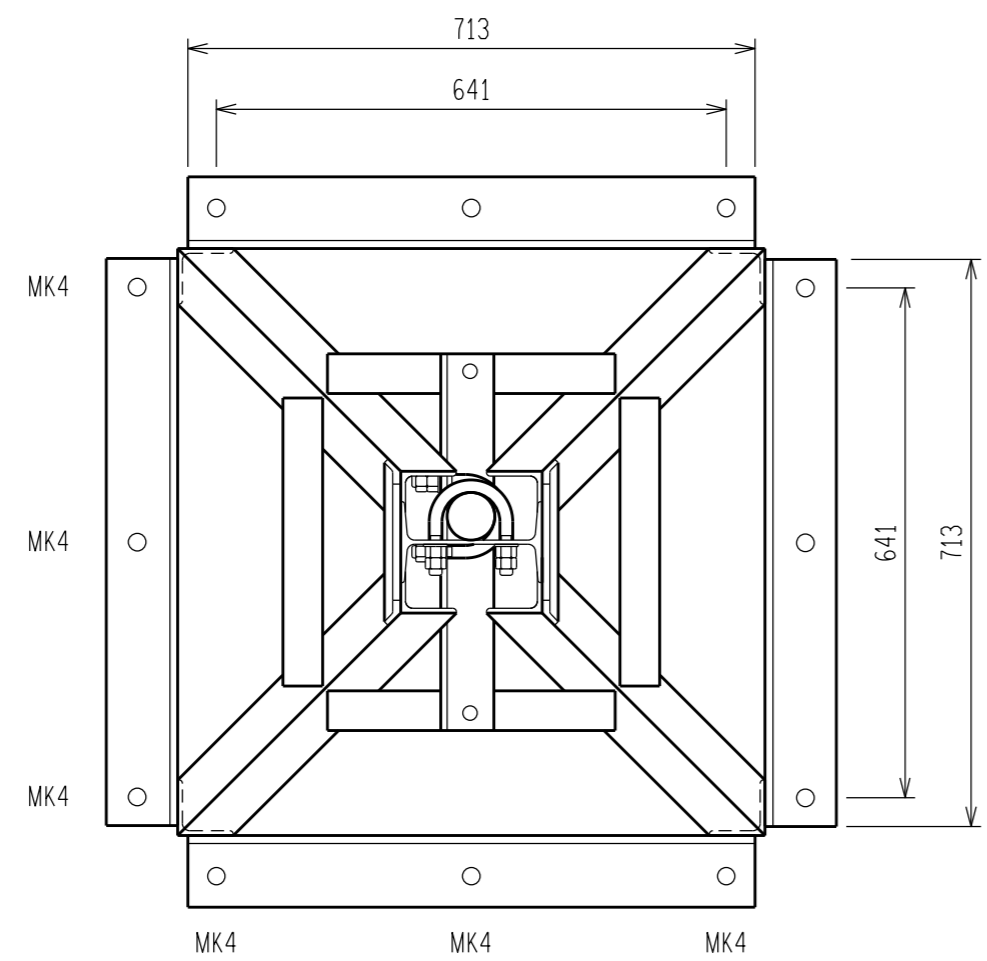




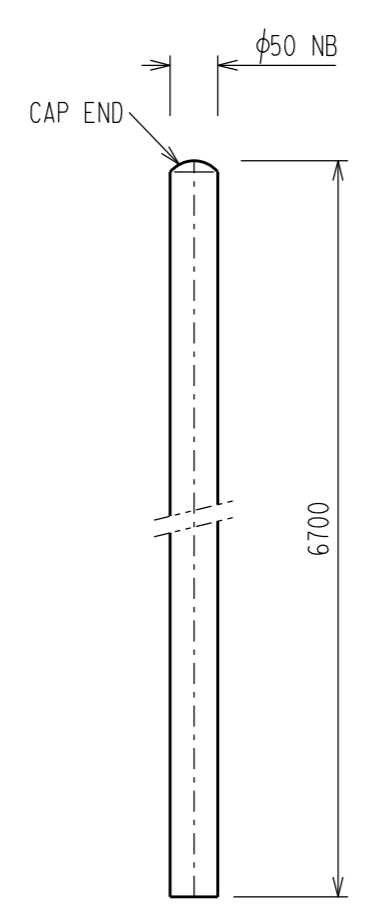
EARTHWIRE SUPPORT



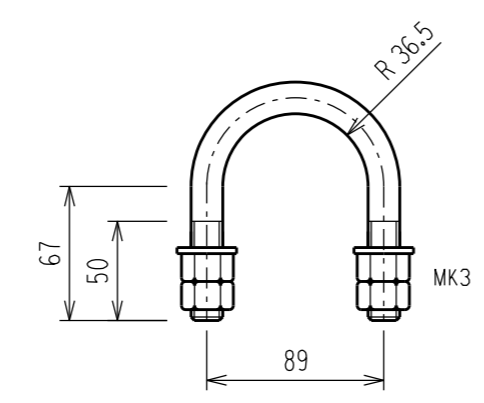
ASSEMBLY OF EARTHWIRE SUPPORT WITH LIGHTNING SPIKE



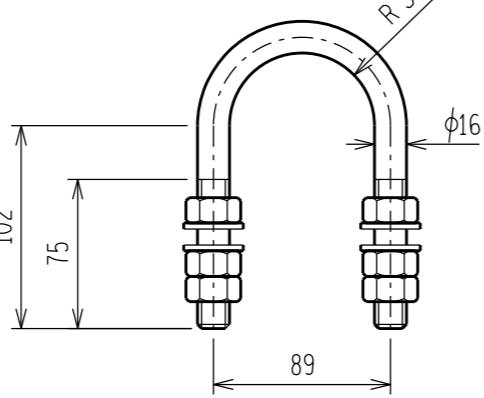
PLAN VIEW LIGHTNING SPIKE



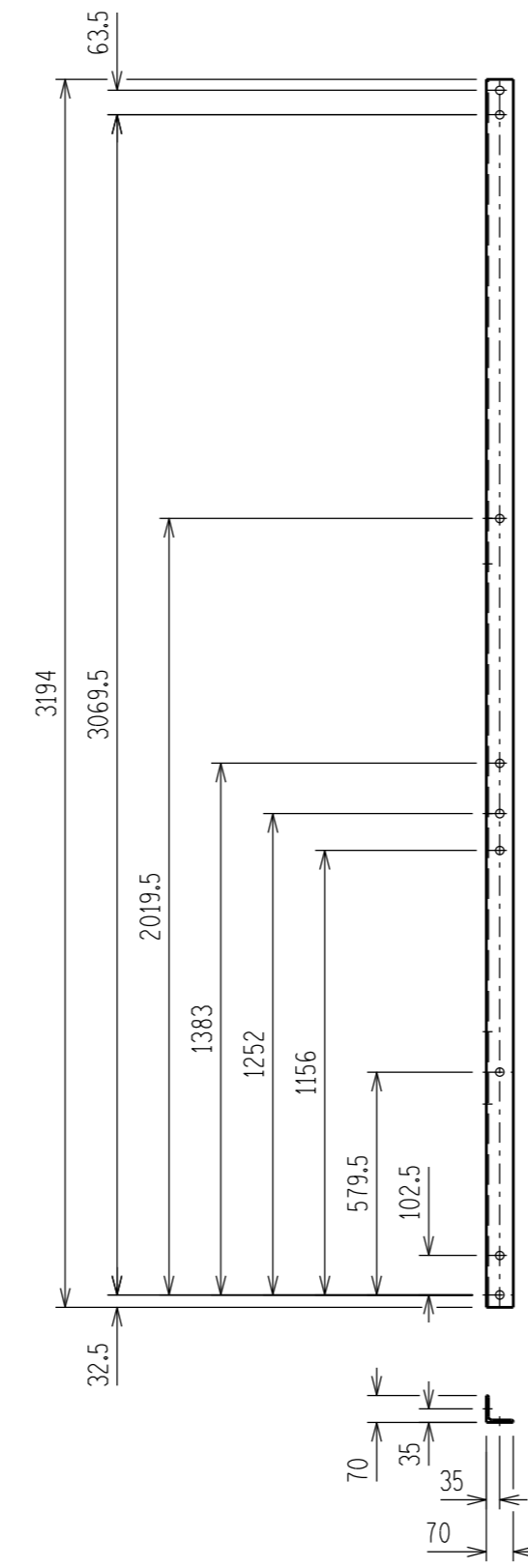
SCALE 1:10 LIGHTNING SPIKE



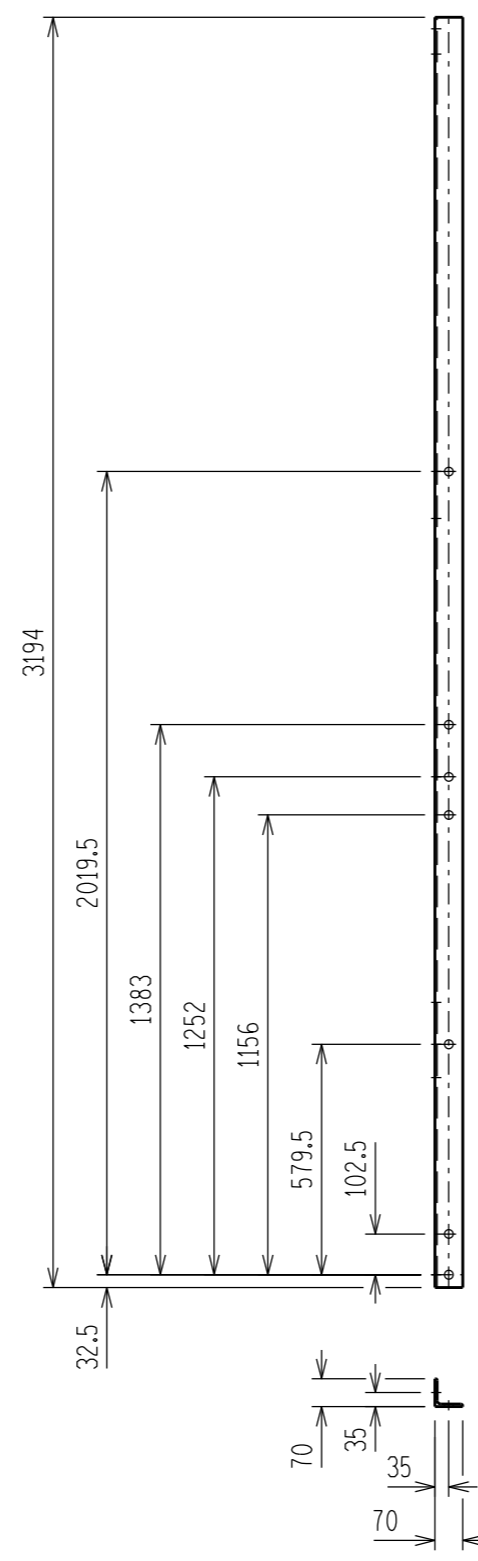
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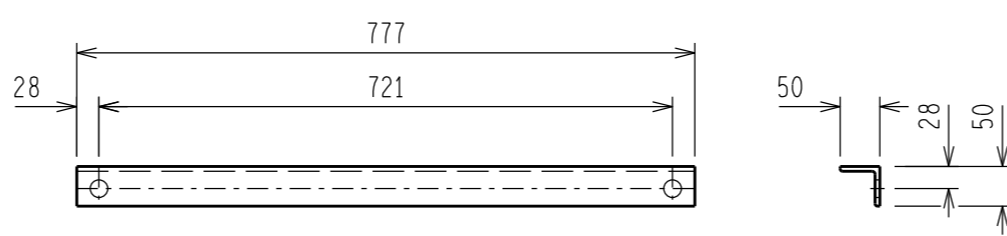
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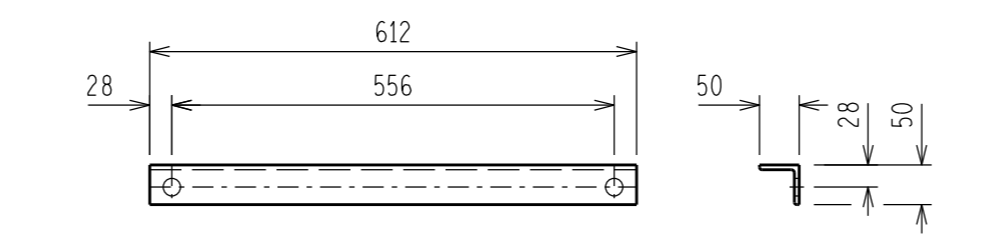
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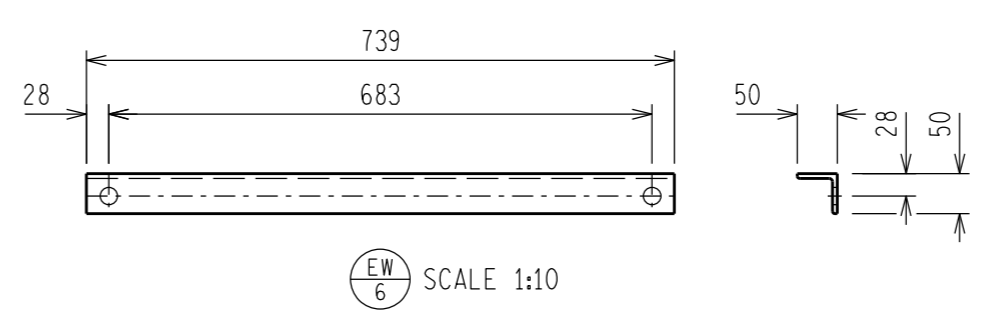
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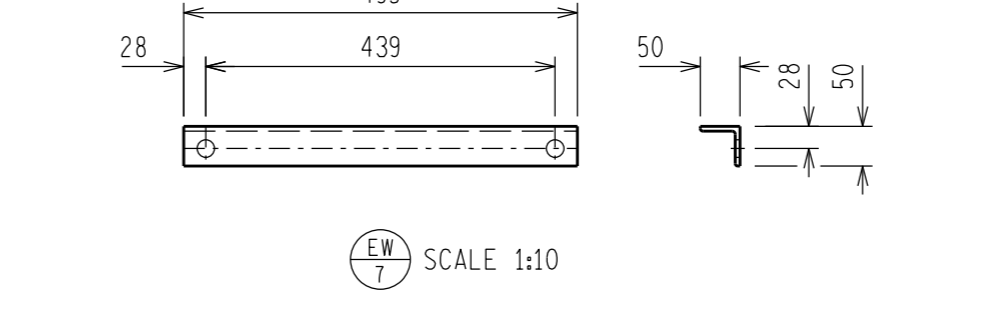
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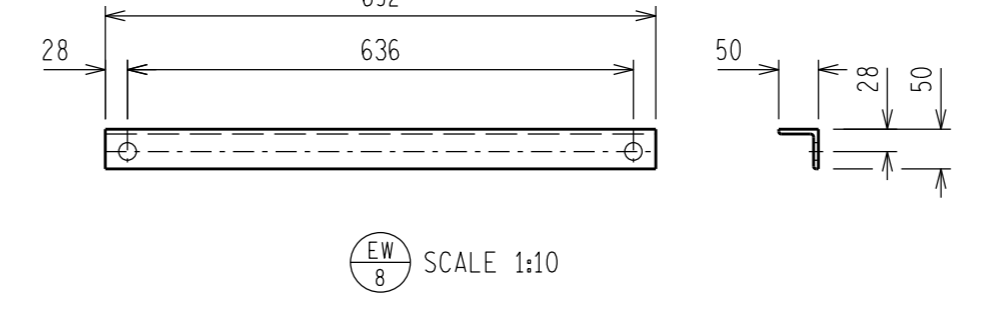
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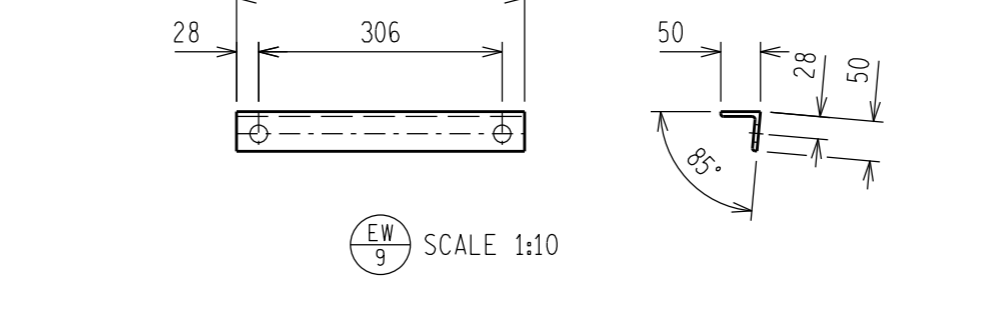
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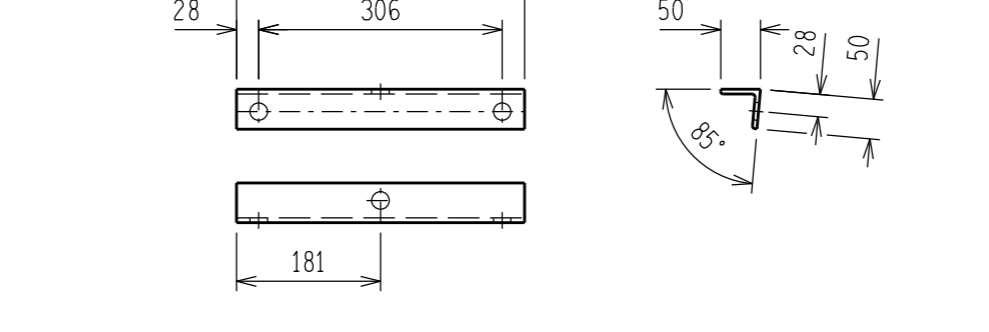
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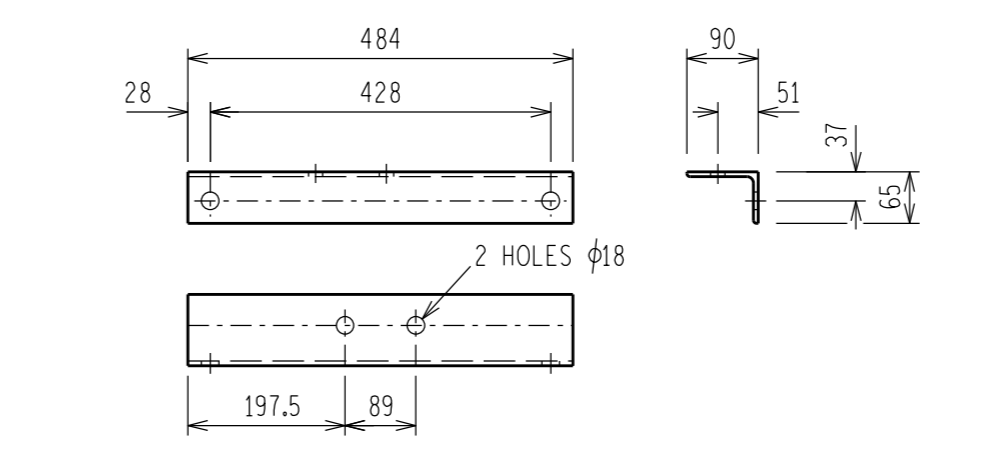
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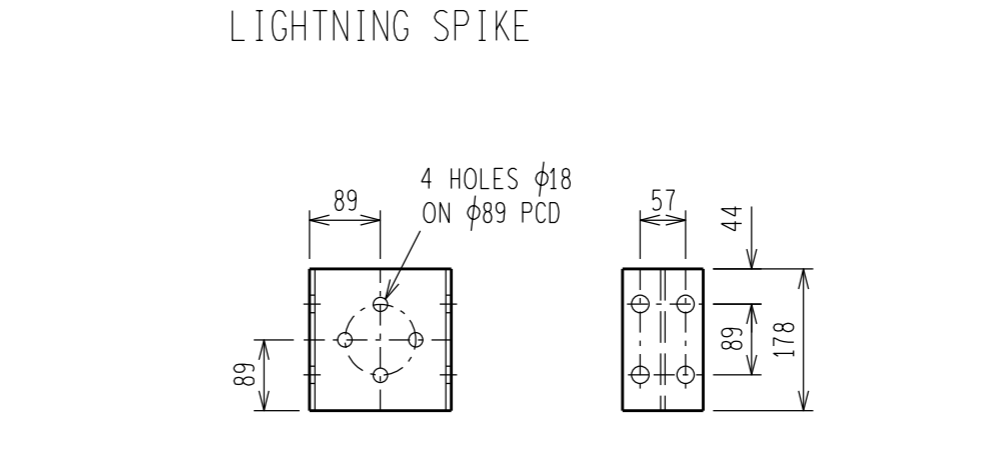
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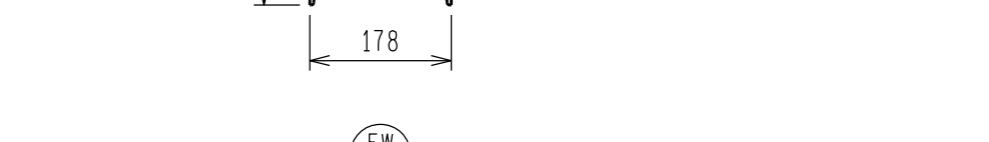
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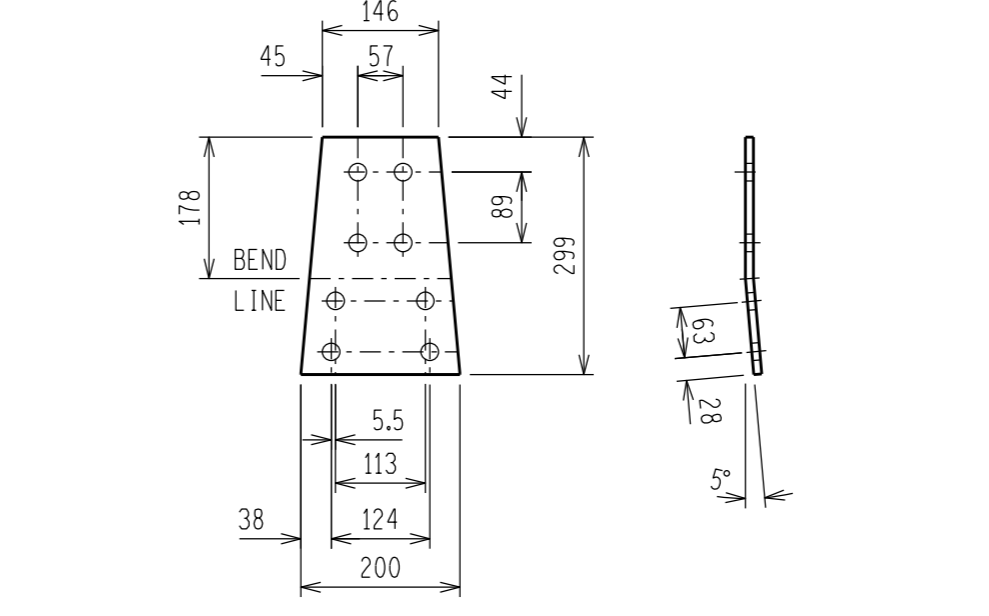
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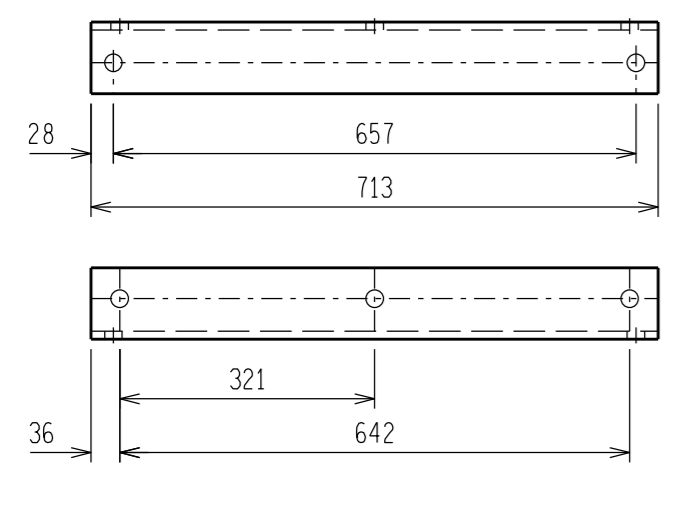
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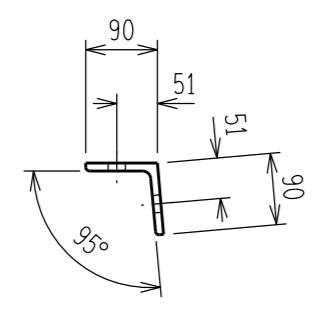
SCALE 1:10



SCALE 1:10



SCALE 1:10



NOTES:

- 1 ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
- 2 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
- 3 GRADE OF STEEL TO BE SANS 1431 GRADE 350WA.
- 4 ALL WELDS TO BE SEALED WELDED.
- 5 STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
- 6 STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
- 7 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 8 ALL MARKINGS TO BE STAMPED ON TO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
- 9 NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
- 10 NO SECTIONS TO BE BUTT WELDED.
- 11 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF + - 1.5mm.
- 12 ALL HOLES TO BE 22mm DIA UNLESS OTHERWISE STATED.
- 13 ITEMS MARKED THUS \* ONLY TO BE USED WHEN LIGHTNING SPIKE IS USED.

EARTHWIRE SUPPORT RATING SCHEDULE				
ITEM	DESCRIPTION	MOUNTING HEIGHT (m)	MAXIMUM LOADING PER PHASE (kN)	EARTHWIRE CONNECTION & LIGHTNING SPIKE
EW	EARTHWIRE SUPPORT	11.049	2.25	
LS	LIGHTNING SPIKE	14.326	0.0	

BOLT SCHEDULE - EARTHWIRE SUPPORT									
MARK	BOLT SIZE	MILD STEEL GRADE	PITCH	LENGTH	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg
1	M20	4.8	2.5	40	48	48	96	225	14.35
2	M20	4.8	2.5	45	16	16	16	225	4.77
3	M20	4.8	2.5	50	8	8	8 BEVEL	225	2.45
4	M20	4.8	2.5	50	12	12	12	225	3.67
MASS OF BOLTS, WASHERS AND NUTS									25.24

BOLT SCHEDULE - FOR LIGHTNING SPIKE									
MARK	BOLT SIZE	MILD STEEL GRADE	PITCH	LENGTH	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg
1	M20	4.8	2.5	40	2	2	4	225	0.60

STEEL SCHEDULE AND MASS - EARTHWIRE SUPPORT					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
EW 1	2	MILD STEEL ANGLE 70 x 70 x 6	3194	6.39	40.76
EW 2	2	MILD STEEL ANGLE 70 x 70 x 6	3194	6.39	40.76
EW 3	4	MILD STEEL ANGLE 90 x 90 x 10	713	2.85	38.22
EW 4	4	MILD STEEL ANGLE 50 x 50 x 6	777	3.11	13.90
EW 5	4	MILD STEEL ANGLE 50 x 50 x 6	612	2.45	10.94
EW 6	4	MILD STEEL ANGLE 50 x 50 x 6	739	2.95	13.21
EW 7	4	MILD STEEL ANGLE 50 x 50 x 6	495	1.98	8.85
EW 8	4	MILD STEEL ANGLE 50 x 50 x 6	692	2.77	12.37
EW 9	2	MILD STEEL ANGLE 50 x 50 x 6	362	1.45	6.47
EW 10	2	MILD STEEL ANGLE 50 x 50 x 6	362	1.45	6.47
EW 12	1	TF I-SECTION 178 x 102 x 22kg/m	178	0.18	3.96
EW 13	2	MILD STEEL PLATE 299 x 10	200	0.40	9.35
EW 14	2	U/BOLT MILD STEEL ROUND BAR φ16	385	0.77	1.22
TOTAL MASS =					206.48

STEEL SCHEDULE AND MASS - LIGHTNING SPIKE					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
EW 11	1	MILD STEEL UNEQUAL ANGLE 90 x 65 x 6	484	0.49	3.42
EW 15	1	MILD STEEL PIPE φ50 NB	6700	6.70	30.22
EW 16	2	U/BOLT MILD STEEL ROUND BAR φ16	280	0.56	0.88
TOTAL MASS =					34.52

REV	DESCRIPTION	BY	CHKD	DATE	PROJECT NO.
2	ALIGNING THE TWO HOLES ON EW/11 WITH THE CENTER LINE	BWH	SS	NMW	11/09/2014
1	EARTHWIRE SUPPORT RATING SCHEDULE ADDED	MOB	GJB	NMW	19/03/2013
0	FIRST ISSUE				

D-OT-5252	SHEET 2A	COLUMN - 132/C
DRG NO.	SHEET NO.	REFERENCE DRAWINGS
THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS		
DRG NO.	SHEET NO.	REFERENCE DRAWINGS

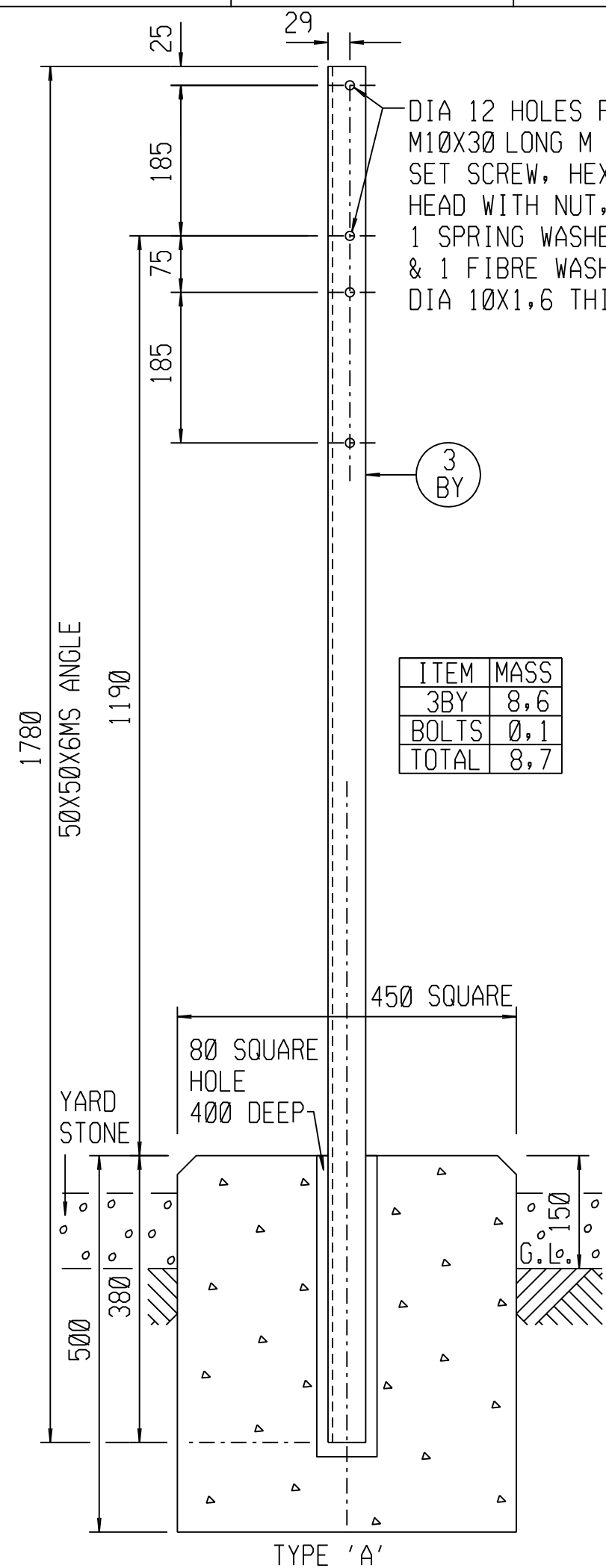
**Eskom**

EARTHWIRE SUPPORT - 132/EW  
LATTICE STEEL  
STEELWORK MANUFACTURING  
DETAILS AND ASSEMBLY

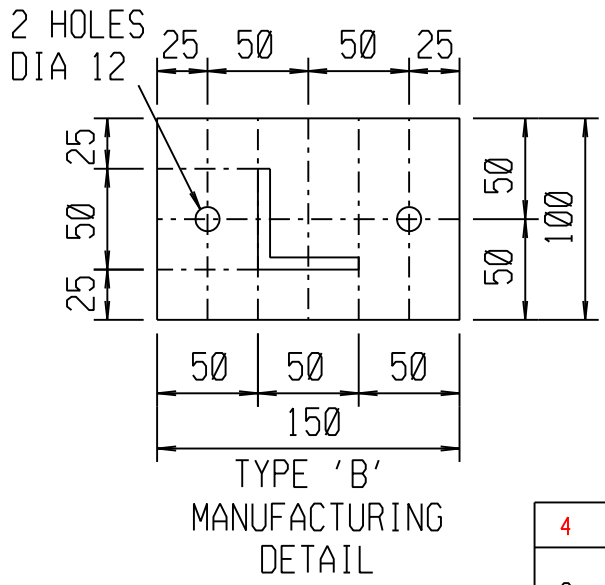
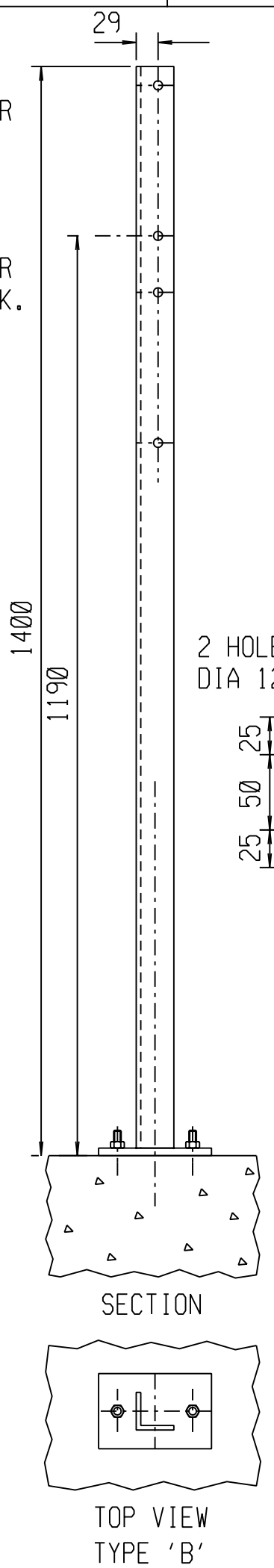
SAP No. 055931	DATE:	11/11/2011
SCALE 1:20	DATE:	11/11/2011
THIS DRAWING IS THE PROPERTY OF ESKOM		
DATE:	11/11/2011	

SET	SHEET	REVISION
	2E	2

D-DT-5252



ITEM	MASS
3BY	8,6
BOLTS	0,1
TOTAL	8,7



ITEM	MASS
3BY	6,6
FLAT	1,2
BOLTS	0,1
TOTAL	7,9

**STEELWORK NOTES:**

- 1 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SABS 0162. GRADE OF STEEL TO BE SANS 1431 GRADE 300WA OR BS 4360 GRADE 43A.
- 2 ALL STEELWORK TO BE HOT DIP GALVANISED TO SANS 121
- 3 ALL HOLES DIAMETERS AS NOTED ON DRAWING.
- 4 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF  $\pm 1,5$ MM.
- 5 ALL BOLTS SECURING LABELS TO THIS STRUCTURE, TO BE SUPPLIED BY STEELWORK CONTRACTOR.
- 6 ALL BOLTS AND NUTS TO CONFORM TO SANS 135; STRENGTH GRADE 4.8.
- 7 ALL MARKS TO BE STAMPED ONTO STEELWORK BEFORE GALVANISING. AND SHALL BE CLEARLY LEGIBLE AFTER GALVANISING.

**CIVIL NOTES:**

- 1 CONCRETE GRADE 25/19.
- 2 ALL TOP EDGES OF CONCRETE ABOVE GROUND LEVEL TO HAVE 20MM CHAMFER AT 45 DEGREES.
- 3 FORMWORK TO UPPER SIDES OF FOUNDATION TO EXTEND TO AT LEAST 100MM BELOW GROUND LEVEL.

DRG NO.	REFERENCE DRAWINGS:

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
4	D-DT-NUMBER CHANGED FROM D-DT-5048	J.F.S	J.F.S	J.F.S	27/07/2009	
3	ALL BOLT SIZES OF M10X25 CHANGED TO M10X30 SABS CHANGED TO SANS	N.M.	B. HILL		18.06.2009	
2	SHEET 2 NOW SHEET 1. ORIGINAL SHEET 1 REMOVED	JLR	JJJ	JJJ	09/03/2004	
1	DRAWING REDRAWN	JLR	JJJ	CBC	03/08/2001	

**Eskom Distribution**

AUTH: \_\_\_\_\_

DATE: / /

CHKD: \_\_\_\_\_

DATE: / /

DRAWN: J LE ROUX

DATE: 01/08/2000

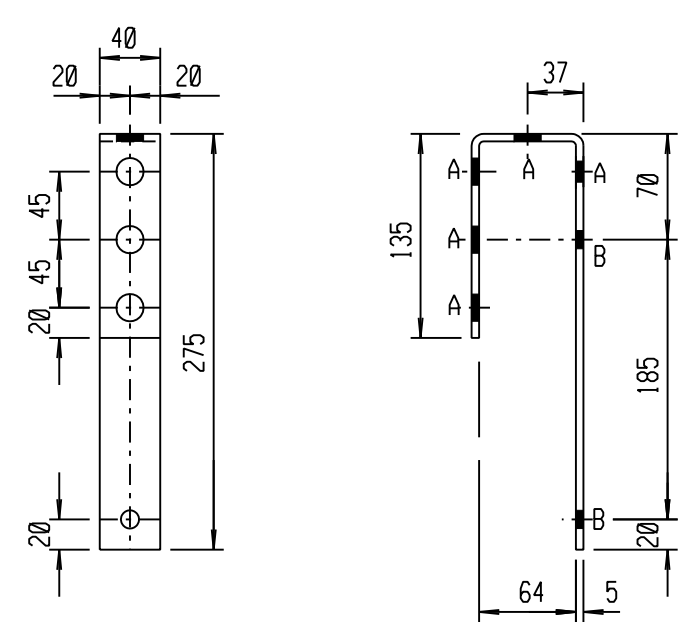
**ELECTRICAL EQUIPMENT LABELS  
POST SUPPORT AND FOUNDATION**

D-DT-5273

SET	SHEET	REVISION
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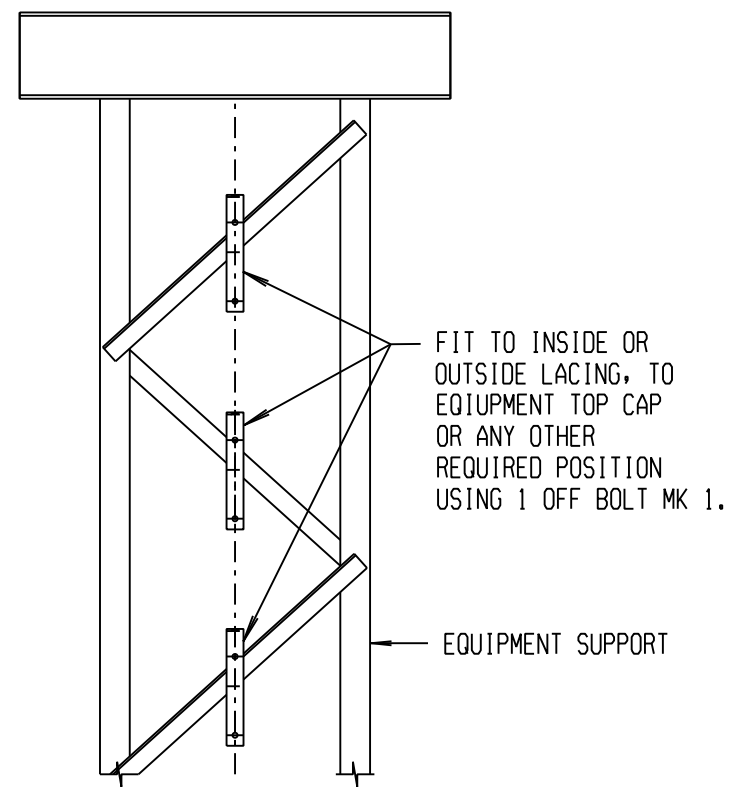
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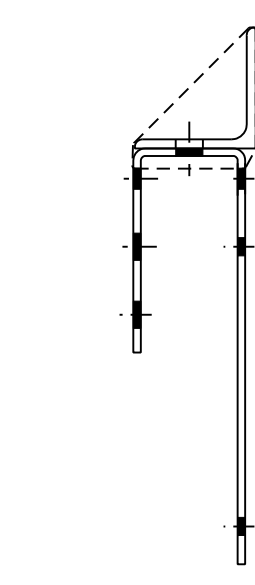


**HOLE DETAIL**  
 A - 5 DIA 18 HOLES (MK 1)  
 B - 2 DIA 12 HOLES FOR M10 SET SCREWS (MK 2)  
 COMPLETE WITH NUT, 1 FLAT WASHER AND  
 1 SPRING LOCK WASHER TO BE SUPPLIED BY  
 BRACKET MANUFACTURER.

SCALE 1:5



**TYPICAL MOUNTING ARRANGEMENT**  
 N T S



**MOUNTING OF BRACKET WITH STAINLESS STEEL STRAPPING**

- NOTES:**
- GRADE OF STEEL TO BE TO SANS 1431 GRADE 300WA OR BS 4360 GRADE 43A.
  - BRACKET TO BE HOT DIP GALVANISED TO SANS 121
  - ALL HOLE DIAMETERS AS NOTED ON DRAWING.
  - ALL BOLTS AND NUTS TO BE GRADE 4.6.
  - MK NO TO BE STAMPED ON STEEL BEFORE GALVANISING.
  - ALL BOLTS SECURING LABELS TO THIS BRACKET TO BE SUPPLIED BY STEELWORK MANUFACTURER.

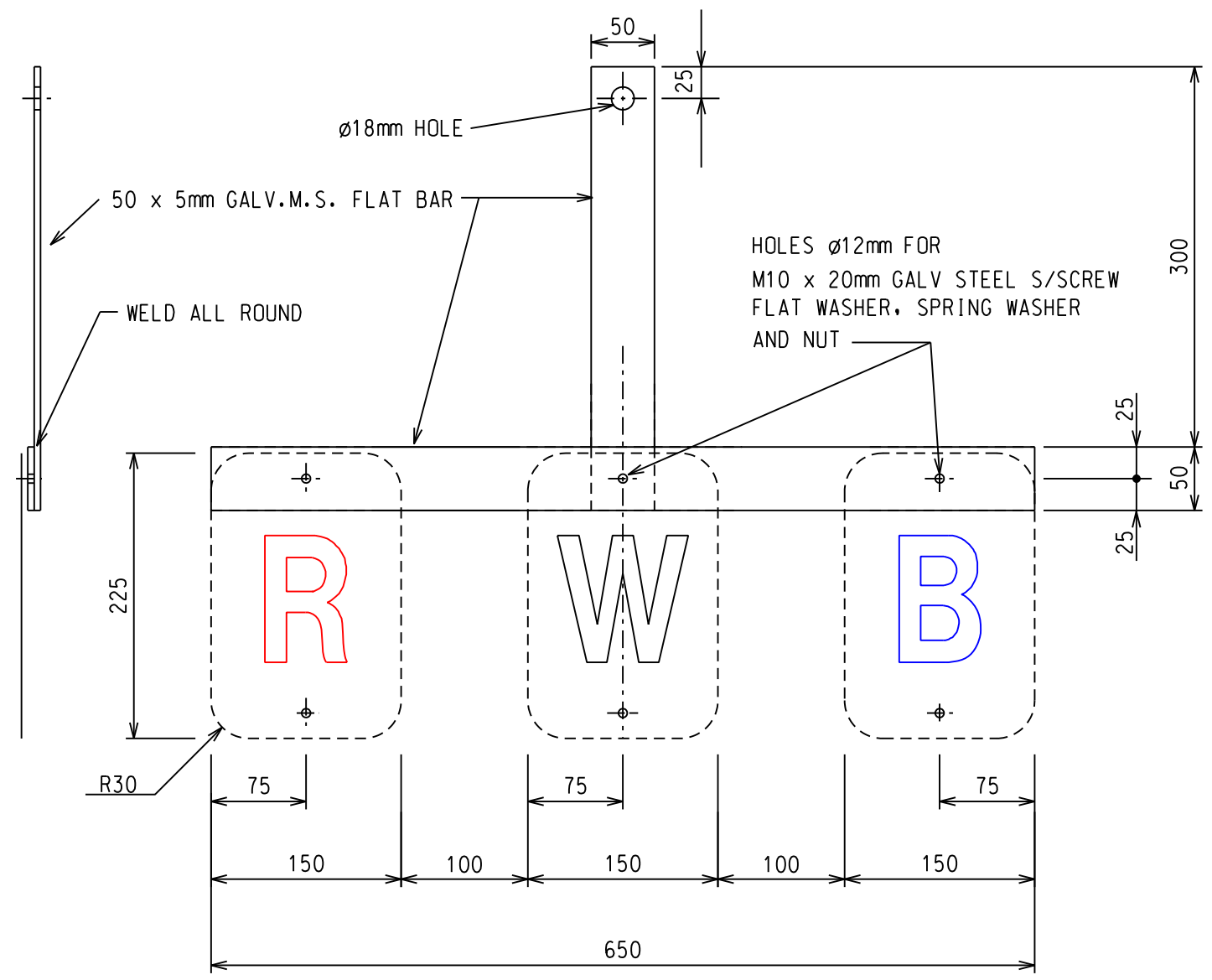
BOLT SCHEDULE			
MK	TYPE	NO OFF	WASHER PER BOLT
1	M16X35	1	1 FLAT
2	M10X30 SET SCREW	2	1 FLAT & 1 SPRING LOCK

MASS - KG		
BRACKET	BOLTS	TOTAL
0,73	0,23	0,96

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
4	D-DT-NUMBER CHANGED FROM D-DT-5048	J.F.S	J.F.S	J.F.S	27/07/2009	
3	HOLE DETAIL CORRECTED LOWERCASE B SHOULD SHOW B, M10X25 CHANGED TO M10X30 AND SABS CHANGED TO SANS	N.M.	B. HILL		18.06.2009	
2	SHT 3 NOW SHT 2. ADDITIONAL HOLES ADDED ON BRACKET.	JJJ	JJJ	JJJ	09/03/2004	
1	DRAWING REDRAWN.	JLR	JJJ	C.B.C.	03/08/2001	

	<b>LABEL MOUNTING BRACKET</b>							
	AUTH: _____ DATE: / / CHKD: _____ DATE: / /							
	D-DT-5273							
	DRAWN: J LE ROUX	DATE: 04/08/2000	<table border="1"> <tr> <th>SET</th> <th>SHEET</th> <th>REVISION</th> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">2</td> <td style="text-align: center;">4</td> </tr> </table>	SET	SHEET	REVISION	4	2
SET	SHEET	REVISION						
4	2	4						

SCALE: AS SHOWN  
 THIS DRAWING IS THE PROPERTY OF ESKOM



NOTES :

1. ALL STRUCTURAL USE OF STEEL TO CONFORM TO SABS 0162.  
GRADE OF STEEL TO BE SABS 1431 GRADE 300WA OR BS 4360 GRADE 43A.
2. ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF +/- 1,5mm.
3. ALL BOLTS AND NUTS TO CONFORM TO SABS 135, STRENGTH GRADE 4.8.
4. ALL MARKS TO BE STAMPED ONTO STEELWORK BEFORE GALVANISING. AND SHALL BE CLEARLY LEGIBLE AFTER GALVANISING.
5. ALL STEELWORK TO BE GALVANISED TO SABS ISO 1461 AND THEN SPRAY PAINTED WITH COLOUR PANTONE Z87C.

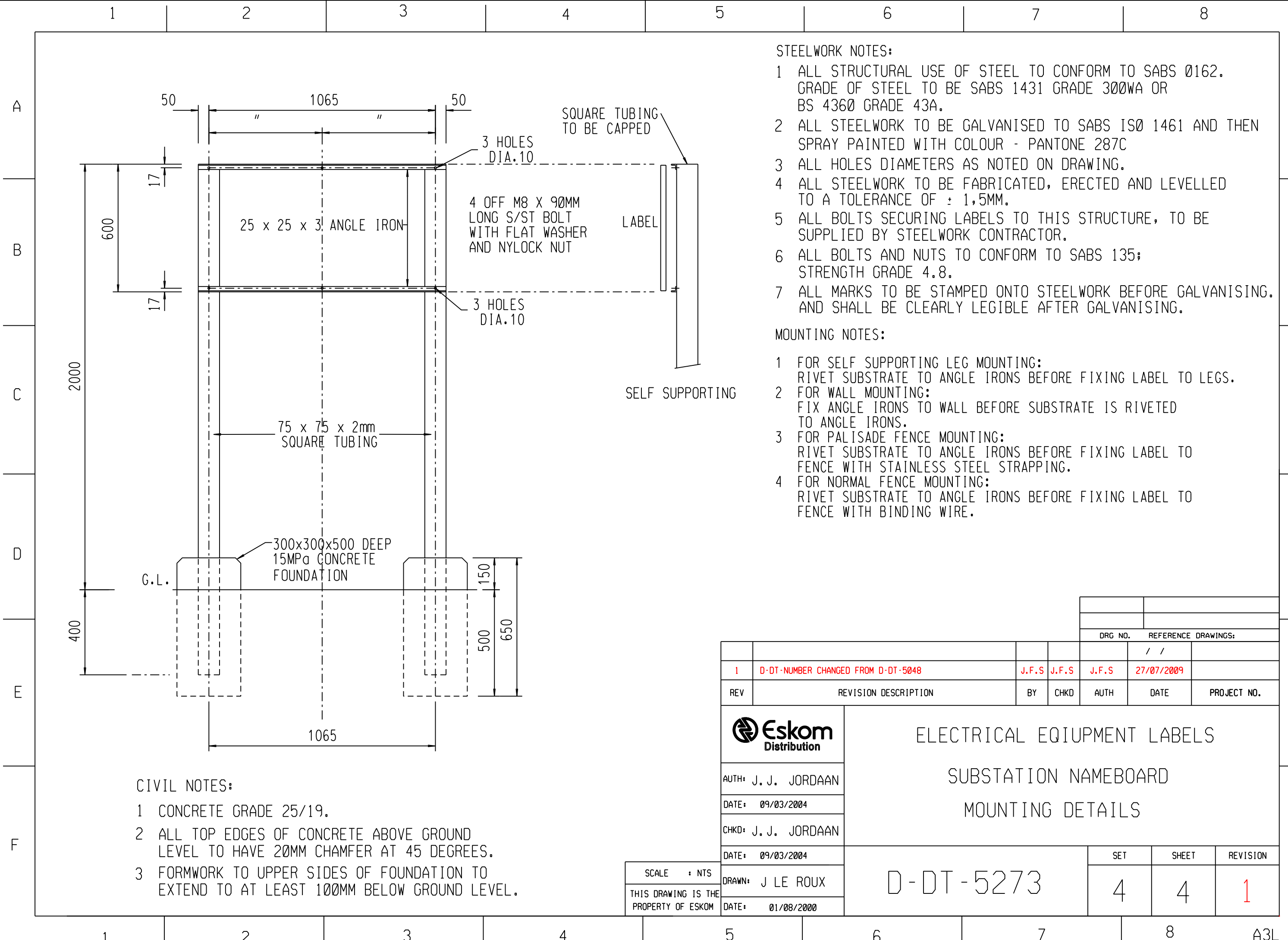
DRG NO.	REFERENCE DRAWINGS:

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
3	D-DT-NUMBER CHANGED FROM D-DT-5048	J.F.S	J.F.S	J.F.S	27/07/2009	
2	SHT 4 NOW SHT 3. DRAWING REDRAWN.	JLR	JJJ	JJJ	09/03/2004	
1	DRAWING REDRAWN	JLR	JJJ	C.B.C.	03/08/2001	

AUTH:
DATE: / /
CHKD: G.H.
DATE: / /
DRAWN: D.C.R.
DATE: 27/3/2001

PHASE LABEL MOUNTING BRACKETS MANUFACTURING DETAILS AND MOUNTING ARRANGEMENT			
D - DT - 5273	SET	SHEET	REVISION
	4	3	3

SCALE 1 : 5  
THIS DRAWING IS THE PROPERTY OF ESKOM



**STEELWORK NOTES:**

- 1 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SABS 0162. GRADE OF STEEL TO BE SABS 1431 GRADE 300WA OR BS 4360 GRADE 43A.
- 2 ALL STEELWORK TO BE GALVANISED TO SABS ISO 1461 AND THEN SPRAY PAINTED WITH COLOUR - PANTONE 287C
- 3 ALL HOLES DIAMETERS AS NOTED ON DRAWING.
- 4 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELLED TO A TOLERANCE OF  $\pm 1,5$ MM.
- 5 ALL BOLTS SECURING LABELS TO THIS STRUCTURE, TO BE SUPPLIED BY STEELWORK CONTRACTOR.
- 6 ALL BOLTS AND NUTS TO CONFORM TO SABS 135; STRENGTH GRADE 4.8.
- 7 ALL MARKS TO BE STAMPED ONTO STEELWORK BEFORE GALVANISING. AND SHALL BE CLEARLY LEGIBLE AFTER GALVANISING.

**MOUNTING NOTES:**

- 1 FOR SELF SUPPORTING LEG MOUNTING:  
RIVET SUBSTRATE TO ANGLE IRONS BEFORE FIXING LABEL TO LEGS.
- 2 FOR WALL MOUNTING:  
FIX ANGLE IRONS TO WALL BEFORE SUBSTRATE IS RIVETED TO ANGLE IRONS.
- 3 FOR PALISADE FENCE MOUNTING:  
RIVET SUBSTRATE TO ANGLE IRONS BEFORE FIXING LABEL TO FENCE WITH STAINLESS STEEL STRAPPING.
- 4 FOR NORMAL FENCE MOUNTING:  
RIVET SUBSTRATE TO ANGLE IRONS BEFORE FIXING LABEL TO FENCE WITH BINDING WIRE.

**CIVIL NOTES:**

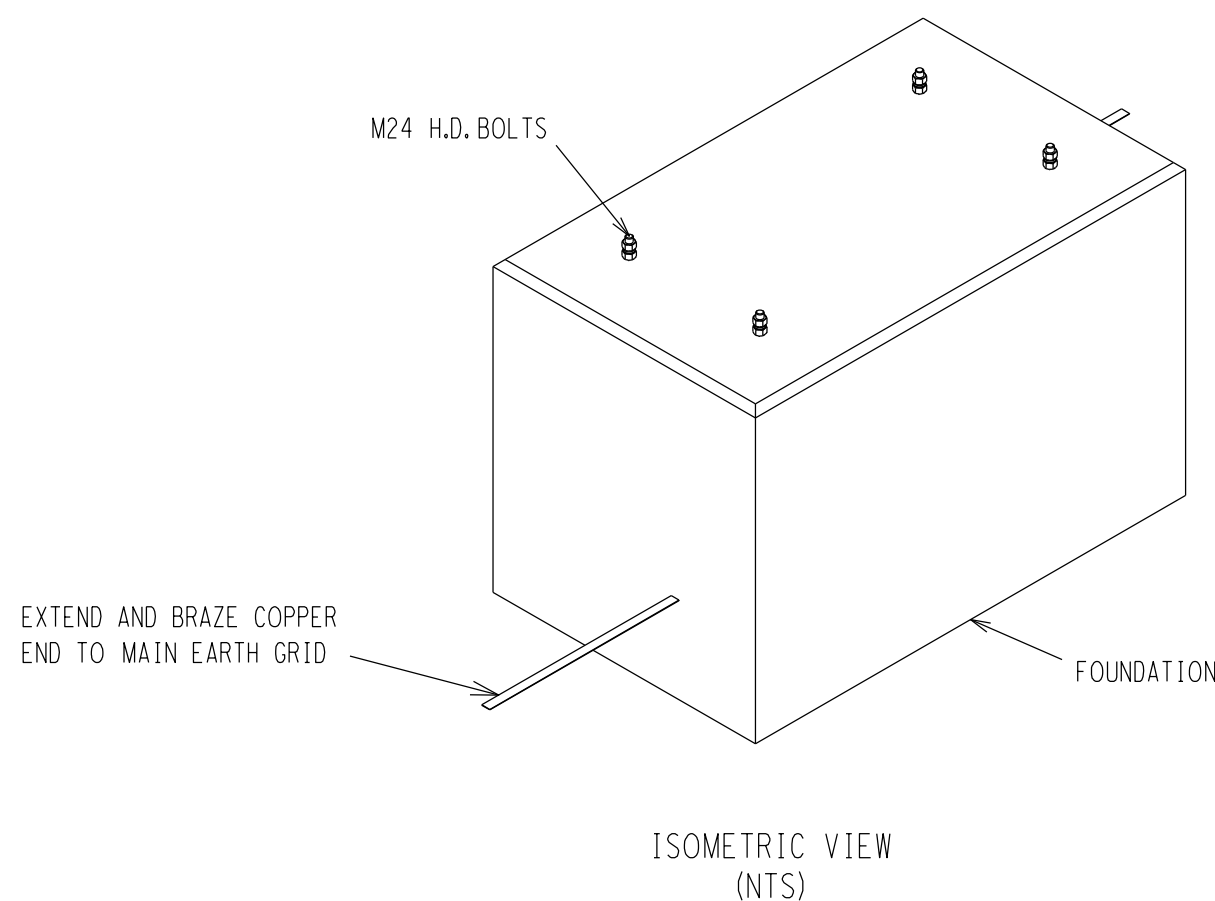
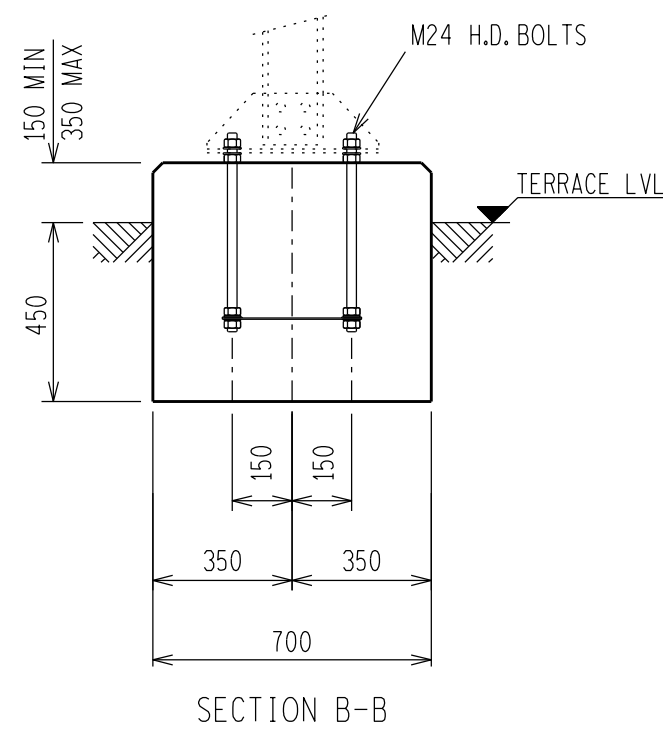
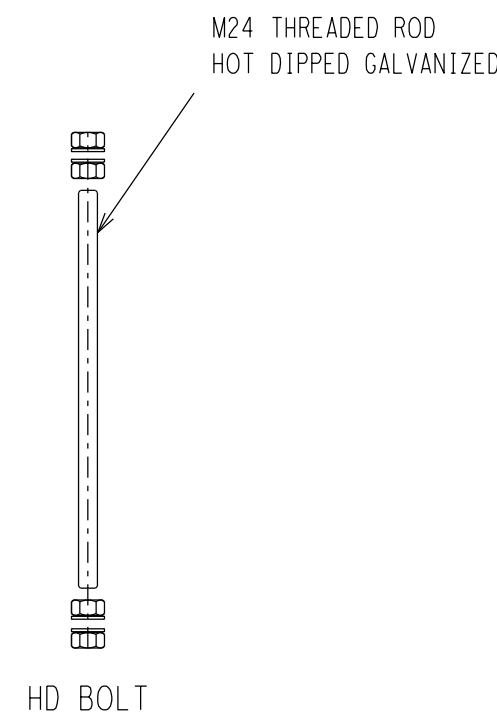
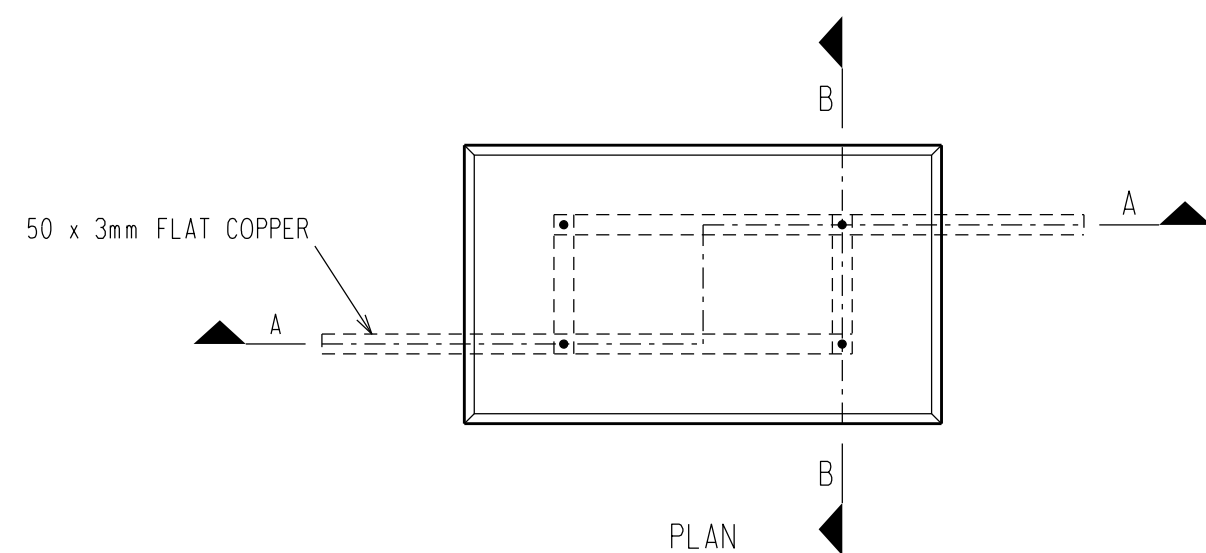
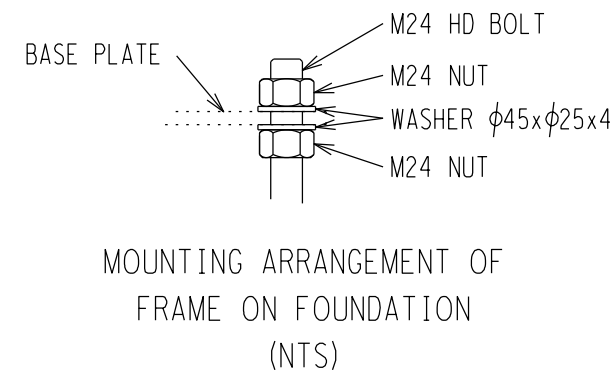
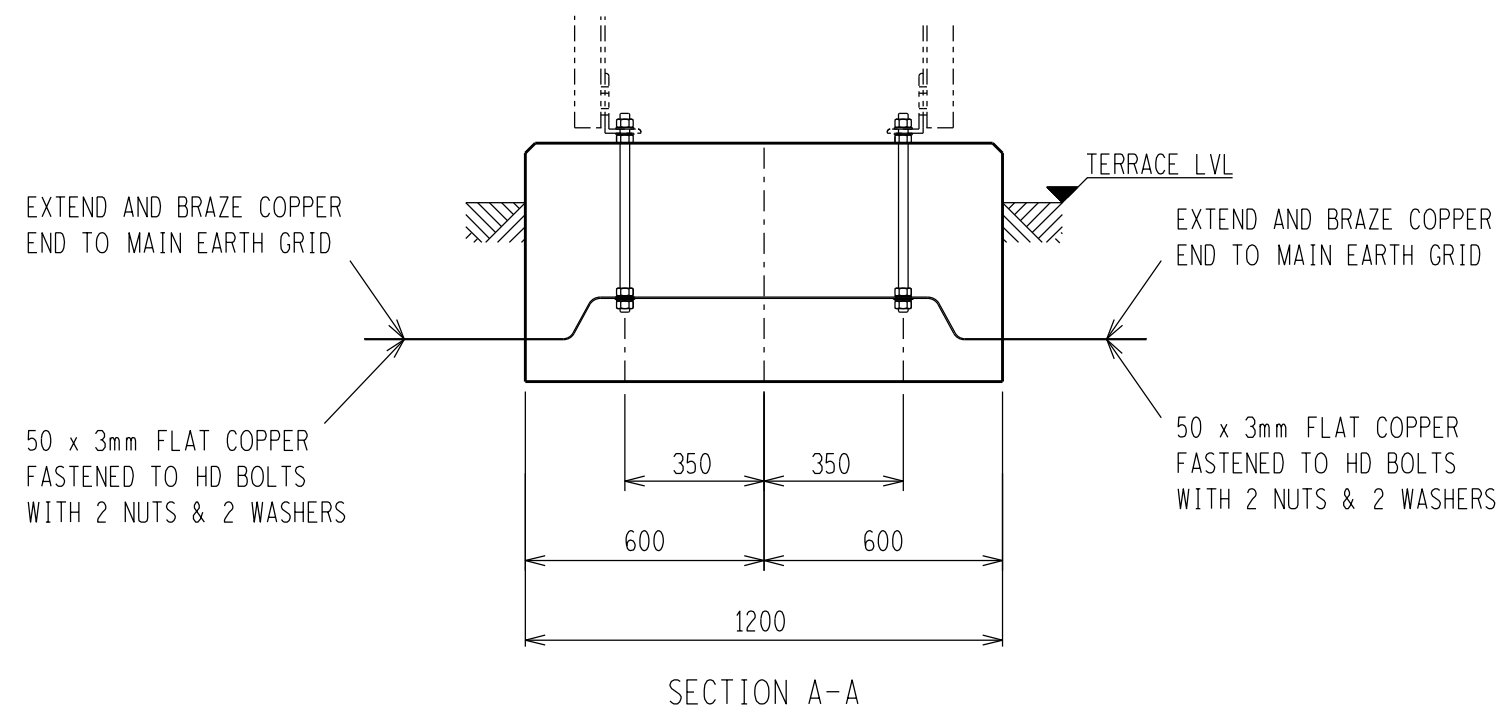
- 1 CONCRETE GRADE 25/19.
- 2 ALL TOP EDGES OF CONCRETE ABOVE GROUND LEVEL TO HAVE 20MM CHAMFER AT 45 DEGREES.
- 3 FORMWORK TO UPPER SIDES OF FOUNDATION TO EXTEND TO AT LEAST 100MM BELOW GROUND LEVEL.

ORG NO.	REFERENCE DRAWINGS:
	/ /

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
1	D-DT-NUMBER CHANGED FROM D-DT-5048	J.F.S	J.F.S	J.F.S	27/07/2009	

	ELECTRICAL EQUIPMENT LABELS			
	SUBSTATION NAMEBOARD			
	MOUNTING DETAILS			
	D-DT-5273			
AUTH: J. J. JORDAAN DATE: 09/03/2004 CHKD: J. J. JORDAAN DATE: 09/03/2004 DRAWN: J LE ROUX DATE: 01/08/2000		SET	SHEET	REVISION
		4	4	1

SCALE : NTS  
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**NOTES:**

- 1 CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
- 2 CONCRETE STRENGTH AT 28 DAYS = 25MPa.
- 3 CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS = 15MPa.
- 4 ALL TOP EDGES OF FOUNDATION TO HAVE 25-35mm CHAMFER.
- 5 FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
- 6 COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 93% OF MOD. AASHTO.
- 7 DO NOT GROUT UNDER SUPPORT BASE PLATE.
- 8 OFF SHUTTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 100mm BELOW GROUND LEVEL.
- 9 ONLY STEEL SHUTTERING MAY BE USED.
- 10 ONLY STEEL TEMPLATE MAY BE USED FOR SETTING H.D. BOLTS.
- 11 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 12 H.D. BOLTS AND NUTS TO PROTRUDE 75mm ABOVE FINISHED FOUNDATION LEVEL.
- 13 NON OXIDE IS TO BE USED ON ALL EARTH CONNECTIONS TO H.D. BOLTS.
- 14 ALL EARTHING TO CONFORM TO D-DT-5240.
- 15 FOR PRICING THE AVERAGE LENGTH OF 15m FLAT COPPER INCLUDE THE COPPER BETWEEN FOUNDATIONS AND MAIN EARTH GRID AND 2 X 3m TAILS. FLAT COPPER TO HAVE A MINIMUM DEPTH OF 500mm.
- 16 NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIXES
- 17 THIS FOUNDATION IS ONLY FOR SOIL TYPE 1 AND 2.

HD BOLT SCHEDULE								
BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF HD BOLTS	NO OFF NUTS	NO OFF WASHERS	TOTAL MASS kg	TORQUE Nm
24	4.8	3	500	4	16	16	9.21	390

SCHEDULE OF QUANTITIES @ 150mm	
EXCAVATION VOLUME =	0.38m <sup>3</sup>
CONCRETE VOLUME =	0.50m <sup>3</sup>
SHUTTERING AREA =	0.95m <sup>2</sup>
50x3mm FLAT COPPER =	20.25kg

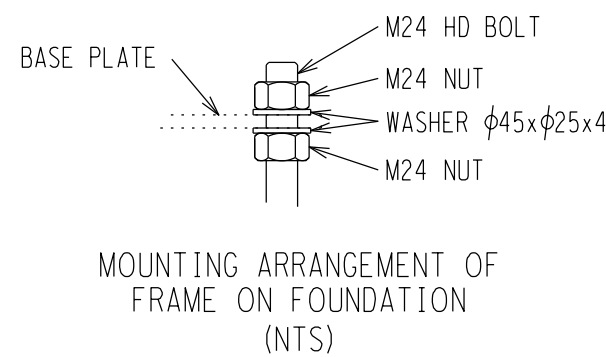
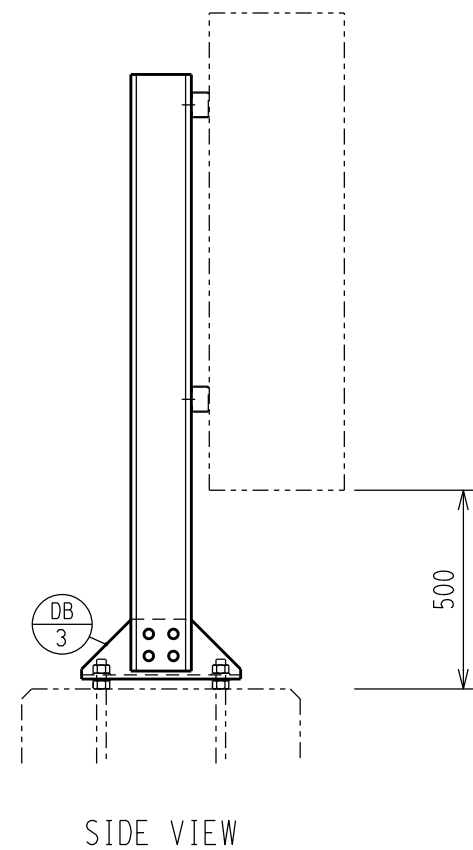
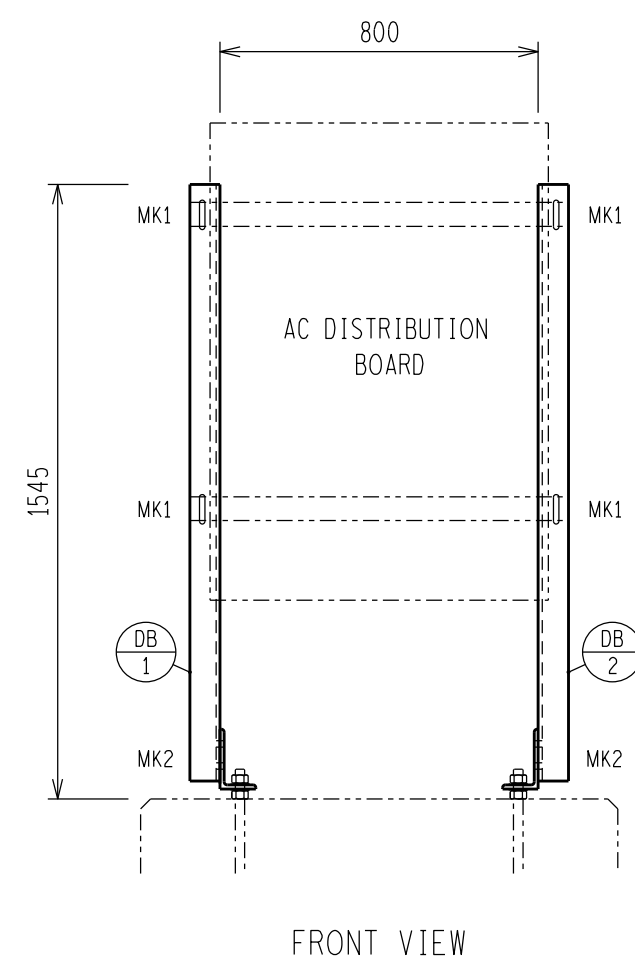
ITEM	HEIGHT	WEIGHT
SUPPORT	1.54m	70.23kg
EQUIPMENT	1.20m	80kg
BEARING CAPACITY		
FOUNDATION =	150kPa	SOIL TYPE 1 AND 2

D-DT-5276	SHEET 2A	STEELWORK SUPP. DETAILS
DRG NO.	SHEET NO.	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
0	FIRST ISSUE					
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

	<b>YARD AC DISTRIBUTION BOARD SUPPORT FOUNDATION DETAILS (SOIL TYPE 1 &amp; 2)</b>					
	AUTH:	N WEBBER				
	DATE:	06/04/2013				
	CHKD:	G BEETGE				
DATE:	04/04/2013					
DRAWN:	M DE BEER					
DATE:	04/04/2013					
D-DT-5276			SET	SHEET	REVISION	
				1A	0	

SAP No. 0572428  
SCALE 1:20  
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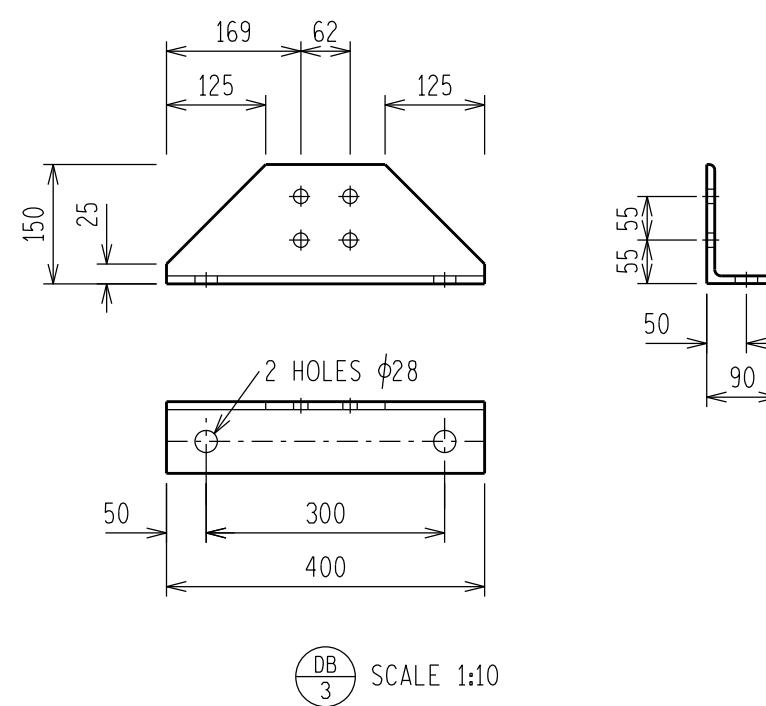
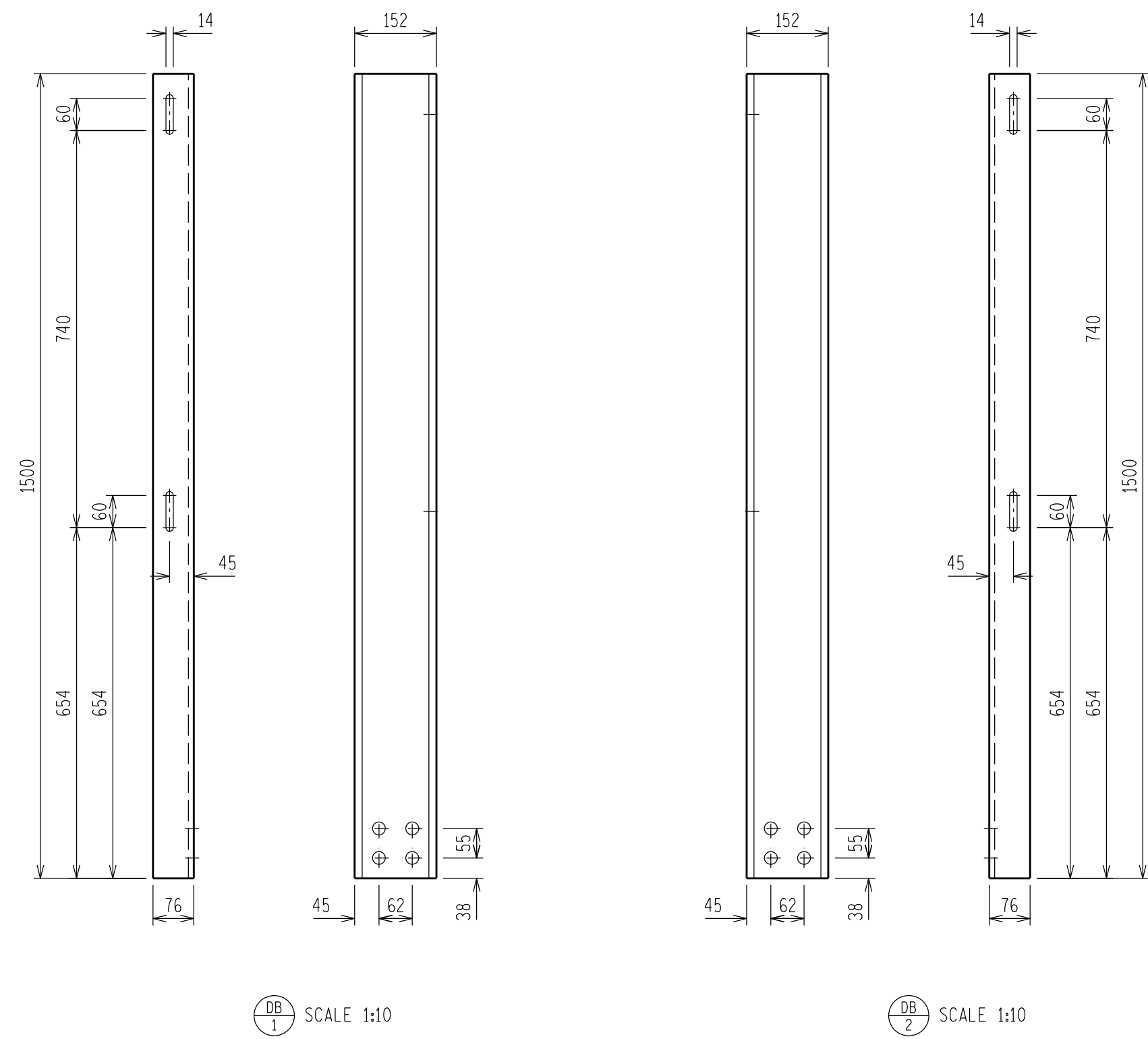


NOTES:

- 1 ALL WELDING AND WELDING SYMBOLS SHALL CONFORM TO SANS 10044 PART 1 TO 5.
- 2 ALL STRUCTURAL USE OF STEEL TO CONFORM TO SANS 10162.
- 3 ALL STEEL TO BE GRADE S355JR/350WA (EXCEPT ANGLES ≤ 45mm TO BE MILD STEEL).
- 4 ALL WELDS TO BE SEALED WELDED.
- 5 STEELWORK TO BE HOT DIP GALVANIZED TO SANS 121.
- 6 STEELWORK TO BE CHECKED AND STRAIGHTENED AFTER GALVANIZING.
- 7 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 8 ALL MARKINGS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
- 9 NO STEEL EXTENSIONS WILL BE ALLOWED ON ANY STEELWORK.
- 10 NO SECTIONS TO BE BUTT WELDED.
- 11 ALL STEELWORK TO BE FABRICATED, ERECTED AND LEVELED TO A TOLERANCE OF + - 1.5mm.
- 12 ALL HOLES TO BE 18mm DIA UNLESS OTHERWISE STATED.

BOLT SCHEDULE									
MARK	BOLT SIZE mm	MILD STEEL GRADE	PITCH mm	LENGTH mm	NO OFF BOLTS	NO OFF NUTS	NO OFF WASHERS	TORQUE Nm	TOTAL MASS kg
1	M12	4.8	1.75	40	4	4	4 FLAT 4 BEVEL	48	0.31
2	M16	4.8	2	50	8	8	8 FLAT 8 BEVEL	120	1.66
MASS OF BOLTS, WASHERS AND NUTS									1.97

STEEL SCHEDULE AND MASS					
ITEM	QTY	DESCRIPTION	CUTTING LENGTH (mm)	TOTAL LENGTH (m)	TOTAL MASS (kg)
DB 1	1	TF CHANNEL 152 x 76 x 18kg/m	1500	1.50	26.85
DB 2	1	TF CHANNEL 152 x 76 x 18kg/m	1500	1.50	26.85
DB 3	2	MILD STEEL UNEQUAL ANGLE 150 x 90 x 10	400	0.80	14.56
TOTAL MASS					68.26



D-DT-11201	SHEET 1	YARD AC DISTRIBUTION BOARD
D-DT-5276	SHEET 1A	SUPP. FND SOIL TYPE 1 & 2
DRG NO.	SHEET NO:	REFERENCE DRAWINGS:

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS

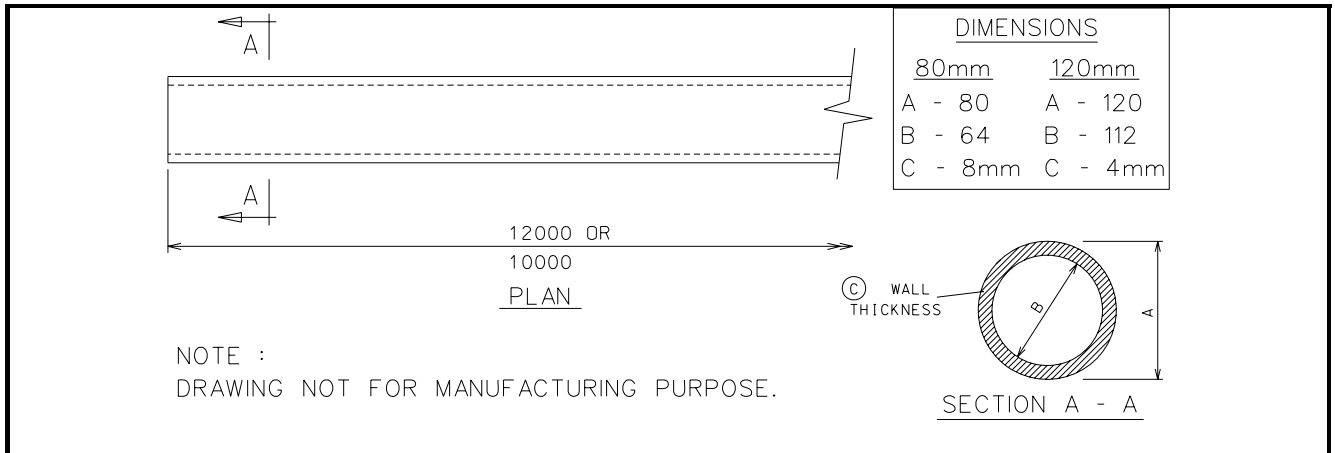
1	YARD AC DISTRIBUTION BOARD REF NO. ADDED.	MOB	GJB	NMW	19/08/2013	
0	FIRST ISSUE					
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

YARD AC DISTRIBUTION BOARD

STEELWORK MANUFACTURING

DETAILS AND ASSEMBLY

SAP No. 0572427	DATE: 04/04/2013	SET	SHEET	REVISION
SCALE 1:20	DRAWN: M DE BEER	D-DT-5276		
THIS DRAWING IS THE PROPERTY OF ESKOM	DATE: 04/04/2013			



SAP MATERIAL No.:	0163528
SHORT DESCRIPTION:	TUBE AL 80mm OD x 8mm W THK 12m L D6000

TECH. DESCRIPTION:  
 ALUMINIUM ALLOY TUBING \* GRADE 6061-T6 (D65S) \*  
 80mm OUTSIDE DIAMETER x 64mm INSIDE DIAMETER (8mm WALL THICKNESS) \*  
 RATED CURRENT 2300 AMP \* 12 METRE LONG \*  
 ESKOM DRAWING No. D-DT-6000 \*

SAP MATERIAL No.:	0206318
SHORT DESCRIPTION:	TUBE AL 120mm OD x 4mm W THK 12m L D6000

TECH. DESCRIPTION:  
 ALUMINIUM ALLOY TUBING \* GRADE 6061-T6 (D65S) \*  
 120mm OUTSIDE DIAMETER x 112mm INSIDE DIAMETER (4mm WALL THICKNESS) \*  
 RATED CURRENT 2300 AMP \* 12 METRE LONG \*  
 ESKOM DRAWING No. D-DT-6000 \*

SAP MATERIAL No.:	0163535
SHORT DESCRIPTION:	TUBE AL 80mm OD x 8mm W THK 10m L D6000

TECH. DESCRIPTION:  
 ALUMINIUM ALLOY TUBING \* GRADE 6061-T6 (D65S) \*  
 80mm OUTSIDE DIAMETER x 64mm INSIDE DIAMETER (8mm WALL THICKNESS) \*  
 RATED CURRENT 2300 AMP \* 10 METRE LONG \*  
 ESKOM DRAWING No. D-DT-6000 \*

ITEM	:- TUBE AL 12m L D6000		
MATERIAL SPECIFICATION	:- ALUMINIUM ALLOY (D65S)		
CORROSION SPECIFICATION	:- N/A		
STANDARD SPECIFICATION	:- N/A		
ESKOM SPECIFICATION	:- N/A		
TEST & CERTIFICATION REQUIREMENTS	:- N/A		

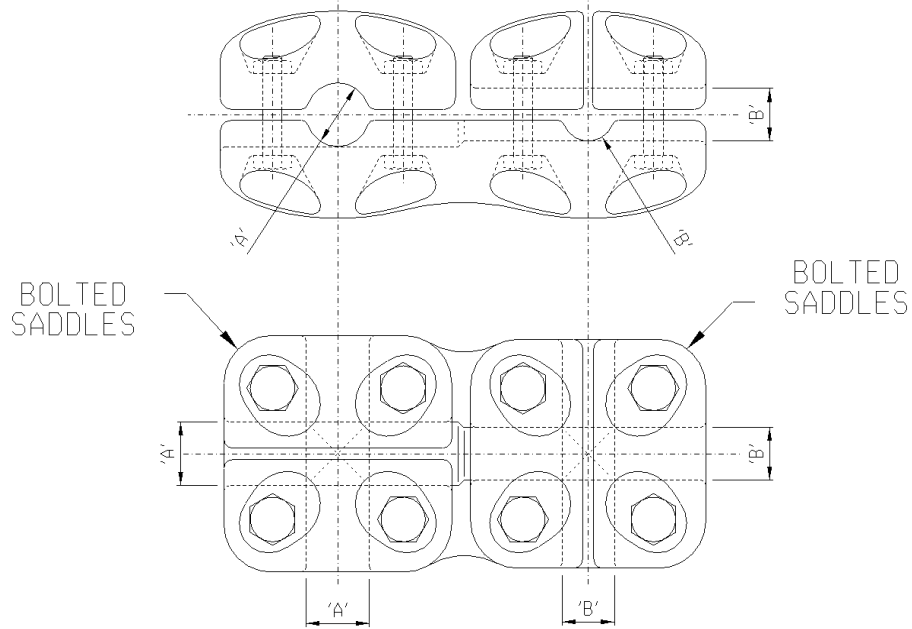
INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

4	TUBE 120mm OD x 4 mm W THK ADDED.	VvZ	JFS	J.F.SCOLTZ	19/09/2003	
3	D-DT-6000 SHT 2 REPOSITIONED FROM D-DT-6001. SFD CHANGED & RATED CURRENT ADDED	VvZ	C.B.C.	A.BEKKER	10/01	
2	VARIOUS AMMENDMENTS MADE	P.A.V.	C.B.C.	P.CROWDY	05/00	

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	 <b>D-DT-6000</b>	SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96		0163528		
FILE No:					0206318		
6000					0163535		
					SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96		1	1	4






NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES


CODE	DIAMETER (mm)		90°C RATED CURRENT (A)	SAP NUMBER
	A	B		
EX-A	26	16.3	500	0401786
EX-B	26	26.5	900	0401584
EX-C	38	16.3	500	0401788
EX-D	38	26.5	900	0401740
EX-E	38	38.3	1,350	0401635
EX-F	38	19.0	600	0401586
EX-G	35	26.5	900	0401776
EX-H	35	38.3	950	0401748
EX-J	26	19.0	600	0401582
EX-K	26	21.0	650	0401703

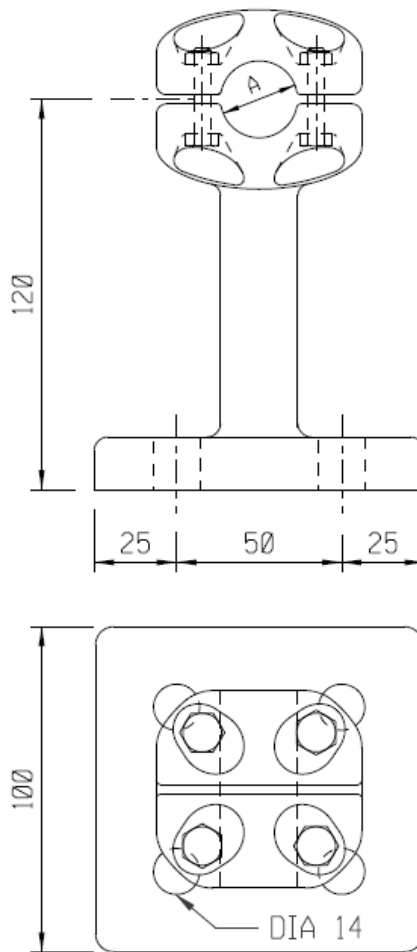
ITEM	:- CLAMP:EX;BOLT/BOLT; STEM 26, 35, 38							
MATERIAL SPECIFICATION	:- GRADE LM6 ALUMINIUM TO BS1490							
CORROSION SPECIFICATION	:- N/A							
STANDARD SPECIFICATION	:- N/A							
ESKOM SPECIFICATION	:- 474-218							
TEST & CERTIFICATION REQUIREMENTS	:- 474-218							
INSPECTION	Yes	No	ESKOM RELEASE NOTE		Yes	No		
IDENTIFICATION:- INDELIBLE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS								
6	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG. AND EX-F, G, H, J, K ADDED		P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013		
5	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974, SPECS AND CLAMP TYPES CHANGED		P.A.T.	T.NKAMBUL E	V.SINGH	11.04.2011		
4	DIAGRAM UPDATED TO SHOW DIMENSIONS		VvZ	C.B.C.	C.B. CLARK	30/06/2006		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	 <b>D-DT-6002</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97			SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/95			3	1	6

## SPEC SHEET

SAP MATERIAL No.:		0401786								
SHORT DESCRIPTION:		CLAMP:EX-A;BOLT/BOLT; STEM 26 COND 16.3								
TECH. DESCRIPTION:										
CLAMP: TYPE: BOLT/BOLT; STEM 26 COND 16.3; DIMENSIONS: STEM: 26MM; CONDUCTOR: 16.3MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/BOLTED CROSS CLAMP; RATED CURRENT 500AMP; REFERENCE NO: EX-A; ESKOM DRAWING No. D-DT-6002 *										
SAP MATERIAL No.:		0401584								
SHORT DESCRIPTION:		CLAMP:EX-B;BOLT/BOLT; STEM 26 COND 26.5								
TECH. DESCRIPTION:										
CLAMP: TYPE: BOLT/BOLT; STEM 26 COND 26.5; DIMENSIONS: STEM: 26MM; CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/BOLTED CROSS CLAMP; RATED CURRENT 900AMP; REFERENCE NO: EX-B; ESKOM DRAWING No. D-DT-6002 *										
SAP MATERIAL No.:		0401788								
SHORT DESCRIPTION:		CLAMP:EX-C;BOLT/BOLT; STEM 38 COND 16.3								
TECH. DESCRIPTION:										
CLAMP: TYPE: BOLT/BOLT; STEM 38 COND 16.3; DIMENSIONS: STEM: 38MM; CONDUCTOR: 16.3MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/BOLTED CROSS CLAMP; RATED CURRENT 500AMP; REFERENCE NO: EX-C; ESKOM DRAWING No. D-DT-6002 *										
SAP MATERIAL No.:		0401740								
SHORT DESCRIPTION:		CLAMP:EX-D;BOLT/BOLT; STEM 38 COND 26.5								
TECH. DESCRIPTION:										
CLAMP: TYPE: BOLT/BOLT; STEM 38 COND 26.5; DIMENSIONS: STEM: 38MM; CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/BOLTED CROSS CLAMP; RATED CURRENT 900AMP; REFERENCE NO: EX-D; ESKOM DRAWING No. D-DT-6002 *										
SAP MATERIAL No.:		0401635								
SHORT DESCRIPTION:		CLAMP:EX-E;BOLT/BOLT; STEM 38 COND 38.3								
TECH. DESCRIPTION:										
CLAMP: TYPE: BOLT/BOLT; STEM 38 COND 38.3; DIMENSIONS: STEM: 38MM; CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/BOLTED CROSS CLAMP; RATED CURRENT 1350AMP; REFERENCE NO: EX-E; ESKOM DRAWING No. D-DT-6002 *										
6	VARIOUS SAP NUMBERS,SPECS.& TECH,DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EX-F, G, H, J, K ADDED				P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013		
5	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974, SPECS AND CLAMP TYPES CHANGED				P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011		
4	DIAGRAM UPDATED TO SHOW DIMENSIONS				VvZ	C.B.C.	C.B. CLARK	30/06/2006		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE NTS	 <b>D-DT-6002</b>			SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF:				0401786	0401740	
				SERIES 6000				0401584	0401635	
DRAWN:	J.F.SCHOLTZ	DATE:	10/95	FILE No: 6002	SET	SHEET	REV	3	2	6

## SPEC SHEET

SAP MATERIAL No.:		0401586								
SHORT DESCRIPTION:		CLAMP:EX-F;BOLT/BOLT; STEM 38 COND 19								
TECH. DESCRIPTION:										
CLAMP: TYPE: BOLT/BOLT; STEM 38 COND 19; DIMENSIONS: STEM: 38MM; CONDUCTOR: 19MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/BOLTED CROSS CLAMP; RATED CURRENT 600AMP; REFERENCE NO: EX-F; ESKOM DRAWING No. D-DT-6002 *										
SAP MATERIAL No.:		0401776								
SHORT DESCRIPTION:		CLAMP:EX-G;BOLT/BOLT; STEM 35 COND 26.5								
TECH. DESCRIPTION:										
CLAMP: TYPE: BOLT/BOLT; STEM 35 COND 26.5; DIMENSIONS: STEM: 35MM; CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/BOLTED CROSS CLAMP; RATED CURRENT 900AMP; REFERENCE NO: EX-G; ESKOM DRAWING No. D-DT-6002 *										
SAP MATERIAL No.:		0401748								
SHORT DESCRIPTION:		CLAMP:EX-H;BOLT/BOLT; STEM 35 COND 38.3								
TECH. DESCRIPTION:										
CLAMP: TYPE: BOLT/BOLT; STEM 35 COND 38.3; DIMENSIONS: STEM: 35MM; CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/BOLTED CROSS CLAMP; RATED CURRENT 950AMP; REFERENCE NO: EX-H; ESKOM DRAWING No. D-DT-6002 *										
SAP MATERIAL No.:		0401582								
SHORT DESCRIPTION:		CLAMP:EX-J;BOLT/BOLT; STEM 26 COND 19								
TECH. DESCRIPTION:										
CLAMP: TYPE: BOLT/BOLT; STEM 26 COND 19; DIMENSIONS: STEM: 26MM; CONDUCTOR: 19MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/BOLTED CROSS CLAMP; RATED CURRENT 600AMP; REFERENCE NO: EX-J; ESKOM DRAWING No. D-DT-6002 *										
SAP MATERIAL No.:		0401703								
SHORT DESCRIPTION:		CLAMP:EX-K;BOLT/BOLT; STEM 26 COND 21								
TECH. DESCRIPTION:										
CLAMP: TYPE: BOLT/BOLT; STEM 26 COND 21; DIMENSIONS: STEM: 26MM; CONDUCTOR: 21MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/BOLTED CROSS CLAMP; RATED CURRENT 650AMP; REFERENCE NO: EX-K; ESKOM DRAWING No. D-DT-6002 *										
6	VARIOUS SAP NUMBERS,SPECS.& TECH,DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EX-F, G, H, J, K ADDED				P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013		
5	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974, SPECS AND CLAMP TYPES CHANGED				P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011		
4	DIAGRAM UPDATED TO SHOW DIMENSIONS				VvZ	C.B.C.	C.B. CLARK	30/06/2006		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE NTS	 <b>D-DT-6002</b>			SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF:				0401586	0401582	
DRAWN:	J.F.SCHOLTZ	DATE:	10/95	FILE No: 6002				0401776	0401703	
								SET	SHEET	REV
								3	3	6




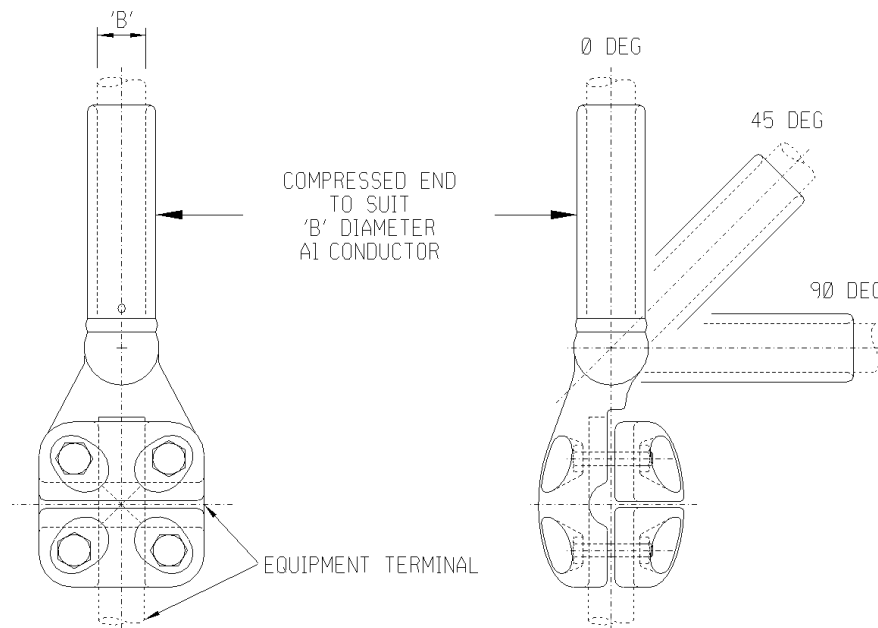
NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	DIA "A" (mm)	EQUIPMENT TERMINAL	90°C RATED CURRENT (A)	SAP NUMBER
EPT-A	26.5	4 X DIA 14 HOLES, 50X50CENTRES	900	0590147
EPT-B	38.3		1,350	0590148

ITEM	∴ CLAMP: EPT; BOLTED CLAMP ON 50X50 FOUR HOLE PAD TO FIT 8 HOLE TERMINAL								
ESKOM SPECIFICATION	∴ 474-218								
TEST & CERTIFICATION REQUIREMENTS	∴ 474-218								
IDENTIFICATION:-	INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	T. MARIAS	DATE:	05.09.2014	SCALE	Eskom	SAP No:			
CHKD:	M. PEFFER	DATE:	05.09.2014	CAD REF:		<b>D-DT-6004</b>	SET	SHEET	REV
DRAWN:	P.A. TRUBLET	DATE:	22.07.2014	FILE No:			2	1	0
				6004					


## SPEC SHEET

SAP MATERIAL No.:	0590147							
SHORT DESCRIPTION:	CLAMP:EPT-A; RUN 26.5MM ON 4 HOLE PAD							
TECH. DESCRIPTION:								
CLAMP: TYPE: EPT-A; DIMENSIONS: RUN 26.5MM ON 4 HOLE PAD; MATERIAL: Al ALLOY< 0.1% Cu; 900AMP; 145KV; BOLTED CLAMP ON 50X50 FOUR HOLE PAD TO FIT 8 HOLE TERMINAL IN ACCORDANCE TO SANS 62271-301; ESKOM DRAWING No. D-DT-6004 *								
SAP MATERIAL No.:	0590148							
SHORT DESCRIPTION:	CLAMP:EPT-B; RUN 38.3MM ON 4 HOLE PAD							
TECH. DESCRIPTION:								
CLAMP: TYPE: EPT-B; DIMENSIONS: RUN 38.3MM ON 4 HOLE PAD; MATERIAL: Al ALLOY< 0.1% Cu; 1350 AMP; 145KV; BOLTED CLAMP ON 50X50 FOUR HOLE PAD TO FIT 8 HOLE TERMINAL IN ACCORDANCE TO SANS 62271-301; ESKOM DRAWING No. D-DT-6004 *								
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	T. MARIAS	DATE:	05.09.2014	SCALE	 <b>D-DT-6004</b>	SAP No:		
CHKD:	M. PEFFER	DATE:	05.09.2014	NTS		0590147		
				CAD REF:		0590148		
				SERIES 6000		SET	SHEET	REV
DRAWN:	P.A. TRUBLET	DATE:	22.07.2014	FILE No:		2	2	0
				6004				



NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	EQUIPMENT TERMINAL	DIA "B" (mm)	ANGLE OF OFFSET	90°C RATED CURRENT (A)	SAP NUMBER
EXC-A	26mm STEM	26.5	0 DEG	900	0401752
EXC-B	38mm STEM				0401766
EXC-C	38mm STEM	38.3	0 DEG	1,350	0005660
EXC-D			45 DEG		0401637
EXC-E			90 DEG		0005691
EXC-F	38mm STEM	26.5	45 DEG	900	0401639
EXC-G			90 DEG		0005692
EXC-H	38mm STEM	18.1	0 DEG	500	0401643
EXC-J	35mm STEM	26.5	0 DEG	900	0005686
EXC-K	35mm STEM	38.3	0 DEG	1,200	0005687
EXC-L	26mm STEM	26.5	45 DEG	900	0401641
EXC-M	26mm STEM	18.1	0 DEG	500	0401577
EXC-N	40mm STEM	26.5	0 DEG	900	0005182
EXC-P	60mm STEM	38.3	0 DEG	1,350	0005183
EXC-Q			45 DEG		0005184
EXC-R			90 DEG		0005185

ITEM	:- CLAMP, B/COMP EXC							
MATERIAL SPECIFICATION	:- GRADE LM6 ALUMINIUM TO BS1490							
CORROSION SPECIFICATION	:- N/A							
STANDARD SPECIFICATION	:- N/A							
ESKOM SPECIFICATION	:- 474-218							
TEST & CERTIFICATION REQUIREMENTS	:- 474-218							
INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No			
IDENTIFICATION:- INDELIBLE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS								
8	VARIOUS SAP NUMBERS, SPECS & TECH DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EXC-G, H, J, K, M, N, P, Q, R ADDED		P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013		
7	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974		P.A.T.	T. NKAMBULE	V.SINGH	11.04.2011		
6	DIMENSIONS CORRECTED, SPECS AND CLAMP TYPES CHANGED		P.A.T.	T. NKAMBULE	V.SINGH	06.01.2011		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	CRAIG CLARK	DATE:	10/98	 <b>D-DT-6006</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	10/98			SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/98			5	1	8

## SPEC SHEET

SAP MATERIAL No.:	0401752							
SHORT DESCRIPTION:	CLAMP:EXC-A;BOLT/COMP; STEM 26 COND26.5							
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 26 COND26.5; DIMENSIONS: STEM: 26MM;  CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;  BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 0 DEGREE OFFSET;  NOTE: OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED  BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;  REFERENCE NO: EXC-A;  ESKOM DRAWING No. D-DT-6006 *</p>							
SAP MATERIAL No.:	0401766							
SHORT DESCRIPTION:	CLAMP:EXC-B;BOLT/COMP; STEM 38 COND26.5							
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 38 COND26.5; DIMENSIONS: STEM: 38MM;  CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;  BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 0 DEGREE OFFSET;  NOTE: OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED  BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;  REFERENCE NO: EXC-B;  ESKOM DRAWING No. D-DT-6006 *</p>							
SAP MATERIAL No.:	0005660							
SHORT DESCRIPTION:	CLAMP:EXC-C;BOLT/COMP; STEM 38 COND38.3							
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 38 COND38.3; DIMENSIONS: STEM: 38MM;  CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;  BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 0 DEGREE OFFSET;  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED  BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;  REFERENCE NO: EXC-C;  ESKOM DRAWING No. D-DT-6006 *</p>							
SAP MATERIAL No.:	0401637							
SHORT DESCRIPTION:	CLAMP:EXC-D;BOLT/COMP; STEM 38 COND38.3							
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 38 COND38.3; DIMENSIONS: STEM: 38MM;  CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;  BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 45 DEGREE OFFSET;  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED  BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;  REFERENCE NO: EXC-D;  ESKOM DRAWING No. D-DT-6006 *</p>							
8	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EXC-G, H, J, K, M, N, P, Q, R ADDED		P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013		
7	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974		P.A.T.	T. NKAMBULE	V.SINGH	11.04.2011		
6	DIMENSIONS CORRECTED, SPECS AND CLAMP TYPES CHANGED		P.A.T.	T. NKAMBULE	V.SINGH	06.01.2011		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE		
AUTH:	CRAIG CLARK	DATE:	10/98	 <b>D-DT-6006</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	10/98			0401752	0005660	
DRAWN:	J.F.SCHOLTZ	DATE:	10/98			0401766	0401637	
						SET	SHEET	REV
						5	2	8

## SPEC SHEET

SAP MATERIAL No.:	0005691					
SHORT DESCRIPTION:	CLAMP:EXC-E;BOLT/COMP; STEM 38 COND38.3					
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 38 COND38.3; DIMENSIONS: STEM: 38MM;                      CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;                      BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 90 DEGREE OFFSET;                      NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED                      BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      REFERENCE NO: EXC-E;                      ESKOM DRAWING No. D-DT-6006 *</p>					
SAP MATERIAL No.:	0401639					
SHORT DESCRIPTION:	CLAMP:EXC-F;BOLT/COMP; STEM 38 COND26.5					
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 38 COND26.5; DIMENSIONS: STEM: 38MM;                      CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;                      BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 45 DEGREE OFFSET;                      NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED                      BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      REFERENCE NO: EXC-F;                      ESKOM DRAWING No. D-DT-6006 *</p>					
SAP MATERIAL No.:	0005692					
SHORT DESCRIPTION:	CLAMP:EXC-G;BOLT/COMP; STEM 38 COND26.5					
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 38 COND26.5; DIMENSIONS: STEM: 38MM;                      CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;                      BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 90 DEGREE OFFSET;                      NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED                      BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      REFERENCE NO: EXC-G;                      ESKOM DRAWING No. D-DT-6006 *</p>					
SAP MATERIAL No.:	0401643					
SHORT DESCRIPTION:	CLAMP:EXC-H;BOLT/COMP; STEM 38 COND18.1					
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 38 COND18.1; DIMENSIONS: STEM: 38MM;                      CONDUCTOR: 18.1MM; MATERIAL: AL BS1490 GR LM6 CAST;                      BOLTED/COMPRESSION CLAMP; RATED CURRENT 500AMP; 0 GEGREE OFFSET;                      NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED                      BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      REFERENCE NO: EXC-H;                      ESKOM DRAWING No. D-DT-6006 *</p>					
8	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EXC-G, H, J, K, M, N, P, Q, R ADDED		P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013
7	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974		P.A.T.	T. NKAMBULE	V.SINGH	11.04.2011
6	DIMENSIONS CORRECTED, SPECS AND CLAMP TYPES CHANGED		P.A.T.	T. NKAMBULE	V.SINGH	06.01.2011
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE
AUTH:	CRAIG CLARK	DATE:	10/98			SCALE
CHKD:	C.B. CLARK	DATE:	10/98			SAP No:
DRAWN:	J.F.SCHOLTZ	DATE:	10/98			0005691
				<b>D-DT-6006</b>		0005692
						0401639
						0401643
						SET
						SHEET
						REV
						5
						3
						8

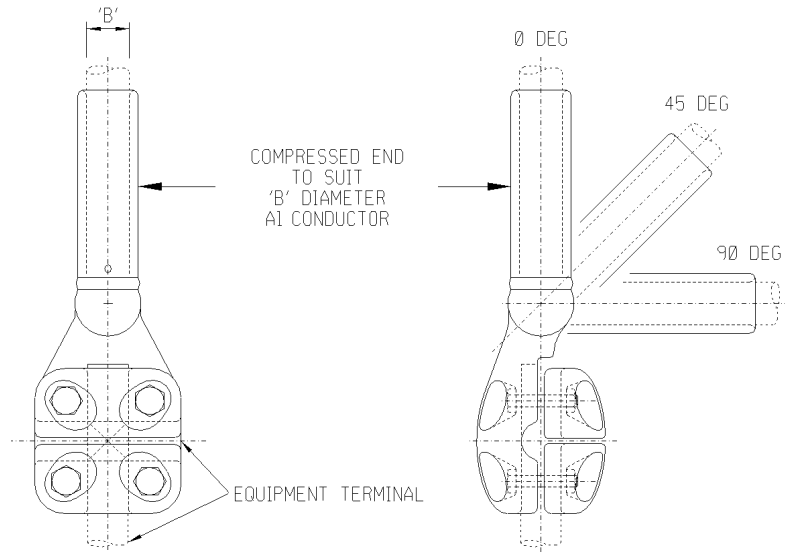


## SPEC SHEET

SAP MATERIAL No.:		0005686						
SHORT DESCRIPTION:		CLAMP:EXC-J;BOLT/COMP; STEM 35 COND26.5						
TECH. DESCRIPTION:		<p>CLAMP: TYPE: BOLT/COMP; STEM 35 COND26.5; DIMENSIONS: STEM: 35MM;            CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;            BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 0 GEGREE OFFSET;            NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED            BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EXC-J;            ESKOM DRAWING No. D-DT-6006 *</p>						
SAP MATERIAL No.:		0005687						
SHORT DESCRIPTION:		CLAMP:EXC-K;BOLT/COMP; STEM 35 COND38.3						
TECH. DESCRIPTION:		<p>CLAMP: TYPE: BOLT/COMP; STEM 35 COND38.3; DIMENSIONS: STEM: 35MM;            CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;            BOLTED/COMPRESSION CLAMP; RATED CURRENT 1200AMP; 0 GEGREE OFFSET;            NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED            BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EXC-K;            ESKOM DRAWING No. D-DT-6006 *</p>						
SAP MATERIAL No.:		0401641						
SHORT DESCRIPTION:		CLAMP:EXC-L;BOLT/COMP; STEM 26 COND26.5						
TECH. DESCRIPTION:		<p>CLAMP: TYPE: BOLT/COMP; STEM 26 COND26.5; DIMENSIONS: STEM: 26MM;            CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;            BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 45 DEGREE OFFSET;            NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED            BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EXC-L;            ESKOM DRAWING No. D-DT-6006 *</p>						
SAP MATERIAL No.:		0401577						
SHORT DESCRIPTION:		CLAMP:EXC-M;BOLT/COMP; STEM 26 COND18.1						
TECH. DESCRIPTION:		<p>CLAMP: TYPE: BOLT/COMP; STEM 26 COND18.1; DIMENSIONS: STEM: 26MM;            CONDUCTOR: 18.1MM; MATERIAL: AL BS1490 GR LM6 CAST;            BOLTED/COMPRESSION CLAMP; RATED CURRENT 500AMP; 0 GEGREE OFFSET;            NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED            BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EXC-M;            ESKOM DRAWING No. D-DT-6006 *</p>						
8	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EXC-G, H, J, K, M, N, P, Q, R ADDED		P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013		
7	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974		P.A.T.	T. NKAMBULE	V.SINGH	11.04.2011		
6	DIMENSIONS CORRECTED, SPECS AND CLAMP TYPES CHANGED		P.A.T.	T. NKAMBULE	V.SINGH	06.01.2011		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	CRAIG CLARK	DATE:	10/98			SAP No:		
CHKD:	C.B. CLARK	DATE:	10/98			0005686	0401641	0005687
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	<b>D-DT-6006</b>		SET	SHEET	REV
			SCALE NTS			5	4	8
			CAD REF: SERIES 6000					
			FILE No: 6006					

## SPEC SHEET

SAP MATERIAL No.:	0005182							
SHORT DESCRIPTION:	CLAMP:EXC-N;BOLT/COMP; STEM 40 COND26.5							
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 40 COND26.5; DIMENSIONS: STEM: 40MM;                      CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;                      BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 0 DEGREE OFFSET;                      NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED                      BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      REFERENCE NO: EXC-N;                      ESKOM DRAWING No. D-DT-6006 *</p>							
SAP MATERIAL No.:	0005183							
SHORT DESCRIPTION:	CLAMP:EXC-P;BOLT/COMP; STEM 60 COND38.3							
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 60 COND38.3; DIMENSIONS: STEM: 60MM;                      CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;                      BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 0 GEGREE OFFSET;                      NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED                      BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      REFERENCE NO: EXC-P;                      ESKOM DRAWING No. D-DT-6006 *</p>							
SAP MATERIAL No.:	0005184							
SHORT DESCRIPTION:	CLAMP:EXC-Q;BOLT/COMP; STEM 60 COND38.3							
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 60 COND38.3; DIMENSIONS: STEM: 60MM;                      CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;                      BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 45 DEGREE OFFSET;                      NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED                      BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      REFERENCE NO: EXC-Q;                      ESKOM DRAWING No. D-DT-6006 *</p>							
SAP MATERIAL No.:	0005185							
SHORT DESCRIPTION:	CLAMP:EXC-R;BOLT/COMP; STEM 60 COND38.3							
TECH. DESCRIPTION:	<p>CLAMP: TYPE: BOLT/COMP; STEM 60 COND38.3; DIMENSIONS: STEM: 60MM;                      CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;                      BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 90 DEGREE OFFSET;                      NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED                      BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      REFERENCE NO: EXC-R;                      ESKOM DRAWING No. D-DT-6006 *</p>							
8	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EXC-G, H, J, K, M, N, P, Q, R ADDED		P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013		
7	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974		P.A.T.	T. NKAMBULE	V.SINGH	11.04.2011		
6	DIMENSIONS CORRECTED, SPECS AND CLAMP TYPES CHANGED		P.A.T.	T. NKAMBULE	V.SINGH	06.01.2011		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE		
AUTH:	CRAIG CLARK	DATE:	10/98			SAP No:		
CHKD:	C.B. CLARK	DATE:	10/98			0005182	0005184	
DRAWN:	J.F.SCHOLTZ	DATE:	10/98			0005183	0005185	
				D-DT-6006		SET	SHEET	REV
						5	5	8



NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	EQUIPMENT TERMINAL	DIA "B" (mm)	ANGLE OF OFFSET	90°C RATED CURRENT (A)	SAP NUMBER
EXC-A	26mm STEM	26.5	0 DEG	900	0401752
EXC-B	38mm STEM	26.5	0 DEG	900	0401766
EXC-C	38mm STEM	38.3	0 DEG	1,350	0005660
EXC-D	38mm STEM	38.3	45 DEG	1,350	0401637
EXC-E	38mm STEM	38.3	90 DEG	1,350	0005691
EXC-F	38mm STEM	26.5	45 DEG	900	0401639
EXC-G	38mm STEM	26.5	90 DEG	900	0005692
EXC-H	38mm STEM	18.1	0 DEG	500	0401643
EXC-J	35mm STEM	26.5	0 DEG	900	0005686
EXC-K	35mm STEM	38.3	0 DEG	1,200	0005687
EXC-L	26mm STEM	26.5	45 DEG	900	0401641
EXC-M	26mm STEM	18.1	0 DEG	500	0401577
EXC-N	40mm STEM	26.5	0 DEG	900	0005182
EXC-P	60mm STEM	38.3	0 DEG	1,350	0005183
EXC-Q	60mm STEM	38.3	45 DEG	1,350	0005184
EXC-R	60mm STEM	38.3	90 DEG	1,350	0005185
EXC-S	60mm STEM	26.5	0 DEG	900	0662854
EXC-T	60mm STEM	26.5	45 DEG	900	0662915
EXC-U	60mm STEM	26.5	90 DEG	900	0662916

ITEM		:- CLAMP, B/COMP EXC						
MATERIAL SPECIFICATION		:- AL ALLOY < 0.1% CU						
CORROSION SPECIFICATION		:- N/A						
STANDARD SPECIFICATION		:- 240-53113927						
ESKOM SPECIFICATION		:- 240-53113927						
TEST & CERTIFICATION REQUIREMENTS :- 240-53113927								
INSPECTION		Yes	No	ESKOM RELEASE NOTE	Yes	No		
IDENTIFICATION:- INDELIBLE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS								
9	UPDATE TABLE; ADDED ITEMS EXC-S, EXC-T, EXC-U; UPDATED MATERIAL - STANDARD -, ESKOM SPECIFICATION AND TEST & CERTIFICATION REQUIREMENTS			P.A.T.	C.THOMAS	T.MARAIS	15.05.2019	
8	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EXC-G, H, J, K, M, N, P, Q, R ADDED			P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013	
7	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T. NKAMBULE	V.SINGH	11.04.2011	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	CRAIG CLARK	DATE:	10/98	SCALE NTS		SAP No:		
CHKD:	C.B. CLARK	DATE:	10/98	CAD REF: SERIES 6000				
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	FILE No: 6006				
				 <b>D-DT-6006</b>		SET	SHEET	REV
						6	1	9

## SPEC SHEET

SAP MATERIAL No.:	0401752								
SHORT DESCRIPTION:	CLAMP:EXC-A;BOLT/COMP; STEM 26 COND26.5								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 26 COND26.5; DIMENSIONS: STEM: 26MM; CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 0 DEGREE OFFSET; NOTE: OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-A; ESKOM DRAWING No. D-DT-6006 *									
SAP MATERIAL No.:	0401766								
SHORT DESCRIPTION:	CLAMP:EXC-B;BOLT/COMP; STEM 38 COND26.5								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 38 COND26.5; DIMENSIONS: STEM: 38MM; CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 0 DEGREE OFFSET; NOTE: OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-B; ESKOM DRAWING No. D-DT-6006 *									
SAP MATERIAL No.:	0005660								
SHORT DESCRIPTION:	CLAMP:EXC-C;BOLT/COMP; STEM 38 COND38.3								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 38 COND38.3; DIMENSIONS: STEM: 38MM; CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 0 DEGREE OFFSET; NOTE: OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-C; ESKOM DRAWING No. D-DT-6006 *									
SAP MATERIAL No.:	0401637								
SHORT DESCRIPTION:	CLAMP:EXC-D;BOLT/COMP; STEM 38 COND38.3								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 38 COND38.3; DIMENSIONS: STEM: 38MM; CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 45 DEGREE OFFSET; NOTE: OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-D; ESKOM DRAWING No. D-DT-6006 *									
9	ADDED ITEMS EXC-S, EXC-T, EXC-U. UPDATED MATERIAL - STANDARD -, ESKOM SPECIFICATION AND TEST & CERTIFICATION REQUIREMENTS			P.A.T.	C.THOMAS	T.MARAIS	15.05.2019		
8	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EXC-G, H, J, K, M, N, P, Q, R ADDED			P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013		
7	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T. NKAMBULE	V.SINGH	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	CRAIG CLARK	DATE:	10/98	 <b>D-DT-6006</b>		SAP No:			
CHKD:	C.B. CLARK	DATE:	10/98			0401752	0005660	0401766	0401637
DRAWN:	J.F.SCHOLTZ	DATE:	10/98			SET	SHEET	REV	
				SCALE NTS			6	2	9
				CAD REF: SERIES 6000					
				FILE No: 6006					

## SPEC SHEET

SAP MATERIAL No.:	0005691								
SHORT DESCRIPTION:	CLAMP:EXC-E;BOLT/COMP; STEM 38 COND38.3								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 38 COND38.3; DIMENSIONS: STEM: 38MM; CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 90 DEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-E; ESKOM DRAWING No. D-DT-6006 *									
SAP MATERIAL No.:	0401639								
SHORT DESCRIPTION:	CLAMP:EXC-F;BOLT/COMP; STEM 38 COND26.5								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 38 COND26.5; DIMENSIONS: STEM: 38MM; CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 45 DEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-F; ESKOM DRAWING No. D-DT-6006 *									
SAP MATERIAL No.:	0005692								
SHORT DESCRIPTION:	CLAMP:EXC-G;BOLT/COMP; STEM 38 COND26.5								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 38 COND26.5; DIMENSIONS: STEM: 38MM; CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 90 DEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-G; ESKOM DRAWING No. D-DT-6006 *									
SAP MATERIAL No.:	0401643								
SHORT DESCRIPTION:	CLAMP:EXC-H;BOLT/COMP; STEM 38 COND18.1								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 38 COND18.1; DIMENSIONS: STEM: 38MM; CONDUCTOR: 18.1MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 500AMP; 0 GEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-H; ESKOM DRAWING No. D-DT-6006 *									
9	ADDED ITEMS EXC-S, EXC-T, EXC-U. UPDATED MATERIAL - STANDARD -, ESKOM SPECIFICATION AND TEST & CERTIFICATION REQUIREMENTS				P.A.T.	C.THOMAS	T.MARAIS	15.05.2019	
8	VARIOUS SAP NUMBERS, SPECS. & TECH, DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EXC-G, H, J, K, M, N, P, Q, R ADDED				P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013	
7	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974				P.A.T.	T. NKAMBULE	V.SINGH	11.04.2011	
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	CRAIG CLARK	DATE:	10/98	SCALE	<b>Eskom</b>  <b>D-DT-6006</b>			SAP No:	
				NTS				0005691	0005692
CHKD:	C.B. CLARK	DATE:	10/98	CAD REF:				0401639	0401643
				SERIES 6000				SET	SHEET
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	FILE No:	6	3	9		
				6006					

## SPEC SHEET

SAP MATERIAL No.:		0005686									
SHORT DESCRIPTION:		CLAMP:EXC-J;BOLT/COMP; STEM 35 COND26.5									
TECH. DESCRIPTION:											
CLAMP: TYPE: BOLT/COMP; STEM 35 COND26.5; DIMENSIONS: STEM: 35MM; CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 0 GEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-J; ESKOM DRAWING No. D-DT-6006 *											
SAP MATERIAL No.:		0005687									
SHORT DESCRIPTION:		CLAMP:EXC-K;BOLT/COMP; STEM 35 COND38.3									
TECH. DESCRIPTION:											
CLAMP: TYPE: BOLT/COMP; STEM 35 COND38.3; DIMENSIONS: STEM: 35MM; CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 1200AMP; 0 GEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-K; ESKOM DRAWING No. D-DT-6006 *											
SAP MATERIAL No.:		0401641									
SHORT DESCRIPTION:		CLAMP:EXC-L;BOLT/COMP; STEM 26 COND26.5									
TECH. DESCRIPTION:											
CLAMP: TYPE: BOLT/COMP; STEM 26 COND26.5; DIMENSIONS: STEM: 26MM; CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 45 DEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-L; ESKOM DRAWING No. D-DT-6006 *											
SAP MATERIAL No.:		0401577									
SHORT DESCRIPTION:		CLAMP:EXC-M;BOLT/COMP; STEM 26 COND18.1									
TECH. DESCRIPTION:											
CLAMP: TYPE: BOLT/COMP; STEM 26 COND18.1; DIMENSIONS: STEM: 26MM; CONDUCTOR: 18.1MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 500AMP; 0 GEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-M; ESKOM DRAWING No. D-DT-6006 *											
9	ADDED ITEMS EXC-S, EXC-T, EXC-U. UPDATED MATERIAL - STANDARD -, ESKOM SPECIFICATION AND TEST & CERTIFICATION REQUIREMENTS				P.A.T.	C.THOMAS	T.MARAIS	15.05.2019			
8	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EXC-G, H, J, K, M, N, P, Q, R ADDED				P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013			
7	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974				P.A.T.	T. NKAMBULE	V.SINGH	11.04.2011			
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	CRAIG CLARK	DATE:	10/98	SCALE	 <b>D-DT-6006</b>			SAP No:			
				NTS				0005686		0401641	
				CAD REF:				0005687		0401577	
				SERIES 6000				SET	SHEET	REV	
CHKD:	C.B. CLARK	DATE:	10/98	FILE No:	6	4	9				
				6006							

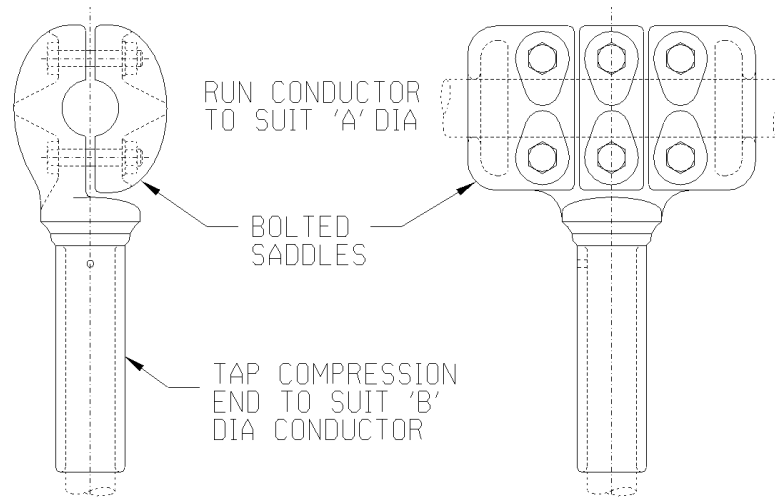
## SPEC SHEET

SAP MATERIAL No.:	0005182								
SHORT DESCRIPTION:	CLAMP:EXC-N;BOLT/COMP; STEM 40 COND26.5								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 40 COND26.5; DIMENSIONS: STEM: 40MM; CONDUCTOR: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 900AMP; 0 DEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-N; ESKOM DRAWING No. D-DT-6006 *									
SAP MATERIAL No.:	0005183								
SHORT DESCRIPTION:	CLAMP:EXC-P;BOLT/COMP; STEM 60 COND38.3								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 60 COND38.3; DIMENSIONS: STEM: 60MM; CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 0 GEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-P; ESKOM DRAWING No. D-DT-6006 *									
SAP MATERIAL No.:	0005184								
SHORT DESCRIPTION:	CLAMP:EXC-Q;BOLT/COMP; STEM 60 COND38.3								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 60 COND38.3; DIMENSIONS: STEM: 60MM; CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 45 DEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-Q; ESKOM DRAWING No. D-DT-6006 *									
SAP MATERIAL No.:	0005185								
SHORT DESCRIPTION:	CLAMP:EXC-R;BOLT/COMP; STEM 60 COND38.3								
TECH. DESCRIPTION:									
CLAMP: TYPE: BOLT/COMP; STEM 60 COND38.3; DIMENSIONS: STEM: 60MM; CONDUCTOR: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION CLAMP; RATED CURRENT 1350AMP; 90 DEGREE OFFSET; NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; REFERENCE NO: EXC-R; ESKOM DRAWING No. D-DT-6006 *									
9	ADDED ITEMS EXC-S, EXC-T, EXC-U. UPDATED MATERIAL - STANDARD -, ESKOM SPECIFICATION AND TEST & CERTIFICATION REQUIREMENTS				P.A.T.	C.THOMAS	T.MARAIS	15.05.2019	
8	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EXC-G, H, J, K, M, N, P, Q, R ADDED				P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013	
7	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974				P.A.T.	T. NKAMBULE	V.SINGH	11.04.2011	
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	CRAIG CLARK	DATE:	10/98	SCALE	 <b>D-DT-6006</b>			SAP No:	
CHKD:	C.B. CLARK	DATE:	10/98	NTS				0005182	0005184
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF:				0005183	0005185
				SERIES 6000				SET	SHEET
				FILE No:	6	5	9		
				6006					

## SPEC SHEET


SAP MATERIAL No.:	0662854								
SHORT DESCRIPTION:	CLAMP:EXC-S; BOLT/COMP 0 DEG;60/26.5 MM								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: EXC-S; BOLT/COMP 0 DEG; CONDUCTOR SIZE: 60/26.5 MM;                  DIMENSIONS: STEM 60, CONDUCTOR 26.5 MM;                  SPECIAL FEATURES: 1 SEC 40 KA;                  CLAMP CURRENT RATING: 900 A;                  MAXIMUM OPERATING POTENTIAL: 300 KV;                  NOTE: OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE)."                  ESKOM DRAWING No. D-DT-6006 *</p>									
SAP MATERIAL No.:	0662915								
SHORT DESCRIPTION:	CLAMP:EXC-T; BOLT/COMP 45 DEG;60/26.5 MM								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: EXC-T; BOLT/COMP 45 DEG; CONDUCTOR SIZE: 60/26.5 MM;                  DIMENSIONS: STEM 60, CONDUCTOR 26.5 MM;                  SPECIAL FEATURES: 1 SEC 40 KA;                  CLAMP CURRENT RATING: 900 A;                  MAXIMUM OPERATING POTENTIAL: 300 KV;                  NOTE: OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE)."                  ESKOM DRAWING No. D-DT-6006 *</p>									
SAP MATERIAL No.:	0662916								
SHORT DESCRIPTION:	CLAMP:EXC-U; BOLT/COMP 90 DEG;60/26.5 MM								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: EXC-U; BOLT/COMP 90 DEG; CONDUCTOR SIZE: 60/26.5 MM;                  DIMENSIONS: STEM 60, CONDUCTOR 26.5 MM;                  SPECIAL FEATURES: 1 SEC 40 KA;                  CLAMP CURRENT RATING: 900 A;                  MAXIMUM OPERATING POTENTIAL: 300 KV;                  NOTE: OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE)."                  ESKOM DRAWING No. D-DT-6006 *</p>									
9	ADDED ITEMS EXC-S, EXC-T, EXC-U. UPDATED MATERIAL -, STANDARD -, ESKOM SPECIFICATION AND TEST & CERTIFICATION REQUIREMENTS			P.A.T.	C.THOMAS	T.MARAIS	15.05.2019		
8	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EXC-G, H, J, K, M, N, P, Q, R ADDED			P.A.T.	L. RAUTENBACH	T.MARAIS	28.11.2013		
7	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T. NKAMBULE	V.SINGH	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	CRAIG CLARK	DATE:	10/98	SCALE			SAP No:		
CHKD:	C.B. CLARK	DATE:	10/98	NTS			0662854	0662916	
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF:			0662915	SET	SHEET
				SERIES 6000	<b>D-DT-6006</b>		6	6	9
				FILE No:					
				6006					






NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES


CODE	DIA "A" (mm)	DIA "B" (mm)	ANGLE OF OFFSET	90°C RATED CURRENT (A)	SAP NUMBER
ETC-A	23.5	26.5	0 DEG	650	0401758
ETC-B	23.5	38.3	0 DEG	650	0401760
ETC-C	26.5	26.5	0 DEG	900	0401754
ETC-D	26.5	38.3	0 DEG	900	0401770
ETC-E	28.6	26.5	0 DEG	900	0005654
ETC-F	28.6	38.3	0 DEG	900	0401763
ETC-G	35.6	26.5	0 DEG	900	0005656
ETC-H	35.6	38.3	0 DEG	1,100	0401765
ETC-J	38.3	26.5	0 DEG	900	0401768
ETC-K	38.3	38.3	0 DEG	1,350	0401756
ETC-L	18.1	26.5	0 DEG	450	0401790
ETC-M	18.1	18.1	0 DEG	450	0401574
ETC-N	26.5	18.1	0 DEG	450	0401576
ETC-P	38.3	18.1	0 DEG	450	0005167
ETC-Q	38.3	16.0	0 DEG	450	0165527

ITEM		:- CLAMP, T/COMP 0DG ETC D6010								
MATERIAL SPECIFICATION		:- GRADE LM6 ALUMINIUM TO BS1490								
CORROSION SPECIFICATION		:- N/A								
STANDARD SPECIFICATION		:- N/A								
ESKOM SPECIFICATION		:- 474-218								
TEST & CERTIFICATION REQUIREMENTS		:- 474-218								
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No			
IDENTIFICATION:- INDELIBLE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS										
10	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND ETC-E, F, G, H, L, M, N, P ADDED			D.R.	J.BLAUW	T. MARAIS	18.03.2014			
9	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAM BULE	V.SINGH	11.04.2011			
8	REF. TO 900A CLAMP REMOVED, SPECS AND TYPES CHANGED			P.A.T.	T.NKAM BULE	V.SINGH	06.01.2011			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE			
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE				SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	NTS						
				CAD REF:						
				SERIES 6000	D-DT-6010			SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No:				5	1	10
				6010						

## SPEC SHEET

SAP MATERIAL No.:	0401758									
SHORT DESCRIPTION:	CLAMP:ETC-A;T/COMP; RUN 23.5 TAP 26.5									
TECH. DESCRIPTION:										
<p>CLAMP: TYPE: T/COMP; RUN 23.5 TAP 26.5;                  DIMENSIONS: RUN: 23.5MM; TAP: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 650AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-A;                  ESKOM DRAWING No. D-DT-6010</p>										
SAP MATERIAL No.:	0401760									
SHORT DESCRIPTION:	CLAMP:ETC-B;T/COMP; RUN 23.5 TAP 38.3									
TECH. DESCRIPTION:										
<p>CLAMP: TYPE: T/COMP; RUN 23.5 TAP 38.3;                  DIMENSIONS: RUN: 23.5MM; TAP: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 650AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-B;                  ESKOM DRAWING No. D-DT-6010</p>										
SAP MATERIAL No.:	0401754									
SHORT DESCRIPTION:	CLAMP:ETC-C;T/COMP; RUN 26.5 TAP 26.5									
TECH. DESCRIPTION:										
<p>CLAMP: TYPE: T/COMP; RUN 26.5 TAP 26.5;                  DIMENSIONS: RUN: 26.5MM; TAP: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 900AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-C;                  ESKOM DRAWING No. D-DT-6010</p>										
SAP MATERIAL No.:	0401770									
SHORT DESCRIPTION:	CLAMP:ETC-D;T/COMP; RUN 26.5 TAP 38.3									
TECH. DESCRIPTION:										
<p>CLAMP: TYPE: T/COMP; RUN 26.5 TAP 38.3;                  DIMENSIONS: RUN: 26.5MM; TAP: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 900AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-D;                  ESKOM DRAWING No. D-DT-6010</p>										
10	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND ETC-E, F, G, H, L, M, N, P ADDED			D.R.	J.BLAUW	T. MARAIS	18.03.2014			
9	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAM BULE	V.SINGH	11.04.2011			
8	REF. TO 900A CLAMP REMOVED, SPECS AND TYPES CHANGED			P.A.T.	T.NKAM BULE	V.SINGH	06.01.2011			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE			SAP No:			
CHKD:	C.B. CLARK	DATE:	12/96	NTS			0401758	0401754		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:			0401760	0401770		
				SERIES 6000	<b>D-DT-6010</b>		SET	SHEET	REV	
				FILE No: 6010			5	2	10	

## SPEC SHEET


SAP MATERIAL No.:	0005654									
SHORT DESCRIPTION:	CLAMP:ETC-E;T/COMP; RUN 28.6 TAP 26.5									
TECH. DESCRIPTION:										
<p>CLAMP: TYPE: T/COMP; RUN 28.6 TAP 26.5;                  DIMENSIONS: RUN: 28.6MM; TAP: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 900AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-E;                  ESKOM DRAWING No. D-DT-6010</p>										
SAP MATERIAL No.:	0401763									
SHORT DESCRIPTION:	CLAMP:ETC-F;T/COMP; RUN 28.6 TAP 38.3									
TECH. DESCRIPTION:										
<p>CLAMP: TYPE: T/COMP; RUN 28.6 TAP 38.3;                  DIMENSIONS: RUN: 28.6MM; TAP: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 900AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-F;                  ESKOM DRAWING No. D-DT-6010</p>										
SAP MATERIAL No.:	0005656									
SHORT DESCRIPTION:	CLAMP:ETC-G;T/COMP; RUN 35.6 TAP 26.5									
TECH. DESCRIPTION:										
<p>CLAMP: TYPE: T/COMP; RUN 35.6 TAP 26.5;                  DIMENSIONS: RUN: 35.6MM; TAP: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 900AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-G;                  ESKOM DRAWING No. D-DT-6010</p>										
SAP MATERIAL No.:	0401765									
SHORT DESCRIPTION:	CLAMP:ETC-H;T/COMP; RUN 35.6 TAP 38.3									
TECH. DESCRIPTION:										
<p>CLAMP: TYPE: T/COMP; RUN 35.6 TAP 38.3;                  DIMENSIONS: RUN: 35.6MM; TAP: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 1100AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-H;                  ESKOM DRAWING No. D-DT-6010</p>										
10	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND ETC-E, F, G, H, L, M, N, P ADDED			D.R.	J.BLAUW	T. MARAIS	18.03.2014			
9	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAM BULE	V.SINGH	11.04.2011			
8	REF. TO 900A CLAMP REMOVED, SPECS AND TYPES CHANGED			P.A.T.	T.NKAM BULE	V.SINGH	06.01.2011			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE NTS				SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	CAD REF:				0005654	0005656	
				SERIES 6000				SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6010		<b>D-DT-6010</b>		<b>5</b>	<b>3</b>	<b>10</b>

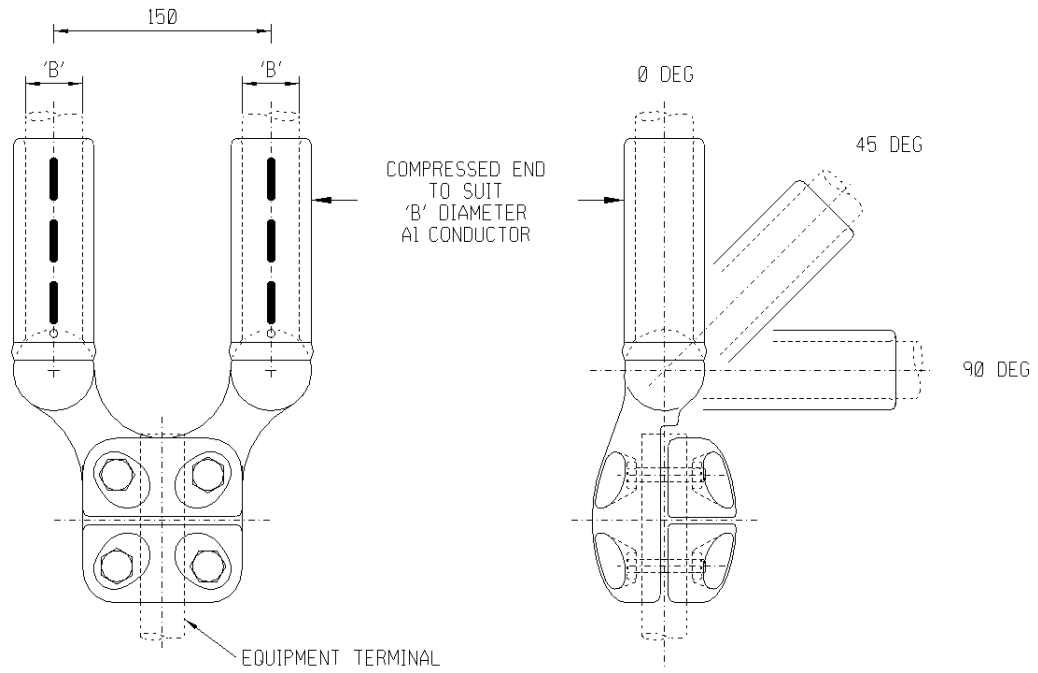
## SPEC SHEET

SAP MATERIAL No.:	0401768							
SHORT DESCRIPTION:	CLAMP:ETC-J;T/COMP; RUN 38.3 TAP 26.5							
TECH. DESCRIPTION:								
<p>CLAMP: TYPE: T/COMP; RUN 38.3 TAP 26.5; DIMENSIONS: RUN: 38.3MM; TAP: 26.5MM;                  MATERIAL: AL BS1490 GR LM6 CAST; BOLTED/COMPRESSION T CLAMP;                  RATED CURRENT 900AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY                  MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-J;                  ESKOM DRAWING No. D-DT-6010</p>								
SAP MATERIAL No.:	0401756							
SHORT DESCRIPTION:	CLAMP:ETC-K;T/COMP; RUN 38.3 TAP 38.3							
TECH. DESCRIPTION:								
<p>CLAMP: TYPE: T/COMP; RUN 38.3 TAP 38.3;                  DIMENSIONS: RUN: 38.3MM; TAP: 38.3MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 1350AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY                  MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-K;                  ESKOM DRAWING No. D-DT-6010</p>								
SAP MATERIAL No.:	0401790							
SHORT DESCRIPTION:	CLAMP:ETC-L;T/COMP; RUN 18.1 TAP 26.5							
TECH. DESCRIPTION:								
<p>CLAMP: TYPE: T/COMP; RUN 18.1 TAP 26.5;                  DIMENSIONS: RUN: 18.1MM; TAP: 26.5MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 450AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY                  MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-L;                  ESKOM DRAWING No. D-DT-6010</p>								
SAP MATERIAL No.:	0401574							
SHORT DESCRIPTION:	CLAMP:ETC-M;T/COMP; RUN 18.1 TAP 18.1							
TECH. DESCRIPTION:								
<p>CLAMP: TYPE: T/COMP; RUN 18.1 TAP 18.1;                  DIMENSIONS: RUN: 18.1MM; TAP: 18.1MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 450AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY                  MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-M;                  ESKOM DRAWING No. D-DT-6010</p>								
10	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND ETC-E, F, G, H, L, M, N, P ADDED			D.R.	J.BLAU W	T. MARAIS	18.03.2014	
9	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAM BULE	V.SINGH	11.04.2011	
8	REF. TO 900A CLAMP REMOVED, SPECS AND TYPES CHANGED			P.A.T.	T.NKAM BULE	V.SINGH	06.01.2011	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE NTS		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	CAD REF:		0401768      0401790 0401756      0401574		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	SERIES 6000		SET      SHEET      REV		
				FILE No: 6010		<b>D-DT-6010</b>		
						5	4	10



## SPEC SHEET

SAP MATERIAL No.:	0401576								
SHORT DESCRIPTION:	CLAMP:ETC-N;T/COMP; RUN 26.5 TAP 18.1								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: T/COMP; RUN 26.5 TAP 18.1;                  DIMENSIONS: RUN: 26.5MM; TAP: 18.1MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 450AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-N;                  ESKOM DRAWING No. D-DT-6010</p>									
SAP MATERIAL No.:	0005167								
SHORT DESCRIPTION:	CLAMP:ETC-P;T/COMP; RUN 38.3 TAP 18.1								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: T/COMP; RUN 38.3 TAP 18.1;                  DIMENSIONS: RUN: 38.3MM; TAP: 18.1MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 450AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-P;                  ESKOM DRAWING No. D-DT-6010</p>									
SAP MATERIAL No.:	0165527								
SHORT DESCRIPTION:	CLAMP:ETC-Q;T/COMP; RUN 38.3 TAP 16								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: T/COMP; RUN 38.3 TAP 16;                  DIMENSIONS: RUN: 38.3MM; TAP: 16MM; MATERIAL: AL BS1490 GR LM6 CAST;                  BOLTED/COMPRESSION T CLAMP; RATED CURRENT 450AMP; 0 DEGREE OFFSET;                  NOTE: OPEN END OF THE FURRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                  REFERENCE NO: ETC-Q;                  ESKOM DRAWING No. D-DT-6010</p>									
10	VARIOUS SAP NUMBERS,SPECS.& TECH,DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND ETC-E, F, G, H, L, M, N, P ADDED			D.R.	J.BLAUW	T. MARAIS	18.03.2014		
9	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAM BULE	V.SINGH	11.04.2011		
8	REF.TO 900A CLAMP REMOVED, SPECS AND TYPES CHANGED			P.A.T.	T.NKAM BULE	V.SINGH	06.01.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE NTS			SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	CAD REF: SERIES 6000			0401576 0005167	0165527	
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6010	<b>D-DT-6010</b>		SET	SHEET	REV
					5	5	10		



NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES


CODE	EQUIPMENT TERMINAL	DIA "B"	ANGLE OF OFFSET	SAP NUMBER
EYC-A	38mm STEM	26.5	0 DEG	0401774
EYC-B		38.3		0005663
EYC-C	38mm STEM	26.5	45 DEG	0005647
EYC-D		38.3		0401750
EYC-E	38mm STEM	26.5	90 DEG	0401778
EYC-F		38.3		0401772
EYC-G	60mm STEM	38.3	0 DEG	0005681
EYC-H			45 DEG	0005671
EYC-J			90 DEG	0401783
EYC-K	26mm STEM	26.5	0 DEG	0401656
EYC-L			45 DEG	0005239
EYC-M			90 DEG	0005240
EYC-AA	60mm STEM	26.5	0 DEG	0005250
EYC-AB			45 DEG	0005251
EYC-AC			90 DEG	0005252

ITEM		:- CLAMP, EYC 2 X COMP BOLTED	
MATERIAL SPECIFICATION		:- GRADE LM6 ALUMINIUM TO BS1490	
CORROSION SPECIFICATION		:- N/A	
STANDARD SPECIFICATION		:- N/A	
ESKOM SPECIFICATION		:- 474-218	
TEST & CERTIFICATION REQUIREMENTS		:- 474-218	
INSPECTION	Yes	No	ESKOM RELEASE NOTE
			Yes No
IDENTIFICATION:- INDELIBLE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS			
10	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTION CHANGED ACCORDING TO PILOG, AND EYC-G, H, J, K, L, M, AA, AB, AC ADDED	P.A.T.	M. NABBIE T. MARAIS 22.07.2013
9	0224234 REMOVED ALREADY SHOWN AS 0005703 ON D-DT-6109, 0224235 MOVED TO D-DT-6109	P.A.T.	T. NKAMBUL E V. SINGH 15.09.2011
8	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974	P.A.T.	T. NKAMBUL E V. SINGH 11.04.2011
REV	REVISION DESCRIPTION	BY	CHKD AUTH DATE REF. DRAWINGS
AUTH:	PHIL CROWDY	DATE: 12/96	SCALE NTS
CHKD:	C.B. CLARK	DATE: 12/96	CAD REF: SERIES 6000
DRAWN:	J.F. SCHOLTZ	DATE: 10/98	FILE No: 6013
		D-DT-6013	

## SPEC SHEET


SAP MATERIAL No.:	0401774								
SHORT DESCRIPTION:	CLAMP:EYC-A;2X26.5 COMP 38 BOLTED 0DG								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: 2X26.5 COMP 38 BOLTED 0DG;            DIMENSIONS: STEM 38 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 1600AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-A;            ESKOM DRAWING No. D-DT-6013 *</p>								
SAP MATERIAL No.:	0005663								
SHORT DESCRIPTION:	CLAMP:EYC-B;2X38.3 COMP 38 BOLTED 0DG								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: 2X38.3 COMP 38 BOLTED 0DG;            DIMENSIONS: STEM 38 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 2500AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-B;            ESKOM DRAWING No. D-DT-6013 *</p>								
SAP MATERIAL No.:	0005647								
SHORT DESCRIPTION:	CLAMP:EYC-C;2X26.5 COMP 38 BOLTED 45DG								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: 2X26.5 COMP 38 BOLTED 45DG;            DIMENSIONS: STEM 38 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 1600AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-C;            ESKOM DRAWING No. D-DT-6013 *</p>								
9A	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTION CHANGED ACCORDING TO PILOG, AND EYC-G, H, J, K, L, M, AA, AB, AC ADDED			P.A.T.	M. NABBIE	T. MARAIS	22.07.2013		
9	0224234 REMOVED ALREADY SHOWN AS 0005703 ON D-DT-6109, 0224235 MOVED TO D-DT-6109			P.A.T.	T.NKAMBULE	V.SINGH	15.09.2011		
8	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE	 <b>D-DT-6013</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	NTS			0401774	0005663	0005647
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF:			SET	SHEET	REV
				SERIES 6000					
				FILE No:					
				6013					
							6	2	10

## SPEC SHEET

SAP MATERIAL No.:	0401750								
SHORT DESCRIPTION:	CLAMP:EYC-D;2X38.3 COMP 38 BOLTED 45DG								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: 2X38.3 COMP 38 BOLTED 45DG;            DIMENSIONS: STEM 38 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 2500AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-D;            ESKOM DRAWING No. D-DT-6013 *</p>								
SAP MATERIAL No.:	0401778								
SHORT DESCRIPTION:	CLAMP:EYC-E;2X26.5 COMP 38 BOLTED 90DG								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: 2X26.5 COMP 38 BOLTED 90DG;            DIMENSIONS: STEM 38 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 1600AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-E;            ESKOM DRAWING No. D-DT-6013 *</p>								
SAP MATERIAL No.:	0401772								
SHORT DESCRIPTION:	CLAMP:EYC-F;2X38.3 COMP 38 BOLTED 90DG								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: 2X38.3 COMP 38 BOLTED 90DG;            DIMENSIONS: STEM 38 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 2500AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-F;            ESKOM DRAWING No. D-DT-6013 *</p>								
9A	VARIOUS SAP NUMBERS,SPECS.& TECH,DESCRIPTION CHANGED ACCORDING TO PILOG, AND EYC-G, H, J, K, L, M, AA, AB, AC ADDED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013		
9	0224234 REMOVED ALREADY SHOWN AS 0005703 ON D-DT-6109, 0224235 MOVED TO D-DT-6109			P.A.T.	T.NKAMBUL E	V.SINGH	15.09.2011		
8	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAMBUL E	V.SINGH	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE	 <b>D-DT-6013</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	NTS			0401750	0401772	
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF: SERIES 6000			0401778	SET	SHEET
				FILE No: 6013			6	3	10



## SPEC SHEET

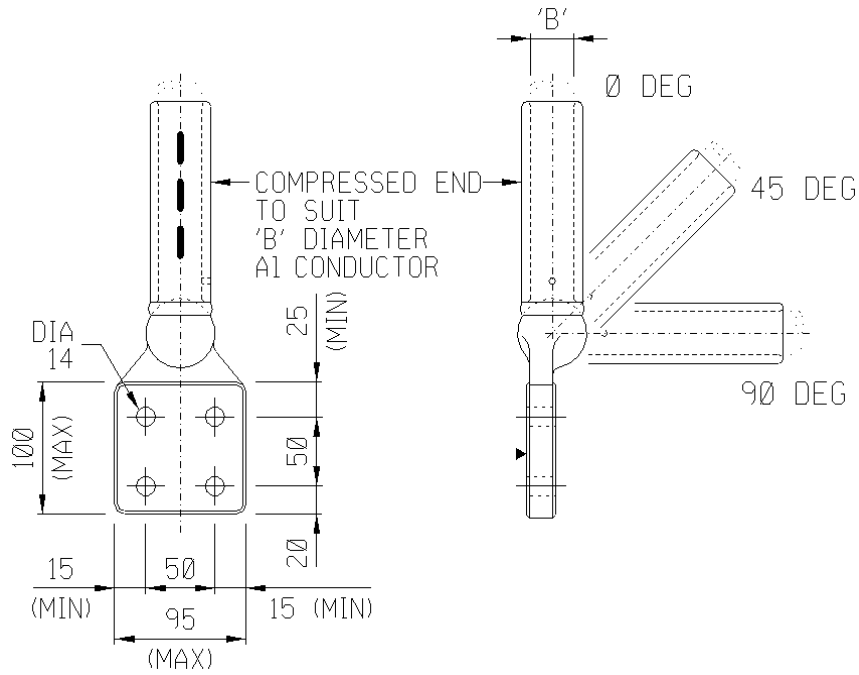
SAP MATERIAL No.:	0005681								
SHORT DESCRIPTION:	CLAMP:EYC-G;2X38.3 COMP 60 BOLTED 0DG								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: 2X38.3 COMP 60 BOLTED 0DG;            DIMENSIONS: STEM 60 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 2700AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-G;            ESKOM DRAWING No. D-DT-6013 *</p>									
SAP MATERIAL No.:	0005671								
SHORT DESCRIPTION:	CLAMP:EYC-H;2X38.3 COMP 60 BOLTED 45DG								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: 2X38.3 COMP 60 BOLTED 45DG;            DIMENSIONS: STEM 60 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 2700AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-H;            ESKOM DRAWING No. D-DT-6013 *</p>									
SAP MATERIAL No.:	0401783								
SHORT DESCRIPTION:	CLAMP:EYC-J;2X38.3 COMP 60 BOLTED 90DG								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: 2X38.3 COMP 60 BOLTED 90DG;            DIMENSIONS: STEM 60 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 2700AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-J;            ESKOM DRAWING No. D-DT-6013 *</p>									
9A	VARIOUS SAP NUMBERS,SPECS.& TECH,DESCRIPTION CHANGED ACCORDING TO PILOG, AND EYC-G, H, J, K, L, M, AA, AB, AC ADDED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013		
9	0224234 REMOVED ALREADY SHOWN AS 0005703 ON D-DT-6109, 0224235 MOVED TO D-DT-6109			P.A.T.	T.NKAMBULE	V.SINGH	15.09.2011		
8	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE	 <b>D-DT-6013</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	NTS			0005681	0401783	
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF:			0005671	SET	SHEET
				SERIES 6000		6	4	10	
				FILE No:					
				6013					

## SPEC SHEET

SAP MATERIAL No.:	0401656								
SHORT DESCRIPTION:	CLAMP:EYC-K;2X26.5 COMP 26 BOLTED 0DG								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: 2X26.5 COMP 26 BOLTED 0DG;            DIMENSIONS: STEM 26 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 1000AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-K;            ESKOM DRAWING No. D-DT-6013 *</p>									
SAP MATERIAL No.:	0005239								
SHORT DESCRIPTION:	CLAMP:EYC-L;2X26.5 COMP 26 BOLTED 45DG								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: 2X26.5 COMP 26 BOLTED 45DG;            DIMENSIONS: STEM 26 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 1000AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-L;            ESKOM DRAWING No. D-DT-6013 *</p>									
SAP MATERIAL No.:	0005240								
SHORT DESCRIPTION:	CLAMP:EYC-M;2X26.5 COMP 26 BOLTED 90DG								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: 2X26.5 COMP 26 BOLTED 90DG;            DIMENSIONS: STEM 26 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 1000AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-M;            ESKOM DRAWING No. D-DT-6013 *</p>									
9A	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTION CHANGED ACCORDING TO PILOG, AND EYC-G, H, J, K, L, M, AA, AB, AC ADDED			P.A.T.	M. NABBIE	T. MARAIS	22.07.2013		
9	0224234 REMOVED ALREADY SHOWN AS 0005703 ON D-DT-6109, 0224235 MOVED TO D-DT-6109			P.A.T.	T. NKAMBUL E	V. SINGH	15.09.2011		
8	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T. NKAMBUL E	V. SINGH	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE	<b>Eskom</b>  <b>D-DT-6013</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	NTS			0401656	0005240	
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF:			0005239	SET	SHEET
				SERIES 6000			6	5	10
				FILE No:					
				6013					

## SPEC SHEET

SAP MATERIAL No.:	0005250								
SHORT DESCRIPTION:	CLAMP:EYC-AA;2X26.5 COMP 60 BOLTED 0DG								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: 2X26.5 COMP 60 BOLTED 0DG;            DIMENSIONS: STEM 60 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 1700AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-AA;            ESKOM DRAWING No. D-DT-6013 *</p>									
SAP MATERIAL No.:	0005251								
SHORT DESCRIPTION:	CLAMP:EYC-AB;2X26.5 COMP 60 BOLTED 45DG								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: 2X26.5 COMP 60 BOLTED 45DG;            DIMENSIONS: STEM 60 MM; MATERIAL: AL BS1490 GR LM6 CAST;            COMPRESSION/BOLTED CLAMP; RATED CURRENT 1700AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-AB;            ESKOM DRAWING No. D-DT-6013 *</p>									
SAP MATERIAL No.:	0005252								
SHORT DESCRIPTION:	CLAMP:EYC-AC;2X26.5 COMP 26 BOLTED 90DG								
TECH. DESCRIPTION:									
<p>CLAMP: TYPE: 2X26.5 COMP 26 BOLTED 90DG;            DIMENSIONS: STEM 26 MM; MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X26.5 MM; COMPRESSION/BOLTED CLAMP; RATED CURRENT 1700AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM; NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-AC;            ESKOM DRAWING No. D-DT-6013 *</p>									
9A	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTION CHANGED ACCORDING TO PILOG, AND EYC-G, H, J, K, L, M, AA, AB, AC ADDED			P.A.T.	M. NABBIE	T. MARAIS	22.07.2013		
9	0224234 REMOVED ALREADY SHOWN AS 0005703 ON D-DT-6109, 0224235 MOVED TO D-DT-6109			P.A.T.	T. NKAMBUL E	V. SINGH	15.09.2011		
8	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T. NKAMBUL E	V. SINGH	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE	<b>Eskom</b>  <b>D-DT-6013</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	NTS			0005250	0005252	
DRAWN:	J.F. SCHOLTZ	DATE:	10/98	CAD REF:			0005251	SET	SHEET
				SERIES 6000			6	6	10
				FILE No:					
				6013					



NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES


CODE	EQUIPMENT TERMINAL	DIA "B"	ANGLE OF OFFSET	SAP NUMBER
EPC-A	4 X DIA 14	26.5	0 DEG	0401580
EPC-B	50X50		45 DEG	0400420
EPC-C	CENTRES		90 DEG	0560891
EPC-D	4 X DIA 14	38.3	0 DEG	0400422
EPC-E	50X50		45 DEG	0400425
EPC-F	CENTRES		90 DEG	0560892
EPC-Q	4 X DIA 14	16.3	0 DEG	0570035
EPC-R	50X50		45 DEG	0570036
EPC-S	CENTRES		90 DEG	0570037

ITEM	:- CLAMP, EPC COMP 4 HOLE PALM 50X50 HOLE CENTRES								
MATERIAL SPECIFICATION	:- GRADE LM6 ALUMINIUM TO BS1490								
CORROSION SPECIFICATION	:- N/A								
STANDARD SPECIFICATION	:- N/A								
ESKOM SPECIFICATION	:- 474-218								
TEST & CERTIFICATION REQUIREMENTS	:- 474-218								
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No		
IDENTIFICATION:- INDELIBLE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS									
8	ESKOM AND TEST SPECS CORRECTED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013		
7	VARIOUS SAP NUMBERS CHANGED AND EPC-C AND EPC-F TO EPC-S ADDED			P.A.T.	T. MARAIS		12.06.2013		
6	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE		
AUTH:	PHIL CROWDY	DATE:	12/98	SCALE	 <b>D-DT-6018</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/98	NTS			SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF: SERIES 6000 FILE No: 6018			9	1	8


## SPEC SHEET

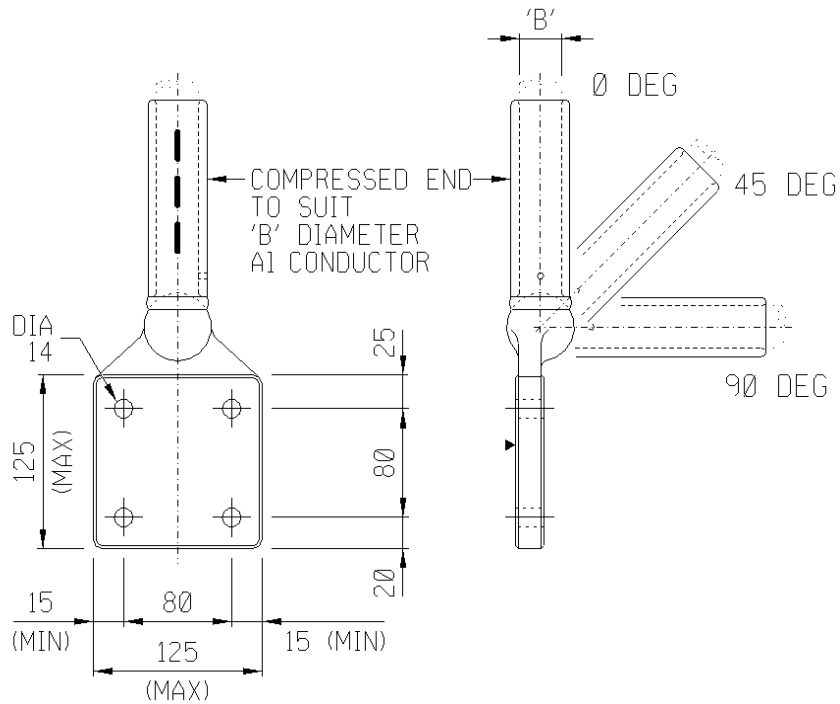
SAP MATERIAL No.:	0401580								
SHORT DESCRIPTION:	CLAMP:EPC-A;COMP/PALM ODG;26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM ODG; DIMENSIONS: 50MM X 50MM FOUR HOLE PALM;  MATERIAL: AL BS1490 GR LM6 CAST;  CONDUCTOR SIZE: 26.5 MM; RATED CURRENT 900 AMP;  PALM DRILLED WITH X4 14MM HOLES;  NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;  REFERENCE NO: EPC-A;  ESKOM DRAWING No. D-DT-6018 *</p>								
SAP MATERIAL No.:	0400420								
SHORT DESCRIPTION:	CLAMP:EPC-B;COMP/PALM 45DG;26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 45DG; DIMENSIONS: 50MM X 50MM FOUR HOLE PALM;  MATERIAL: AL BS1490 GR LM6 CAST;  CONDUCTOR SIZE: 26.5 MM; RATED CURRENT 900 AMP;  PALM DRILLED WITH X4 14MM HOLES;  NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;  REFERENCE NO: EPC-B;  ESKOM DRAWING No. D-DT-6018 *</p>								
SAP MATERIAL No.:	0560891								
SHORT DESCRIPTION:	CLAMP:EPC-C;COMP/PALM 90DG;26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 90DG; DIMENSIONS: 50MM X 50MM FOUR HOLE PALM;  MATERIAL: AL BS1490 GR LM6 CAST;  CONDUCTOR SIZE: 26.5 MM; RATED CURRENT 900 AMP;  PALM DRILLED WITH X4 14MM HOLES;  NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;  REFERENCE NO: EPC-C;  ESKOM DRAWING No. D-DT-6018 *</p>								
8	ESKOM AND TEST SPECS CORRECTED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013		
7	VARIOUS SAP NUMBERS CHANGED AND EPC-C AND EPC-F TO EPC-S ADDED			P.A.T.	T. MARAIS		12.06.2013		
6	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/98	SCALE	 <b>D-DT-6018</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/98	NTS			0401580	0560891	
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF:			0400420	SET	SHEET
				SERIES 6000		9	2	8	
				FILE No:					
				6018					

## SPEC SHEET

SAP MATERIAL No.:	0400422								
SHORT DESCRIPTION:	CLAMP:EPC-D;COMP/PALM ODG;38.3 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM ODG; DIMENSIONS: 50MM X 50MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 38.3 MM; RATED CURRENT 1350 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-D;            ESKOM DRAWING No. D-DT-6018 *</p>								
SAP MATERIAL No.:	0400425								
SHORT DESCRIPTION:	CLAMP:EPC-E;COMP/PALM 45DG;38.3 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 45DG; DIMENSIONS: 50MM X 50MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 38.3 MM; RATED CURRENT 1350 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-E;            ESKOM DRAWING No. D-DT-6018 *</p>								
SAP MATERIAL No.:	0560892								
SHORT DESCRIPTION:	CLAMP,STRAIN:EPC-F;38.3MM PALM 90DG								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 90DG; DIMENSIONS: 50MM X 50MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 38.3 MM; RATED CURRENT 1350 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-F;            ESKOM DRAWING No. D-DT-6018 *</p>								
8	ESKOM AND TEST SPECS CORRECTED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013		
7	VARIOUS SAP NUMBERS CHANGED AND EPC-C AND EPC-F TO EPC-S ADDED			P.A.T.	T. MARAIS		12.06.2013		
6	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/98	SCALE	 <b>D-DT-6018</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/98	NTS			0400422	0560892	
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF:			0400425		
				SERIES 6000			SET	SHEET	
				FILE No:			9	3	
				6018				8	

## SPEC SHEET

SAP MATERIAL No.:	0570035														
SHORT DESCRIPTION:	CLAMP:EPC-Q;COMP/PALM ODG;16.3 MM														
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM ODG; DIMENSIONS: 50MM X 50MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 16.3 MM; RATED CURRENT 500 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-Q;            ESKOM DRAWING No. D-DT-6018 *</p>														
SAP MATERIAL No.:	0570036														
SHORT DESCRIPTION:	CLAMP:EPC-R;COMP/PALM 45DG;16.3 MM														
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 45DG; DIMENSIONS: 50MM X 50MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 16.3 MM; RATED CURRENT 500 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-R;            ESKOM DRAWING No. D-DT-6018 *</p>														
SAP MATERIAL No.:	0570037														
SHORT DESCRIPTION:	CLAMP:EPC-S;COMP/PALM 90DG;16.3 MM														
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 90DG; DIMENSIONS: 50MM X 50MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 16.3 MM; RATED CURRENT 500 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-S;            ESKOM DRAWING No. D-DT-6018 *</p>														
8	ESKOM AND TEST SPECS CORRECTED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED				P.A.T.	M. NABBIE	T.MARAIS	22.07.2013							
7	VARIOUS SAP NUMBERS CHANGED AND EPC-C AND EPC-F TO EPC-S ADDED				P.A.T.	T. MARAIS		12.06.2013							
6	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974				P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011							
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS						
AUTH:	PHIL CROWDY	DATE:	12/98	SCALE	 <b>D-DT-6018</b>		SAP No:		0570037						
CHKD:	C.B. CLARK	DATE:	12/98	NTS			0570035			<table border="1" style="width: 100%; text-align: center;"> <tr> <td>SET</td> <td>SHEET</td> <td>REV</td> </tr> <tr> <td>9</td> <td>4</td> <td>8</td> </tr> </table>	SET	SHEET	REV	9	4
SET	SHEET	REV													
9	4	8													
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF: SERIES 6000 FILE No: 6018											




NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	EQUIPMENT TERMINAL	DIA "B"	ANGLE OF OFFSET	SAP NUMBER
EPC-G	4 X DIA 14	26.5	0 DEG	0570038
EPC-H	80X80		45 DEG	0570040
EPC-J	CENTRES		90 DEG	0570042
EPC-K	4 X DIA 14	38.3	0 DEG	0570039
EPC-L	80X80		45 DEG	0570041
EPC-M	CENTRES		90 DEG	0570043


ITEM	:- CLAMP, EPC COMP 4 HOLE PALM 80X80 HOLE CENTRES						
MATERIAL SPECIFICATION	:- GRADE LM6 ALUMINIUM TO BS1490						
CORROSION SPECIFICATION	:- N/A						
STANDARD SPECIFICATION	:- N/A						
ESKOM SPECIFICATION	:- DSP_34-1974						
TEST & CERTIFICATION REQUIREMENTS	:- DSP_34-1974						
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No
IDENTIFICATION:- INDELIBLE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS							
8	ESKOM AND TEST SPECS CORRECTED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013
7	VARIOUS SAP NUMBERS CHANGED AND EPC-C AND EPC-F TO EPC-S ADDED			P.A.T.	T. MARAIS		12.06.2013
6	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE
AUTH:	PHIL CROWDY	DATE:	12/98	SCALE	 <b>D-DT-6018</b>		
CHKD:	C.B. CLARK	DATE:	12/98	NTS			
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF: SERIES 6000			
				FILE No: 6018	SET	SHEET	REV
					9	5	8



## SPEC SHEET

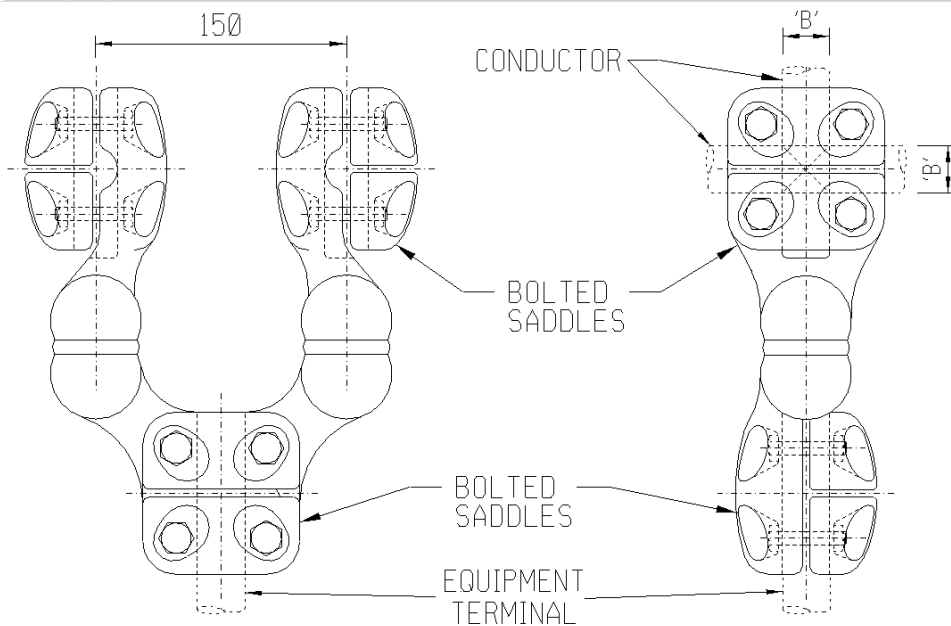
SAP MATERIAL No.:	0570038								
SHORT DESCRIPTION:	CLAMP:EPC-G;COMP/PALM ODG;26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM ODG; DIMENSIONS: 80MM X 80MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 26.5 MM; RATED CURRENT 900 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-G;            ESKOM DRAWING No. D-DT-6018 *</p>								
SAP MATERIAL No.:	0570040								
SHORT DESCRIPTION:	CLAMP:EPC-H;COMP/PALM 45DG;26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 45DG; DIMENSIONS: 80MM X 80MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 26.5 MM; RATED CURRENT 900 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-H;            ESKOM DRAWING No. D-DT-6018 *</p>								
SAP MATERIAL No.:	0570042								
SHORT DESCRIPTION:	CLAMP:EPC-J;COMP/PALM 90DG;26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 90DG; DIMENSIONS: 80MM X 80MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 26.5 MM; RATED CURRENT 900 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-J;            ESKOM DRAWING No. D-DT-6018 *</p>								
8	ESKOM AND TEST SPECS CORRECTED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013		
7	VARIOUS SAP NUMBERS CHANGED AND EPC-C AND EPC-F TO EPC-S ADDED			P.A.T.	T. MARAIS		12.06.2013		
6	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974			P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/98	SCALE	 <b>D-DT-6018</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/98	NTS			0570038	0570042	
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF: SERIES 6000			SET	SHEET	REV
				FILE No: 6018					
							9	6	8

## SPEC SHEET

SAP MATERIAL No.:	0570039									
SHORT DESCRIPTION:	CLAMP:EPC-K;COMP/PALM ODG;38.3 MM									
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM ODG; DIMENSIONS: 80MM X 80MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 38.3 MM; RATED CURRENT 1350 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-K;            ESKOM DRAWING No. D-DT-6018 *</p>									
SAP MATERIAL No.:	0570041									
SHORT DESCRIPTION:	CLAMP:EPC-L;COMP/PALM 45DG;38.3 MM									
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 45DG; DIMENSIONS: 80MM X 80MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 38.3 MM; RATED CURRENT 1350 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-L;            ESKOM DRAWING No. D-DT-6018 *</p>									
SAP MATERIAL No.:	0570043									
SHORT DESCRIPTION:	CLAMP:EPC-M;COMP/PALM 90DG;38.3 MM									
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 90DG; DIMENSIONS: 80MM X 80MM FOUR HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 38.3 MM; RATED CURRENT 1350 AMP;            PALM DRILLED WITH X4 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EPC-M;            ESKOM DRAWING No. D-DT-6018 *</p>									
8	ESKOM AND TEST SPECS CORRECTED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED				P.A.T.	M. NABBIE	T.MARAIS	22.07.2013		
7	VARIOUS SAP NUMBERS CHANGED AND EPC-C AND EPC-F TO EPC-S ADDED				P.A.T.	T. MARAIS		12.06.2013		
6	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974				P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/98	SCALE	 <b>D-DT-6018</b>			SAP No:		
CHKD:	C.B. CLARK	DATE:	12/98	NTS				0570039	0570043	
DRAWN:	J.F.SCHOLTZ	DATE:	10/98	CAD REF: SERIES 6000				SET	SHEET	REV
				FILE No: 6018				9	7	8








NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	EQUIPMENT TERMINAL	DIA "B" (mm)	ANGLE OF OFFSET	90°C RATED CURRENT (A)	SAP NUMBER
EY-A	38mm STEM	26.5	0 DEG	1,600	0401738
EY-B	38mm STEM	38.3	0 DEG	2,500	0005631
EY-C	38mm STEM	26.5	90 DEG	1,600	0206352
EY-D	38mm STEM	38.3	90 DEG	2,500	0005629
EY-E	26mm STEM	26.5	0 DEG	1,000	0401661
EY-F	26mm STEM	26.5	90 DEG	1,000	0206354
EY-G	26mm STEM	38.3	90 DEG	1,000	0401663
EY-H	26mm STEM	38.3	0 DEG	1,000	0206355
EY-J	60mm STEM	38.3	0 / 90 DEG	2,500	0578308

ITEM		:- CLAMP:EY:Y BOLT						
MATERIAL SPECIFICATION		:- GRADE LM6 ALUMINIUM TO BS1490						
CORROSION SPECIFICATION		:- N/A						
STANDARD SPECIFICATION		:- N/A						
ESKOM SPECIFICATION		:- 474-218						
TEST & CERTIFICATION REQUIREMENTS		:- 474-218						
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS								
8	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EY-B, D, J ADDED			D.R.	J. BLAAUW	T. MARAIS	18.03.2013	
7	VARIOUS SAP NUMBERS, SHORT AND TECH. DESCRIPTIONS CHANGED ACCORDING TO SAP/PYLOG AND EY-A AND EY-C DIMENSIONS CORRECTED			P.A.T.	M.SHUTER	T.NKAMBULE	23.03.2012	
6	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974 AND EY-G+H OFFSET CORRECTED			P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	NTS				
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:				
				SERIES 6022				
				FILE No:				
				6022				
				 <b>D-DT-6022</b>		SET	SHEET	REV
						3	1	8

## SPEC SHEET

SAP MATERIAL No.:	0401738									
SHORT DESCRIPTION:	CLAMP:EY-A;Y/BOLT; STEM 38 COND X2 26.5									
TECH. DESCRIPTION:										
CLAMP: TYPE: Y/BOLT; STEM 38 COND X2 26.5;										
DIMENSIONS: STEM 38MM; CONDUCTOR X2 26.5MM;										
MATERIAL: AL BS1490 GR LM6 CAST;										
BOLTED Y CLAMP; RATED CURRENT 1600AMP; 0 DEGREE OFFSET;										
REFERENCE NO: EY-A;										
ESKOM DRAWING No. D-DT-6022										
SAP MATERIAL No.:	0005631									
SHORT DESCRIPTION:	CLAMP:EY-B;Y/BOLT; STEM 38 COND X2 38.3									
TECH. DESCRIPTION:										
CLAMP: TYPE: Y/BOLT; STEM 38 COND X2 38.3;										
DIMENSIONS: STEM 38MM; CONDUCTOR X2 38.3MM;										
MATERIAL: AL BS1490 GR LM6 CAST;										
BOLTED Y CLAMP; RATED CURRENT 2500AMP; 0 DEGREE OFFSET;										
REFERENCE NO: EY-B;										
ESKOM DRAWING No. D-DT-6022										
SAP MATERIAL No.:	0206352									
SHORT DESCRIPTION:	CLAMP:EY-C;Y/BOLT; STEM 38 COND X2 26.5									
TECH. DESCRIPTION:										
CLAMP: TYPE: Y/BOLT; STEM 38 COND X2 26.5;										
DIMENSIONS: STEM 38MM; CONDUCTOR X2 26.5MM;										
MATERIAL: AL BS1490 GR LM6 CAST;										
BOLTED Y CLAMP; RATED CURRENT 1600AMP; 90 DEGREE OFFSET;										
REFERENCE NO: EY-C;										
ESKOM DRAWING No. D-DT-6022										
SAP MATERIAL No.:	0005629									
SHORT DESCRIPTION:	CLAMP:EY-D;Y/BOLT; STEM 38 COND X2 38.3									
TECH. DESCRIPTION:										
CLAMP: TYPE: Y/BOLT; STEM 38 COND X2 38.3;										
DIMENSIONS: STEM 38MM; CONDUCTOR X2 38.3MM;										
MATERIAL: AL BS1490 GR LM6 CAST;										
BOLTED Y CLAMP; RATED CURRENT 2500AMP; 90 DEGREE OFFSET;										
REFERENCE NO: EY-D;										
ESKOM DRAWING No. D-DT-6022										
SAP MATERIAL No.:	0401661									
SHORT DESCRIPTION:	CLAMP:EY-E;Y/BOLT; STEM 26 COND X2 26.5									
TECH. DESCRIPTION:										
CLAMP: TYPE: Y/BOLT; STEM 26 COND X2 26.5;										
DIMENSIONS: STEM 26MM; CONDUCTOR X2 26.5MM;										
MATERIAL: AL BS1490 GR LM6 CAST;										
BOLTED Y CLAMP; RATED CURRENT 1000AMP; 0 DEGREE OFFSET;										
REFERENCE NO: EY-E;										
ESKOM DRAWING No. D-DT-6022										
8	VARIOUS SAP NUMBERS, SPECS. & TECH. DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EY-B, D, J ADDED			D.R.	J. BLAAUW	T. MARAIS	18.03.2013			
7	VARIOUS SAP NUMBERS, SHORT AND TECH. DESCRIPTIONS CHANGED ACCORDING TO SAP/PYLOG AND EY-A AND EY-C DIMENSIONS CORRECTED			P.A.T.	M.SHUTER	T.NKAMBUL E	23.03.2012			
6	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974 AND EY-G+H OFFSET CORRECTED			P.A.T.	T.NKAMBU LE	V.SINGH	11.04.2011			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE NTS				SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	CAD REF:				0401738	0005629	0401661
				SERIES 6022				SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6022		<b>D-DT-6022</b>		<b>3</b>	<b>2</b>	<b>8</b>

## SPEC SHEET

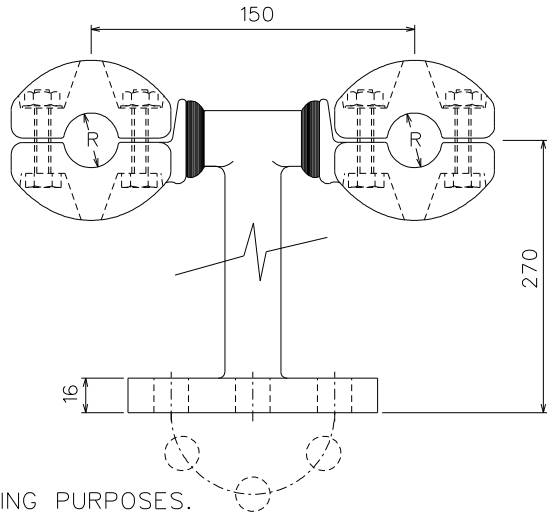
SAP MATERIAL No.:	0206354						
SHORT DESCRIPTION:	CLAMP:EY-F;Y/BOLT; STEM 26 COND X2 26.5						
TECH. DESCRIPTION:	<p>CLAMP: TYPE: Y/BOLT; STEM 26 COND X2 26.5;            DIMENSIONS: STEM 26MM; CONDUCTOR X2 26.5MM;            MATERIAL: AL BS1490 GR LM6 CAST;            BOLTED Y CLAMP; RATED CURRENT 1000AMP; 90 DEGREE OFFSET;            REFERENCE NO: EY-F;            ESKOM DRAWING No. D-DT-6022</p>						
SAP MATERIAL No.:	0401663						
SHORT DESCRIPTION:	CLAMP:EY-G;Y/BOLT; STEM 26 COND X2 38.3						
TECH. DESCRIPTION:	<p>CLAMP: TYPE: Y/BOLT; STEM 26 COND X2 38.3;            DIMENSIONS: STEM 26MM; CONDUCTOR X2 38.3MM;            MATERIAL: AL BS1490 GR LM6 CAST;            BOLTED Y CLAMP; RATED CURRENT 1000AMP; 90 DEGREE OFFSET;            REFERENCE NO: EY-G;            ESKOM DRAWING No. D-DT-6022</p>						
SAP MATERIAL No.:	0206355						
SHORT DESCRIPTION:	CLAMP:EY-H;Y/BOLT; STEM 26 COND X2 38.3						
TECH. DESCRIPTION:	<p>CLAMP: TYPE: Y/BOLT; STEM 26 COND X2 38.3;            DIMENSIONS: STEM 26MM; CONDUCTOR X2 38.3MM;            MATERIAL: AL BS1490 GR LM6 CAST;            BOLTED Y CLAMP; RATED CURRENT 1000AMP; 0 DEGREE OFFSET;            REFERENCE NO: EY-H;            ESKOM DRAWING No. D-DT-6022</p>						
SAP MATERIAL No.:	0578308						
SHORT DESCRIPTION:	CLAMP:EY-J;Y/BOLT; STEM 60 COND X2 38.3						
TECH. DESCRIPTION:	<p>CLAMP: TYPE: Y/BOLT; STEM 60 COND X2 38.3;            DIMENSIONS: STEM 60MM; CONDUCTOR X2 38.3MM;            MATERIAL: AL BS1490 GR LM6 CAST;            BOLTED Y CLAMP; RATED CURRENT 2500AMP; 0 AND 90 DEGREE OFFSET;            REFERENCE NO: EY-J;            ESKOM DRAWING No. D-DT-6022</p>						
8	VARIOUS SAP NUMBERS,SPECS.& TECH,DESCRIPTIONS CHANGED ACCORDING TO PILOG, AND EY-B, D, J ADDED		D.R.	J. BLAAUW	T. MARAIS	18.03.2013	
7	VARIOUS SAP NUMBERS, SHORT AND TECH. DESCRIPTIONS CHANGED ACCORDING TO SAP/PYLOG AND EY-A AND EY-C DIMENSIONS CORRECTED		P.A.T.	M.SHUTER	T.NKAMBULE	23.03.2012	
6	DRAWING SHOWN SAME AS SPECIFICATION DSP_34-1974 AND EY-G+H OFFSET CORRECTED		P.A.T.	T.NKAMBULE	V.SINGH	11.04.2011	
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	
AUTH:	PHIL CROWDY	DATE:	12/96	 <b>D-DT-6022</b>		SAP No:	
CHKD:	C.B. CLARK	DATE:	12/96			0206354	0206355
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			0401663	0578308
				SCALE	SET	SHEET	REV
				NTS	3	3	8
				CAD REF:			
				SERIES 6022			
				FILE No:			
				6022			

DIMENSIONS

CLAMP, F/SUPT 26.5mm P26/76/150  
 R = 26.5mm  
 PCD = 76mm

CLAMP, F/SUPT 38.3mm P38/76/150  
 R = 38.3mm  
 PCD = 76mm

CLAMP, F/SUPT 38.3mm P38/127/150  
 R = 38.3mm  
 PCD = 127mm



NOTE :  
 DRAWING FOR MANUFACTURING PURPOSES.

SAP MATERIAL No.:	0401667
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SHORT DESCRIPTION:	CLAMP, F/SUPT 26.5mm P26/76/150 C/C D6025
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TECH. DESCRIPTION:  
 FIXED SUPPORT CLAMP \* TYPE P26/76/150 \* CAST IN GRADE LM6 ALUMINIUM \*  
 CONDUCTOR SIZE : 2x26.5mm/PAD PCD 76mm \* CONDUCTOR SPACING 150mm \*  
 ESKOM DRAWING No. D-DT-6025 \*

SAP MATERIAL No.:	0401671
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SHORT DESCRIPTION:	CLAMP, F/SUPT 38.3mm P38/76/150 C/C D6025
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TECH. DESCRIPTION:  
 FIXED SUPPORT CLAMP \* TYPE P38/76/150 \* CAST IN GRADE LM6 ALUMINIUM \*  
 CONDUCTOR SIZE : 2x38.3mm/PAD PCD 76mm \* CONDUCTOR SPACING 150mm \*  
 ESKOM DRAWING No. D-DT-6025 \*

SAP MATERIAL No.:	0401669
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SHORT DESCRIPTION:	CLAMP, F/SUPT 38.3mm P38/127/150 C/C D6025
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TECH. DESCRIPTION:  
 CLAMP, THROUGH SUPPORT \* TYPE : P38/127/150 \* CAST IN GRADE LM6 ALUMINIUM TO BS1490 \*  
 CONDUCTOR SIZE : RUN -: 38.3mm/STEM -: PAD (PCD 127mm) \*  
 ESKOM DRAWING No. D-DT-6025 \*

ITEM	:-	CLAMP, F/SUPT 26.5mm P26/76/150 C/C
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MATERIAL SPECIFICATION	:-	GRADE LM6 ALUMINIUM TO BS1490
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CORROSION SPECIFICATION	:-	N/A
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STANDARD SPECIFICATION	:-	N/A
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ESKOM SPECIFICATION	:-	ESKSCAAS1
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TEST & CERTIFICATION REQUIREMENTS	:-	ESKSCAAS1
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INSPECTION	Yes	No	ESKOM RELEASE NOTE		Yes	No
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

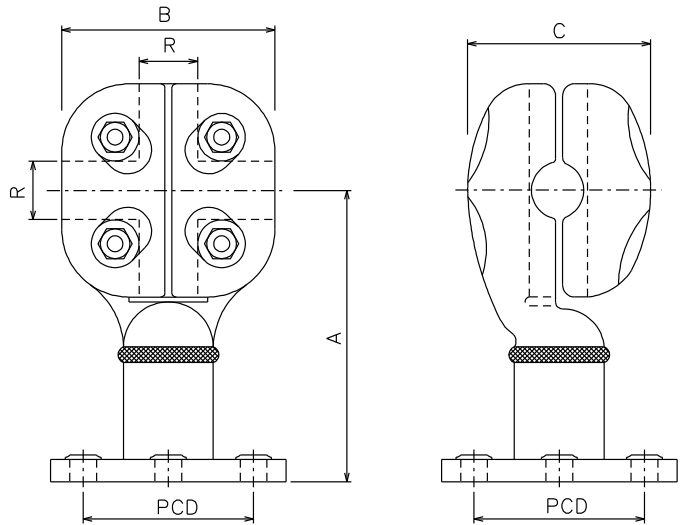
7	SAP NUMBERS 0401671 AND 0401669 CORRECTED	P.A.T.	D.RAMJASS	D.RAMJASS	24.03.2017	
6	SAP 0005205, 0005207, 0005206 CORRECTED	P.A.T.	D.RAMJASS	D.RAMJASS	26.01.2017	
5	LOGO IN TITLE BLOCK CHANGED AS PER CORPORATE IDENTITY.	VvZ	C.B.C.	C.CLARK	16/02/2004	

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE		 <b>D-DT-6025</b>				
CHKD:	C.B. CLARK	DATE:	12/96	NTS					SAP No:	
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:					0401667	
				SERIES 6000					0401671	
				FILE No:		SET		SHEET	REV	
				6025		1		1	7	



**DIMENSIONS**

KCP 26/76	KCP 38/76
R = 26.5mm	R = 38.3mm
A = 130mm	A = 140mm
B = 95mm	B = 105mm
C = 82mm	C = 90mm
PCD = 76mm	PCD = 76mm
KCP 26/127	KCP 38/127
R = 26.5mm	R = 38.3mm
A = 130mm	A = 140mm
B = 95mm	B = 105mm
C = 82mm	C = 90mm
PCD = 127mm	PCD = 127mm



NOTE :  
DRAWING NOT FOR MANUFACTURING PURPOSES.

SAP MATERIAL No.: **0401673**

SHORT DESCRIPTION: **CLAMP, FIX/SUPP 26.5mm KCP 26/76 D6029**

TECH. DESCRIPTION:

BOLTED SUPPORT CLAMP \* TYPE KCP26/76 \* CAST IN GRADE LM6 ALUMINIUM \*  
CONDUCTOR SIZE : RUN -: 26.5mm/STEM -: PAD (PCD 76mm) \*  
ESKOM DRAWING No. D-DT-6029 \*

SAP MATERIAL No.: **0401675**

SHORT DESCRIPTION: **CLAMP, FIX/SUPP 26.5mm KCP 26/127 D6029**

TECH. DESCRIPTION:

BOLTED SUPPORT CLAMP \* TYPE KCP26/127 \* CAST IN GRADE LM6 ALUMINIUM \*  
CONDUCTOR SIZE : RUN -: 26.5mm/STEM -: PAD (PCD 127mm) \*  
ESKOM DRAWING No. D-DT-6029 \*

ITEM :- CLAMP, FIX/SUPP 26.5mm KCP 26/76 D6029

MATERIAL SPECIFICATION :- GRADE LM6 ALUMINIUM TO BS1490

CORROSION SPECIFICATION :- N/A

STANDARD SPECIFICATION :- N/A

ESKOM SPECIFICATION :- ESKSCAAS1

TEST & CERTIFICATION REQUIREMENTS :- ESKSCAAS1

INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

5	SAP 0005212, 0005213, 0005214, 0005215 CORRECTED	P.A.T.	D.RAMJASS	D.RAMJASS	26.01.2017	
4	LOGO IN TITLE BLOCK CHANGED AS PER CORPORATE IDENTITY.	VvZ	C.B.C.	C.CLARK	16/02/2004	
3	D-DT-6029 SHT 2 REPOSITIONED FROM D-DT-6030 D-DT-6029 SHT 3 REPOSITIONED FROM D-DT-6031 D-DT-6029 SHT 4 REPOSITIONED FROM D-DT-6032 SFD CHANGED	VvZ	C.B.C.	A.BEKKER	10/01	

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS
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AUTH:	PHIL CROWDY	DATE:	12/96		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96		0401673		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96		0401675		
				<b>D-DT-6029</b>	SET	SHEET	REV
					2	1	5

## SPEC SHEET

SAP MATERIAL No.:	0401677
SHORT DESCRIPTION:	CLAMP, FIX/SUPP 38.3mm KCP 38/76 D6029

TECH. DESCRIPTION:


BOLTED SUPPORT CLAMP \* TYPE KCP38/76 \* CAST IN GRADE LM6 ALUMINIUM \*  
 CONDUCTOR SIZE : RUN -: 38.3mm/STEM -: PAD (PCD 76mm) \*  
 ESKOM DRAWING No. D-DT-6029 \*

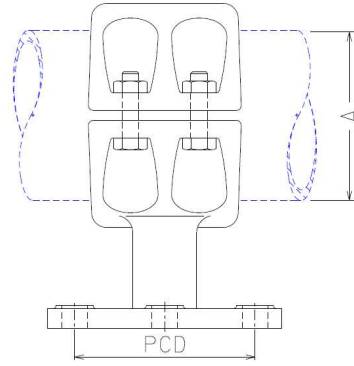
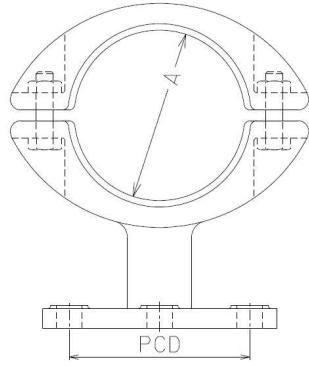
SAP MATERIAL No.:	0401679
SHORT DESCRIPTION:	CLAMP, FIX/SUPP 38.3mm KCP 38/127 D6029

TECH. DESCRIPTION:

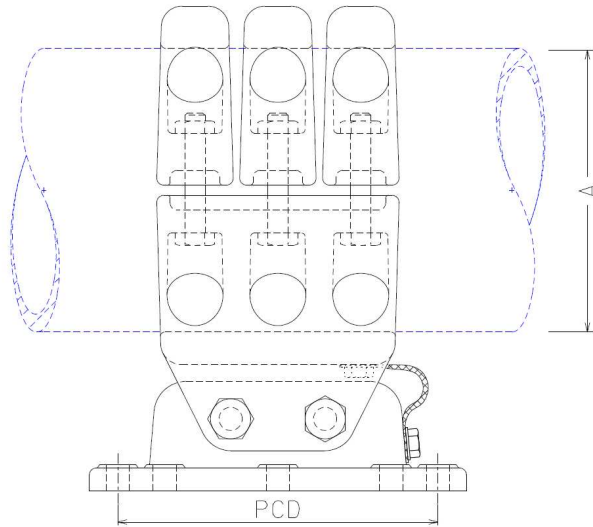
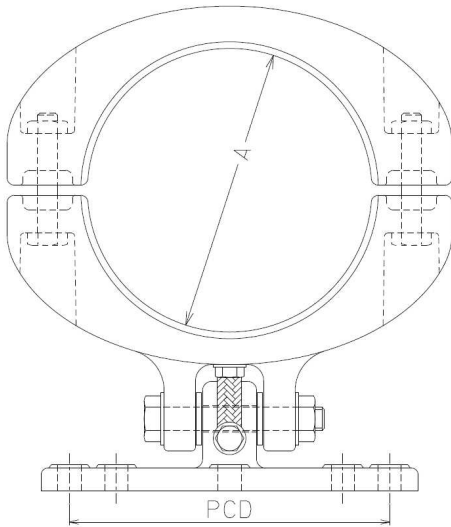
BOLTED SUPPORT CLAMP \* TYPE KCP38/127 \* CAST IN GRADE LM6 ALUMINIUM \*  
 CONDUCTOR SIZE : RUN -: 38.3mm/STEM -: PAD (PCD 127mm) \*  
 ESKOM DRAWING No. D-DT-6029 \*

5	SAP 0005212, 0005213, 0005214, 0005215 CORRECTED	P.A.T.	D.RAMJASS	D.RAMJASS	26.01.2017	
4	LOGO IN TITLE BLOCK CHANGED AS PER CORPORATE IDENTITY.	VvZ	C.B.C.	C.CLARK	16/02/2004	
3	D-DT-6029 SHT 2 REPOSITIONED FROM D-DT-6030 D-DT-6029 SHT 3 REPOSITIONED FROM D-DT-6031 D-DT-6029 SHT 4 REPOSITIONED FROM D-DT-6032 SFD CHANGED	VvZ	C.B.C.	A.BEKKER	10/01	

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	 <b>D-DT-6029</b>	SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96		0401677		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96		0401679		
					SET	SHEET	REV
				6029	2	2	5



CODE	TUBE DIAMETER "A" (mm)	PCD (mm)	90°C RATED CURRENT (A)	RATED VOLTAGE (kV)	SAP NUMBER
ESC-PI-F-A	80	76	2,000	145	0401687
ESC-PI-F-B	80	127	2,000	145	0401689
ESC-PI-F-E	120	76	3,150	145	0215872
ESC-PI-F-F	120	127	3,150	145	0213925




CODE	TUBE DIAMETER "A" (mm)	PCD (mm)	90°C RATED CURRENT (A)	RATED VOLTAGE (kV)	SAP NUMBER
ESC-PI-F-J	200	127	4,000	800	0590533
ESC-PI-F-K	200	225	4,000	800	0590534

**NOTE: DRAWINGS NOT FOR MANUFACTURING PURPOSES**

ITEM :- CLAMP, TUBE: ESC-PI-F; FIXED POST INSULATOR MOUNTED SUPPORT CLAMP

STANDARD: UNIQUE IDENTIFIER :- 240-53113923

8	SAP MATERIAL NO., SHORT DESCRIPTION AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG AND SAP. 0590533 AND 0590534 ADDED			P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015			
7	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.			VvZ	C.B.C.	C.CLARK	07/10/2005			
6	CLAMP TBFS80-76 & TBFS120-76 ADDED.			VvZ	C.B.C.	C.CLARK	04/05/2005			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE NTS				SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	CAD REF: SERIES 6000				SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6039		<b>D-DT-6039</b>		<b>3</b>	<b>1</b>	<b>8</b>


Unique Identifier:240-48887441

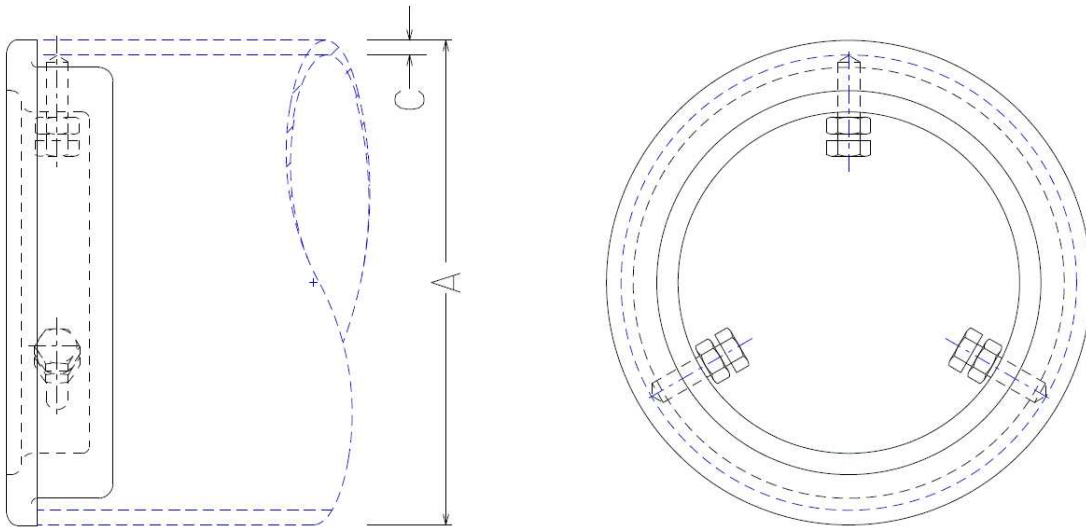
Revision 1

## SPEC. SHEET

SAP MATERIAL No.:	0401687										
SHORT DESCRIPTION:	CLAMP,TUBE:ESC-PI-F-A;80/76;FIXED										
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ESC-PI-F-B; COMMERCIAL SIZE: 80/127;FIXED;                      MATERIAL: AI ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 80 MM;                      PITCH CIRCLE DIAMETER: 127 MM; CLAMP CURRENT RATING: 2000 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV;                      POST INSULATOR MOUNTED SUPPORT CLAMP; FIXED;                      ESKOM DRAWING No. D-DT-6039 *</p>										
SAP MATERIAL No.:	0401689										
SHORT DESCRIPTION:	CLAMP,TUBE:ESC-PI-F-B;80/127;FIXED										
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ESC-PI-F-A; COMMERCIAL SIZE: 80/76;FIXED;                      MATERIAL: AI ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 80 MM;                      PITCH CIRCLE DIAMETER: 76 MM; CLAMP CURRENT RATING: 2000 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV;                      POST INSULATOR MOUNTED SUPPORT CLAMP; FIXED;                      ESKOM DRAWING No. D-DT-6039 *</p>										
SAP MATERIAL No.:	0215872										
SHORT DESCRIPTION:	CLAMP,TUBE:ESC-PI-F-E;120/76;FIXED										
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ESC-PI-F-E; COMMERCIAL SIZE: 120/76;FIXED;                      MATERIAL: AI ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 120 MM;                      PITCH CIRCLE DIAMETER: 76 MM; CLAMP CURRENT RATING: 3150 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV;                      POST INSULATOR MOUNTED SUPPORT CLAMP; FIXED;                      ESKOM DRAWING No. D-DT-6039 *</p>										
SAP MATERIAL No.:	0213925										
SHORT DESCRIPTION:	CLAMP,TUBE:ESC-PI-F-F;120/127;FIXED										
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ESC-PI-F-F; COMMERCIAL SIZE: 120/127;FIXED;                      MATERIAL: AI ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 120 MM;                      PITCH CIRCLE DIAMETER: 127 MM; CLAMP CURRENT RATING: 3150 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV;                      POST INSULATOR MOUNTED SUPPORT CLAMP; FIXED;                      ESKOM DRAWING No. D-DT-6039 *</p>										
8	SAP MATERIAL NO., SHORT DESCRIPTION AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG AND SAP. 0590533 AND 0590534 ADDED			P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015				
7	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.			VvZ	C.B.C.	C.CLARK	07/10/2005				
6	CLAMP TBFS80-76 & TBFS120-76 ADDED.			VvZ	C.B.C.	C.CLARK	04/05/2005				
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS			
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE	 <b>D-DT-6039</b>				SAP No:		
				NTS					0401687	0215872	
				CAD REF:					0401689	0213925	
				SERIES 6000					SET	SHEET	REV
CHKD:	C.B. CLARK	DATE:	12/96	FILE No:	3	2	8				
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	6039							

SPEC. SHEET


SAP MATERIAL No.:		0590533							
SHORT DESCRIPTION:		CLAMP,TUBE:ESC-PI-F-J;200/127;FIXED							
TECH. DESCRIPTION:									
CLAMP, TUBE: TYPE: ESC-PI-F-J; COMMERCIAL SIZE: 200/127; FIXED; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; PITCH CIRCLE DIAMETER: 127 MM; CLAMP CURRENT RATING: 4000 A; MAXIMUM OPERATING POTENTIAL: 800 KV; POST INSULATOR MOUNTED SUPPORT CLAMP; FIXED; ESKOM DRAWING No. D-DT-6039 *									
SAP MATERIAL No.:		0590534							
SHORT DESCRIPTION:		CLAMP,TUBE:ESC-PI-F-K;200/225;FIXED							
TECH. DESCRIPTION:									
CLAMP, TUBE: TYPE: ESC-PI-F-K; COMMERCIAL SIZE: 200/225; FIXED; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; PITCH CIRCLE DIAMETER: 225 MM; CLAMP CURRENT RATING: 4000 A; MAXIMUM OPERATING POTENTIAL: 800 KV; POST INSULATOR MOUNTED SUPPORT CLAMP; FIXED; ESKOM DRAWING No. D-DT-6039 *									
8	SAP MATERIAL NO., SHORT DESCRIPTION AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG AND SAP. 0590533 AND 0590534 ADDED				P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015	
7	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.				VvZ	C.B.C.	C.CLARK	07/10/2005	
6	CLAMP TBFS80-76 & TBFS120-76 ADDED.				VvZ	C.B.C.	C.CLARK	04/05/2005	
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE NTS			SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	CAD REF: SERIES 6000			0590533	0590534	
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6039	<b>D-DT-6039</b>		SET	SHEET	REV
							3	3	8




NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	TUBE OUTSIDE DIAMETER "A" (mm)	TUBE WALL THICKNESS "C" (mm)	RATED VOLTAGE (kV RMS)	COLOUR	SAP NUMBER
EEC-PL-A;80/8	80	8	145	–	0401647
EEC-PL-C;120/4	120	4	145	–	0206319
EEC-PL-C;120/6	120	6	145	–	0588582
EEC-PL-F;200/6	200	6	800	–	0588583
EEC-PL-F;200/6R	200	6	800	RED	0589023
EEC-PL-F;200/6W	200	6	800	WHITE	0589024
EEC-PL-F;200/6B	200	6	800	BLUE	0589025
EEC-PL-G;250/6	250	6	800	–	0588584
EEC-PL-G;250/6R	250	6	800	RED	0589026
EEC-PL-G;250/6W	250	6	800	WHITE	0589027
EEC-PL-G;250/6B	250	6	800	BLUE	0589016

APPLICATION NOTE: IN CHOOSING THE END CAP TO BE USED THE APPLICABLE TUBE OUTSIDE DIAMETER AS WELL AS TUBE WALL THICKNESS MUST BE CONSIDERED.

ITEM		:- CLAMP, TUBE: EEC-PL; PLAIN END CAP							
STANDARD UNIQUE IDENTIFIER		:- 240-53113923							
5	ITEM TABLES ADDED, ADDITIONAL ITEMS ADDED, SAP NUMBERS CHANGED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND STANDARD UNIQUE IDENTIFIER ADDED			P.A.T.	M. PEFFER	T. MARIAS	05.09.2014		
4	DIMENSION CHANGED			P.A.T.	T. NKAMBULE		12.08.2009		
3	TBEC/P-120 & TBEC/C-120 ADDED.			VvZ	J.F.S.	J.F.S.	19/09/2003		
REVISION	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	 <b>D-DT-6040</b>			SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96				SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96				7	1	5
				SCALE					
				NTS					
				CAD REF:					
				SERIES 6000					
				FILE No:					
				6040					

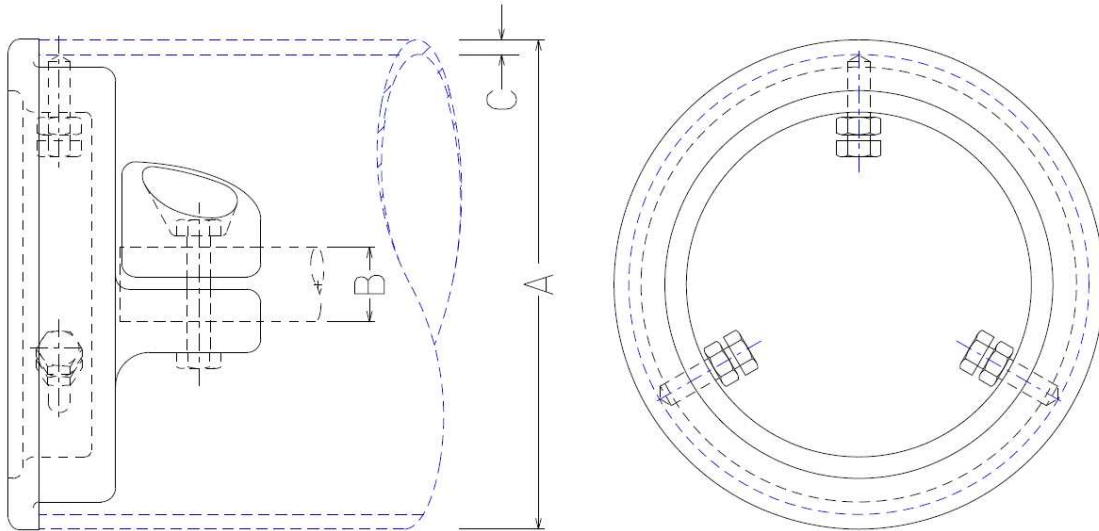
**SPEC. SHEET**

SAP MATERIAL No.:	0401647									
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PL-A;80/8;PLAIN-END-CAP									
TECH. DESCRIPTION:	CLAMP, TUBE: TYPE: EEC-PL-A; COMMERCIAL SIZE: 80/8; PLAIN-END-CAP; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; MAXIMUM OPERATING POTENTIAL: 145 KV; 8MM WALL THICKNESS PLAIN END CAP; ESKOM DRAWING No. D-DT-6040 *									
SAP MATERIAL No.:	0206319									
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PL-C;120/4;PLAIN-END-CAP									
TECH. DESCRIPTION:	CLAMP, TUBE: TYPE: EEC-PL-C; COMMERCIAL SIZE: 120/4; PLAIN-END-CAP; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; MAXIMUM OPERATING POTENTIAL: 145 KV; 4MM WALL THICKNESS PLAIN END CAP; ESKOM DRAWING No. D-DT-6040 *									
SAP MATERIAL No.:	0588582									
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PL-C;120/6;PLAIN-END-CAP									
TECH. DESCRIPTION:	CLAMP, TUBE: TYPE: EEC-PL-C; COMMERCIAL SIZE: 120/6; PLAIN-END-CAP; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; MAXIMUM OPERATING POTENTIAL: 145 KV; 6MM WALL THICKNESS PLAIN END CAP; ESKOM DRAWING No. D-DT-6040 *									
SAP MATERIAL No.:	0588583									
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PL-F;200/6;PLAIN-END-CAP									
TECH. DESCRIPTION:	CLAMP, TUBE: TYPE: EEC-PL-F; COMMERCIAL SIZE: 200/6; PLAIN-END-CAP; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; MAXIMUM OPERATING POTENTIAL: 800 KV; 6MM WALL THICKNESS PLAIN END CAP; ESKOM DRAWING No. D-DT-6040 *									
SAP MATERIAL No.:	0589023									
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PL-F;200/6R;PLAIN-ENDCAP									
TECH. DESCRIPTION:	CLAMP, TUBE: TYPE: EEC-PL-F; COMMERCIAL SIZE: 200/6R; PLAIN-ENDCAP; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; MAXIMUM OPERATING POTENTIAL: 800 KV; 6MM WALL THICKNESS PLAIN END CAP; COLOUR RED (1580-Y90R IN ACCORDANCE WITH SANS 1091) POWDER COATED IN ACCORDANCE WITH SANS 1274; ESKOM DRAWING No. D-DT-6040 *									
SAP MATERIAL No.:	0589024									
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PL-F;200/6W;PLAIN-ENDCAP									
TECH. DESCRIPTION:	CLAMP, TUBE: TYPE: EEC-PL-F; COMMERCIAL SIZE: 200/6W; PLAIN-ENDCAP; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; MAXIMUM OPERATING POTENTIAL: 800 KV; 6MM WALL THICKNESS PLAIN END CAP; COLOUR WHITE POWDER COATED IN ACCORDANCE WITH SANS 1274; ESKOM DRAWING No. D-DT-6040 *									
5	ITEM TABLES ADDED, ADDITIONAL ITEMS ADDED, SAP NUMBERS CHANGED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND STANDARD UNIQUE IDENTIFIER ADDED				P.A.T.	M. PEFFER	T. MARIAS	05.09.2014		
4	DIMENSION CHANGED				P.A.T.	T. NKAMBULE		12.08.2009		
3	TBEC/P-120 & TBEC/C-120 ADDED.				VvZ	J.F.S.		19/09/2003		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE	 <b>D-DT-6040</b>				SAP No:	
CHKD:	C.B. CLARK	DATE:	12/96	NTS					0401647	0588583
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:					0206319	0589023
				SERIES 6000		0588582	0589024	SET	SHEET	REV
				FILE No:				7	2	5
				6040						

## SPEC. SHEET

SAP MATERIAL No.:	0589025							
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PL-F;200/6B;PLAIN-ENDCAP							
TECH. DESCRIPTION:								
CLAMP, TUBE: TYPE: EEC-PL-F; COMMERCIAL SIZE: 200/6B; PLAIN-ENDCAP; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; MAXIMUM OPERATING POTENTIAL: 800 KV; 6MM WALL THICKNESS PLAIN END CAP; COLOUR BLUE (4050-B IN ACCORDANCE WITH SANS 1091) POWDER COATED IN ACCORDANCE WITH SANS 1274; ESKOM DRAWING No. D-DT-6040 *								
SAP MATERIAL No.:	0588584							
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PL-G;250/6;PLAIN-END-CAP							
TECH. DESCRIPTION:								
CLAMP, TUBE: TYPE: EEC-PL-G; COMMERCIAL SIZE: 250/6; PLAIN-END-CAP; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM; MAXIMUM OPERATING POTENTIAL: 800 KV; 6MM WALL THICKNESS PLAIN END CAP; ESKOM DRAWING No. D-DT-6040 *								
SAP MATERIAL No.:	0589026							
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PL-G;250/6R;PLAIN-ENDCAP							
TECH. DESCRIPTION:								
CLAMP, TUBE: TYPE: EEC-PL-G; COMMERCIAL SIZE: 250/6R; PLAIN-ENDCAP; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM; MAXIMUM OPERATING POTENTIAL: 800 KV; 6MM WALL THICKNESS PLAIN END CAP; COLOUR RED (1580-Y90R IN ACCORDANCE WITH SANS 1091) POWDER COATED IN ACCORDANCE WITH SANS 1274; ESKOM DRAWING No. D-DT-6040 *								
SAP MATERIAL No.:	0589027							
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PL-G;250/6W;PLAIN-ENDCAP							
TECH. DESCRIPTION:								
CLAMP, TUBE: TYPE: EEC-PL-G; COMMERCIAL SIZE: 250/6W; PLAIN-ENDCAP; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM; MAXIMUM OPERATING POTENTIAL: 800 KV; 6MM WALL THICKNESS PLAIN END CAP; COLOUR WHITE POWDER COATED IN ACCORDANCE WITH SANS 1274; ESKOM DRAWING No. D-DT-6040 *								
SAP MATERIAL No.:	0589016							
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PL-G;250/6B;PLAIN-ENDCAP							
TECH. DESCRIPTION:								
CLAMP, TUBE: TYPE: EEC-PL-G; COMMERCIAL SIZE: 250/6B; PLAIN-ENDCAP; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM; MAXIMUM OPERATING POTENTIAL: 800 KV; 6MM WALL THICKNESS PLAIN END CAP; COLOUR BLUE (4050-B IN ACCORDANCE WITH SANS 1091) POWDER COATED IN ACCORDANCE WITH SANS 1274; ESKOM DRAWING No. D-DT-6040 *								
5	ITEM TABLES ADDED, ADDITIONAL ITEMS ADDED, SAP NUMBERS CHANGED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND STANDARD UNIQUE IDENTIFIER ADDED			P.A.T.	M. PEFFER	T. MARIAS	05.09.2014	
4	DIMENSION CHANGED			P.A.T.	T. NKAMBULE		12.08.2009	
3	TBEC/P-120 & TBEC/C-120 ADDED.			VvZ	J.F.S.		19/09/2003	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE			SAP No:	
CHKD:	C.B. CLARK	DATE:	12/96	NTS			0589025	0589027
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:			0588584	0589016
				SERIES 6000	<b>D-DT-6040</b>		SET	SHEET
				FILE No:			7	3
				6040			REV	5






NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	TUBE OUTSIDE DIAMETER "A" (mm)	TUBE WALL THICKNESS "C" (mm)	CONDUCTOR DIAMETER "B" (mm)	RATED VOLTAGE (kV RMS)	COLOUR	SAP NUMBER
EEC-DC-A;80/8	80	8	26.5	145	-	0401649
EEC-DC-C;120/4	120	4	26.5	145	-	0206320
EEC-DC-C;120/6	120	6	26.5	145	-	0588585
EEC-DC-F;200/6	200	6	26.5	800	-	0588586
EEC-DC-F;200/6R	200	6	26.5	800	RED	0589017
EEC-DC-F;200/6W	200	6	26.5	800	WHITE	0589018
EEC-DC-F;200/6B	200	6	26.5	800	BLUE	0589019
EEC-DC-G;200/6	200	6	38.3	800	-	0588587
EEC-DC-H;250/6	250	6	26.5	800	-	0588588
EEC-DC-H;250/6R	250	6	26.5	800	RED	0589020
EEC-DC-H;250/6W	250	6	26.5	800	WHITE	0589021
EEC-DC-H;250/6B	250	6	26.5	800	BLUE	0589022
EEC-DC-J;250/6	250	6	38.3	800	-	0588589


APPLICATION NOTE: IN CHOOSING THE END CAP TO BE USED THE APPLICABLE TUBE OUTSIDE DIAMETER, TUBE WALL THICKNESS AS WELL AS DAMPING CONDUCTOR DIAMETER MUST BE CONSIDERED.

ITEM :- CLAMP, TUBE: EEC-DC; END CAP FOR DAMPING CONDUCTOR


STANDARD UNIQUE IDENTIFIER :- 240-53113923

5	ITEM TABLES ADDED, ADDITIONAL ITEMS ADDED, SAP NUMBERS CHANGED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND STANDARD UNIQUE IDENTIFIER ADDED				P.A.T.	M. PEFFER	T. MARIAS	05.09.2014			
4	DIMENSION CHANGED				P.A.T.	T. NKAMBULE		12.08.2009			
3	TBEC/P-120 & TBEC/C-120 ADDED.				VvZ	J.F.S.		19/09/2003			
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE	 <b>D-DT-6040</b>				SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	NTS					SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF: SERIES 6000 FILE No: 6040					7	4	5

## SPEC. SHEET

<b>SAP MATERIAL No.:</b>	0401649							
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:EEC-DC-A;80/8;26.5CLAMP-EC							
<b>TECH. DESCRIPTION:</b>								
CLAMP, TUBE: TYPE: EEC-DC-C; COMMERCIAL SIZE: 80/8;26.5 CLAMP-EC; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; MAXIMUM OPERATING POTENTIAL: 145 KV; 8MM WALL THICKNESS END CAP WITH CONDUCTOR CLAMP; ESKOM DRAWING No. D-DT-6040 *								
<b>SAP MATERIAL No.:</b>	0206320							
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:EEC-DC-C;120/4;26.5CLAMP-EC							
<b>TECH. DESCRIPTION:</b>								
CLAMP, TUBE: TYPE: EEC-DC-C; COMMERCIAL SIZE: 120/4;26.5 CLAMP-EC; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; MAXIMUM OPERATING POTENTIAL: 145 KV; 4MM WALL THICKNESS END CAP WITH CONDUCTOR CLAMP; ESKOM DRAWING No. D-DT-6040 *								
<b>SAP MATERIAL No.:</b>	0588585							
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:EEC-DC-C;120/6;26.5CLAMP-EC							
<b>TECH. DESCRIPTION:</b>								
CLAMP, TUBE: TYPE: EEC-DC-C; COMMERCIAL SIZE: 120/6;26.5 CLAMP-EC; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; MAXIMUM OPERATING POTENTIAL: 145 KV; 6MM WALL THICKNESS END CAP WITH CONDUCTOR CLAMP; ESKOM DRAWING No. D-DT-6040 *								
<b>SAP MATERIAL No.:</b>	0588586							
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:EEC-DC-F;200/6;26.5CLAMP-EC							
<b>TECH. DESCRIPTION:</b>								
CLAMP, TUBE: TYPE: EEC-DC-F; COMMERCIAL SIZE: 200/6;26.5 CLAMP-EC; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; MAXIMUM OPERATING POTENTIAL: 800 KV; 6MM WALL THICKNESS END CAP WITH CONDUCTOR CLAMP; ESKOM DRAWING No. D-DT-6040 *								
<b>SAP MATERIAL No.:</b>	0589017							
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:EEC-DC-F;200/6R;26.5CLAMP-EC							
<b>TECH. DESCRIPTION:</b>								
CLAMP, TUBE: TYPE: EEC-DC-F; COMMERCIAL SIZE: 200/6R;26.5 CLAMP-EC; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; MAXIMUM OPERATING POTENTIAL: 800 KV; 6MM WALL THICKNESS END CAP WITH CONDUCTOR CLAMP; COLOUR RED (1580-Y90R IN ACCORDANCE WITH SANS 1091) POWDER COATED IN ACCORDANCE WITH SANS 1274; ESKOM DRAWING No. D-DT-6040 *								
5	ITEM TABLES ADDED, ADDITIONAL ITEMS ADDED, SAP NUMBERS CHANGED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND STANDARD UNIQUE IDENTIFIER ADDED			P.A.T.	M. PEFFER	T. MARIAS	05.09.2014	
4	DIMENSION CHANGED			P.A.T.	T. NKAMBULE		12.08.2009	
3	TBEC/P-120 & TBEC/C-120 ADDED.			VvZ	J.F.S.		19/09/2003	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE	 <b>D-DT-6040</b>		SAP No:	
CHKD:	C.B. CLARK	DATE:	12/96	NTS			0401649	0588586
				CAD REF:			0206320	0589017
				SERIES 6000			SET	SHEET
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No:			7	5
				6040				5

## SPEC. SHEET

SAP MATERIAL No.:		0589018						
SHORT DESCRIPTION:		CLAMP,TUBE:EEC-DC-F;200/6W;26.5CLAMP-EC						
TECH. DESCRIPTION:		<p>CLAMP, TUBE: TYPE: EEC-DC-F; COMMERCIAL SIZE: 200/6W;26.5 CLAMP-EC;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM;  CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; MAXIMUM OPERATING POTENTIAL: 800 KV;  6MM WALL THICKNESS END CAP WITH CONDUCTOR CLAMP; COLOUR WHITE POWDER COATED IN  ACCORDANCE WITH SANS 1274;  ESKOM DRAWING No. D-DT-6040 *</p>						
SAP MATERIAL No.:		0589019						
SHORT DESCRIPTION:		CLAMP,TUBE:EEC-DC-F;200/6B;26.5CLAMP-EC						
TECH. DESCRIPTION:		<p>CLAMP, TUBE: TYPE: EEC-DC-F; COMMERCIAL SIZE: 200/6B;26.5 CLAMP-EC;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM;  CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; MAXIMUM OPERATING POTENTIAL: 800 KV;  6MM WALL THICKNESS END CAP WITH CONDUCTOR CLAMP; COLOUR BLUE (4050-B IN ACCORDANCE  WITH SANS 1091) POWDER COATED IN ACCORDANCE WITH SANS 1274;  ESKOM DRAWING No. D-DT-6040 *</p>						
SAP MATERIAL No.:		0588587						
SHORT DESCRIPTION:		CLAMP,TUBE:EEC-DC-G;200/6;38.3CLAMP-EC						
TECH. DESCRIPTION:		<p>CLAMP, TUBE: TYPE: EEC-DC-G; COMMERCIAL SIZE: 200/6;38.3 CLAMP-EC;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM;  CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; MAXIMUM OPERATING POTENTIAL: 800 KV;  6MM WALL THICKNESS END CAP WITH CONDUCTOR CLAMP;  ESKOM DRAWING No. D-DT-6040 *</p>						
SAP MATERIAL No.:		0588588						
SHORT DESCRIPTION:		CLAMP,TUBE:EEC-DC-H;250/6;26.5CLAMP-EC						
TECH. DESCRIPTION:		<p>CLAMP, TUBE: TYPE: EEC-DC-H; COMMERCIAL SIZE: 250/6;26.5 CLAMP-EC;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM;  CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; MAXIMUM OPERATING POTENTIAL: 145 KV; 6MM WALL  THICKNESS END CAP WITH CONDUCTOR CLAMP;  ESKOM DRAWING No. D-DT-6040 *</p>						
SAP MATERIAL No.:		0589020						
SHORT DESCRIPTION:		CLAMP,TUBE:EEC-DC-H;250/6R;26.5CLAMP-EC						
TECH. DESCRIPTION:		<p>CLAMP, TUBE: TYPE: EEC-DC-H; COMMERCIAL SIZE: 250/6R;26.5 CLAMP-EC;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM;  CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; MAXIMUM OPERATING POTENTIAL: 800 KV;  6MM WALL THICKNESS END CAP WITH CONDUCTOR CLAMP; COLOUR RED (1580-Y90R IN  ACCORDANCE WITH SANS 1091) POWDER COATED IN ACCORDANCE WITH SANS 1274;  ESKOM DRAWING No. D-DT-6040 *</p>						
5	ITEM TABLES ADDED, ADDITIONAL ITEMS ADDED, SAP NUMBERS CHANGED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND STANDARD UNIQUE IDENTIFIER ADDED			P.A.T.	M. PEFFER	T. MARIAS	05.09.2014	
4	DIMENSION CHANGED			P.A.T.	T. NKAMBULE		12.08.2009	
3	TBEC/P-120 & TBEC/C-120 ADDED.			VvZ	J.F.S.		19/09/2003	
RE V	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE NTS	 <b>D-DT-6040</b>		SAP No:	
CHKD:	C.B. CLARK	DATE:	12/96	CAD REF:			0589018	0588588
				SERIES 6000			0589019	0588587
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6040	SET	SHEET	REV	
					7	6	5	


SPEC. SHEET

<b>SAP MATERIAL No.:</b>	0589021								
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:EEC-DC-H;250/6W;26.5CLAMP-EC								
<b>TECH. DESCRIPTION:</b>	<p>CLAMP, TUBE: TYPE: EEC-DC-H; COMMERCIAL SIZE: 250/6W;26.5 CLAMP-EC;            MATERIAL: AI ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM;            CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; MAXIMUM OPERATING POTENTIAL: 800 KV;            6MM WALL THICKNESS END CAP WITH CONDUCTOR CLAMP; COLOUR WHITE POWDER COATED IN            ACCORDANCE WITH SANS 1274;            ESKOM DRAWING No. D-DT-6040 *</p>								
<b>SAP MATERIAL No.:</b>	0589022								
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:EEC-DC-H;250/6B;26.5CLAMP-EC								
<b>TECH. DESCRIPTION:</b>	<p>CLAMP, TUBE: TYPE: EEC-DC-H; COMMERCIAL SIZE: 250/6B;26.5 CLAMP-EC;            MATERIAL: AI ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM;            CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; MAXIMUM OPERATING POTENTIAL: 800 KV;            6MM WALL THICKNESS END CAP WITH CONDUCTOR CLAMP; COLOUR BLUE (4050-B IN ACCORDANCE            WITH SANS 1091) POWDER COATED IN ACCORDANCE WITH SANS 1274;            ESKOM DRAWING No. D-DT-6040 *</p>								
<b>SAP MATERIAL No.:</b>	0588589								
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:EEC-DC-J;250/6;38.3CLAMP-EC								
<b>TECH. DESCRIPTION:</b>	<p>CLAMP, TUBE: TYPE: EEC-DC-J; COMMERCIAL SIZE: 250/6;38.3 CLAMP-EC;            MATERIAL: AI ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM;            CONDUCTOR SIZE ACCOMMODATED: 38.3; MAXIMUM OPERATING POTENTIAL: 800 KV6MM WALL            THICKNESS END CAP WITH CONDUCTOR CLAMP;            ESKOM DRAWING No. D-DT-6040 *</p>								
5	ITEM TABLES ADDED, ADDITIONAL ITEMS ADDED, SAP NUMBERS CHANGED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND STANDARD UNIQUE IDENTIFIER ADDED			P.A.T.	M. PEFFER	T. MARIAS	05.09.2014		
4	DIMENSION CHANGED			P.A.T.	T. NKAMBULE		12.08.2009		
3	TBEC/P-120 & TBEC/C-120 ADDED.			VvZ	J.F.S.		19/09/2003		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE		
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE			SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	NTS			0589021	0588589	
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:			0589022	SET	SHEET
				SERIES 6000	<b>D-DT-6040</b>		7	7	5
				FILE No:					
				6040					

## SPEC SHEET


SAP MATERIAL No.:	<b>0400769</b>									
SHORT DESCRIPTION:	BAR, CU RD 10.0mm ANNEALED D6044									
TECH. DESCRIPTION:										
ROD * ROUND * COPPER * ANNEALED * 10mm DIAMETER * ESKOM DRAWING No. D-DT-6044 *										
ITEM	:- BAR, CU RD 10.0mm ANNEALED D6044									
MATERIAL SPECIFICATION	:- COPPER									
CORROSION SPECIFICATION	:- N/A									
STANDARD SPECIFICATION	:- N/A									
ESKOM SPECIFICATION	:- SABS 182									
TEST & CERTIFICATION REQUIREMENTS :- N/A										
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No			
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS										
4	<b>SAP 0017202 CORRECTED</b>			P.A.T.	D.RAMJASS	D.RAMJASS	26.01.2017			
3	LOGO IN TITLE BLOCK CHANGED AS PER CORPORATE IDENTITY.			VvZ	C.B.C.	C.CLARK	16/02/2004			
2	SFD CHANGED			VvZ	C.B.C.	A.BEKKER	10/01			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	12/96	<b>Eskom</b>  <b>D-DT-6044</b>		SAP No:				
CHKD:	C.B. CLARK	DATE:	12/96			0400769		SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			1	1	4		
				SCALE						
				NTS						
				CAD REF:						
				SERIES 6000						
				FILE No:						
				6044						

## SPEC SHEET

SAP MATERIAL No.:		0400772								
SHORT DESCRIPTION:		STRIP, CU FL 3.0x50mm ANNEALED D6045								
TECH. DESCRIPTION:										
FLAT COPPER STRIP * ANNEALED * 50mm x 3.0mm THICK * 45kg COILS * 138, 4kg/100m * ESKOM DRAWING No. D-DT-6045 *										
ITEM		:- STRIP, CU FL 3.0x50mm ANNEALED D6045								
MATERIAL SPECIFICATION		:- COPPER								
CORROSION SPECIFICATION		:- N/A								
STANDARD SPECIFICATION		:- N/A								
ESKOM SPECIFICATION		:- SABS 182 - 1968								
TEST & CERTIFICATION REQUIREMENTS		:- N/A								
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No			
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS										
3	SAP 0017204 CORRECTED			P.A.T.	D.RAMJASS	D.RAMJASS	26.01.2017			
2	LOGO IN TITLE BLOCK CHANGED AS PER CORPORATE IDENTITY.			VvZ	C.B.C.	C.CLARK	16/02/2004			
1	SFD & SPECS UPDATED			VvZ	C.B.C.	A.BEKKER	10/01			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE	 <b>D-DT-6045</b>		SAP No:			
CHKD:	C.B. CLARK	DATE:	12/96	NTS			0400772		SET	SHEET
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:			1	1	REV	3
				SERIES 6000						
				FILE No:						
				6045						

## SEE D-DT-5010

SAP MATERIAL No.:	0164297
SHORT DESCRIPTION:	BRACKET, CONTROL CABLE D6065
TECH. DESCRIPTION:	
CONTROL CABLE BRACKET * MATERIAL : STEEL GRADE 300W *	
ALL WELDING TO SANS 10044 STANDARDS *	
CONSISTS OF : 1 x 100mm x 25mm x 6mm THICK FLAT PLATE *	
1 x M16 THREADED SHAFT x 120mm LONG THREAD TO SABS 136 *	
2 x M16 HEX NUTS & FLAT WASHERS *	
THREADED SHAFT TO BE WELDED TO CENTRE OF FLAT PLATE - SANS 10044 *	
WASHERS & NUTS TO BE RUN ONTO THREADED SHAFT PRIOR TO DELIVERY *	
ESKOM DRAWING No. D-DT-6065 *	

ITEM		:- BRACKET, CONTROL CABLE D6065							
MATERIAL SPECIFICATION		:- STEEL (SANS 1431 300W)							
CORROSION SPECIFICATION		:- SANS 121 - WHERE APPLICABLE							
STANDARD SPECIFICATION		:- N/A							
ESKOM SPECIFICATION		:- N/A							
TEST & CERTIFICATION REQUIREMENTS		:- N/A							
INSPECTION		Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS									
4	LOGO IN TITLE BLOCK CHANGED AS PER CORPORATE IDENTITY			VvZ	C.B.C.	C.CLARK	16/02/2004		
3	SFD, TECH DESC AND SPECS UPDATED			VvZ	C.B.C.	A.BEKKER	10/01		
2	BOLT DIA. CHANGED TO M16			P.A.V.	C.B.C.	C.CLARK	10/00		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE NTS			SAP No:		
CHKD:	C.B. CLARK	DATE:	12/96	CAD REF:			0164297		
				SERIES 6000			SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/95	FILE No:		<b>D-DT-6065</b>	1	1	4
				6065					

**SEE D-DT-5015**

SAP MATERIAL No.:	0172497
SHORT DESCRIPTION:	SIGN, A B C - UNAUTH. ENTRY/INTERF. APP. D6072

TECH. DESCRIPTION:

SIGN A B C \* UNAUTHORISED ENTRY PROHIBITED \*

MATERIAL : WHITE 0.6mm CHROMODEK (Z200) SCREEN PRINTED THEN CLEAR POWDER COATED TO SANS 1274 or MILD STEEL 1.2mm THICK WITH VITREOUS ENAMEL FINISHING\*

STD. LABEL SIZE : 360mm x 290mm WITH 4 x 5mm DIA. HOLES SPACED 15mm FROM TOP & BOTTOM \*

OPTIONAL LABEL SIZE : 470mm x 290mm ONLY WHEN AN ADDITIONAL LANGUAGE IS REQUIRED BY REGION \*

SIGN TO BE DIVIDED INTO 2 SECTIONS \*

TOP SECTION :- TRIANGLE LOGO WITH SHOCK FLASH -  
COLOURS BLACK & YELLOW ON WHITE BACKGROUND \*  
SANS 1186 (WW7) \*

BOTTOM SECTION :-WORDING ON LABEL ONLY IN ENGLISH AS FOLLOWS:

UNAUTHORISED ENTRY STRICTLY PROHIBITED  
UNAUTHORISED PERSONS ARE PROHIBITED FROM  
HANDLING OR INTERFERING WITH ELECTRICAL  
APPARATUS \*


LETTERING TO BE 9mm HIGH, BLACK LETTERING ON WHITE BACKGROUND \*  
PROVISION IS MADE FOR ADDITIONAL LANGUAGE IF REQUIRED BY REGION \*  
ESKOM DRAWING No. D-DT-6072 \*

ITEM	:-	SIGN, A B C - UNAUTH. ENTRY/INTERF. APP.
MATERIAL SPECIFICATION	:-	P/C CHROMODEK/VITREOUS ENAMEL
CORROSION SPECIFICATION	:-	N/A
STANDARD SPECIFICATION	:-	SANS 1186 & SANS 1247
ESKOM SPECIFICATION	:-	SCSSCAAP5 & D-DT-5015
TEST & CERTIFICATION REQUIREMENTS	:-	N/A

INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

4	SDF, TECH DESC AND SPECS UPDATED	VvZ	J.F.S.	J.SCHOLTZ	15/01/2004	
3	SDF, TECH DESC AND SPECS UPDATED	VvZ	C.B.C.	A.BEKKER	10/01	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS

AUTH:	PHIL CROWDY	DATE:	12/96	SCALE		SAP No:		
				NTS		0172497		
CHKD:	C.B. CLARK	DATE:	12/96	CAD REF:				
				SERIES 6000	<b>D-DT-6072</b>	SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/95	FILE No:		1	1	4
				6072				



**SEE D-DT-5016**

SAP MATERIAL No.:	0172495
SHORT DESCRIPTION:	SIGN DE - FIRST AID D6073

TECH. DESCRIPTION:

SIGN D E \* IN CASE OF FIRE PROCEDURE \*

MATERIAL : WHITE 0.6mm CHROMODEK (Z200) SCREEN PRINTED THEN CLEAR POWDER COATED TO SANS1274 OR MILD STEEL 1.2mm THICK WITH VITREOUS ENAMEL FINISHING \*

SIGN DIVIDED INTO TWO SECTIONS \*

TOP SECTION :- WORDING IN ENGLISH ONLY WITH ILLUSTRATED TREATMENT & FULL FIRST AID INSTRUCTIONS \*

LETTERING BLACK ON WHITE BACKGROUND \*

MAIN HEADING - 9mm/SUB HEADING - 6mm/WRITING - 3.5mm \*

BOTTOM SECTION: - NO WATER ON FIRE LOGO \*

WORDING AS FOLLOWS :

IN CASE OF FIRE  
DO NOT USE WATER OR FOAM  
- UNTIL SUPPLY IS ISOLATED -  
(NO WATER ON OIL FIRES) \*

LETTERING BLACK ON WHITE BACKGROUND \*

READING - 12mm/WRITING - 9mm \*


ESKOM DRAWING No. D-DT-6073 \*

ITEM	:-	SIGN DE - FIRST AID D6073
MATERIAL SPECIFICATION	:-	P/C CHROMODEK/VITREOUS ENAMEL
CORROSION SPECIFICATION	:-	N/A
STANDARD SPECIFICATION	:-	SANS 1186 & SANS 1247
ESKOM SPECIFICATION	:-	SCSSCAAP5 & D-DT-5016

TEST & CERTIFICATION REQUIREMENTS :- N/A					
INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No

IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

5	LABEL SIZES REMOVED FROM TECHNICAL DESCRIPTION.	VvZ	J.F.S.	J.SCHOLTZ	16/02/2004	
4	SDF, TECH DESC AND SPECS UPDATED	VvZ	J.F.S.	J.SCHOLTZ	15/01/2004	
3	SDF, TECH DESC AND SPECS UPDATED	VvZ	C.B.C.	A.BEKKER	10/01	

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/96	SCALE			SAP No:		
				NTS			0172495		
CHKD:	C.B. CLARK	DATE:	12/96	CAD REF:	<p align="center"><b>D-DT-6073</b></p>		SET	SHEET	REV
				SERIES 6000			1	1	5
DRAWN:	J.F.SCHOLTZ	DATE:	10/95	FILE No:					
				6073					

**SEE D-DT-5017**

SAP MATERIAL No.:	0172496
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SHORT DESCRIPTION:	SIGN F - PROHIBITIVE (VARIOUS) D6074
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**TECH. DESCRIPTION:**

SIGN F \* PROHIBITIVE (VARIOUS) \*

MATERIAL : WHITE 0.6mm CHROMODEK (Z200) SCREEN PRINTED THEN CLEAR POWDER COATED TO SANS 1274 OR MILD STEEL 1.2mm THICK WITH VITREOUS ENAMEL FINISHING \*

STD. LABEL SIZE : 360mm x 290mm WITH 4 x 5mm DIA. HOLES SPACED 15mm FROM TOP & BOTTOM \*

OPTIONAL LABEL SIZE : 470mm x 290mm ONLY WHEN AN ADDITIONAL LANGUAGE IS REQUIRED BY REGION \*

PROHIBITED LOGO \*

RED CIRCLE & LINE DIAGONALLY THROUGH LOGO \*

BACKGROUND WHITE \*

ESKOM DRAWING No. D-DT-6074 \*

ITEM	:-	SIGN F - PROHIBITIVE (VARIOUS) D6074
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MATERIAL SPECIFICATION	:-	P/C CHROMODEK /VITREOUS ENAMEL
------------------------	----	--------------------------------

CORROSION SPECIFICATION	:-	N/A
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STANDARD SPECIFICATION	:-	SANS 1186 & SANS 1247
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ESKOM SPECIFICATION	:-	SCSSCAAP5 & D-DT-5017
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TEST & CERTIFICATION REQUIREMENTS	:-	N/A
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INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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**IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS**

5	SDF, TECH DESC AND SPECS UPDATED	VvZ	J.F.S.	J.SCHOLTZ	15/01/2004	
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4	SDF, TECH DESC AND SPECS UPDATED	VvZ	C.B.C.	A.BEKKER	10/01	
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3	TECHNICAL DESCRIPTION CHANGED	P.A.V.	C.B.C.	C.CLARK	07/00	
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REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS
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AUTH:	PHIL CROWDY	DATE:	12/96		SCALE	
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CHKD:	C.B. CLARK	DATE:	12/96		CAD REF:	SAP No:
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					SERIES 6000	0172496
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DRAWN:	J.F.SCHOLTZ	DATE:	10/95		FILE No:	
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				<b>D-DT-6074</b>	SET	SHEET	REV
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					1	1	5
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**SEE D-DT-5018**

SAP MATERIAL No.:	0172498
SHORT DESCRIPTION:	SIGN G - HARD HAT AREA D6075

TECH. DESCRIPTION:

SIGN G \* HARD HAT AREA \*

MATERIAL : WHITE 0.6mm CHROMODEK (Z200) SCREEN PRINTED THEN CLEAR POWDER COATED TO SANS 1274 OR MILD STEEL 1.2mm THICK WITH VITREOUS ENAMEL FINISHING \*

STD. LABEL SIZE : 360mm x 290mm WITH 4 x 5mm DIA. HOLES SPACED 15mm FROM TOP & BOTTOM \*

OPTIONAL LABEL SIZE : 470mm x 290mm ONLY WHEN AN ADDITIONAL LANGUAGE IS REQUIRED BY REGION \*

LOGO : HARD HAT IN WHITE ONTO BLUE BACKGROUND \*

SANS 1186 (MV3) \*


ESKOM DRAWING No. D-DT-6075 \*

ITEM	:-	SIGN G - HARD HAT AREA D6075
MATERIAL SPECIFICATION	:-	P/C CHROMODEK/VITREOUS ENAMEL
CORROSION SPECIFICATION	:-	N/A
STANDARD SPECIFICATION	:-	SANS 1186 & SANS 1247
ESKOM SPECIFICATION	:-	SCSSCAAP5 & D-DT-5018
TEST & CERTIFICATION REQUIREMENTS	:-	N/A

INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

3	SDF, TECH DESC AND SPECS UPDATED	VvZ	J.F.S.	J.SCHOLTZ	15/01/2004	
2	SDF, TECH DESC AND SPECS UPDATED	VvZ	C.B.C.	A.BEKKER	10/01	
1	MATERIAL CHANGED & NSN No. CHANGED TO SAP No.	J.F.S.	J.F.S.	J.SCHOLTZ	11/99	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS

AUTH:	PHIL CROWDY	DATE:	12/96	SCALE		SAP No:				
CHKD:	C.B. CLARK	DATE:	12/96	NTS		0172498				
DRAWN:	J.F.SCHOLTZ	DATE:	10/95	CAD REF:		SET	SHEET	REV		
				SERIES 6000	<b>D-DT-6075</b>			1	1	3
				FILE No:						
				6075						

**SEE D-DT-5021 SHEET 1**

SAP MATERIAL No.:	0172418
SHORT DESCRIPTION:	SIGN LC - LIVE CHAMBER D6077

TECH. DESCRIPTION:

SIGN LC \* LIVE CHAMBER \*

MATERIAL : WHITE 0.6mm CHROMODEK (Z200) SCREEN PRINTED THEN CLEAR POWDER COATED TO SANS 1274 OR MILD STEEL 12mm THICK WITH VITREOUS ENAMEL FINISHING \*

STD. LABEL SIZE : 360mm x 290mm WITH 4 x 5mm DIA. HOLES SPACED 15mm FROM TOP & BOTTOM \*

OPTIONAL LABEL SIZE : 470mm x 290mm ONLY WHEN AN ADDITIONAL LANGUAGE IS REQUIRED BY REGION \*

SIGN TO BE DIVIDED INTO 2 SECTIONS \*

TOP SECTION :- TRIANGLE LOGO WITH SHOCK FLASH -  
COLOURS BLACK & YELLOW ON WHITE BACKGROUND \*  
SANS 1186 (WW7) \*

BOTTOM SECTION :- WORDING ON LABEL ONLY IN ENGLISH AS FOLLOWS:


LIVE  
CHAMBER \*

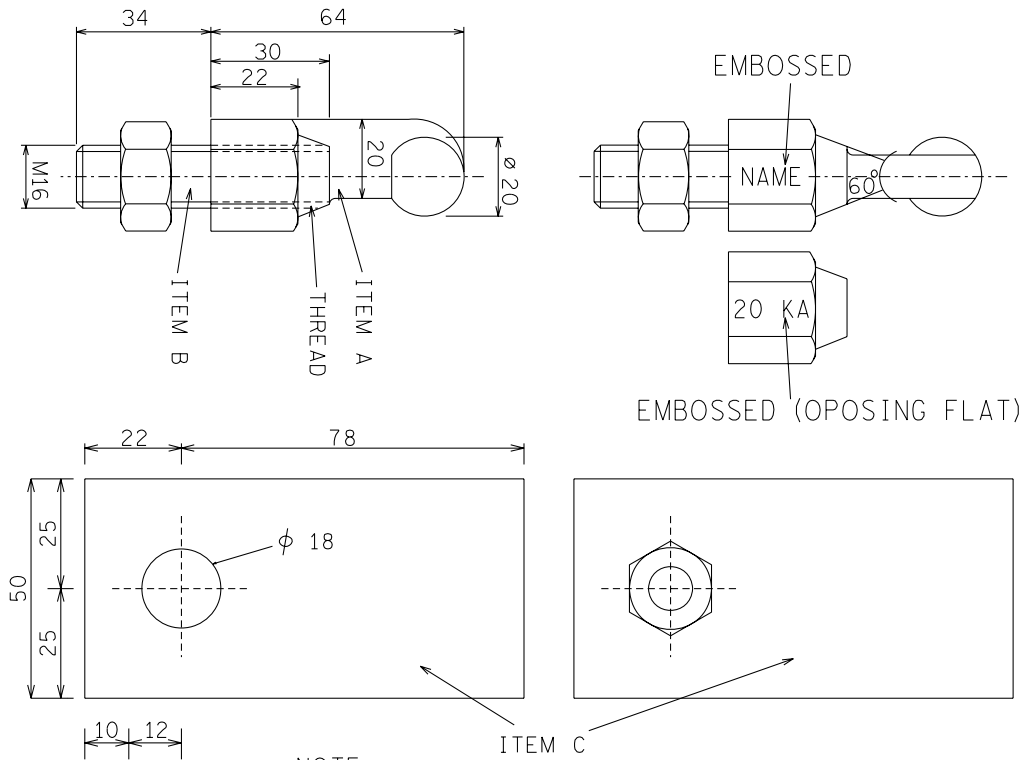
LETTERING TO BE 30mm HIGH, BLACK LETTERING ON WHITE BACKGROUND \*  
PROVISION IS MADE FOR ADDITIONAL LANGUAGE IF REQUIRED BY REGION \*  
ESKOM DRAWING No. D-DT-6077 \*

ITEM	:- SIGN LC - LIVE CHAMBER D6077				
MATERIAL SPECIFICATION	:- P/C CHROMODEK/VITREOUS ENAMEL				
CORROSION SPECIFICATION	:- N/A				
STANDARD SPECIFICATION	:- SANS 1186 & SANS 1247				
ESKOM SPECIFICATION	:- SCSSCAAP5 & D-DT-5021				
TEST & CERTIFICATION REQUIREMENTS	:- N/A				

INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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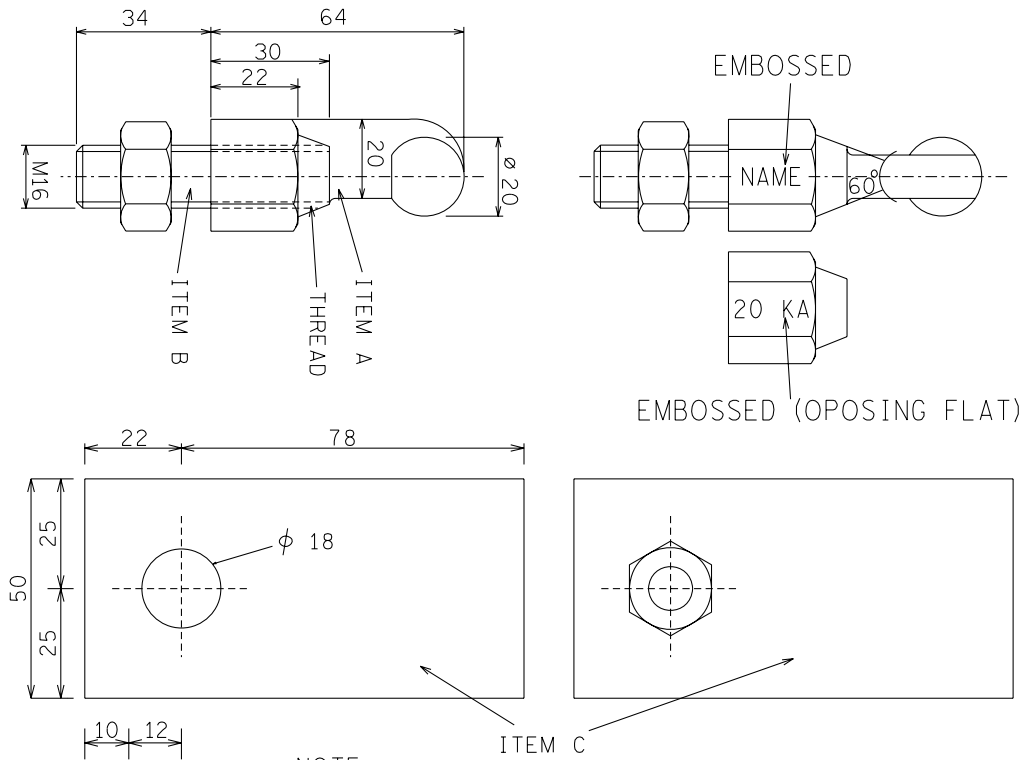
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

1	TECH DESC AND SPECS UPDATED			VvZ	J.F.S.	J.SCHOLTZ	15/01/2004		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	A. BEKKER	DATE:	10/01	SCALE			SAP No: 0172418		
CHKD:	C.B. CLARK	DATE:	10/01	NTS					
DRAWN:	J.J. JORDAAN	DATE:	06/01	CAD REF:					
				SERIES 6000	<b>D-DT-6077</b>		SET	SHEET	REV
				FILE No: 6077			1	1	1



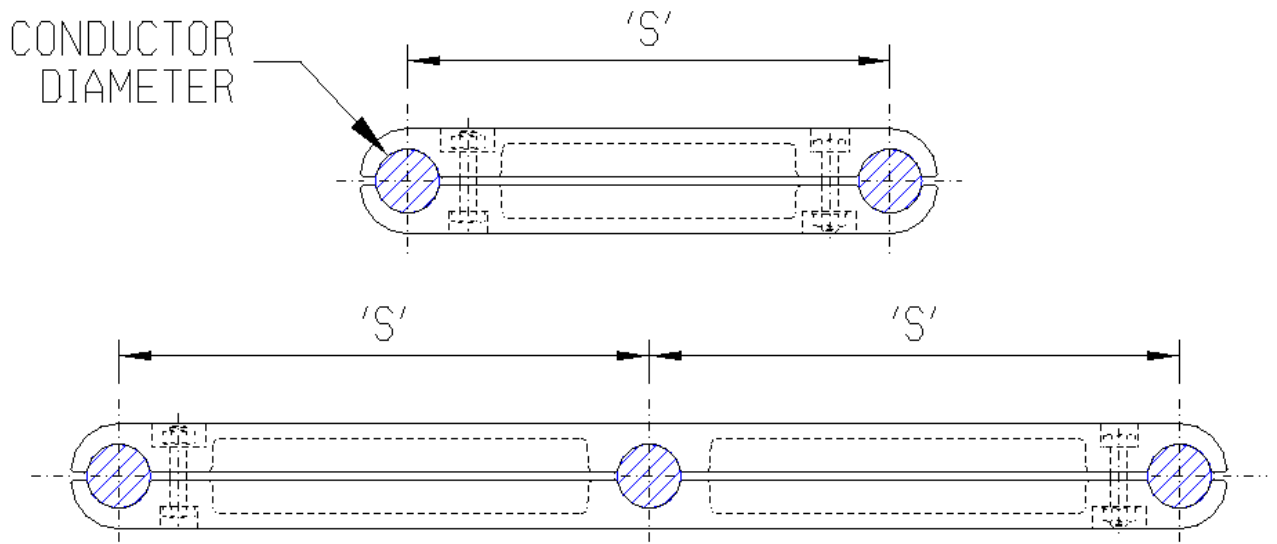
NOTE :  
DRAWING NOT FOR MANUFACTURING PURPOSE.

SAP MATERIAL No.:		0206118						
SHORT DESCRIPTION:		JOINT, BALL PORTABLE EARTH 20kA G/S D6081						
TECH. DESCRIPTION:								
BALL JOINT (SINGLE) FOR USE ON PORTABLE EARTH ASSEMBLY *								
FAULT LEVEL : 0-20kA * BALL DIA.: 20mm *								
ITEM A - MATERIAL : GALVANISED STEEL *								
ITEM B - THREADED ROD: M16 - MATERIAL : STEEL GRADE 8.8 GALV. *								
ITEM C - 1mm THICK ALUMINIUM PLATE *								
M16 HEX. NUT - MATERIAL : STEEL GRADE 8.8 GALV. *								
ITEM B TO BE TIGHTEN BY SCREWING INTO ITEM A *								
ITEM C TO BE SUPPLIED WITH EACH BOLT *								
ESKOM DRAWING No. D-DT-6081 *								
ITEM		:- BALL JOINT PORTABLE EARTH 20ka D6081						
MATERIAL SPECIFICATION		:- SABS 135						
CORROSION SPECIFICATION		:- SANS 121						
STANDARD SPECIFICATION		:- SANS 61230						
ESKOM SPECIFICATION		:- SCSSCAAN3						
TEST & CERTIFICATION REQUIREMENTS		:- SCSSCAAN3						
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
8	SAP 0168718 MADE OBSOLETE. 1mm THICK ALUMINIUM PLATE ADDED.	VvZ	C.B.C.	C.CLARK	07/10/2005			
7	SAP 0206118 ADDED.	VvZ	J.F.S.	J.SCHOLTZ	19/09/2003			
6	SFD CHANGED AND SPECS UPDATED	VvZ	C.B.C.	A.BEKKER	11/01			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	06/97			SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97			0206118		(0168718 – obsolete)
DRAWN:	J.F.SCHOLTZ	DATE:	06/97	D-DT-6081		SET	SHEET	REV
				6081	1	1	8	



NOTE :  
DRAWING NOT FOR MANUFACTURING PURPOSE.

SAP MATERIAL No.:		0206118					
SHORT DESCRIPTION:		JOINT, BALL PORTABLE EARTH 20kA G/S D6081					
TECH. DESCRIPTION:							
BALL JOINT (SINGLE) FOR USE ON PORTABLE EARTH ASSEMBLY *							
FAULT LEVEL : 0-20kA * BALL DIA.: 20mm *							
ITEM A - MATERIAL : GALVANISED STEEL *							
ITEM B - THREADED ROD: M16 - MATERIAL : STEEL GRADE 8.8 GALV. *							
ITEM C - 1mm THICK ALUMINIUM PLATE *							
M16 HEX. NUT - MATERIAL : STEEL GRADE 8.8 GALV. *							
ITEM B TO BE TIGHTEN BY SCREWING INTO ITEM A *							
ITEM C TO BE SUPPLIED WITH EACH BOLT *							
ESKOM DRAWING No. D-DT-6081 *							
ITEM		:- BALL JOINT PORTABLE EARTH 20kA D6081					
MATERIAL SPECIFICATION		:- SABS 135					
CORROSION SPECIFICATION		:- SANS 121					
STANDARD SPECIFICATION		:- SANS 61230					
ESKOM SPECIFICATION		:- SCSSCAAN3					
TEST & CERTIFICATION REQUIREMENTS		:- SCSSCAAN3					
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS							
8	SAP 0168718 MADE OBSOLETE. 1mm THICK ALUMINIUM PLATE ADDED.	VvZ	C.B.C.	C.CLARK	07/10/2005		
7	SAP 0206118 ADDED.	VvZ	J.F.S.	J.SCHOLTZ	19/09/2003		
6	SFD CHANGED AND SPECS UPDATED	VvZ	C.B.C.	A.BEKKER	11/01		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE		SAP No:	
CHKD:	C.B. CLARK	DATE:	06/97	NTS		0206118	
DRAWN:	J.F.SCHOLTZ	DATE:	06/97	CAD REF:		(0168718 – obsolete)	
				SERIES 6000		SET	SHEET
				FILE No:		1	1
				6081		1	8
						<b>D-DT-6081</b>	



NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	CONDUCTOR DIAMETER	CONDUCTOR SPACING 'S'	NUMBER OF CONDUCTORS	SAP NUMBER
ES-A	26.5	150	2	0402557
ES-B	38.3	150	2	0402559
ES-C	26.5	330	2	0402530
ES-D	38.3	330	2	0402532
ES-E	38.3	165	3	0011491

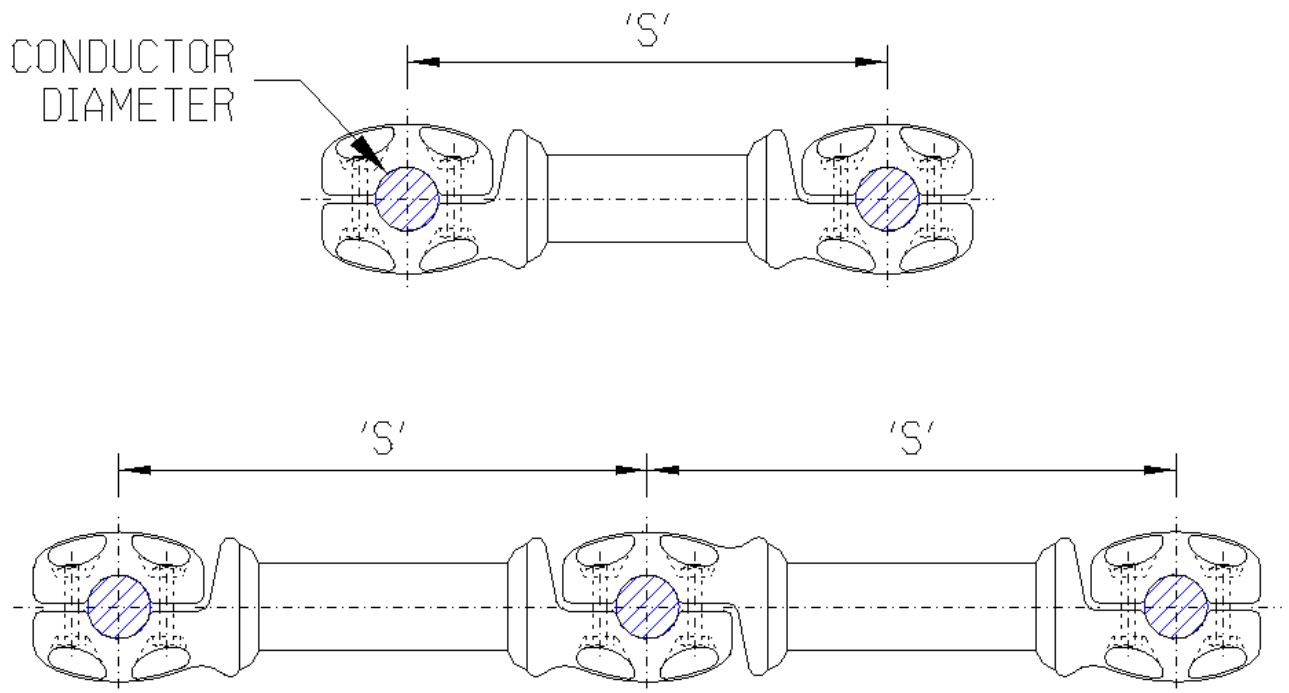
ITEM	:- SPACER: <b>ES NON-CURRENT CARRYING</b>							
MATERIAL SPECIFICATION	:- GRADE LM6 ALUMINIUM TO BS1490							
CORROSION SPECIFICATION	:- N/A							
STANDARD SPECIFICATION	:- N/A							
ESKOM SPECIFICATION	:- <b>474-218</b>							
TEST & CERTIFICATION REQUIREMENTS	:- <b>474-218</b>							
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS								
7	ES-C, ES-D, ES-E AND ESC-C, ESC-D, ESC-E ADDED SPEC. CHANGED		P.A.T.	M.PEPPER	T.MARAIS	14.08.2013		
6	DRAWINGS SHOWN SAME AS SPECIFICATION DSP_34-1974 AND SPECS AND CLAMP TYPES CHANGED		P.A.T.	T.NKAMBULE	V. SINGH	11.04.2011		
5	ESKOM & TEST & CERTIFICATE SPEC. CHANGED		P.A.V.	T.NKAMBULE	I.SEBEKO	17.09.2009		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	 <b>D-DT-6087</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97			SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			<b>6</b>	<b>1</b>	<b>7</b>
				SCALE NTS				
				CAD REF: SERIES 6000				
				FILE No: 6087				

## SPEC SHEET

SAP MATERIAL No.:	0402557						
SHORT DESCRIPTION:	SPACER:ES-A;COND 2X26.5MM;150MM CRS						
TECH. DESCRIPTION:	<p>SPACER: TYPE: COND 2X26.5MM;            DIMENSIONS: 150MM CRS;            MATERIAL: AL BS1490 GR LM6 CAST;            TWIN CONDUCTOR SPACER; NON-CURRENT CARRYING;            REFERENCE NO: ES-A;            ESKOM DRAWING No. D-DT-6087 *</p>						
SAP MATERIAL No.:	0402559						
SHORT DESCRIPTION:	SPACER:ES-B;COND 2X38.3MM;150MM CRS						
TECH. DESCRIPTION:	<p>SPACER: TYPE: COND 2X38.3MM;            DIMENSIONS: 150MM CRS;            MATERIAL: AL BS1490 GR LM6 CAST;            TWIN CONDUCTOR SPACER; NON-CURRENT CARRYING;            REFERENCE NO: ES-B;            ESKOM DRAWING No. D-DT-6087 *</p>						
SAP MATERIAL No.:	0402530						
SHORT DESCRIPTION:	SPACER:ES-C;COND 2X26.5MM;330MM CRS						
TECH. DESCRIPTION:	<p>SPACER: TYPE: COND 2X26.5MM;            DIMENSIONS: 330MM CRS;            MATERIAL: AL BS1490 GR LM6 CAST;            TWIN CONDUCTOR SPACER; NON-CURRENT CARRYING;            REFERENCE NO: ES-C;            ESKOM DRAWING No. D-DT-6087 *</p>						
SAP MATERIAL No.:	0402532						
SHORT DESCRIPTION:	SPACER:ES-D;COND 2X38.3MM;330MM CRS						
TECH. DESCRIPTION:	<p>SPACER: TYPE: COND 2X38.3MM;            DIMENSIONS: 330MM CRS;            MATERIAL: AL BS1490 GR LM6 CAST;            TWIN CONDUCTOR SPACER; NON-CURRENT CARRYING;            REFERENCE NO: ES-D;            ESKOM DRAWING No. D-DT-6087 *</p>						
7	ES-C, ES-D, ES-E AND ESC-C, ESC-D, ESC-E ADDED SPEC. CHANGED			P.A.T.	M.PEPPER	T.MARAIS	14.08.2013
6	DRAWINGS SHOWN SAME AS SPECIFICATION DSP_34-1974 AND SPECS AND CLAMP TYPES CHANGED			P.A.T.	T.NKAMBULE	V. SINGH	11.04.2011
5	ESKOM & TEST & CERTIFICATE SPEC. CHANGED			P.A.V.	T.NKAMBULE	I.SEBEKO	17.09.2009
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE
AUTH:	PHIL CROWDY	DATE:	06/97	 <b>D-DT-6087</b>		SAP No:	
CHKD:	C.B. CLARK	DATE:	06/97			0402557	0402530
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			0402559	0402532
				SCALE			SET
				NTS			SHEET
				CAD REF:			REV
				SERIES 6000			6
				FILE No:			2
				6087			7








NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	CONDUCTOR DIAMETER	CONDUCTOR SPACING 'S'	NUMBER OF CONDUCTORS	SAP NUMBER
ESC-A	26.5	150	2	0206361
ESC-B	38.3	150	2	0206362
ESC-C	26.5	330	2	0011058
ESC-D	38.3	330	2	0011059
ESC-E	38.3	165	3	0011060

ITEM	:- SPACER: <b>ESC CURRENT CARRYING</b>							
MATERIAL SPECIFICATION	:- GRADE LM6 ALUMINIUM TO BS1490							
CORROSION SPECIFICATION	:- N/A							
STANDARD SPECIFICATION	:- N/A							
ESKOM SPECIFICATION	:- <b>474-218</b>							
TEST & CERTIFICATION REQUIREMENTS	:- <b>474-218</b>							
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS								
7	ES-C, ES-D, ES-E AND ESC-C, ESC-D, ESC-E ADDED SPEC. CHANGED		P.A.T.	M.PEPPER	T.MARAIS	14.08.2013		
6	DRAWINGS SHOWN SAME AS SPECIFICATION DSP_34-1974 AND SPECS AND CLAMP TYPES CHANGED		P.A.T.	T.NKAMBULE	V. SINGH	11.04.2011		
5	ESKOM & TEST & CERTIFICATE SPEC. CHANGED		P.A.V.	T.NKAMBULE	I.SEBEKO	17.09.2009		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	 <b>D-DT-6087</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97			0206361		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			SET	SHEET	REV
						6	4	7

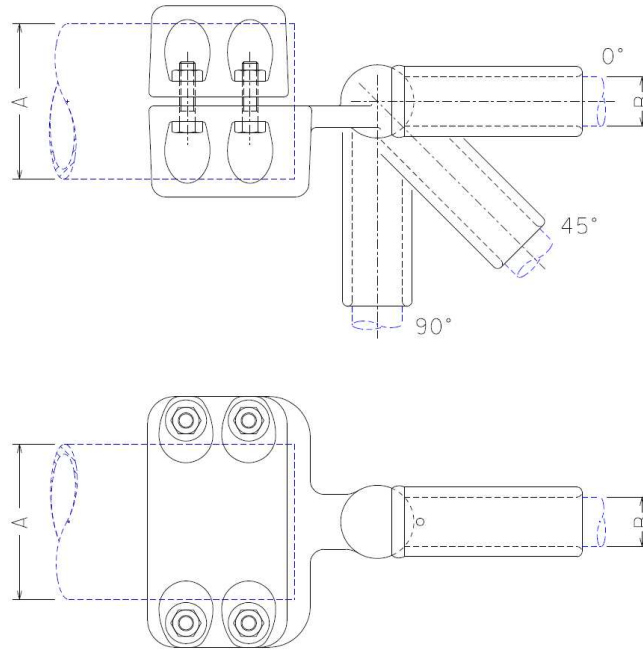
## SPEC SHEET

SAP MATERIAL No.:	0206361								
SHORT DESCRIPTION:	SPACER:ESC-A;COND 2X26.5MM;150MM CRS								
TECH. DESCRIPTION:	<p>SPACER: TYPE: COND 2X26.5MM;            DIMENSIONS: 150MM CRS;            MATERIAL: AL BS1490 GR LM6 CAST;            TWIN CONDUCTOR SPACER; 900 AMP;            REFERENCE NO: ESC-A;            ESKOM DRAWING No. D-DT-6087 *</p>								
SAP MATERIAL No.:	0206362								
SHORT DESCRIPTION:	SPACER:ESC-B;COND 2X38.3MM;150MM CRS MM								
TECH. DESCRIPTION:	<p>SPACER: TYPE: COND 2X38.3MM;            DIMENSIONS: 150MM CRS MM;            MATERIAL: AL BS1490 GR LM6 CAST;            TWIN CONDUCTOR SPACER; 1350 AMP;            MODEL NO: ESC-B;            ESKOM DRAWING No. D-DT-6087 *</p>								
SAP MATERIAL No.:	0011058								
SHORT DESCRIPTION:	SPACER:ESC-C;COND 2X26.5MM;330MM CRS								
TECH. DESCRIPTION:	<p>SPACER: TYPE: COND 2X26.5MM;            DIMENSIONS: 330MM CRS;            MATERIAL: AL BS1490 GR LM6 CAST;            TWIN CONDUCTOR SPACER; 900 AMP;            REFERENCE NO: ESC-C;            ESKOM DRAWING No. D-DT-6087 *</p>								
SAP MATERIAL No.:	0011059								
SHORT DESCRIPTION:	SPACER:ESC-D;COND 2X38.3MM;330MM CRS								
TECH. DESCRIPTION:	<p>SPACER: TYPE: COND 2X38.3MM;            DIMENSIONS: 330MM CRS;            MATERIAL: AL BS1490 GR LM6 CAST;            TWIN CONDUCTOR SPACER; 1350 AMP;            REFERENCE NO: ESC-D            ESKOM DRAWING No. D-DT-6087 *</p>								
7	ES-C, ES-D, ES-E AND ESC-C, ESC-D, ESC-E ADDED SPEC. CHANGED			P.A.T.	M.PEPPER	T.MARAIS	14.08.2013		
6	DRAWINGS SHOWN SAME AS SPECIFICATION DSP_34-1974 AND SPECS AND CLAMP TYPES CHANGED			P.A.T.	T.NKAMBULE	V. SINGH	11.04.2011		
5	ESKOM & TEST & CERTIFICATE SPEC. CHANGED			P.A.V.	T.NKAMBULE	I.SEBEKO	17.09.2009		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	 <b>D-DT-6087</b>		SAP No:			
CHKD:	C.B. CLARK	DATE:	06/97			0206361	0011058		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			0206362	0011059	SET	SHEET
				SCALE NTS			6	5	7
				CAD REF: SERIES 6000					
				FILE No: 6087					

## SPEC SHEET

SAP MATERIAL No.:	0011060
SHORT DESCRIPTION:	SPACER:ESC-E;COND 3X38.3MM;165MM CRS
TECH. DESCRIPTION:	
SPACER: TYPE: COND 3X38.3MM; DIMENSIONS: 165MM CRS; MATERIAL: AL BS1490 GR LM6 CAST; TRIPLE CONDUCTOR SPACER; 1350 AMP; REFERENCE NO: ESC-E; ESKOM DRAWING No. D-DT-6087 *	

7	ES-C, ES-D, ES-E AND ESC-C, ESC-D, ESC-E ADDED SPEC. CHANGED	P.A.T.	M.PEPPER	T.MARAIS	14.08.2013		
6	DRAWINGS SHOWN SAME AS SPECIFICATION DSP_34-1974 AND SPECS AND CLAMP TYPES CHANGED	P.A.T.	T.NKAMBULE	V. SINGH	11.04.2011		
5	ESKOM & TEST & CERTIFICATE SPEC. CHANGED	P.A.V.	T.NKAMBULE	I.SEBEKO	17.09.2009		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	 <b>Eskom</b>  <b>D-DT-6087</b>	SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97		0011060		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96		SCALE	SET	SHEET
					FILE No:	6	6
			6087			REV	
						7	




NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	TUBE DIAMETER "A" (mm)	CONDUCTOR DIAMETER "B" (mm)	ANGLE OF OFFSET (DEGREES)	90°C RATED CURRENT (A)	RATED VOLTAGE (kV RMS)	SAP NUMBER
ETP-TE-IL1-A0	80	1 x 26.5	0	850	145	0401695
ETP-TE-IL1-A45	80	1 x 26.5	45	850	145	0403916
ETP-TE-IL1-B0	80	1 x 38.3	0	1,350	145	0401302
ETP-TE-IL1-B45	80	1 x 38.3	45	1,350	145	0179974
ETP-TE-IL1-E0	120	1 x 26.5	0	850	145	0206325
ETP-TE-IL1-F0	120	1 x 38.3	0	1,350	145	0206326
ETP-TE-IL1-G0	200	1 x 38.3	0	1,350	145	0588565
ETP-TE-IL1-G45	200	1 x 38.3	45	1,350	145	0588566
ETP-TE-IL1-H0	250	1 x 38.3	0	1,350	145	0588567
ETP-TE-IL1-H45	250	1 x 38.3	45	1,350	145	0588568

ITEM :- CLAMP, TUBE: ETP-TE-IL1; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP

STANDARD: UNIQUE IDENTIFIER :- 240-53113923

7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFIER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED			P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015	
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.			VvZ	C.B.C.	C.CLARK	07/10/2005	
5	SAP 0005232 & 0005712 MOVED FROM D-DT-6091. SHT 5 ADDED.			VvZ	C.B.C.	C.CLARK	04/05/2005	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE NTS				
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF: SERIES 6000				
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6090		<b>D-DT-6090</b> SET: 5 SHEET: 1 REV: 7		

## SPEC SHEET

SAP MATERIAL No.:		0401695								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-A0;80/26.5;0D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-A0; COMMERCIAL SIZE: 80/26.5;0D; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; CLAMP CURRENT RATING: 850 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *										
SAP MATERIAL No.:		0403916								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-A45;80/26.5;45D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-A45; COMMERCIAL SIZE: 80/26.5;45D; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; CLAMP CURRENT RATING: 850 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 45 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *										
SAP MATERIAL No.:		0401302								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-B0;80/38.3;0D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-B0; COMMERCIAL SIZE: 80/38.3;0D; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *										
SAP MATERIAL No.:		0179974								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-B45;80/38.3;45D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-B45; COMMERCIAL SIZE: 80/38.3;45D; MATERIAL: AI ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 45 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *										
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED				P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015		
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.				VvZ	C.B.C.	C.CLARK	07/10/2005		
5	SAP 0005232 & 0005712 MOVED FROM D-DT-6091. SHT 5 ADDED.				VvZ	C.B.C.	C.CLARK	04/05/2005		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE NTS	 <b>D-DT-6090</b>		SAP No:			
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF: SERIES 6000			0401695	0401302		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6090			0403916	0179974	SET	SHEET
					<b>5</b>	<b>2</b>	<b>7</b>			

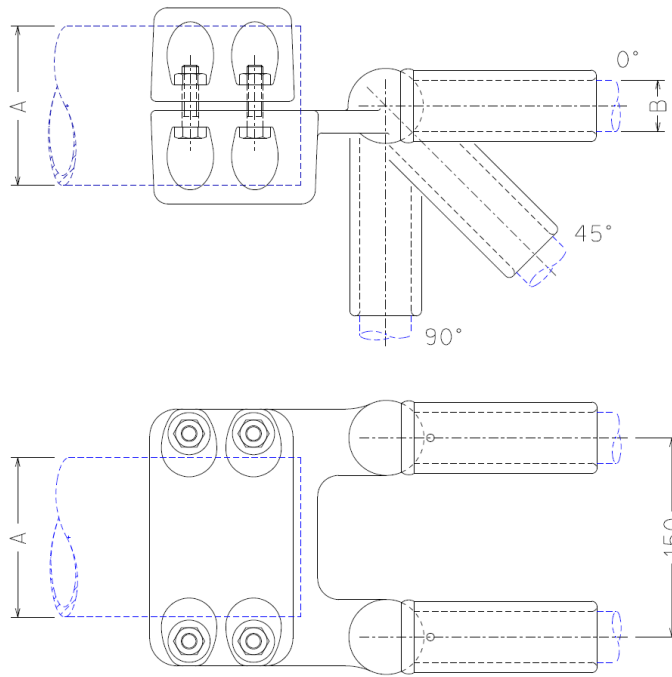
## SPEC SHEET

SAP MATERIAL No.:		0206325								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-E0;120/26.5;0D								
TECH. DESCRIPTION:										
<p>CLAMP, TUBE: TYPE: ETP-TE-IL1-E0; COMMERCIAL SIZE: 120/26.5;0D;                      MATERIAL: Al ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 120 MM; CONDUCTOR SIZE ACCOMMODATED: 26.5 MM;                      CLAMP CURRENT RATING: 850 A; MAXIMUM OPERATING POTENTIAL: 145 KV;                      ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      ESKOM DRAWING No. D-DT-6090 *</p>										
SAP MATERIAL No.:		0206326								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-F0;120/38.3;0D								
TECH. DESCRIPTION:										
<p>CLAMP, TUBE: TYPE: ETP-TE-IL1-F0; COMMERCIAL SIZE: 120/38.3;0D;                      MATERIAL: Al ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 120 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM;                      CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 145 KV;                      ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      ESKOM DRAWING No. D-DT-6090 *</p>										
SAP MATERIAL No.:		0588565								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-G0;200/38.3;0D								
TECH. DESCRIPTION:										
<p>CLAMP, TUBE: TYPE: ETP-TE-IL1-G0; COMMERCIAL SIZE: 200/38.3;0D;                      MATERIAL: Al ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM;                      CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 145 KV;                      ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION                      ESKOM DRAWING No. D-DT-6090 *</p>										
SAP MATERIAL No.:		0588566								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-G45;200/38.3;45D								
TECH. DESCRIPTION:										
<p>CLAMP, TUBE: TYPE: ETP-TE-IL1-G45; COMMERCIAL SIZE: 200/38.3;45D;                      MATERIAL: Al ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM;                      CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 145 KV;                      ANGLE: 45 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      ESKOM DRAWING No. D-DT-6090 *</p>										
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED				P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015		
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.				VvZ	C.B.C.	C.CLARK	07/10/2005		
5	SAP 0005232 & 0005712 MOVED FROM D-DT-6091. SHT 5 ADDED.				VvZ	C.B.C.	C.CLARK	04/05/2005		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE NTS			SAP No:			
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF: SERIES 6000			0206325	0588565		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6090			0206326	0588566	SET	SHEET
					D-DT-6090		5	3	7	

## SPEC SHEET

<b>SAP MATERIAL No.:</b>	0588567								
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:ETP-TE-IL1-H0;250/38.3;0D								
<b>TECH. DESCRIPTION:</b>	<p>CLAMP, TUBE: TYPE: ETP-TE-IL1-H0; COMMERCIAL SIZE: 250/38.3;0D;            MATERIAL: Al ALLOY&lt; 0.1% Cu;            TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM;            CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 145 KV;            ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;            OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            ESKOM DRAWING No. D-DT-6090 *</p>								
<b>SAP MATERIAL No.:</b>	0588568								
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:ETP-TE-IL1-H45;250/38.3;45D								
<b>TECH. DESCRIPTION:</b>	<p>CLAMP, TUBE: TYPE: ETP-TE-IL1-H45; COMMERCIAL SIZE: 250/38.3;45D;            MATERIAL: Al ALLOY&lt; 0.1% Cu;            TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM;            CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 145 KV;            ANGLE: 45 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;            OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            ESKOM DRAWING No. D-DT-6090 *</p>								
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED			P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015		
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.			VvZ	C.B.C.	C.CLARK	07/10/2005		
5	SAP 0005232 & 0005712 MOVED FROM D-DT-6091. SHT 5 ADDED.			VvZ	C.B.C.	C.CLARK	04/05/2005		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE		
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE NTS	<b>Eskom</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF: SERIES 6000			0588567	0588568	
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6090	<b>D-DT-6090</b>		SET	SHEET	REV
							5	4	7






NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	TUBE DIAMETER "A" (mm)	CONDUCTOR DIAMETER "B" (mm)	ANGLE OF OFFSET (DEGREES)	90°C RATED CURRENT (A)	RATED VOLTAGE (kV RMS)	SAP NUMBER
ETP-TE-IL2-A0	80	2 x 26.5	0	1,700	145	0401699
ETP-TE-IL2-B0	80	2 x 38.3	0	2,000	145	0401810
ETP-TE-IL2-E0	120	2 x 26.5	0	1,700	145	0206327
ETP-TE-IL2-F0	120	2 x 38.3	0	2,700	145	0206328
ETP-TE-IL2-G0	200	2 x 38.3	0	2,700	800	0588569
ETP-TE-IL2-G45	200	2 x 38.3	45	2,700	800	0588570
ETP-TE-IL2-H0	250	2 x 38.3	0	2,700	800	0588571
ETP-TE-IL2-H45	250	2 x 38.3	45	2,700	800	0588572

ITEM :- CLAMP, TUBE: ETP-TE-IL2; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP

STANDARD: UNIQUE IDENTIFIER :- 240-53113923

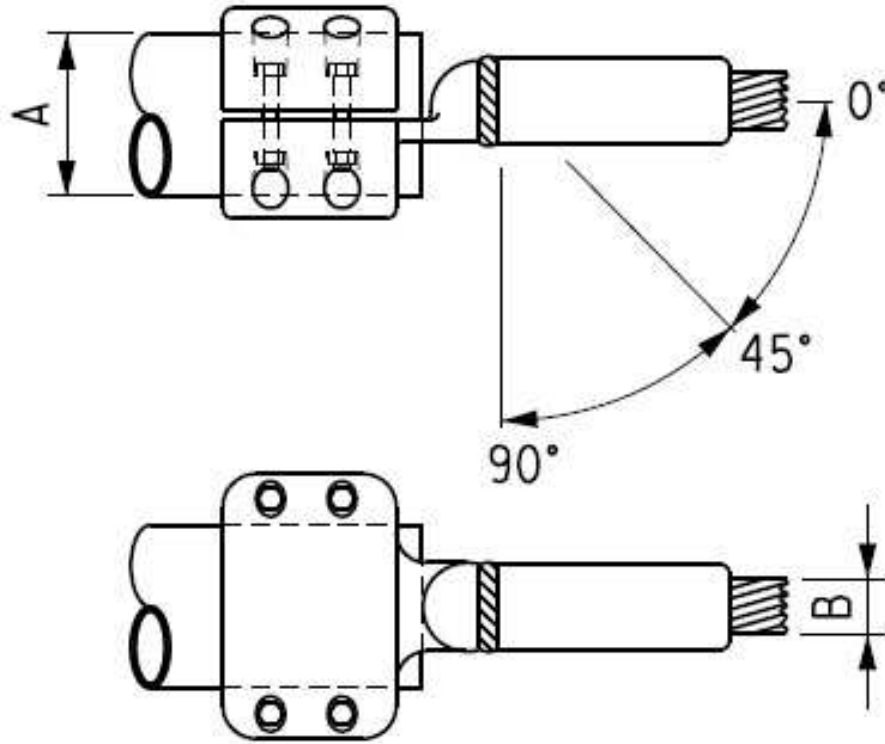
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFIER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED				P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015			
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.				VvZ	C.B.C.	C.CLARK	07/10/2005			
5	SAP 0005232 & 0005712 MOVED FROM D-DT-6091. SHT 5 ADDED.				VvZ	C.B.C.	C.CLARK	04/05/2005			
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE	 <b>D-DT-6090</b>				SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF:					SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No:					7	5	7
				6090							

## SPEC SHEET

SAP MATERIAL No.:		0401699								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL2-A0;80/2X26.5;0D								
TECH. DESCRIPTION:		<p>CLAMP, TUBE: TYPE: ETP-TE-IL2-A0; COMMERCIAL SIZE: 80/2X26.5;0D;                      MATERIAL: Al ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 2X26.5 MM;                      CLAMP CURRENT RATING: 1700 A; MAXIMUM OPERATING POTENTIAL: 145 KV;                      ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      ESKOM DRAWING No. D-DT-6090 *</p>								
SAP MATERIAL No.:		0401810								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL2-B0;80/2X38.3;0D								
TECH. DESCRIPTION:		<p>CLAMP, TUBE: TYPE: ETP-TE-IL2-B0; COMMERCIAL SIZE: 80/2X38.3;0D;                      MATERIAL: Al ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM;                      CLAMP CURRENT RATING: 2000 A; MAXIMUM OPERATING POTENTIAL: 145 KV;                      ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      ESKOM DRAWING No. D-DT-6090 *</p>								
SAP MATERIAL No.:		0206327								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL2-E0;120/2X26.5;0D								
TECH. DESCRIPTION:		<p>CLAMP, TUBE: TYPE: ETP-TE-IL2-E0; COMMERCIAL SIZE: 120/2X26.5;0D;                      MATERIAL: Al ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 120 MM; CONDUCTOR SIZE ACCOMMODATED: 2X26.5 MM;                      CLAMP CURRENT RATING: 1700 A; MAXIMUM OPERATING POTENTIAL: 145 KV;                      ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      ESKOM DRAWING No. D-DT-6090 *</p>								
SAP MATERIAL No.:		0206328								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL2-F0;120/2X38.3;0D								
TECH. DESCRIPTION:		<p>CLAMP, TUBE: TYPE: ETP-TE-IL2-F0; COMMERCIAL SIZE: 120/2X38.3;0D;                      MATERIAL: Al ALLOY&lt; 0.1% Cu;                      TUBE 1 DIAMETER ACCOMMODATED: 120 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM;                      CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: 145 KV;                      ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      ESKOM DRAWING No. D-DT-6090 *</p>								
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED				P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015		
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.				VvZ	C.B.C.	C.CLARK	07/10/2005		
5	SAP 0005232 & 0005712 MOVED FROM D-DT-6091. SHT 5 ADDED.				VvZ	C.B.C.	C.CLARK	04/05/2005		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE NTS			SAP No:			
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF: SERIES 6000			0401699	0206327		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6090			0401810	0206328	SET	SHEET
					D-DT-6090		7	6	7	

## SPEC SHEET

SAP MATERIAL No.:		0588569								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL2-G0;200/2X38.3;0D								
<p>TECH. DESCRIPTION:</p> <p>CLAMP, TUBE: TYPE: ETP-TE-IL2-G0; COMMERCIAL SIZE: 200/2X38.3;0D;  MATERIAL: Al ALLOY&lt; 0.1% Cu;  TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM;  CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: 800 KV;  ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;  OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;  ESKOM DRAWING No. D-DT-6090 *</p>										
SAP MATERIAL No.:		0588570								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL2-G45;200/2X38.3;45D								
<p>TECH. DESCRIPTION:</p> <p>CLAMP, TUBE: TYPE: ETP-TE-IL2-G45; COMMERCIAL SIZE: 200/2X38.3;45D;  MATERIAL: Al ALLOY&lt; 0.1% Cu;  TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM;  CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: 800 KV;  ANGLE: 45 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;  OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;  ESKOM DRAWING No. D-DT-6090 *</p>										
SAP MATERIAL No.:		0588571								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL2-H0;250/2X38.3;0D								
<p>TECH. DESCRIPTION:</p> <p>CLAMP, TUBE: TYPE: ETP-TE-IL2-H45; COMMERCIAL SIZE: 250/2X38.3;45D;  MATERIAL: Al ALLOY&lt; 0.1% Cu;  TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM;  CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: 800 KV;  ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;  OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;  ESKOM DRAWING No. D-DT-6090 *</p>										
SAP MATERIAL No.:		0588572								
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL2-H45;250/2X38.3;45D								
<p>TECH. DESCRIPTION:</p> <p>CLAMP, TUBE: TYPE: ETP-TE-IL2-H45; COMMERCIAL SIZE: 250/2X38.3;45D;  MATERIAL: Al ALLOY&lt; 0.1% Cu;  TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM;  CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: 800 KV;  ANGLE: 45 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;  OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;  ESKOM DRAWING No. D-DT-6090 *</p>										
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED				P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015		
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.				VvZ	C.B.C.	C.CLARK	07/10/2005		
5	SAP 0005232 & 0005712 MOVED FROM D-DT-6091. SHT 5 ADDED.				VvZ	C.B.C.	C.CLARK	04/05/2005		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE NTS	 <b>D-DT-6090</b>		SAP No:			
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF: SERIES 6000			0588569	0588571		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6090			0588570	0588572	SET	SHEET
					7	7	7			




NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	TUBE DIAMETER "A" (mm)	CONDUCTOR DIAMETER "B" (mm)	ANGLE OF OFFSET (DEGREES)	90°C RATED CURRENT (A)	RATED VOLTAGE (kV RMS)	SAP NUMBER
ETP-TE-IL1-A	80	1 x 26.5	0	850	145	0401695
ETP-TE-IL1-B	80	1 x 26.5	45	850	145	0403916
ETP-TE-IL1-D	80	1 x 38.3	0	1,350	145	0401302
ETP-TE-IL1-E	80	1 x 38.3	45	1,350	145	0179974
ETP-TE-IL1-N	120	1 x 26.5	0	850	145	0206325
ETP-TE-IL1-R	120	1 x 38.3	0	1,350	145	0206326
ETP-TE-IL1-U	200	1 x 38.3	0	1,350	300	0588565
ETP-TE-IL1-V	200	1 x 38.3	45	1,350	300	0588566
ETP-TE-IL1-X	250	1 x 38.3	0	1,350	300	0588567
ETP-TE-IL1-Y	250	1 x 38.3	45	1,350	300	0588568

ITEM :- CLAMP, TUBE: ETP-TE-IL1; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP

STANDARD: UNIQUE IDENTIFIER :- 240-53113923

8	CLAMP CODES & RATED VOLTAGES UPDATED TO NEW STANDARD REVISION		P.A.T.	C. THOMAS	T. MARAIS	20.02.2019		
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED; STANDARD UNIQUE IDENTIFIER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED		P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015		
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.		VvZ	C.B.C.	C.CLARK	07/10/2005		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	 <b>D-DT-6090</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97			SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			7	1	8
				SCALE				
				NTS				
				CAD REF:				
				SERIES 6000				
				FILE No:				
				6090				


## SPEC SHEET

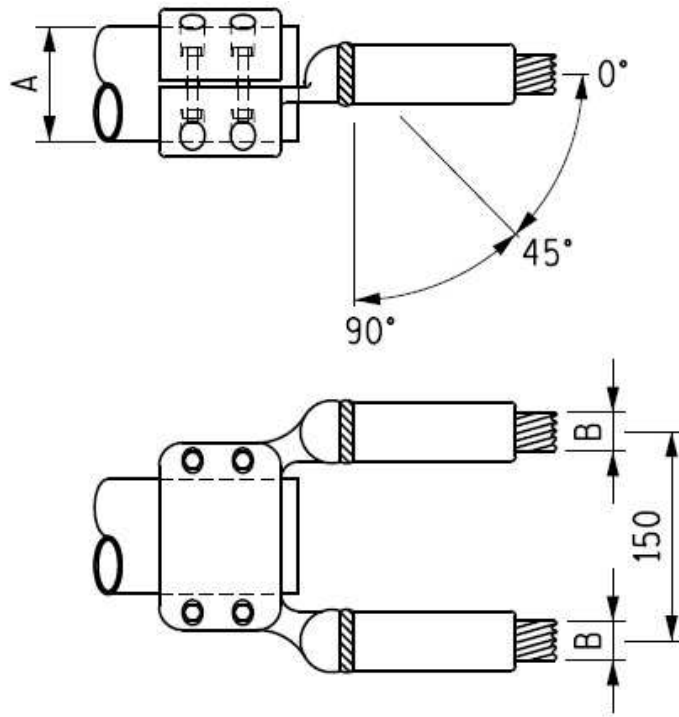
SAP MATERIAL No.:		0401695						
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-A;80/26.5;0D						
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-A; COMMERCIAL SIZE: 80/26.5;0D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; CLAMP CURRENT RATING: 850 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *								
SAP MATERIAL No.:		0403916						
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-B;80/26.5;45D						
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-B; COMMERCIAL SIZE: 80/26.5;45D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; CLAMP CURRENT RATING: 850 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 45 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *								
SAP MATERIAL No.:		0401302						
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-D;80/38.3;0D						
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-D; COMMERCIAL SIZE: 80/38.3;0D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *								
SAP MATERIAL No.:		0179974						
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-TE-IL1-E;80/38.3;45D						
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-E; COMMERCIAL SIZE: 80/38.3;45D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 45 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *								
8	CLAMP CODES & RATED VOLTAGES UPDATED TO NEW STANDARD REVISION		P.A.T.	C. THOMAS	T. MARAIS	20.02.2019		
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED		P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015		
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.		VvZ	C.B.C.	C.CLARK	07/10/2005		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	 <b>D-DT-6090</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97			0401695	0401302	
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			0403916	0179974	
			SCALE NTS			SET	SHEET	REV
			CAD REF: SERIES 6000			7	2	8
			FILE No: 6090					

## SPEC SHEET

SAP MATERIAL No.:	0206325								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL1-N;120/26.5;0D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-N; COMMERCIAL SIZE: 120/26.5;0D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; CLAMP CURRENT RATING: 850 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *									
SAP MATERIAL No.:	0206326								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL1-R;120/38.3;0D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-R; COMMERCIAL SIZE: 120/38.3;0D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *									
SAP MATERIAL No.:	0588565								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL1-U;200/38.3;0D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-U; COMMERCIAL SIZE: 200/38.3;0D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 300 KV; ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION ESKOM DRAWING No. D-DT-6090 *									
SAP MATERIAL No.:	0588566								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL1-V;200/38.3;45D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL1-V; COMMERCIAL SIZE: 200/38.3;45D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: 300 KV; ANGLE: 45 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *									
8	CLAMP CODES & RATED VOLTAGES UPDATED TO NEW STANDARD REVISION			P.A.T.	C. THOMAS	T. MARAIS	20.02.2019		
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED			P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015		
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.			VvZ	C.B.C.	C.CLARK	07/10/2005		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE		
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE	 <b>D-DT-6090</b>			SAP No:	
CHKD:	C.B. CLARK	DATE:	06/97	NTS				0206325	0588565
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:				0206326	0588566
				SERIES 6000	SET	SHEET	REV		
				FILE No:	7	3	8		
				6090					

## SPEC SHEET

SAP MATERIAL No.:	0588567							
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL1-X;250/38.3;0D							
TECH. DESCRIPTION:								
<p>CLAMP, TUBE: TYPE: ETP-TE-IL1-X; COMMERCIAL SIZE: 250/38.3;0D;            MATERIAL: Al ALLOY&lt; 0.1% Cu;            TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM;            CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: <b>300</b> KV;            ANGLE: 0 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;            OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            ESKOM DRAWING No. D-DT-6090 *</p>								
SAP MATERIAL No.:	0588568							
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL1-Y;250/38.3;45D							
TECH. DESCRIPTION:								
<p>CLAMP, TUBE: TYPE: ETP-TE-IL1-Y; COMMERCIAL SIZE: 250/38.3;45D;            MATERIAL: Al ALLOY&lt; 0.1% Cu;            TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 38.3 MM;            CLAMP CURRENT RATING: 1350 A; MAXIMUM OPERATING POTENTIAL: <b>300</b> KV;            ANGLE: 45 DEG; TUBE-END SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;            OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            ESKOM DRAWING No. D-DT-6090 *</p>								
8	CLAMP CODES & RATED VOLTAGES UPDATED TO NEW STANDARD REVISION			P.A.T.	C. THOMAS	T. MARAIS	20.02.2019	
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED			P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015	
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.			VvZ	C.B.C.	C.CLARK	07/10/2005	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE NTS		SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97	 <b>D-DT-6090</b>		0588567		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			0588568		
				CAD REF: SERIES 6000		SET	SHEET	REV
				FILE No: 6090		7	4	<b>8</b>



NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	TUBE DIAMETER "A" (mm)	CONDUCTOR DIAMETER "B" (mm)	ANGLE OF OFFSET (DEGREES)	90°C RATED CURRENT (A)	RATED VOLTAGE (kV RMS)	SAP NUMBER
ETP-TE-IL2-A	80	2 x 26.5	0	1,700	145	0401699
ETP-TE-IL2-D	80	2 x 38.3	0	2,000	145	0401810
ETP-TE-IL2-N	120	2 x 26.5	0	1,700	145	0206327
ETP-TE-IL2-R	120	2 x 38.3	0	2,700	145	0206328
ETP-TE-IL2-U	200	2 x 38.3	0	2,700	420	0588569
ETP-TE-IL2-V	200	2 x 38.3	45	2,700	420	0588570
ETP-TE-IL2-X	250	2 x 38.3	0	2,700	420	0588571
ETP-TE-IL2-Y	250	2 x 38.3	45	2,700	420	0588572

ITEM	:- CLAMP, TUBE: ETP-TE-IL2; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP					
STANDARD: UNIQUE IDENTIFIER	:- 240-53113923					
8	CLAMP CODES & RATED VOLTAGES UPDATED TO NEW STANDARD REVISION	P.A.T.	C. THOMAS	T. MARAIS	20.02.2019	
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFIER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED	P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015	
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.	VvZ	C.B.C.	C.CLARK	07/10/2005	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE	SAP No:	
CHKD:	C.B. CLARK	DATE:	06/97	NTS		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:		
				SERIES 6000		
				FILE No:	SET	SHEET
				6090	7	5
				<b>Eskom</b>		
				<b>D-DT-6090</b>	<b>8</b>	

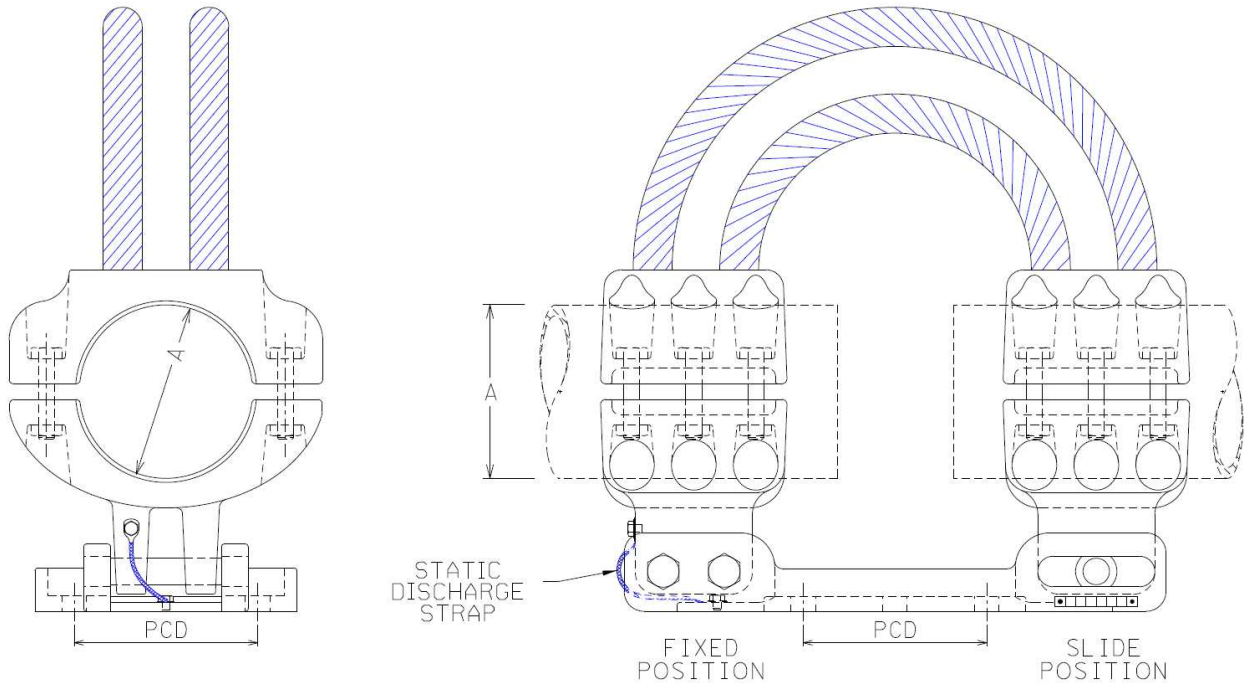


## SPEC SHEET

SAP MATERIAL No.:	0401699								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL2-A;80/2X26.5;0D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL2-A; COMMERCIAL SIZE: 80/2X26.5;0D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 2X26.5 MM; CLAMP CURRENT RATING: 1700 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *									
SAP MATERIAL No.:	0401810								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL2-D;80/2X38.3;0D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL2-D; COMMERCIAL SIZE: 80/2X38.3;0D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2000 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *									
SAP MATERIAL No.:	0206327								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL2-N;120/2X26.5;0D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL2-N; COMMERCIAL SIZE: 120/2X26.5;0D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; CONDUCTOR SIZE ACCOMMODATED: 2X26.5 MM; CLAMP CURRENT RATING: 1700 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *									
SAP MATERIAL No.:	0206328								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL2-R;120/2X38.3;0D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL2-R; COMMERCIAL SIZE: 120/2X38.3;0D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *									
8	CLAMP CODES & RATED VOLTAGES UPDATED TO NEW STANDARD REVISION			P.A.T.	C. THOMAS	T. MARAIS	20.02.2019		
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED			P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015		
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.			VvZ	C.B.C.	C.CLARK	07/10/2005		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE		
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE	 <b>D-DT-6090</b>			SAP No:	
CHKD:	C.B. CLARK	DATE:	06/97	NTS				0401699	0206327
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:				0401810	0206328
				SERIES 6000	SET	SHEET	REV		
				FILE No:	7	6	8		
				6090					


## SPEC SHEET

SAP MATERIAL No.:	0588569								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL2- <b>U</b> ;200/2X38.3;0D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL2- <b>U</b> ; COMMERCIAL SIZE: 200/2X38.3;0D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: <b>420</b> KV; ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *									
SAP MATERIAL No.:	0588570								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL2- <b>V</b> ;200/2X38.3;45D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL2- <b>V</b> ; COMMERCIAL SIZE: 200/2X38.3;45D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: <b>420</b> KV; ANGLE: 45 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *									
SAP MATERIAL No.:	0588571								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL2- <b>X</b> ;250/2X38.3;0D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL2- <b>X</b> ; COMMERCIAL SIZE: 250/2X38.3;45D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: <b>420</b> KV; ANGLE: 0 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *									
SAP MATERIAL No.:	0588572								
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-TE-IL2- <b>Y</b> ;250/2X38.3;45D								
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-TE-IL2- <b>Y</b> ; COMMERCIAL SIZE: 250/2X38.3;45D; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: <b>420</b> KV; ANGLE: 45 DEG; TUBE-END DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6090 *									
8	CLAMP CODES & RATED VOLTAGES UPDATED TO NEW STANDARD REVISION			P.A.T.	C. THOMAS	T. MARAIS	20.02.2019		
7	VARIOUS SAP, SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFER AND ADDITIONAL CLAMPS ADDED AND SAP 0401697 + 0179975 REMOVED			P.A.T + T. MARIAS	I. HILL	T. MARIAS	19.02.2015		
6	DRAWING UPDATED TO SHOW 2 PAIRS OF BOLTS INSTEAD OF THREE.			VvZ	C.B.C.	C.CLARK	07/10/2005		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE		
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE	 <b>D-DT-6090</b>			SAP No:	
CHKD:	C.B. CLARK	DATE:	06/97	NTS				0588569	0588571
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:				0588570	0588572
				SERIES 6000	SET	SHEET	REV		
				FILE No:	7	7	8		
				6090					



NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	TUBE DIAMETER "A" (mm)	PCD (mm)	90°C RATED CURRENT (A)	SAP NUMBER
EEC-PI-FS-A	80	76	2,000	0216148
EEC-PI-FS-B	80	127	2,000	0216149
EEC-PI-FS-E	120	76	3,150	0213945
EEC-PI-FS-F	120	127	3,150	0206329
EEC-PI-FS-P	200	127	4,000	0586250
EEC-PI-FS-Q	200	225	4,000	0586251
EEC-PI-FS-R	250	225	4,000	0586252

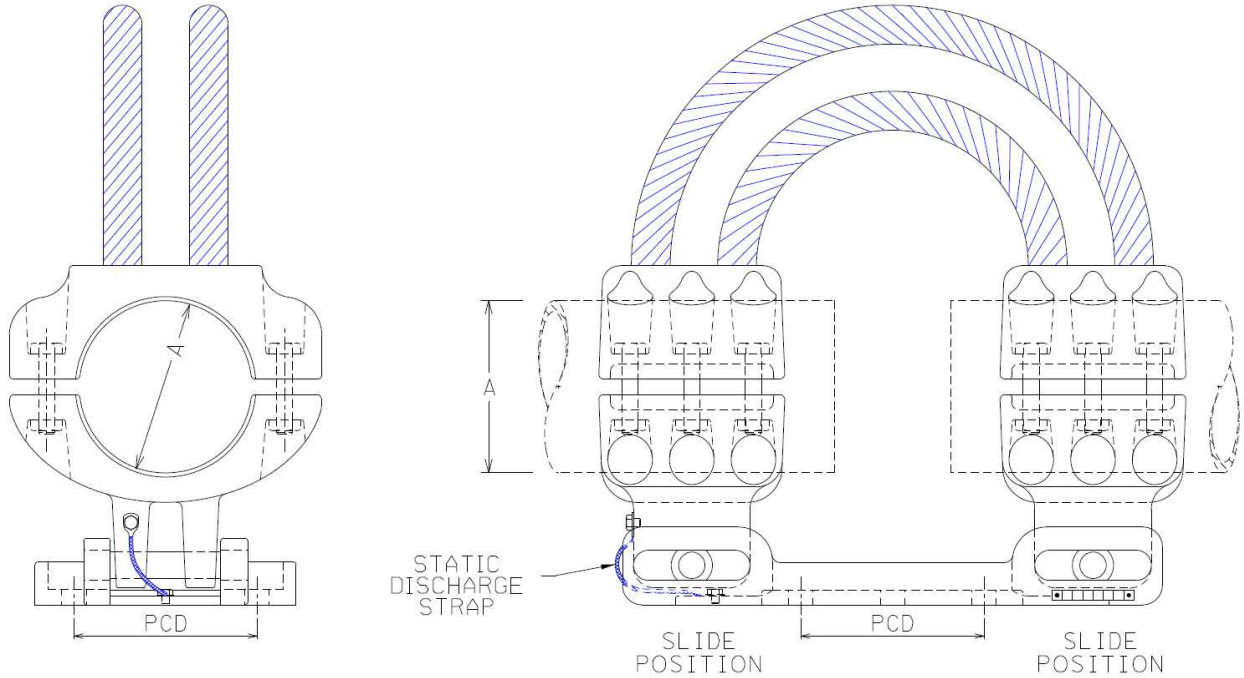
ITEM		:- CLAMP, TUBE: EEC-PI-FS; EXPANSION CLAMP, FIXED/SLIDE								
STANDARD		:- 240-53113923								
UNIQUE IDENTIFIER		:-								
7	ITEM TABLE ADDED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND ADDITIONAL TUBE CLAMPS ADDED				P.A.T.	I. HILL	T. MARAIS	05.08.2014		
6	TBFX /76/127/FS/SS CLAMPS ADDED.				VvZ	C.B.C.	C.CLARK	04/05/2005		
5	SHEET 3 ADDED. TBFX /76 CLAMPS ADDED.				VvZ	J.F.S.	C.CLARK	05/11/2004		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE	 <b>D-DT-6093</b>			SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97	NTS				SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:				5	1	7
				SERIES 6000						
				FILE No:						
				6093						

## SPEC SHEET

SAP MATERIAL No.:		0216148									
SHORT DESCRIPTION:		CLAMP,TUBE:EEC-PI-FS-A;80/76;FIX/SLD									
TECH. DESCRIPTION:											
<p>CLAMP, TUBE: TYPE: EEC-PI-FS-A; COMMERCIAL SIZE: 80/76;FIX/SLD;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM;  PITCH CIRCLE DIAMETER: 76 MM; CLAMP CURRENT RATING: 2000 A;  MAXIMUM OPERATING POTENTIAL: 145 KV;  STANDARD: UNIQUE IDENTIFIER 240-53113923;  FIXED/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP;  ESKOM DRAWING No. D-DT-6093 *</p>											
SAP MATERIAL No.:		0216149									
SHORT DESCRIPTION:		CLAMP,TUBE:EEC-PI-FS-B;80/127;FIX/SLD									
TECH. DESCRIPTION:											
<p>CLAMP, TUBE: TYPE: EEC-PI-FS-B; COMMERCIAL SIZE: 80/127;FIX/SLD;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM;  PITCH CIRCLE DIAMETER: 127 MM; CLAMP CURRENT RATING: 2000 A;  MAXIMUM OPERATING POTENTIAL: 145 KV;  STANDARD: UNIQUE IDENTIFIER 240-53113923;  FIXED/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP;  ESKOM DRAWING No. D-DT-6093 *</p>											
SAP MATERIAL No.:		0213945									
SHORT DESCRIPTION:		CLAMP,TUBE:EEC-PI-FS-E;120/76;FIX/SLD									
TECH. DESCRIPTION:											
<p>CLAMP, TUBE: TYPE: EEC-PI-FS-E; COMMERCIAL SIZE: 120/76;FIX/SLD;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM;  PITCH CIRCLE DIAMETER: 76 MM; CLAMP CURRENT RATING: 3150 A;  MAXIMUM OPERATING POTENTIAL: 145 KV;  STANDARD: UNIQUE IDENTIFIER 240-53113923;  FIXED/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP;  ESKOM DRAWING No. D-DT-6093 *</p>											
SAP MATERIAL No.:		0206329									
SHORT DESCRIPTION:		CLAMP,TUBE:EEC-PI-FS-F;120/127;FIX/SLD									
TECH. DESCRIPTION:											
<p>CLAMP, TUBE: TYPE: EEC-PI-FS-F; COMMERCIAL SIZE: 120/127;FIX/SLD;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM;  PITCH CIRCLE DIAMETER: 127 MM; CLAMP CURRENT RATING: 3150 A;  MAXIMUM OPERATING POTENTIAL: 145 KV;  STANDARD: UNIQUE IDENTIFIER 240-53113923;  FIXED/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP;  ESKOM DRAWING No. D-DT-6093 *</p>											
7	ITEM TABLE ADDED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND ADDITIONAL TUBE CLAMPS ADDED					P.A.T.	I. HILL	T. MARAIS	05.08.2014		
6	TBFX /76/127/FS/SS CLAMPS ADDED.					VvZ	C.B.C.	C.CLARK	04/05/2005		
5	SHEET 3 ADDED. TBFX /76 CLAMPS ADDED.					VvZ	J.F.S.	C.CLARK	05/11/2004		
REV	REVISION DESCRIPTION					BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE	 <b>D-DT-6093</b>					SAP No:	
CHKD:	C.B. CLARK	DATE:	06/97	NTS						0216148	0213945
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:						0216149	0206329
				SERIES 6000	SET	SHEET	REV				
				FILE No:	5	2	7				
				6093							

## SPEC SHEET

<b>SAP MATERIAL No.:</b>	0586250								
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:EEC-PI-FS-P;200/127;FIX/SLD								
<b>TECH. DESCRIPTION:</b>	<p>CLAMP, TUBE: TYPE: EEC-PI-FS-P; COMMERCIAL SIZE: 200/127;FIX/SLD;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM;  PITCH CIRCLE DIAMETER: 127 MM; CLAMP CURRENT RATING: 4000 A;  MAXIMUM OPERATING POTENTIAL: 800 KV;  STANDARD: UNIQUE IDENTIFIER 240-53113923;  FIXED/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP;  ESKOM DRAWING No. D-DT-6093 *</p>								
<b>SAP MATERIAL No.:</b>	0586251								
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:EEC-PI-FS-Q;200/225;FIX/SLD								
<b>TECH. DESCRIPTION:</b>	<p>CLAMP, TUBE: TYPE: EEC-PI-FS-Q; COMMERCIAL SIZE: 200/225;FIX/SLD;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM;  PITCH CIRCLE DIAMETER: 225 MM; CLAMP CURRENT RATING: 4000 A;  MAXIMUM OPERATING POTENTIAL: 800 KV;  STANDARD: UNIQUE IDENTIFIER 240-53113923;  FIXED/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP;  ESKOM DRAWING No. D-DT-6093 *</p>								
<b>SAP MATERIAL No.:</b>	0586252								
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:EEC-PI-FS-R;250/225;FIX/SLD								
<b>TECH. DESCRIPTION:</b>	<p>CLAMP, TUBE: TYPE: EEC-PI-FS-R; COMMERCIAL SIZE: 250/225;FIX/SLD;  MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM;  PITCH CIRCLE DIAMETER: 225 MM; CLAMP CURRENT RATING: 4000 A;  MAXIMUM OPERATING POTENTIAL: 800 KV;  STANDARD: UNIQUE IDENTIFIER 240-53113923;  FIXED/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP  ESKOM DRAWING No. D-DT-6093 *</p>								
7	ITEM TABLE ADDED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND ADDITIONAL TUBE CLAMPS ADDED			P.A.T.	I. HILL	T. MARAIS	05.08.2014		
6	TBFX /76/127/FS/SS CLAMPS ADDED.			VvZ	C.B.C.	C.CLARK	04/05/2005		
5	SHEET 3 ADDED. TBFX /76 CLAMPS ADDED.			VvZ	J.F.S.	C.CLARK	05/11/2004		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE	<b>Eskom</b>		SAP No:		
				NTS			0586250	0586252	
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF:	<b>D-DT-6093</b>		SET	SHEET	REV
				SERIES 6000			5	3	7
				FILE No:					
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	6093					




NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

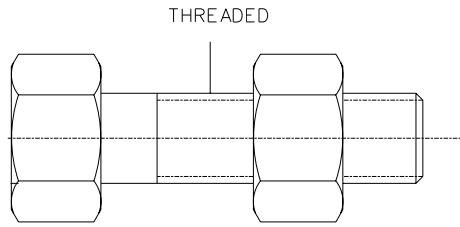
CODE	TUBE DIAMETER "A" (mm)	PCD (mm)	90°C RATED CURRENT (A)	SAP NUMBER
EEC-PI-SS-A	80	76	2,000	0401645
EEC-PI-SS-B	80	127	2,000	0401701
EEC-PI-SS-E	120	76	3,150	0216150
EEC-PI-SS-F	120	127	3,150	0216201
EEC-PI-SS-Q	200	225	4,000	0586314


ITEM		:- CLAMP, TUBE: EEC-PI-SS; EXPANSION CLAMP, SLIDE/SLIDE						
STANDARD		:- 240-53113923						
UNIQUE IDENTIFIER		:-						
7	ITEM TABLE ADDED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND ADDITIONAL TUBE CLAMPS ADDED	P.A.T.	I. HILL	T. MARAIS	05.08.2014			
6	TBFX /76/127/FS/SS CLAMPS ADDED.	VvZ	C.B.C.	C.CLARK	04/05/2005			
5	SHEET 3 ADDED. TBFX /76 CLAMPS ADDED.	VvZ	J.F.S.	C.CLARK	05/11/2004			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	06/97	 <b>D-DT-6093</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97			SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			5	4	7

**SPEC SHEET**

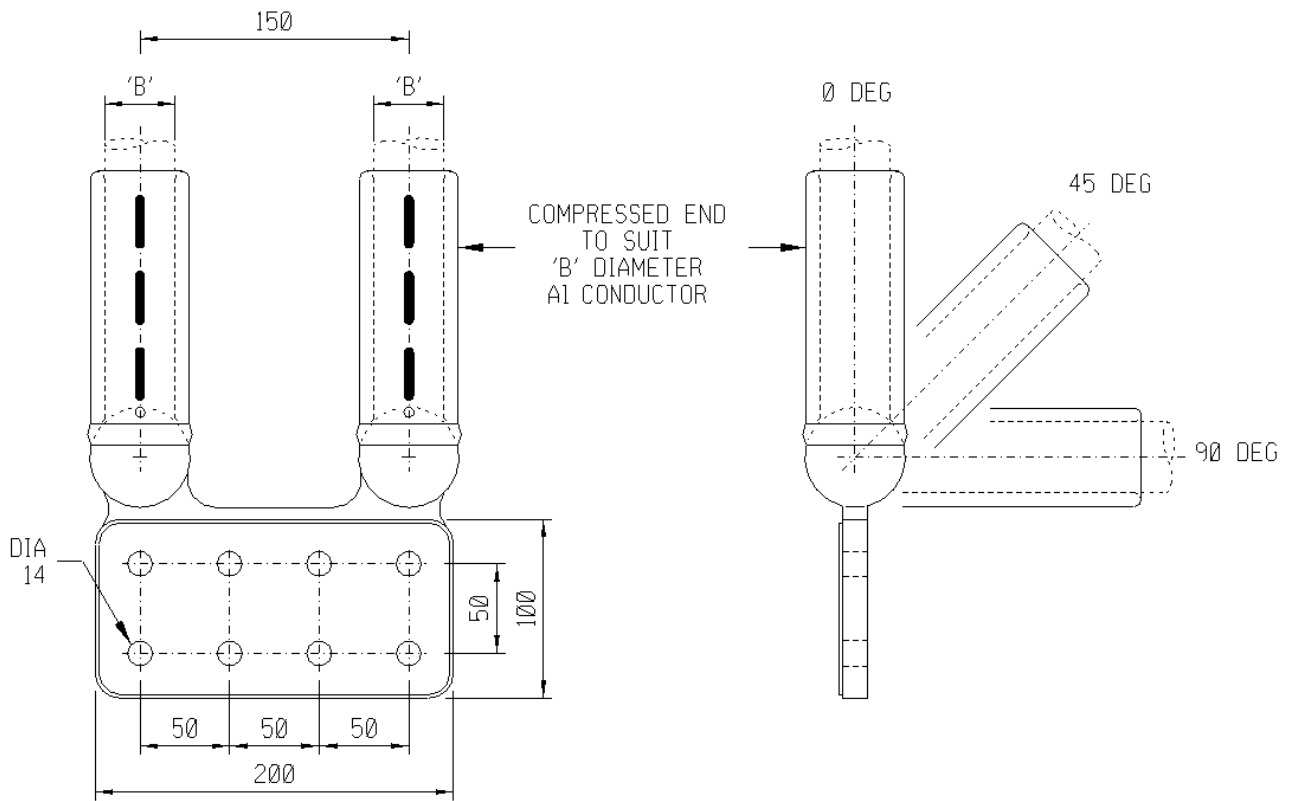
SAP MATERIAL No.:	0401645
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PI-SS-A;80/76;SLD/SLD
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: EEC-PI-SS-A; COMMERCIAL SIZE: 80/76;SLD/SLD; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; PITCH CIRCLE DIAMETER: 76 MM; CLAMP CURRENT RATING: 2000 A; MAXIMUM OPERATING POTENTIAL: 145 KV; STANDARD: UNIQUE IDENTIFIER 240-53113923; SLIDE/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP; ESKOM DRAWING No. D-DT-6093 *	
SAP MATERIAL No.:	0401701
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PI-SS-B;80/127;SLD/SLD
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: EEC-PI-SS-B; COMMERCIAL SIZE: 80/127;SLD/SLD; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; PITCH CIRCLE DIAMETER: 127 MM; CLAMP CURRENT RATING: 2000 A; MAXIMUM OPERATING POTENTIAL: 145 KV; STANDARD: UNIQUE IDENTIFIER 240-53113923; SLIDE/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP; ESKOM DRAWING No. D-DT-6093 *	
SAP MATERIAL No.:	0216150
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PI-SS-E;120/76;SLD/SLD
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: EEC-PI-SS-E; COMMERCIAL SIZE: 120/76;SLD/SLD; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; PITCH CIRCLE DIAMETER: 76 MM; CLAMP CURRENT RATING: 3150 A; MAXIMUM OPERATING POTENTIAL: 145 KV; STANDARD: UNIQUE IDENTIFIER 240-53113923; SLIDE/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP; ESKOM DRAWING No. D-DT-6093 *	
SAP MATERIAL No.:	0216201
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PI-SS-F;120/127;SLD/SLD
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: EEC-PI-SS-F; COMMERCIAL SIZE: 120/127;SLD/SLD; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; PITCH CIRCLE DIAMETER: 127 MM; CLAMP CURRENT RATING: 3150 A; MAXIMUM OPERATING POTENTIAL: 145 KV; STANDARD: UNIQUE IDENTIFIER 240-53113923; SLIDE/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP; ESKOM DRAWING No. D-DT-6093 *	
SAP MATERIAL No.:	0586314
SHORT DESCRIPTION:	CLAMP,TUBE:EEC-PI-SS-Q;200/225;SLD/SLD
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: EEC-PI-SS-Q; COMMERCIAL SIZE: 200/225;SLD/SLD; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; PITCH CIRCLE DIAMETER: 225 MM; CLAMP CURRENT RATING: 4000 A; MAXIMUM OPERATING POTENTIAL: 800 KV; STANDARD: UNIQUE IDENTIFIER 240-53113923; SLIDE/SLIDE POST INSULATOR MOUNTED EXPANSION CLAMP; ESKOM DRAWING No. D-DT-6093 *	

7	ITEM TABLE ADDED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND ADDITIONAL TUBE CLAMPS ADDED			P.A.T.	I. HILL	T. MARAIS	05.08.2014	
6	TBFX /76/127/FS/SS CLAMPS ADDED.			VvZ	C.B.C.	C.CLARK	04/05/2005	
5	SHEET 3 ADDED. TBFX /76 CLAMPS ADDED.			VvZ	J.F.S.	C.CLARK	05/11/2004	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE			SAP No:	
CHKD:	C.B. CLARK	DATE:	06/97	NTS			0401645	0216201
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	CAD REF:			0401701	0586314
				SERIES 6000	<b>D-DT-6093</b>		SET	SHEET
				FILE No:			5	5
				6093				7



SAP MATERIAL No.:	0083590								
SHORT DESCRIPTION:	BOLT, HX GALV M10x50mm W/HX NUT D6097								
TECH. DESCRIPTION:	<p>HEXAGON HEAD BOLT AND NUT * GRADE 4.8 BOLT * HOT DIPPED GALVANISED *          DIMENSIONS : M10 x 1.5-6g x 50mm LONG, SUPPLIED WITH ONE HEXAGON NUT RUN ONTO BOLT          COARSE THREAD FREE FIT *          ESKOM DRAWING No. D-DT-6097 *</p>								
SAP MATERIAL No.:	0163706								
SHORT DESCRIPTION:	BOLT, HX GALV M16x40mm W/HX NUT D6097								
TECH. DESCRIPTION:	<p>HEXAGON HEAD BOLT AND NUT * GRADE 4.8 BOLT * HOT DIPPED GALVANISED *          DIMENSIONS : M16 x 2.0-6g x 40mm LONG, SUPPLIED WITH ONE HEXAGON NUT RUN ONTO BOLT          COARSE THREAD FREE FIT *          ESKOM DRAWING No. D-DT-6097 *</p>								
SAP MATERIAL No.:	0163715								
SHORT DESCRIPTION:	BOLT, HX GALV M16x45mm W/HX NUT D6097								
TECH. DESCRIPTION:	<p>HEXAGON HEAD BOLT AND NUT * GRADE 4.8 BOLT * HOT DIPPED GALVANISED *          DIMENSIONS : M16 x 2.0-6g x 45mm LONG, SUPPLIED WITH ONE HEXAGON NUT RUN ONTO BOLT          COARSE THREAD FREE FIT *          ESKOM DRAWING No. D-DT-6097 *</p>								
SAP MATERIAL No.:	0163812								
SHORT DESCRIPTION:	BOLT, HX GALV M16x75mm W/HX NUT D6097								
TECH. DESCRIPTION:	<p>HEXAGON HEAD BOLT AND NUT * GRADE 4.8 BOLT * HOT DIPPED GALVANISED *          DIMENSIONS : M16 x 2.0-6g x 75mm LONG, SUPPLIED WITH ONE HEXAGON NUT RUN ONTO BOLT          COARSE THREAD FREE FIT *          ESKOM DRAWING No. D-DT-6097 *</p>								
ITEM	:- BOLT AND NUT D6097								
MATERIAL SPECIFICATION	:- SANS 1700-5-1:2003 / ISO 898-1								
CORROSION SPECIFICATION	:- SANS 121 / ISO 1461								
STANDARD SPECIFICATION	:-								
ESKOM SPECIFICATION	:- N/A								
TEST & CERTIFICATION REQUIREMENTS	:- N/A								
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No		
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS									
3	THREAD DIA. AND CORROSION AND STD. SPEC CORRECTED	P.A.V.	B. HILL	B. HILL	22/06/2007				
2	LOGO IN TITLE BLOCK CHANGED AS PER CORPORATE IDENTITY	VvZ	C.B.C.	C.CLARK	16/02/2004				
1	SFD, TECH DESC & SPECS UPDATED	VvZ	C.B.C.	A.BEKKER	11/2001				
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	10/97	 <b>D-DT-6097</b>		SAP No:			
CHKD:	C.B. CLARK	DATE:	10/97			0083590	0163812		
DRAWN:	J.F.SCHOLTZ	DATE:	09/97			0163706	(0163855 – obsolete)		
				SCALE			SET	SHEET	REV
				NTS			1	1	3
				CAD REF:					
				SERIES 6000					
				FILE No:					
				6097					





NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES


CODE	EQUIPMENT TERMINAL	DIA "B"	ANGLE OF OFFSET	SAP NUMBER
EYC-R	8 X DIA 14	38.3	0 DEG	0400426
EYC-S	50X50		45 DEG	0401802
EYC-T	CENTRES		90 DEG	0005705
EYC-X	8 X DIA 14	26.5	0 DEG	0224235
EYC-Y	50X50		45 DEG	0401807
EYC-Z	CENTRES		90 DEG	0401809

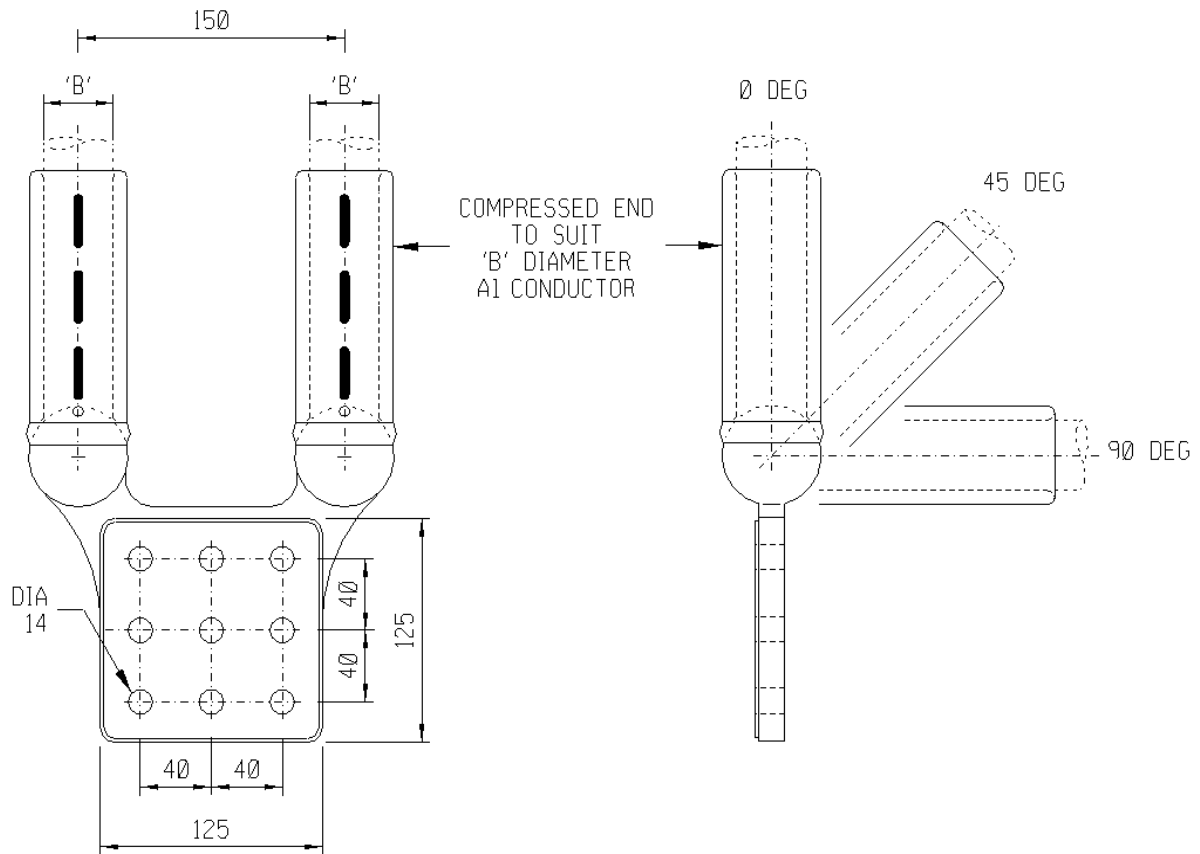
ITEM	:- CLAMP: EYC 2 X COMP 8 HOLE PALM 50X50 CENTRES									
MATERIAL SPECIFICATION	:- GRADE LM6 ALUMINIUM TO BS1490									
CORROSION SPECIFICATION	:- N/A									
STANDARD SPECIFICATION	:- N/A									
ESKOM SPECIFICATION	:- 474-218									
TEST & CERTIFICATION REQUIREMENTS	:- 474-218									
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No			
IDENTIFICATION:- INDELIBLE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS										
7	VARIOUS SAP NUMBERS CHANGED, TECH. DESCRIPTION CHANGED ACCORDING TO PILOG, PALM HOLES TO BE 14mm AND EYC-T,N,P,Q,U,V,W,Y,Z ADDED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013			
6	EYC2-G AND EYC2-H SHOULD READ EYC-R AND EYC-S, Y/COMP 2x26.5mm-PALM ODG EYC-X ADDED AND 0224235 REPOSITIONED FROM D-DT-6013			P.A.T.	T.NKAMBULE	V. SINGH	16.09.2011			
5	EYC-R AND EYC-S SHOULD READ EYC2-G AND EYC2-H			P.A.T.	T.NKAMBULE	V. SINGH	02.06.2011			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE			
AUTH:	PHIL CROWDY	DATE:	12/99	SCALE	 <b>D-DT-6109</b>			SAP No:		
CHKD:	C.B. CLARK	DATE:	12/99	NTS				SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	11/99	CAD REF: SERIES 6000				6	1	7
				FILE No: 6109						

## SPEC SHEET

SAP MATERIAL No.:	0400426							
SHORT DESCRIPTION:	CLAMP:EYC-R;COMP/PALM ODG;2X38.3 MM							
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM ODG; DIMENSIONS: 50MM X 50MM EIGHT HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X38.3 MM;            RATED CURRENT 2700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X8 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-R;            ESKOM DRAWING No. D-DT-6109 *</p>							
SAP MATERIAL No.:	0401802							
SHORT DESCRIPTION:	CLAMP:EYC-S;COMP/PALM 45DG;2X38.3 MM							
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 45DG; DIMENSIONS: 50MM X 50MM EIGHT HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X38.3 MM;            RATED CURRENT 2700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X8 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-S;            ESKOM DRAWING No. D-DT-6109 *</p>							
SAP MATERIAL No.:	0005705							
SHORT DESCRIPTION:	CLAMP:EYC-T;COMP/PALM 90DG;2X38.3 MM							
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 90DG; DIMENSIONS: 50MM X 50MM EIGHT HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X38.3 MM;            RATED CURRENT 2700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X8 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-T;            ESKOM DRAWING No. D-DT-6109 *</p>							
7	VARIOUS SAP NUMBERS CHANGED, TECH. DESCRIPTION CHANGED ACCORDING TO PILOG, PALM HOLES TO BE 14mm AND EYC-T,N,P,Q,U,V,W,Y,Z ADDED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013	
6	EYC2-G AND EYC2-H SHOULD READ EYC-R AND EYC-S, Y/COMP 2x26.5mm-PALM ODG EYC-X ADDED AND 0224235 REPOSITIONED FROM D-DT-6013			P.A.T.	T.NKAMBULE	V. SINGH	16.09.2011	
5	EYC-R AND EYC-S SHOULD READ EYC2-G AND EYC2-H			P.A.T.	T.NKAMBULE	V. SINGH	02.06.2011	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	PHIL CROWDY	DATE:	12/99			SAP No:		
CHKD:	C.B. CLARK	DATE:	12/99			0400426	0005705	
DRAWN:	J.F.SCHOLTZ	DATE:	11/99			0401802	SET	SHEET
				SCALE NTS		D-DT-6109		
				CAD REF: SERIES 6000		6	2	7
				FILE No: 6109				

## SPEC SHEET

SAP MATERIAL No.:	0224235								
SHORT DESCRIPTION:	CLAMP:EYC-X;COMP/PALM ODG;2X26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM ODG; DIMENSIONS: 50MM X 50MM EIGHT HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X26.5 MM;            RATED CURRENT 1700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X8 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-X;            ESKOM DRAWING No. D-DT-6109 *</p>								
SAP MATERIAL No.:	0401807								
SHORT DESCRIPTION:	CLAMP:EYC-Y;COMP/PALM 45DG;2X26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 45DG; DIMENSIONS: 50MM X 50MM EIGHT HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X26.5 MM;            RATED CURRENT 1700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X8 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-Y;            ESKOM DRAWING No. D-DT-6109 *</p>								
SAP MATERIAL No.:	0401809								
SHORT DESCRIPTION:	CLAMP:EYC-Z;COMP/PALM 90DG;2X26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 90DG; DIMENSIONS: 50MM X 50MM EIGHT HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X26.5 MM;            RATED CURRENT 1700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X8 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-Z;            ESKOM DRAWING No. D-DT-6109 *</p>								
7	VARIOUS SAP NUMBERS CHANGED, TECH. DESCRIPTION CHANGED ACCORDING TO PILOG, PALM HOLES TO BE 14mm AND EYC-T,N,P,Q,U,V,W,Y,Z ADDED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013		
6	EYC2-G AND EYC2-H SHOULD READ EYC-R AND EYC-S, Y/COMP 2x26.5mm-PALM ODG EYC-X ADDED AND 0224235 REPOSITIONED FROM D-DT-6013			P.A.T.	T.NKAMBULE	V. SINGH	16.09.2011		
5	EYC-R AND EYC-S SHOULD READ EYC2-G AND EYC2-H			P.A.T.	T.NKAMBULE	V. SINGH	02.06.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/99	SCALE	 <b>D-DT-6109</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/99	NTS			0224235	0401809	
DRAWN:	J.F.SCHOLTZ	DATE:	11/99	CAD REF:			SET	SHEET	REV
				SERIES 6000					
				FILE No:					
				6109			6	3	7



NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES


CODE	EQUIPMENT TERMINAL	DIA "B"	ANGLE OF OFFSET	SAP NUMBER
EYC-N	9 X DIA 14	38.3	0 DEG	0401799
EYC-P	40X40		45 DEG	0401801
EYC-Q	CENTRES		90 DEG	0005241
EYC-U	9 X DIA 14	26.5	0 DEG	0401805
EYC-V	40X40		45 DEG	0005707
EYC-W	CENTRES		90 DEG	0005708

ITEM		:- CLAMP: EYC 2 X COMP 9 HOLE PALM 40X40 CENTRES					
MATERIAL SPECIFICATION		:- GRADE LM6 ALUMINIUM TO BS1490					
CORROSION SPECIFICATION		:- N/A					
STANDARD SPECIFICATION		:- N/A					
ESKOM SPECIFICATION		:- 474-218					
TEST & CERTIFICATION REQUIREMENTS		:- 474-218					
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No
IDENTIFICATION:- INDELIBILE MANUFACTURERS TRADEMARK & PART No. ON ALL ITEMS							
7	VARIOUS SAP NUMBERS CHANGED, TECH. DESCRIPTION CHANGED ACCORDING TO PILOG, PALM HOLES TO BE 14mm AND EYC-T,N,P,Q,U,V,W,Y,Z ADDED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013
6	EYC2-G AND EYC2-H SHOULD READ EYC-R AND EYC-S, Y/COMP 2x26.5mm-PALM ODG EYC-X ADDED AND 0224235 REPOSITIONED FROM D-DT-6013			P.A.T.	T.NKAMBULE	V. SINGH	16.09.2011
5	EYC-R AND EYC-S SHOULD READ EYC2-G AND EYC2-H			P.A.T.	T.NKAMBULE	V. SINGH	02.06.2011
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE
AUTH:	PHIL CROWDY	DATE:	12/99	SCALE		SAP No:	
CHKD:	C.B. CLARK	DATE:	12/99	NTS			
DRAWN:	J.F.SCHOLTZ	DATE:	11/99	CAD REF:		SET	
				SERIES 6000		SHEET	
				FILE No:		REV	
				6109		6	
				Eskom		4	
				D-DT-6109		7	


## SPEC SHEET

SAP MATERIAL No.:	0401799										
SHORT DESCRIPTION:	CLAMP:EYC-N;COMP/PALM ODG;2X38.3 MM										
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM ODG; DIMENSIONS: 40MM X 40MM NINE HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X38.3 MM;            RATED CURRENT 2700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X9 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-N;            ESKOM DRAWING No. D-DT-6109 *</p>										
SAP MATERIAL No.:	0401801										
SHORT DESCRIPTION:	CLAMP:EYC-P;COMP/PALM 45DG;2X38.3 MM										
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 45DG; DIMENSIONS: 40MM X 40MM NINE HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X38.3 MM;            RATED CURRENT 2700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X9 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-P;            ESKOM DRAWING No. D-DT-6109 *</p>										
SAP MATERIAL No.:	0005241										
SHORT DESCRIPTION:	CLAMP:EYC-Q;COMP/PALM 90DG;2X38.3 MM										
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 90DG; DIMENSIONS: 40MM X 40MM NINE HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X38.3 MM;            RATED CURRENT 2700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X9 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-Q;            ESKOM DRAWING No. D-DT-6109 *</p>										
7	VARIOUS SAP NUMBERS CHANGED, TECH. DESCRIPTION CHANGED ACCORDING TO PILOG, PALM HOLES TO BE 14mm AND EYC-T,N,P,Q,U,V,W,Y,Z ADDED				P.A.T.	M. NABBIE	T.MARAIS	22.07.2013			
6	EYC2-G AND EYC2-H SHOULD READ EYC-R AND EYC-S, Y/COMP 2x26.5mm-PALM 0DG EYC-X ADDED AND 0224235 REPOSITIONED FROM D-DT-6013				P.A.T.	T.NKAMBULE	V. SINGH	16.09.2011			
5	EYC-R AND EYC-S SHOULD READ EYC2-G AND EYC2-H				P.A.T.	T.NKAMBULE	V. SINGH	02.06.2011			
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	PHIL CROWDY	DATE:	12/99	SCALE	 <b>D-DT-6109</b>			SAP No:			
CHKD:	C.B. CLARK	DATE:	12/99	NTS				0401799	0005241		
				CAD REF:				0401801			
				SERIES 6000				SET	SHEET	REV	
DRAWN:	J.F.SCHOLTZ	DATE:	11/99	FILE No:	6	5	7				
				6109							

## SPEC SHEET

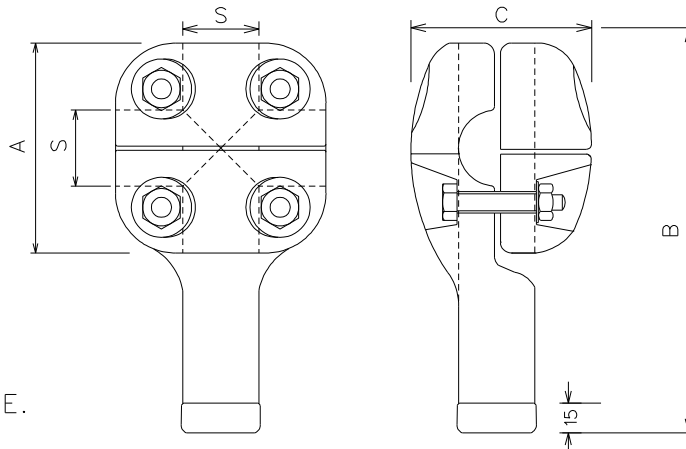
SAP MATERIAL No.:	0401805								
SHORT DESCRIPTION:	CLAMP:EYC-U;COMP/PALM ODG;2X26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM ODG; DIMENSIONS: 40MM X 40MM NINE HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X26.5 MM;            RATED CURRENT 1700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X9 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-U;            ESKOM DRAWING No. D-DT-6109 *</p>								
SAP MATERIAL No.:	0005707								
SHORT DESCRIPTION:	CLAMP:EYC-V;COMP/PALM 45DG;2X26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 45DG; DIMENSIONS: 40MM X 40MM NINE HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X26.5 MM;            RATED CURRENT 1700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X9 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-V;            ESKOM DRAWING No. D-DT-6109 *</p>								
SAP MATERIAL No.:	0005708								
SHORT DESCRIPTION:	CLAMP:EYC-W;COMP/PALM 90DG;2X26.5 MM								
TECH. DESCRIPTION:	<p>CLAMP: TYPE: COMP/PALM 90DG; DIMENSIONS: 40MM X 40MM NINE HOLE PALM;            MATERIAL: AL BS1490 GR LM6 CAST;            CONDUCTOR SIZE: 2X26.5 MM;            RATED CURRENT 1700 AMP;            CONDUCTOR CENTRE TO CENTRE SPACING: 150MM;            PALM DRILLED WITH X9 14MM HOLES;            NOTE : OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;            REFERENCE NO: EYC-W;            ESKOM DRAWING No. D-DT-6109 *</p>								
7	VARIOUS SAP NUMBERS CHANGED, TECH. DESCRIPTION CHANGED ACCORDING TO PILOG, PALM HOLES TO BE 14mm AND EYC-T,N,P,Q,U,V,W,Y,Z ADDED			P.A.T.	M. NABBIE	T.MARAIS	22.07.2013		
6	EYC2-G AND EYC2-H SHOULD READ EYC-R AND EYC-S, Y/COMP 2x26.5mm-PALM ODG EYC-X ADDED AND 0224235 REPOSITIONED FROM D-DT-6013			P.A.T.	T.NKAMBULE	V. SINGH	16.09.2011		
5	EYC-R AND EYC-S SHOULD READ EYC2-G AND EYC2-H			P.A.T.	T.NKAMBULE	V. SINGH	02.06.2011		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	12/99	SCALE	 <b>D-DT-6109</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	12/99	NTS			0401805	0005707	0005708
DRAWN:	J.F.SCHOLTZ	DATE:	11/99	CAD REF:			SET	SHEET	REV
				SERIES 6000					
				FILE No:					
				6109			6	6	7

## SEE D-DT-5022

SAP MATERIAL No.:	0186192							
SHORT DESCRIPTION:	SIGN, GA20 - INFORMATIVE - EMER SHWR D6113							
TECH. DESCRIPTION:								
SIGN GA20 * INFORMATIVE - EMERGENCY SHOWER *								
MATERIAL : WHITE ABS PLASTIC 0.9mm THICK *								
DIMENSIONS : 190mm x 190mm WITH 4 x 5mm DIA. HOLES								
SPACED 15mm FROM SIDES *								
COLOURS : GREEN *								
ESKOM DRAWING No. D-DT-6113 *								
SAP MATERIAL No.:	0186193							
SHORT DESCRIPTION:	SIGN, GA19 - INFORMATIVE - EYEWASH D6113							
TECH. DESCRIPTION:								
SIGN GA19 - INFORMATIVE - EYEWASH *								
MATERIAL : WHITE ABS PLASTIC 0.9mm THICK *								
DIMENSIONS : 190mm x 190mm WITH 4 x 5mm DIA. HOLES								
SPACED 15mm FROM SIDES *								
COLOURS : GREEN *								
ESKOM DRAWING No. D-DT-6113 *								
SAP MATERIAL No.:	0186194							
SHORT DESCRIPTION:	SIGN, PV5 - DRINKING WATER PROHIB D6113							
TECH. DESCRIPTION:								
SIGN PV5 * DRINKING WATER PROHIBITIVE *								
MATERIAL : WHITE ABS PLASTIC 0.9mm THICK *								
DIMENSIONS : 190mm x 190mm WITH 4 x 5mm DIA. HOLES								
SPACED 15mm FROM SIDES *								
COLOURS : RED & BLACK *								
ESKOM DRAWING No. D-DT-6113 *								
ITEM	:- INFORMATIVE & EMERGENCY SIGNS D6113							
MATERIAL SPECIFICATION	:- WHITE ABS PLASTIC							
CORROSION SPECIFICATION	:- N/A							
STANDARD SPECIFICATION	:- N/A							
ESKOM SPECIFICATION	:- SCSSCABE9							
TEST & CERTIFICATION REQUIREMENTS	:- N/A							
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
1	LOGO IN TITLE BLOCK CHANGED AS PER CORPORATE IDENTITY.			VvZ	C.B.C.	C.CLARK	16/02/2004	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	A.BEKKER	DATE:	11/01	SCALE NTS		SAP No:		
CHKD:	C.CLARK	DATE:	11/01	CAD REF:		0186192		
DRAWN:	V. van ZWEEL	DATE:	08/2001	SERIES 6000		0186193		
				FILE No:		0186194		
						SET	SHEET	REV
				<b>D-DT-6113</b>		1	1	1

**DIMENSIONS**

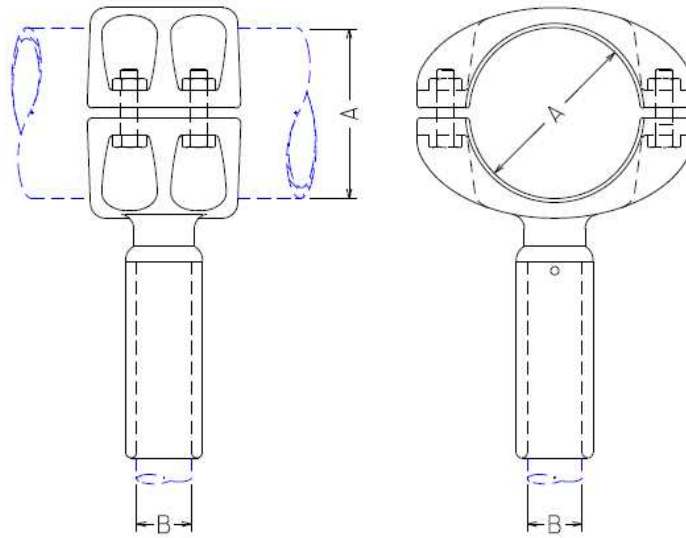
- S = 16/26/38mm
- A = 90/95/105mm
- B = 180/185/195mm
- C = 82mm



NOTE :  
DRAWING NOT FOR  
MANUFACTURING PURPOSE.

SAP MATERIAL No.:	<b>0401653</b>							
SHORT DESCRIPTION:	CLAMP, PEG AL CENT 26.5mm EPC-26 D6115							
TECH. DESCRIPTION:								
BOLTED EARTH PEG CLAMP * TYPE EPC26 *								
CONDUCTOR SIZE ; RUN :- 26.5mm / TAP :- DIA 26mm PEG *								
ESKOM DRAWING No. D-DT-6115 *								
SAP MATERIAL No.:	<b>0401655</b>							
SHORT DESCRIPTION:	CLAMP, PEG AL BULL 38.3mm EPC-38 D6115							
TECH. DESCRIPTION:								
BOLTED EARTH PEG CLAMP * TYPE EPC38 *								
CONDUCTOR SIZE ; RUN :- 38.3mm / TAP :- DIA 26mm PEG *								
ESKOM DRAWING No. D-DT-6115 *								
SAP MATERIAL No.:	0194285							
SHORT DESCRIPTION:	CLAMP, PEG AL HORN 16.3mm EPC-14-40 D6115							
TECH. DESCRIPTION:								
BOLTED EARTH PEG CLAMP * TYPE EPC14-40 *								
CONDUCTOR SIZE ; RUN :- 16.3mm / TAP :- DIA 26mm PEG *								
ESKOM DRAWING No. D-DT-6115 *								
ITEM	:- CLAMP, PEG AL EPC-14-40,26&38 D6115							
MATERIAL SPECIFICATION	:- GRADE LM6 ALUMINIUM TO BS1490							
CORROSION SPECIFICATION	:- N/A							
STANDARD SPECIFICATION	:- N/A							
ESKOM SPECIFICATION	:- ESKSCAAS1							
TEST & CERTIFICATION REQUIREMENTS :- ESKSCAAS1								
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
2	SAP 0005175, 0005176 CORRECTED			P.A.T.	D.RAMJASS	D.RAMJASS	25.01.2017	
1	LOGO IN TITLE BLOCK CHANGED AS PER CORPORATE IDENTITY.			VvZ	C.B.C.	C.CLARK	16/02/2004	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	C.CLARK	DATE:	12/08/02	SCALE		SAP No:		
				NTS		0401653		
CHKD:		DATE:		CAD REF:		0194285		
				SERIES 6000		SET SHEET REV		
DRAWN:	V. van ZWEEL	DATE:	22/04/02	FILE No:		1 1 2		
				6115				






**NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES**

CODE	TUBE DIAMETER "A" (mm)	CONDUCTOR DIAMETER "B" (mm)	90°C RATED CURRENT (A)	RATED VOLTAGE (kV RMS)	SAP NUMBER
ETP-IL1-B	80	1 x 26.5	900	145	0216112
ETP-IL1-C	80	1 x 38.3	1,350	145	0216111
ETP-IL1-H	120	1 x 26.5	900	145	0216098
ETP-IL1-J	120	1 x 38.3	1,350	145	0216097
ETP-IL1-M	200	1 x 26.5	1,350	145	0588459
ETP-IL1-N	250	1 x 38.3	1,350	145	0588460

ITEM :- CLAMP, TUBE: ETP-IL1; SINGLE CONDUCTOR INLINE TAP-OFF CLAMP

STANDARD:  
UNIQUE IDENTIFIER :- 240-53113923

4	SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFIER CHANGED AND ADDITIONAL CLAMPS ADDED AND SAP 0206350, 0216100, 0216115, 0216116 REMOVED			P.A.T.	I. HILL	T. MARIAS	05.09.2014	
3	SHORT DESCRIPTIONS CORRECTED			N.M.	M. SHUTER	M. SHUTER	14.04.2009	
2	CRIMP NO. REMOVED AND CORRECTED TAP. NOTE ADDED TO TECH. DESC.			VvZ	C.B.C.	C.CLARK	07/10/2005	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	J.F. SCHOLTZ	DATE:	19/09/2003	SCALE NTS		SAP No:		
CHKD:	J.F. SCHOLTZ	DATE:	19/09/2003	CAD REF: SERIES 6000		 <b>D-DT-6119</b>		
DRAWN:	V. van ZWEEL	DATE:	03/03	FILE No: 6119				
						8	1	4

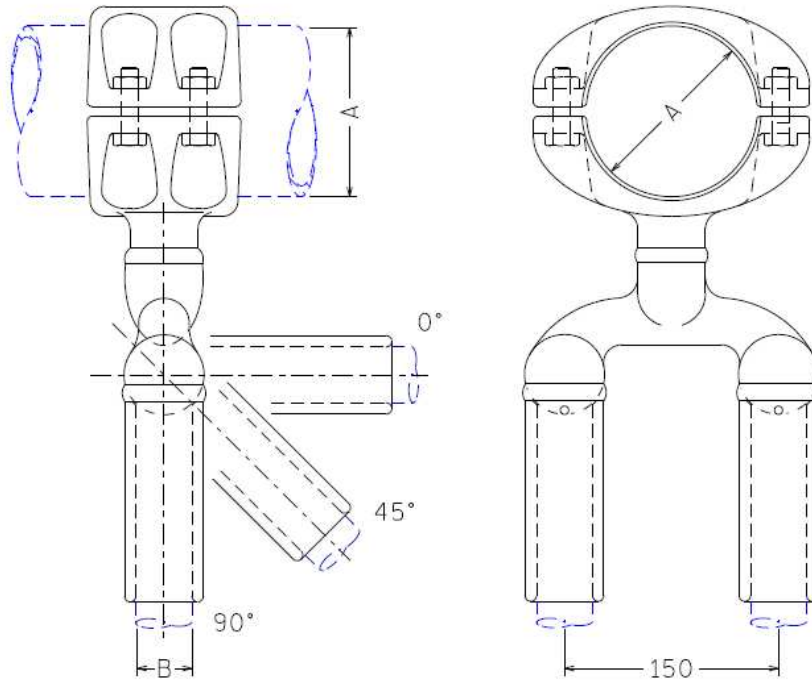
## SPEC SHEET

SAP MATERIAL No.:	0216112						
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-IL1-B;80/26.5;SINGLE						
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ETP-IL1-B; COMMERCIAL SIZE: 80/26.5;SINGLE;                      MATERIAL: AI ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM;                      CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; CLAMP CURRENT RATING: 900 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV; SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND                      SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL                      CONTAMINATION;                      ESKOM DRAWING No. D-DT-6119 *</p>						
SAP MATERIAL No.:	0216111						
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-IL1-C;80/38.3;SINGLE						
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ETP-IL1-C; COMMERCIAL SIZE: 80/38.3;SINGLE;                      MATERIAL: AI ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM;                      CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; CLAMP CURRENT RATING: 1350 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV; SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND                      SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL                      CONTAMINATION;                      ESKOM DRAWING No. D-DT-6119 *</p>						
SAP MATERIAL No.:	0216098						
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-IL1-H;120/26.5;SINGLE						
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ETP-IL1-H; COMMERCIAL SIZE: 120/26.5;SINGLE;                      MATERIAL: AI ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM;                      CONDUCTOR SIZE ACCOMMODATED: 26.5 MM; CLAMP CURRENT RATING: 900 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV; SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND                      SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL                      CONTAMINATION;                      ESKOM DRAWING No. D-DT-6119 *</p>						
SAP MATERIAL No.:	0206097						
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-IL1-J;120/38.3;SINGLE						
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ETP-IL1-J; COMMERCIAL SIZE: 120/38.3;SINGLE;                      MATERIAL: AI ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM;                      CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; CLAMP CURRENT RATING: 1350 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV; SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND                      SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL                      CONTAMINATION;                      ESKOM DRAWING No. D-DT-6119 *</p>						
4	SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFIER CHANGED AND ADDITIONAL CLAMPS ADDED AND SAP 0206350, 0216100, 0216115, 0216116 REMOVED			P.A.T.			
3	SHORT DESCRIPTIONS CORRECTED			N.M.	M. SHUTER	14.04.2009	
2	CRIMP NO. REMOVED AND CORRECTED TAP. NOTE ADDED TO TECH. DESC.			VvZ	C.B.C.	07/10/2005	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	
AUTH:	J.F. SCHOLTZ	DATE:	19/09/2003	SCALE		SAP No:	
CHKD:	J.F. SCHOLTZ	DATE:	19/09/2003	NTS		0216112    0216098	
DRAWN:	V. van ZWEEL	DATE:	03/03	CAD REF:		0216111    0216097	
				SERIES 6000		SET	SHEET
				FILE No:		8	2
				6119		4	



## SPEC SHEET

<b>SAP MATERIAL No.:</b>	0588459							
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:ETP-IL1-M;200/38.3;SINGLE							
<b>TECH. DESCRIPTION:</b>	<p>CLAMP, TUBE: TYPE: ETP-IL1-M; COMMERCIAL SIZE: 200/38.3;SINGLE;            MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM;            CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; CLAMP CURRENT RATING: 1350 A;            MAXIMUM OPERATING POTENTIAL: 145 KV; SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;            OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND            SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL            CONTAMINATION;            ESKOM DRAWING No. D-DT-6119 *</p>							
<b>SAP MATERIAL No.:</b>	0588460							
<b>SHORT DESCRIPTION:</b>	CLAMP,TUBE:ETP-IL1-N;250/38.3;SINGLE							
<b>TECH. DESCRIPTION:</b>	<p>CLAMP, TUBE: TYPE: ETP-IL1-N; COMMERCIAL SIZE: 250/38.3;SINGLE;            MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM;            CONDUCTOR SIZE ACCOMMODATED: 38.3 MM; CLAMP CURRENT RATING: 1350 A;            MAXIMUM OPERATING POTENTIAL: 145 KV; SINGLE CONDUCTOR INLINE TAP-OFF CLAMP;            OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND            SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL            CONTAMINATION;            ESKOM DRAWING No. D-DT-6119 *</p>							
4	SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFIER CHANGED AND ADDITIONAL CLAMPS ADDED AND SAP 0206350, 0216100, 0216115, 0216116 REMOVED		P.A.T.					
3	SHORT DESCRIPTIONS CORRECTED		N.M.	M. SHUTE R	M. SHUTER	14.04.2009		
2	CRIMP NO. REMOVED AND CORRECTED TAP. NOTE ADDED TO TECH. DESC.		VvZ	C.B.C.	C.CLARK	07/10/2005		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE		
AUTH:	J.F. SCHOLTZ	DATE:	19/09/2003			SAP No:		
CHKD:	J.F. SCHOLTZ	DATE:	19/09/2003			0588459	0588460	
DRAWN:	V. van ZWEEL	DATE:	03/03	<b>D-DT-6119</b>		SET	SHEET	REV
			SCALE NTS CAD REF: SERIES 6000 FILE No: 6119			8	3	4



**NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES**

CODE	TUBE DIAMETER "A" (mm)	CONDUCTOR DIAMETER "B" (mm)	ANGLE OF OFFSET (DEGREES)	90°C RATED CURRENT (A)	RATED VOLTAGE (kV RMS)	SAP NUMBER
ETP-IL2-C	80	2 x 26.5	90	1,700	145	0216114
ETP-IL2-F	80	2 x 38.3	90	2,000	145	0216113
ETP-IL2-Q	120	2 x 26.5	90	1,700	145	0206351
ETP-IL2-T	120	2 x 38.3	90	2,700	145	0216099
ETP-IL2-AB	200	2 x 38.3	45	2,700	420	0588461
ETP-IL2-AC	200	2 x 38.3	90	2,700	420	0588462
ETP-IL2-AE	250	2 x 38.3	45	2,700	420	0588463
ETP-IL2-AF	250	2 x 38.3	90	2,700	420	0588464

ITEM :- **CLAMP, TUBE: ETP-IL2; DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP**

STANDARD: **UNIQUE IDENTIFIER** :- **240-53113923**

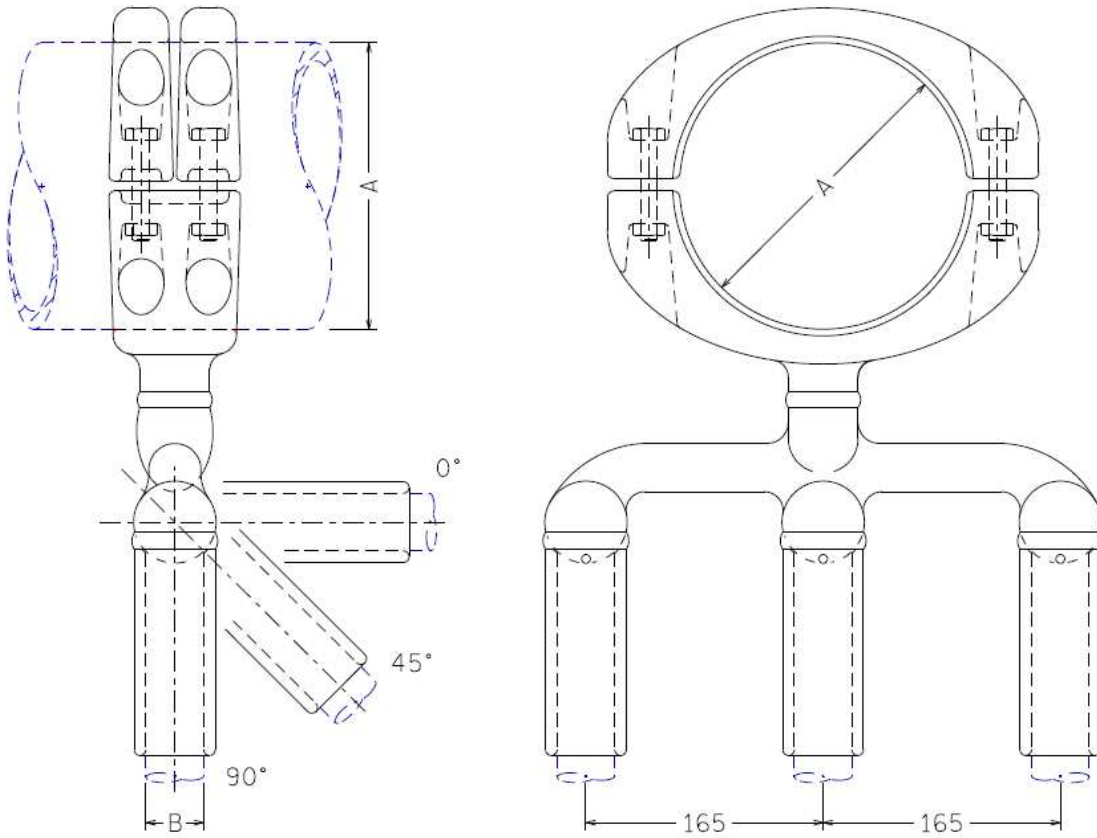
4	SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFIER CHANGED AND ADDITIONAL CLAMPS ADDED AND SAP 0206350, 0216100, 0216115, 0216116 REMOVED					P.A.T.				
3	SHORT DESCRIPTIONS CORRECTED					N.M.	M. SHUTER	M. SHUTER	14.04.2009	
2	CRIMP NO. REMOVED AND CORRECTED TAP. NOTE ADDED TO TECH. DESC.					VvZ	C.B.C.	C.CLARK	07/10/2005	
REV	REVISION DESCRIPTION					BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	J.F. SCHOLTZ	DATE:	19/09/2003	SCALE NTS				SAP No:		
CHKD:	J.F. SCHOLTZ	DATE:	19/09/2003	CAD REF: SERIES 6000				SET	SHEET	REV
DRAWN:	V. van ZWEEL	DATE:	03/03	FILE No: 6119		<b>D-DT-6119</b>		<b>8</b>	<b>4</b>	<b>4</b>

## SPEC SHEET

SAP MATERIAL No.:	0216114					
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-IL2-C;80/2X26.5;90DEG					
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ETP-IL2-C; COMMERCIAL SIZE: 80/2X26.5;90DEG;                      MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM;                      CONDUCTOR SIZE ACCOMMODATED: 2X26.5 MM; CLAMP CURRENT RATING: 1700 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 90 DEG;                      DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      ESKOM DRAWING No. D-DT-6119 *</p>					
SAP MATERIAL No.:	0216113					
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-IL2-F;80/2X38.3;90DEG					
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ETP-IL2-F; COMMERCIAL SIZE: 80/2X38.3;90DEG;                      MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 80 MM;                      CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2000 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 90 DEG;                      DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      ESKOM DRAWING No. D-DT-6119 *</p>					
SAP MATERIAL No.:	0206351					
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-IL2-Q;120/2X26.5;90DEG					
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ETP-IL2-Q; COMMERCIAL SIZE: 120/2X26.5;90DEG;                      MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM;                      CONDUCTOR SIZE ACCOMMODATED: 2X26.5 MM; CLAMP CURRENT RATING: 1700 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 90 DEG;                      DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      ESKOM DRAWING No. D-DT-6119 *</p>					
SAP MATERIAL No.:	0216099					
SHORT DESCRIPTION:	CLAMP,TUBE:ETP-IL2-T;120/2X38.3;90DEG					
TECH. DESCRIPTION:	<p>CLAMP, TUBE: TYPE: ETP-IL2-T; COMMERCIAL SIZE: 120/2X38.3;90DEG;                      MATERIAL: Al ALLOY&lt; 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM;                      CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2700 A;                      MAXIMUM OPERATING POTENTIAL: 145 KV; ANGLE: 90 DEG;                      DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP;                      OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION;                      ESKOM DRAWING No. D-DT-6119 *</p>					
4	SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFIER CHANGED AND ADDITIONAL CLAMPS ADDED AND SAP 0206350, 0216100, 0216115, 0216116 REMOVED			P.A.T.		
3	SHORT DESCRIPTIONS CORRECTED			N.M.	M. SHUTER	M. SHUTER
2	CRIMP NO. REMOVED AND CORRECTED TAP. NOTE ADDED TO TECH. DESC.			VvZ	C.B.C.	C.CLARK
REV	REVISION DESCRIPTION			BY	CHKD	AUTH
AUTH:	J.F. SCHOLTZ	DATE:	19/09/2003	SCALE		
CHKD:	J.F. SCHOLTZ	DATE:	19/09/2003	NTS		
DRAWN:	V. van ZWEEL	DATE:	03/03	CAD REF:	<b>D-DT-6119</b>	
				SERIES 6000		
				FILE No:	SET	SHEET
			6119		8	5
					REF. DRAWINGS	REV
					0216114	0206351
					0216113	0216099
					8	5
					4	

## SPEC SHEET

SAP MATERIAL No.:		0588461					
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-IL2-AB;200/2X38.3;45DEG					
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-IL2-AB; COMMERCIAL SIZE: 200/2X38.3;45DEG; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: 420 KV; ANGLE: 45 DEG; DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6119 *							
SAP MATERIAL No.:		0588462					
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-IL2-AC;200/2X38.3;90DEG					
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-IL2-AC; COMMERCIAL SIZE: 200/2X38.3;90DEG; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: 420 KV; ANGLE: 90; DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6119 *							
SAP MATERIAL No.:		0588463					
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-IL2-AE;250/2X38.3;45DEG					
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-IL2-AE; COMMERCIAL SIZE: 250/2X38.3;45DEG; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: 420 KV; ANGLE: 45 DEG; DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6119 *							
SAP MATERIAL No.:		0588464					
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-IL2-AF;250/2X38.3;90DEG					
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-IL2-AF; COMMERCIAL SIZE: 250/2X38.3;90DEG; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 2X38.3 MM; CLAMP CURRENT RATING: 2700 A; MAXIMUM OPERATING POTENTIAL: 420 KV; ANGLE: 90 DEG; DOUBLE CONDUCTOR (150MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6119 *							
4	SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFIER CHANGED AND ADDITIONAL CLAMPS ADDED AND SAP 0206350, 0216100, 0216115, 0216116 REMOVED				P.A.T.		
3	SHORT DESCRIPTIONS CORRECTED				N.M.	M. SHUTER	M. SHUTER
2	CRIMP NO. REMOVED AND CORRECTED TAP. NOTE ADDED TO TECH. DESC.				VvZ	C.B.C.	C.CLARK
REV	REVISION DESCRIPTION				BY	CHKD	AUTH
AUTH:	J.F. SCHOLTZ	DATE:	19/09/2003	SCALE			
				NTS			
CHKD:	J.F. SCHOLTZ	DATE:	19/09/2003	CAD REF:	<b>D-DT-6119</b>		
				SERIES 6000			
DRAWN:	V. van ZWEEL	DATE:	03/03	FILE No:	8	6	4
				6119	SAP No: 0588461      0588463 0588462      0588464 SET      SHEET      REV		




**NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES**


CODE	TUBE DIAMETER "A" (mm)	CONDUCTOR DIAMETER "B" (mm)	ANGLE OF OFFSET (DEGREES)	90°C RATED CURRENT (A)	RATED VOLTAGE (kV RMS)	SAP NUMBER
ETP-IL3-H	200	3 x 38.3	45	4,000	420	0588465
ETP-IL3-J	200	3 x 38.3	90	4,000	420	0588466
ETP-IL3-L	250	3 x 38.3	45	4,000	420	0588467
ETP-IL3-M	250	3 x 38.3	90	4,000	420	0588468

ITEM :- **CLAMP, TUBE: ETP-IL3; TRIPLE CONDUCTOR (165MM SEPARATION) INLINE TAP-OFF CLAMP**

STANDARD: UNIQUE IDENTIFIER :- **240-53113923**


4	SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFIER CHANGED AND ADDITIONAL CLAMPS ADDED AND SAP 0206350, 0216100, 0216115, 0216116 REMOVED			P.A.T.				
3	SHORT DESCRIPTIONS CORRECTED			N.M.	M. SHUTER	M. SHUTER	14.04.2009	
2	CRIMP NO. REMOVED AND CORRECTED TAP. NOTE ADDED TO TECH. DESC.			VvZ	C.B.C.	C.CLARK	07/10/2005	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	J.F. SCHOLTZ	DATE:	19/09/2003	SCALE	 <b>D-DT-6119</b>			
CHKD:	J.F. SCHOLTZ	DATE:	19/09/2003	NTS				
CHKD:	J.F. SCHOLTZ	DATE:	19/09/2003	CAD REF: SERIES 6000				
DRAWN:	V. van ZWEEL	DATE:	03/03	FILE No: 6119	SET	SHEET	REV	
					<b>8</b>	<b>7</b>	<b>4</b>	

**SPEC SHEET**

SAP MATERIAL No.:		0588465							
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-IL3-H;200/3X38.3;45DEG							
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-IL3-H; COMMERCIAL SIZE: 200/3X38.3;45DEG; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 3X38.3 MM; CLAMP CURRENT RATING: 4000 A; MAXIMUM OPERATING POTENTIAL: 420 KV; ANGLE: 45 DEG; TRIPLE CONDUCTOR (165MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6119 *									
SAP MATERIAL No.:		0588466							
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-IL3-J;200/3X38.3;90DEG							
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-IL3-J; COMMERCIAL SIZE: 200/3X38.3;90DEG; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 200 MM; CONDUCTOR SIZE ACCOMMODATED: 3X38.3 MM; CLAMP CURRENT RATING: 4000 A; MAXIMUM OPERATING POTENTIAL: 420 KV; ANGLE: 90 DEG; TRIPLE CONDUCTOR (165MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6119 *									
SAP MATERIAL No.:		0588467							
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-IL3-L;250/3X38.3;45DEG							
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-IL3-L; COMMERCIAL SIZE: 250/3X38.3;45DEG; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 3X38.3 MM; CLAMP CURRENT RATING: 4000 A; MAXIMUM OPERATING POTENTIAL: 420 KV; ANGLE: 45 DEG; TRIPLE CONDUCTOR (165MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6119 *									
SAP MATERIAL No.:		0588468							
SHORT DESCRIPTION:		CLAMP,TUBE:ETP-IL3-M;250/3X38.3;90DEG							
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ETP-IL3-M; COMMERCIAL SIZE: 250/3X38.3;90DEG; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 250 MM; CONDUCTOR SIZE ACCOMMODATED: 3X38.3 MM; CLAMP CURRENT RATING: 4000 A; MAXIMUM OPERATING POTENTIAL: 420 KV; ANGLE: 90 DEG; TRIPLE CONDUCTOR (165MM SEPARATION) INLINE TAP-OFF CLAMP; OPEN END OF THE FERRULE OF EACH CLAMP SHALL BE PROPERLY GREASED AND SEALED/PLUGGED BY MEANS OF A MALE PVC PLUG TO PREVENT FOREIGN MATERIAL CONTAMINATION; ESKOM DRAWING No. D-DT-6119 *									
4	SHORT & TECHNICAL DESCRIPTIONS CHANGED, STANDARD UNIQUE IDENTIFIER CHANGED AND ADDITIONAL CLAMPS ADDED AND SAP 0206350, 0216100, 0216115, 0216116 REMOVED				P.A.T.				
3	SHORT DESCRIPTIONS CORRECTED				N.M.	M. SHUTER	M. SHUTER	14.04.2009	
2	CRIMP NO. REMOVED AND CORRECTED TAP. NOTE ADDED TO TECH. DESC.				VvZ	C.B.C.	C.CLARK	07/10/2005	
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	J.F. SCHOLTZ	DATE:	19/09/2003	SCALE		 SAP No: 0588465      0588467 0588466      0588468			
CHKD:	J.F. SCHOLTZ	DATE:	19/09/2003	NTS					
DRAWN:	V. van ZWEEL	DATE:	03/03	CAD REF:		D-DT-6119	SET	SHEET	REV
				SERIES 6000			8	8	4
				FILE No:					
				6119					




## SPEC SHEET

SAP MATERIAL No.:		0180091							
SHORT DESCRIPTION:		VT 1PH 66kV/110V 100/50VA 31 D6176							
TECH. DESCRIPTION:									
VOLTAGE TRANSFORMER ELECTROMAGNETIC * SINGLE PHASE * VOLTAGE RATIO: 66kV( $\sqrt{3}$ )/110V( $\sqrt{3}$ ) * LIWL (BIL): 350kV * SPECIFIC CREEPAGE DISTANCE: 31mm/kV * BURDEN: 1 x 100/50VA CLASS 3P/0.2 * ESKOM DRAWING No. D-DT-6176*									
ITEM		:- VT 1PH 66kV/110V 100/50VA D6176							
MATERIAL SPECIFICATION		:- N/A							
CORROSION SPECIFICATION		:- SANS 121, DSP 34-1658							
STANDARD SPECIFICATION		:- NRS 030							
ESKOM SPECIFICATION		:- DSP 34-1688							
TEST & CERTIFICATION REQUIREMENTS		:- NRS 030							
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No		
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS									
8	0008630 OBSOLETE AND VARIOUS TERMINOLOGY CHANGES MADE ON 0180091 AND ESKOM SPEC & TEST REQUIREMENTS CHANGED			P.A.T.	G.STRE LEC	V.SINGH	16.09.2011		
7	SPEC SCSSCAA15 CHANGED TO DSP0012			VvZ	C.B.C	C.CLARK	23/06/2006		
6	LOGO CHANGED AS PER NEW CORPORATE ID			AKM	J.F.S	C.CLARK	31/05/04		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE NTS	 <b>D-DT-6176</b>		SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF: SERIES 6000			0180091	0008630 (OBSOLETE)	
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No: 6176			SET	SHEET	REV
							1	1	8

## SPEC SHEET

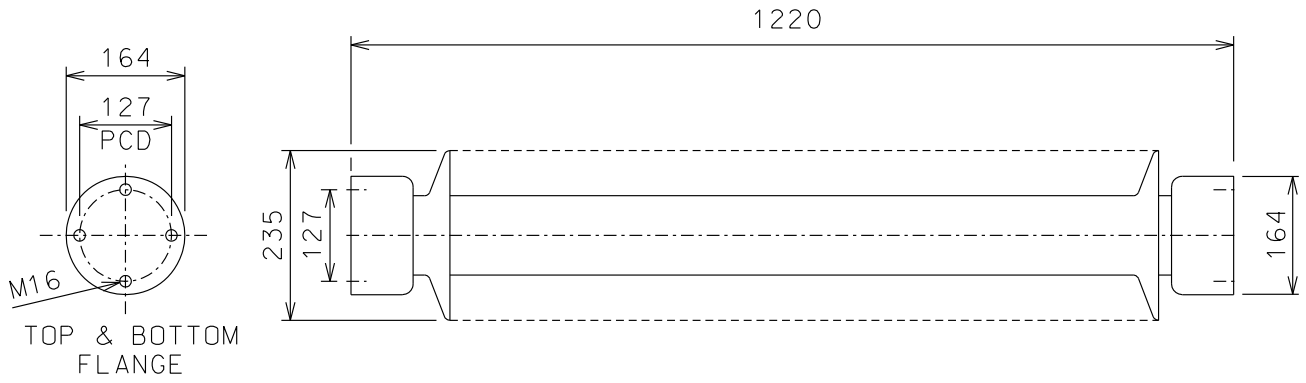
SAP MATERIAL No.:	0180031						
SHORT DESCRIPTION:	CT 132kV 2500A 40kA 2P2M2B500 31 D6190						
TECH. DESCRIPTION:							
CURRENT TRANSFORMER *							
NOMINAL SYSTEM VOLTAGE: 132kV *							
LIWL (BIL): 650kV *							
SPECIFIC CREEPAGE DISTANCE: 31mm/kV *							
RATED NORMAL CURRENT: 2500AMP *							
SHORT TIME WITHSTAND CURRENT: 40kA/3 SEC. *							
6 CORES: 2 PROTECTION - CLASS PX (MR) *							
2 METERING - CLASS 0.2 (MR) *							
2 BUSZONE - 1/500T CLASS PX (FIXED) *							
ESKOM DRAWING No. D-DT-6190 *							
SAP MATERIAL No.:	0180034						
SHORT DESCRIPTION:	CT 132kV 2500A 40kA 2P2M2B1600 31 D6190						
TECH. DESCRIPTION:							
CURRENT TRANSFORMER *							
NOMINAL SYSTEM VOLTAGE: 132kV *							
LIWL (BIL): 650kV *							
SPECIFIC CREEPAGE DISTANCE: 31mm/kV *							
RATED NORMAL CURRENT: 2500AMP *							
SHORT TIME WITHSTAND CURRENT: 40kA /3 SEC. *							
6 CORES: 2 PROTECTION - CLASS PX (MR) *							
2 METERING - CLASS 0.2 (MR) *							
2 BUSZONE - 1/1600T CLASS PX (MR) *							
ESKOM DRAWING No. D-DT-6190 *							
ITEM	:- CT 132kV 2500A 40kA 2P2M2B 31, CT 132kV 200A 10kA/1s 2MR						
MATERIAL SPECIFICATION	:- N/A						
CORROSION SPECIFICATION	:- DSP 34-1658						
STANDARD SPECIFICATION	:- NRS 029						
ESKOM SPECIFICATION	:- DSP 34-1689						
TEST & CERTIFICATION REQUIREMENTS :- NRS 029							
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS							
11	0008653 AND 0180033 OBSOLETE, 2400 BUSZONE AND 200A NORMAL CURRENT ADDED. SHORT TIME CURRENT INCREASED TO 40kA/3 SEC			P.A.T.	G. STRELEC	10.10.2011	
10	SPEC SCSSCAAF4 CHANGED TO DSP0013			VvZ	C.B.C	C.CLARK	23/06/2006
9	LOGO CHANGED AS PER NEW CORPORATE ID			AKM	J.F.S	C.CLARK	31/05/04
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE NTS		SAP No:	
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF:		0180031	0008653
				SERIES 6000		0180034	0180033 (OBSOLETE)
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No:		SET	SHEET
				6190		2	1
				<b>D-DT-6190</b>			<b>11</b>

## SPEC SHEET

SAP MATERIAL No.:	0257374									
SHORT DESCRIPTION:	CT 132kV 2500A 40kA 2P2M2B2400 31 D6190									
TECH. DESCRIPTION:										
<p>CURRENT TRANSFORMER *</p> <p>NOMINAL SYSTEM VOLTAGE: 132kV *</p> <p>LIWL (BIL): 650kV *</p> <p>SPECIFIC CREEPAGE DISTANCE: 31mm/kV *</p> <p>RATED NORMAL CURRENT: 2500AMP *</p> <p>SHORT TIME WITHSTAND CURRENT: 40kA/3 SEC. *</p> <p>6 CORES: 2 PROTECTION - CLASS PX (MR) *</p> <p style="padding-left: 40px;">2 METERING - CLASS 0.2 (MR) *</p> <p style="padding-left: 40px;">2 BUSZONE - 1/2400T CLASS PX (FIXED) *</p> <p>ESKOM DRAWING No. D-DT-6190 *</p>										
SAP MATERIAL No.:	0257375									
SHORT DESCRIPTION:	CT 132kV 200A 10kA/1s 2MR 31 D6190									
TECH. DESCRIPTION:										
<p>CURRENT TRANSFORMER *</p> <p>NOMINAL SYSTEM VOLTAGE: 132kV *</p> <p>LIWL (BIL): 650kV *</p> <p>SPECIFIC CREEPAGE DISTANCE: 31mm/kV *</p> <p>RATED NORMAL CURRENT: 200AMP *</p> <p>SHORT TIME WITHSTAND CURRENT: 10kA/1s. *</p> <p>2 CORES: 2 METERING - CLASS 0.2 (MR) *</p> <p>ESKOM DRAWING No. D-DT-6190 *</p>										
11	0008653 AND 0180033 OBSOLETE, 2400 BUSZONE AND 200A NORMAL CURRENT ADDED. SHORT TIME CURRENT INCREASED TO 40kA/3 SEC				P.A.T.					
10	SPEC SCSSCAAF4 CHANGED TO DSP0013				VvZ	C.B.C	C.CLARK	23/06/2006		
9	LOGO CHANGED AS PER NEW CORPORATE ID				AKM	J.F.S	C.CLARK	31/05/04		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE				SAP No:		
				NTS				0257374		0257375
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF:	<b>D-DT-6190</b>			SET	SHEET	REV
				SERIES 6000				2	2	11
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No:						
				6190						

## SPEC SHEET

SAP MATERIAL No.:	0401595						
SHORT DESCRIPTION:	S/ARR S/CL 66kV MCOV 48kV 31 D6212						
TECH. DESCRIPTION:							
<p>SURGE ARRESTER * STATION CLASS GAPLESS METAL OXIDE *</p> <p>FOR APPLICATION ON 66kV EFFECTIVELY EARTHED SYSTEMS AND FOR PROTECTION OF THE NEUTRAL TERMINAL ON UNEARTHED 66kV AND 88kV AND 132kV TRANSFORMERS IN CORROSIVE ENVIRONMENTS *</p> <p>POLYMER HOUSED *</p> <p>MINIMUM MCOV : 48kV *</p> <p>MAXIMUM RESIDUAL VOLTAGE : 165kV *</p> <p>DISCHARGE CURRENT : 10kA *</p> <p>IEC - LINE DISCHARGE CLASS 2 *</p> <p>CREEPAGE : 31mm/kV *</p> <p>ESKOM DRAWING No. D-DT-6212 *</p>							
SAP MATERIAL No.:	0401311						
SHORT DESCRIPTION:	S/ARR S/CL 66kV MCOV 48kV 20 D6212						
TECH. DESCRIPTION:							
<p>SURGE ARRESTER * STATION CLASS GAPLESS METAL OXIDE *</p> <p>FOR APPLICATION ON 66kV EFFECTIVELY EARTHED SYSTEMS AND FOR PROTECTION OF THE NEUTRAL TERMINAL ON UNEARTHED 66kV AND 88kV AND 132kV TRANSFORMERS IN NON-CORROSIVE ENVIRONMENTS *</p> <p>POLYMER HOUSED *</p> <p>MINIMUM MCOV : 48kV *</p> <p>MAXIMUM RESIDUAL VOLTAGE : 165kV *</p> <p>DISCHARGE CURRENT : 10kA *</p> <p>IEC - LINE DISCHARGE CLASS 2 *</p> <p>CREEPAGE : 20mm/kV *</p> <p>ESKOM DRAWING No. D-DT-6212 *</p>							
ITEM	:- S/ARR S/CL 66kV MCOV 48kV 31 D6212						
MATERIAL SPECIFICATION	:- DSP 34-419						
CORROSION SPECIFICATION	:- DSP 34-419						
STANDARD SPECIFICATION	:- IEC 60099-4						
ESKOM SPECIFICATION	:- DSP 34-419						
TEST & CERTIFICATION REQUIREMENTS	:- DSP 34-419						
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No
IDENTIFICATION:- DSP 34-419							
10	SAP 0004562, 0187063 CORRECTED			P.A.T.	D.RAMJASS	D.RAMJASS	25.01.2017
9	ALL SPEC'S CHANGED			P.A.T.	R.THERON	A.le ROUX	03.11.09
8	SPEC SCSSCAA00 CHANGED TO DISSCAA00			VvZ	C.B.C.	C.CLARK	23/06/2006
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE
REF. DRAWINGS							
AUTH:	PHIL CROWDY	DATE:	06/97	SCALE		SAP No:	
				NTS		0401595	
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF:		0401311	
				SERIES 6000		SET	SHEET
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No:		1	1
				6212		1	10



NOTE :  
DRAWING NOT FOR MANUFACTURING PURPOSE.

SAP MATERIAL No.:	0017528
SHORT DESCRIPTION:	INSUL:STN POST;C4-550;132 KV

TECH. DESCRIPTION:


INSULATOR: TYPE: STN POST;  
 POTENTIAL: 132 KV;  
 CANTILEVER STRENGTH: 4KN;  
 LIWL (BIL) 550KV;  
 SPECIFIC CREEPAGE DISTANCE 31MM/KV;  
 ESKOM DRAWING No. D-DT-6230 \*

ITEM	:-	INSUL:STN POST;C4-550;132 KV
MATERIAL SPECIFICATION	:-	PORCELAIN
CORROSION SPECIFICATION	:-	SANS 121
STANDARD SPECIFICATION	:-	NRS 031:1993
ESKOM SPECIFICATION	:-	DSP 34-2202


TEST & CERTIFICATION REQUIREMENTS	:-	DSP 34-2202
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

7	SHORT AND TECHNICAL DESCRIPTIONS CORRECTED ACCORDING TO PILOG/SAP	P.A.T.	M. SHUTER	G. STRELEC	27.03.2012	
6	0010308 OBSOLETE AND VARIOUS TERMINOLOGY CHANGES MADE ON 0017528 AND ESKOM SPEC & TYPE TESTS CHANGED	P.A.T.	G. STRELEC	V.SINGH	07.06.2011	
5	LOGO CHANGED AS PER NEW CORPORATE ID	AKM	J.F.S	C.CLARK	31/05/04	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS

AUTH:	PHIL CROWDY	DATE:	06/97	SCALE		SAP No:			
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF:		0017528			
				SERIES 6000		SET	SHEET	REV	
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	FILE No:		1	1	7	
				6230	<b>D-DT-6230</b>				


## SPEC SHEET

SAP MATERIAL No.:	0218734							
SHORT DESCRIPTION:	BKR,CIRC:GAS 20MM;3150 A;132 KV;3;40 KA							
TECH. DESCRIPTION:	BREAKER, CIRCUIT: TYPE: GAS 20MM; POTENTIAL: 132 KV; POLE: 3; CURRENT: 3150 A; INTERRUPT CAPACITY: 40 KA; CREEPAGE: 20MM/KV; CONTROL VOLTAGE: 110VDC; ESKOM DRAWING No. D-DT-6250 *							
SAP MATERIAL No.:	0218735							
SHORT DESCRIPTION:	BKR,CIRC:GAS 31MM;3150 A;132 KV;3;40 KA							
TECH. DESCRIPTION:	BREAKER, CIRCUIT: TYPE: GAS 31MM; POTENTIAL: 132 KV; POLE: 3; CURRENT: 3150 A; INTERRUPT CAPACITY: 40 KA; CREEPAGE: 31MM/KV; CONTROL VOLTAGE: 110VDC; ESKOM DRAWING No. D-DT-6250 *							
SAP MATERIAL No.:	0218736							
SHORT DESCRIPTION:	BKR,CIRC:GAS 20MM;3150 A;132 KV;1;40 KA							
TECH. DESCRIPTION:	BREAKER, CIRCUIT: TYPE: GAS 20MM; POTENTIAL: 132 KV; POLE: 1; CURRENT: 3150 A; INTERRUPT CAPACITY: 40 KA; CREEPAGE: 20MM/KV; CONTROL VOLTAGE: 110VDC; ESKOM DRAWING No. D-DT-6250 *							
SAP MATERIAL No.:	0218737							
SHORT DESCRIPTION:	BKR,CIRC:GAS 31MM;3150 A;132 KV;1;40 KA							
TECH. DESCRIPTION:	BREAKER, CIRCUIT: TYPE: GAS 31MM; POTENTIAL: 132 KV; POLE: 1; CURRENT: 3150 A; INTERRUPT CAPACITY: 40 KA; CREEPAGE: 31MM/KV; CONTROL VOLTAGE: 110VDC; ESKOM DRAWING No. D-DT-6250 *							
ITEM	:- BREAKER, CIRCUIT: TYPE: GAS 31MM; POTENTIAL: 132 KV;							
MATERIAL SPECIFICATION	:- N/A							
CORROSION SPECIFICATION	:- SANS 121							
STANDARD SPECIFICATION	:- N/A							
ESKOM SPECIFICATION	:- <span style="color: red;">240-56063756;</span>							
TEST & CERTIFICATION REQUIREMENTS	:- <span style="color: red;">240-56063756;</span>							
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
11	BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT <span style="color: red;">ADDED AND ESKOM SPEC. CHANGED</span>		P.A.T.	I. SEBEKO	I. SEBEKO	26.02.2018		
10	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG/SAP		P.A.T.	M.SHUTER	J. CEBEKHULU	30.07.2014		
9	ADDED CONTROL VOLTAGE. REMOVED 2500A BRKS.		VvZ	C.CLARK	C.CLARK	27/11/2007		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	  <b>D-DT-6250</b>		SAP No:		
						0218734	0218736	
CHKD:	C.B. CLARK	DATE:	06/97			0218735	0218737	
						SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			5	1	11

## SPEC SHEET


SAP MATERIAL No.:		0229264						
SHORT DESCRIPTION:		BKR,CIRC:GAS 20MM;3150 A;132 KV;3;40 KA						
TECH. DESCRIPTION:		BREAKER, CIRCUIT: TYPE: GAS 20MM; POTENTIAL: 132 KV; POLE: 3; CURRENT: 3150 A; INTERRUPT CAPACITY: 40 KA; CREEPAGE: 20MM/KV; CONTROL VOLTAGE: 220VDC; ESKOM DRAWING No. D-DT- 6250 *						
SAP MATERIAL No.:		0229267						
SHORT DESCRIPTION:		BKR,CIRC:GAS 31MM;3150 A;132 KV;3;40 KA						
TECH. DESCRIPTION:		BREAKER, CIRCUIT: TYPE: GAS 31MM; POTENTIAL: 132 KV; POLE: 3; CURRENT: 3150 A; INTERRUPT CAPACITY: 40 KA; CREEPAGE: 31MM/KV, CONTROL VOLTAGE 220VDC, ESKOM DRAWING No. D-DT- 6250 *						
SAP MATERIAL No.:		0229268						
SHORT DESCRIPTION:		BKR,CIRC:GAS 20MM;3150 A;132 KV;1;40 KA						
TECH. DESCRIPTION:		BREAKER, CIRCUIT: TYPE: GAS 20MM; POTENTIAL: 132 KV; POLE: 1; CURRENT: 3150 A; INTERRUPT CAPACITY: 40 KA CREEPAGE: 20MM/KV; CONTROL VOLTAGE: 220VDC; ESKOM DRAWING No. D-DT- 6250 *						
SAP MATERIAL No.:		0229270						
SHORT DESCRIPTION:		BKR,CIRC:GAS 31MM;3150 A;132 KV;1;40 KA						
TECH. DESCRIPTION:		BREAKER, CIRCUIT: TYPE: GAS 31MM; POTENTIAL: 132 KV; POLE: 1; CURRENT: 3150 A; INTERRUPT CAPACITY: 40 KA; CREEPAGE: 31MM/KV; CONTROL VOLTAGE: 220VDC; ESKOM DRAWING No. D-DT- 6250 *						
11	BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT ADDED AND ESKOM SPEC. CHANGED		P.A.T.	I. SEBEKO	I. SEBEKO	26.02.2018		
10	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG/SAP		P.A.T.	M.SHUTER	J. CEBEKHULU	30.07.2014		
9	ADDED CONTROL VOLTAGE. REMOVED 2500A BRKS.		VvZ	C.CLARK	C.CLARK	27/11/2007		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97			SAP No:		
		SCALE	N.T.S			0229264	0229268	
CHKD:	C.B. CLARK	DATE:	06/97	<b>D-DT-6250</b>		0229267	0229270	
		CAD REF:	SERIES			SET	SHEET	REV
DRAWN:	J.F.SCHOLTZ	DATE:	10/96			6000	5	2
		FILE No.:	6250s1					

## SPEC SHEET

SAP MATERIAL No.:		0642972					
SHORT DESCRIPTION:		BKR,CIRC:LT ;132 KV ;3150 A ;40 KA ;3					
TECH. DESCRIPTION:		<p>BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT; POTENTIAL: 132 KV; CURRENT: 3150 A; SHORT TIME CURRENT: 40 KA; CONTROL VOLTAGE: 110 VDC; POLE: 3; CREEPAGE: 31 MM/KVAC; BASIC INSULATION LEVEL: 650 KV; INSULATION MATERIAL: COMPOSITE OR PORCELAIN; OPERATING CONTROL TYPE: SPRING ENERGY STORAGE; POINT ON WAVE: NOT APPLICABLE; POLLUTION CLASS: VERY HEAVY (CLASS E); APPLICATION: VARIOUS (FEEDER,TRANSFORMER); CLASSIFICATION: C2 ( RE-STRIKE PERFORMANCE DURING CAPACITIVE CURRENT BREAKING); SPECIFICATION: ESKOM: 240-56063756; MOUNT: SUPPORT STRUCTURE ON FOUNDATION; INTERRUPT CAPACITY: 40 KA; LT: LIVE TANK; MECHANICAL ENDURANCE: CLASS M2; ESKOM DRAWING No. D-DT- 6250 *</p>					
SAP MATERIAL No.:		0642973					
SHORT DESCRIPTION:		BKR,CIRC:LT ;132 KV ;3150 A ;40 KA ;3					
TECH. DESCRIPTION:		<p>BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT; POTENTIAL: 132 KV; CURRENT: 3150 A; SHORT TIME CURRENT: 40 KA; CONTROL VOLTAGE: 220 VDC; POLE: 3; CREEPAGE: 31 MM/KVAC; BASIC INSULATION LEVEL: 650 KV; INSULATION MATERIAL: COMPOSITE OR PORCELAIN; OPERATING CONTROL TYPE: SPRING ENERGY STORAGE; POINT ON WAVE: NOT APPLICABLE; POLLUTION CLASS: VERY HEAVY (CLASS E); APPLICATION: VARIOUS (FEEDER,TRANSFORMER); CLASSIFICATION: C2 ( RE-STRIKE PERFORMANCE DURING CAPACITIVE CURRENT BREAKING); SPECIFICATION: ESKOM: 240-56063756; MOUNT: SUPPORT STRUCTURE ON FOUNDATION; INTERRUPT CAPACITY: 40 KA; LT: LIVE TANK; MECHANICAL ENDURANCE: CLASS M2; ESKOM DRAWING No. D-DT- 6250 *</p>					
SAP MATERIAL No.:		0642974					
SHORT DESCRIPTION:		BKR,CIRC:LT ;132 KV ;3150 A ;40 KA ;1					
TECH. DESCRIPTION:		<p>BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT; POTENTIAL: 132 KV; CURRENT: 3150 A; SHORT TIME CURRENT: 40 KA; CONTROL VOLTAGE: 110 VDC; POLE: 1; CREEPAGE: 31 MM/KVAC; BASIC INSULATION LEVEL: 650 KV; INSULATION MATERIAL: COMPOSITE OR PORCELAIN; OPERATING CONTROL TYPE: SPRING ENERGY STORAGE; POINT ON WAVE: NOT APPLICABLE; POLLUTION CLASS: VERY HEAVY (CLASS E); APPLICATION: VARIOUS (FEEDER,TRANSFORMER); CLASSIFICATION: C2 ( RE-STRIKE PERFORMANCE DURING CAPACITIVE CURRENT BREAKING); SPECIFICATION: ESKOM: 240-56063756; MOUNT: SUPPORT STRUCTURE ON FOUNDATION; INTERRUPT CAPACITY: 40 KA; LT: LIVE TANK; MECHANICAL ENDURANCE: CLASS M2; ESKOM DRAWING No. D-DT- 6250 *</p>					
11	BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT ADDED AND ESKOM SPEC. CHANGED	P.A.T.	I. SEBEKO	I. SEBEKO	26.02.2018		
10	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG/SAP	P.A.T.	M.SHUTER	J. CEBEKHULU	30.07.2014		
9	ADDED CONTROL VOLTAGE. REMOVED 2500A BRKS.	VvZ	C.CLARK	C.CLARK	27/11/2007		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	 <b>D-DT-6250</b>	SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97		0642972	0642974	
DRAWN:	J.F.SCHOLTZ	DATE:	10/96		SET	SHEET	REV
					5	3	11



## SPEC SHEET

SAP MATERIAL No.:		0642975					
SHORT DESCRIPTION:		BKR,CIRC:LT ;132 KV ;3150 A ;40 KA ;1					
TECH. DESCRIPTION:		<p>BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT; POTENTIAL: 132 KV; CURRENT: 3150 A; SHORT TIME CURRENT: 40 KA; CONTROL VOLTAGE: 220 VDC; POLE: 1; CREEPAGE: 31 MM/KVAC; BASIC INSULATION LEVEL: 650 KV; INSULATION MATERIAL: COMPOSITE OR PORCELAIN; OPERATING CONTROL TYPE: SPRING ENERGY STORAGE; POINT ON WAVE: NOT APPLICABLE; POLLUTION CLASS: VERY HEAVY (CLASS E); APPLICATION: VARIOUS (FEEDER,TRANSFORMER); CLASSIFICATION: C2 ( RE-STRIKE PERFORMANCE DURING CAPACITIVE CURRENT BREAKING); SPECIFICATION: ESKOM: 240-56063756; MOUNT: SUPPORT STRUCTURE ON FOUNDATION; INTERRUPT CAPACITY: 40 KA; LT: LIVE TANK; MECHANICAL ENDURANCE: CLASS M2; ESKOM DRAWING No. D-DT- 6250 *</p>					
SAP MATERIAL No.:		0642976					
SHORT DESCRIPTION:		BKR,CIRC:LT ;132 KV ;2500 A ;40 KA ;3					
TECH. DESCRIPTION:		<p>BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT; POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; CONTROL VOLTAGE: 110 VDC; POLE: 3; CREEPAGE: 31 MM/KVAC; BASIC INSULATION LEVEL: 650 KV; INSULATION MATERIAL: COMPOSITE OR PORCELAIN; OPERATING CONTROL TYPE: SPRING ENERGY STORAGE; POINT ON WAVE: NOT APPLICABLE; POLLUTION CLASS: VERY HEAVY (CLASS E); APPLICATION: VARIOUS (FEEDER,TRANSFORMER); CLASSIFICATION: C2 ( RE-STRIKE PERFORMANCE DURING CAPACITIVE CURRENT BREAKING); SPECIFICATION: ESKOM: 240-56063756; MOUNT: SUPPORT STRUCTURE ON FOUNDATION; INTERRUPT CAPACITY: 40 KA; LT: LIVE TANK; MECHANICAL ENDURANCE: CLASS M2; ESKOM DRAWING No. D-DT- 6250 *</p>					
SAP MATERIAL No.:		0642977					
SHORT DESCRIPTION:		BKR,CIRC:LT ;132 KV ;2500 A ;40 KA ;3					
TECH. DESCRIPTION:		<p>BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT; POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; CONTROL VOLTAGE: 220 VDC; POLE: 3; CREEPAGE: 31 MM/KVAC; BASIC INSULATION LEVEL: 650 KV; INSULATION MATERIAL: COMPOSITE OR PORCELAIN; OPERATING CONTROL TYPE: SPRING ENERGY STORAGE; POINT ON WAVE: NOT APPLICABLE; POLLUTION CLASS: VERY HEAVY (CLASS E); APPLICATION: VARIOUS (FEEDER,TRANSFORMER); CLASSIFICATION: C2 ( RE-STRIKE PERFORMANCE DURING CAPACITIVE CURRENT BREAKING); SPECIFICATION: ESKOM: 240-56063756; MOUNT: SUPPORT STRUCTURE ON FOUNDATION; INTERRUPT CAPACITY: 40 KA; LT: LIVE TANK; MECHANICAL ENDURANCE: CLASS M2; ESKOM DRAWING No. D-DT- 6250 *</p>					
11	BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT ADDED AND ESKOM SPEC. CHANGED	P.A.T.	I. SEBEKO	I. SEBEKO	26.02.2018		
10	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG/SAP	P.A.T.	M.SHUTER	J. CEBEKHULU	30.07.2014		
9	ADDED CONTROL VOLTAGE. REMOVED 2500A BRKS.	VvZ	C.CLARK	C.CLARK	27/11/2007		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	PHIL CROWDY	DATE:	06/97	  <b>D-DT-6250</b>	SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97		0642975	0642977	
DRAWN:	J.F.SCHOLTZ	DATE:	10/96		SET	SHEET	REV
					5	4	11

## SPEC SHEET

SAP MATERIAL No.:	0642978
SHORT DESCRIPTION:	BKR,CIRC:LT ;132 KV ;2500 A ;40 KA ;1

**TECH. DESCRIPTION:**


BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT; POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; CONTROL VOLTAGE: 110 VDC; POLE: 1; CREEPAGE: 31 MM/KVAC; BASIC INSULATION LEVEL: 650 KV; INSULATION MATERIAL: COMPOSITE OR PORCELAIN; OPERATING CONTROL TYPE: SPRING ENERGY STORAGE; POINT ON WAVE: NOT APPLICABLE; POLLUTION CLASS: VERY HEAVY (CLASS E); APPLICATION: VARIOUS (FEEDER,TRANSFORMER); CLASSIFICATION: C2 ( RE-STRIKE PERFORMANCE DURING CAPACITIVE CURRENT BREAKING); SPECIFICATION: ESKOM: 240-56063756; MOUNT: SUPPORT STRUCTURE ON FOUNDATION; INTERRUPT CAPACITY: 40 KA; LT: LIVE TANK; MECHANICAL ENDURANCE: CLASS M2;  
ESKOM DRAWING No. D-DT- 6250 \*

SAP MATERIAL No.:	0642979
SHORT DESCRIPTION:	BKR,CIRC:LT ;132 KV ;2500 A ;40 KA ;1


**TECH. DESCRIPTION:**

BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT; POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; CONTROL VOLTAGE: 220 VDC; POLE: 1; CREEPAGE: 31 MM/KVAC; BASIC INSULATION LEVEL: 650 KV; INSULATION MATERIAL: COMPOSITE OR PORCELAIN; OPERATING CONTROL TYPE: SPRING ENERGY STORAGE; POINT ON WAVE: NOT APPLICABLE; POLLUTION CLASS: VERY HEAVY (CLASS E); APPLICATION: VARIOUS (FEEDER,TRANSFORMER); CLASSIFICATION: C2 ( RE-STRIKE PERFORMANCE DURING CAPACITIVE CURRENT BREAKING); SPECIFICATION: ESKOM: 240-56063756; MOUNT: SUPPORT STRUCTURE ON FOUNDATION; INTERRUPT CAPACITY: 40 KA; LT: LIVE TANK; MECHANICAL ENDURANCE: CLASS M2;  
ESKOM DRAWING No. D-DT- 6250 \*

11	BREAKER, CIRCUIT: SWITCHGEAR DESIGN: LT ADDED AND ESKOM SPEC. CHANGED	P.A.T.	I. SEBEKO	I. SEBEKO	26.02.2018	
10	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG/SAP	P.A.T.	M.SHUTER	J. CEBEKHULU	30.07.2014	
9	ADDED CONTROL VOLTAGE. REMOVED 2500A BRKS.	VvZ	C.CLARK	C.CLARK	27/11/2007	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS

AUTH:	PHIL CROWDY	DATE:	06/97	SCALE N.T.S	 Eskom	SAP No:		
CHKD:	C.B. CLARK	DATE:	06/97	CAD REF:		0642978		
DRAWN:	J.F.SCHOLTZ	DATE:	10/96	SERIES 6000	<b>D-DT-6250</b>	SET	SHEET	REV
				FILE No: 6250s1		5	5	11

## SPEC SHEET

SAP MATERIAL No.:	0527586								
SHORT DESCRIPTION:	ISOL,ELECT:132 KVAC;3;2500 A;HAND;40 KA								
TECH. DESCRIPTION:									
ISOLATOR, ELECTRICAL: POTENTIAL: 132 KVAC; POLE: 3; INTERRUPT CAPACITY: 40 KA; APPLICATION: HAND; CURRENT: 2500 A; CENTRE ROTATE DOUBLE BREAK (CRDB); CREEPAGE : 31MM/KV; 16 POLE AUXILIARY SWITCH ARRANGEMENT: 1X F CONTACT; 5X M CONTACTS; 8X G CONTACTS; 2X N CONTACTS; HAND OPERATED; MAIN TERMINAL : PAD; DIMENSIONS: 8X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM ; ESKOM DRAWING No. D-DT-6302 *									
SAP MATERIAL No.:	0527587								
SHORT DESCRIPTION:	ISOL,ELECT:132 KVAC;3;2500 A;MOTO;40 KA								
TECH. DESCRIPTION:									
ISOLATOR, ELECTRICAL: POTENTIAL: 132 KVAC; POLE: 3; INTERRUPT CAPACITY: 40 KA; APPLICATION: MOTO; CURRENT: 2500 A; CENTRE ROTATE DOUBLE BREAK (CRDB); CREEPAGE : 31MM/KV; 16 POLE AUXILIARY SWITCH ARRANGEMENT: 1X F CONTACT; 5X M CONTACTS; 8X G CONTACTS; 2X N CONTACTS; MOTOR OPERATED; MAIN TERMINAL : PAD; DIMENSIONS: 8X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM ; ESKOM DRAWING No. D-DT-6302 *									
ITEM	:- ISOL/ EARTH SWITCH 132 KVAC								
MATERIAL SPECIFICATION	:- N/A								
CORROSION SPECIFICATION	:- SANS 121, DSP 34-1658								
STANDARD SPECIFICATION	:- NRS 031								
ESKOM SPECIFICATION	:- ESP 32-536, 240-56063815								
TEST & CERTIFICATION REQUIREMENTS :- ESP 32-536									
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No		
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS									
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750			P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018		
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED			P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018		
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED			P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0527586			
						0527587			
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			SET	SHEET	REV	
						20	1	4	

# SPEC SHEET

SAP MATERIAL No.:	0527588
SHORT DESCRIPTION:	ISOL,ELECT:INLINE;132 KVAC;3;2500 A


TECH. DESCRIPTION:

ISOLATOR, ELECTRICAL: TYPE: INLINE; POTENTIAL: 132 KVAC;  
 POLE: 3;  
 INTERRUPT CAPACITY: 40 KA;  
 CURRENT: 2500 A;  
 CENTRE ROTATE DOUBLE BREAK (CRDB);  
 CREEPAGE : 31MM/KV; 16 POLE AUXILIARY SWITCH ARRANGEMENT: 1X F CONTACT;  
 5X M CONTACTS; 8X G CONTACTS; 2X N CONTACTS;  
 HAND OPERATED;  
 MAIN TERMINAL : PAD; DIMENSIONS: 8X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM ;  
 ESKOM DRAWING No. D-DT-6302 \*


4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750	P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018	
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED	P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018	
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED	P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012	

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:		
CHKD:	C. CLARK	DATE:	27/11/2007			0527588		
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			SET	SHEET	REV
						20	2	4

## SPEC SHEET

SAP MATERIAL No.:	0227871								
SHORT DESCRIPTION:	E/SW L/HAND 132kV 2500A 40kA H/O D6302								
TECH. DESCRIPTION:									
EARTH SWITCH LEFT HAND * CENTRE ROTATE DOUBLE BREAK (CRDB) * RATED VOLTAGE: 132kV * RATED CURRENT: 2500AMP * SHORT TIME CURRENT: 40kA * FOR USE ON ISOLATOR (ISOLATOR EXCLUDED) * 8 POLE AUX. SWITCH ARRANGEMENT :- - 4 x M CONTACTS - 4 x N CONTACTS * HAND OPERATED WITH INTERLOCKING DEVICE * ESKOM DRAWING No. D-DT-6302 *									
SAP MATERIAL No.:	0227872								
SHORT DESCRIPTION:	E/SW R/HAND 132kV 2500A 40kA H/O D6302								
TECH. DESCRIPTION:									
EARTH SWITCH RIGHT HAND * CENTRE ROTATE DOUBLE BREAK (CRDB) * RATED VOLTAGE: 132kV * RATED CURRENT: 2500AMP * SHORT TIME CURRENT: 40kA * FOR USE ON ISOLATOR (ISOLATOR EXCLUDED) * 8 POLE AUX. SWITCH ARRANGEMENT :- - 4 x M CONTACTS - 4 x N CONTACTS * HAND OPERATED WITH INTERLOCKING DEVICE * ESKOM DRAWING No. D-DT-6302 *									
ITEM	:- EARTH SWITCH 132kV 2400, 2500A, 3000 40kA								
MATERIAL SPECIFICATION	:- N/A								
CORROSION SPECIFICATION	:- SANS 121, DSP 34-1658								
STANDARD SPECIFICATION	:- NRS 031, <b>240-56063815</b>								
ESKOM SPECIFICATION	:- ESP 32-536								
TEST & CERTIFICATION REQUIREMENTS :- ESP 32-536									
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No		
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS									
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691, 0642692, 0647778-0647782, 0647740-0647750			P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018		
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED			P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018		
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED			P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0227871			
						0227872			
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007	FILE No:			SET	SHEET	REV
				6302			20	3	4

## SPEC SHEET

SAP MATERIAL No.:	0527971								
SHORT DESCRIPTION:	SWITCH:EARTH 40KA 31MM;132 KV;2500 A								
TECH. DESCRIPTION:	SWITCH: TYPE: EARTH 40KA 31MM; POTENTIAL: 132 KV; ACTION: CENTRE ROTATE DOUBLE BREAK (CRDB); CURRENT: 2500 A; RATED VOLTAGE: 132KV; CREEPAGE: 31MM/KV; RATED CURRENT: 2500AMP; SHORT TIME CURRENT: 40KA; SEPARATELY MOUNTED; 8 POLE AUXILIARY SWITCH ARRANGEMENT: 4X M CONTACTS; 4X N CONTACTS; MAIN TERMINAL: PAD; DIMENSIONS: 8X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; ESKOM DRAWING No. D-DT-6302 *								
SAP MATERIAL No.:	0647887								
SHORT DESCRIPTION:	ES:132 KV ;40 KA ;31 MM/KVAC ;2400 MM								
TECH. DESCRIPTION:	SWITCH EARTH: VOLTAGE: 132 KV; SHORT TIME CURRENT: 40 KA; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2400 MM; BASIC INSULATION LEVEL: 550 KVAC; OPERATION: HAND; AUXILIARY SWITCH ARRANGEMENT: 8 CONTACTS (4XM, 4XN); CONTROL VOLTAGE: 110 VDC; SWITCHGEAR DESIGN: PARALLEL AND VERTICAL MOVEMENT; SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLES: 3P; ESKOM DRAWING No. D-DT-6302 *								
SAP MATERIAL No.:	0647888								
SHORT DESCRIPTION:	ES:132 KV ;40 KA ;31 MM/KVAC ;2400 MM								
TECH. DESCRIPTION:	SWITCH EARTH: VOLTAGE: 132 KV; SHORT TIME CURRENT: 40 KA; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2400 MM; BASIC INSULATION LEVEL: 550 KVAC; OPERATION: HAND; AUXILIARY SWITCH ARRANGEMENT: 8 CONTACTS (4XM, 4XN); CONTROL VOLTAGE: 220 VDC; SWITCHGEAR DESIGN: PARALLEL AND VERTICAL MOVEMENT; SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLES: 3P; ESKOM DRAWING No. D-DT-6302 *								
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750			P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018		
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED			P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018		
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED			P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0527971		0647887 0647888	
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			SET	SHEET	REV	
							20	4	4

## SPEC SHEET


SAP MATERIAL No.:	0647891								
SHORT DESCRIPTION:	ES:132 KV ;40 KA ;31 MM/KVAC ;3000 MM								
TECH. DESCRIPTION:									
<p>SWITCH EARTH: VOLTAGE: 132 KV; SHORT TIME CURRENT: 40 KA; CREEPAGE: 31 MM/KVAC;            PHASE SPACING: 3000 MM; BASIC INSULATION LEVEL: 550 KVAC; OPERATION: HAND;            AUXILIARY SWITCH ARRANGEMENT: 8 CONTACTS (4XM, 4XN);            CONTROL VOLTAGE: 110 VDC; SWITCHGEAR DESIGN: PARALLEL AND VERTICAL MOVEMENT;            SPECIFICATION: ESKOM: 240-56063815;            APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLES: 3P;            ESKOM DRAWING No. D-DT-6302 *</p>									
SAP MATERIAL No.:	0647892								
SHORT DESCRIPTION:	ES:132 KV ;40 KA ;31 MM/KVAC ;3000 MM								
TECH. DESCRIPTION:									
<p>SWITCH EARTH: VOLTAGE: 132 KV; SHORT TIME CURRENT: 40 KA; CREEPAGE: 31 MM/KVAC;            PHASE SPACING: 3000 MM; BASIC INSULATION LEVEL: 550 KVAC; OPERATION: HAND;            AUXILIARY SWITCH ARRANGEMENT: 8 CONTACTS (4XM, 4XN);            CONTROL VOLTAGE: 220 VDC; SWITCHGEAR DESIGN: PARALLEL AND VERTICAL MOVEMENT;            SPECIFICATION: ESKOM: 240-56063815;            APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLES: 3P;            ESKOM DRAWING No. D-DT-6302 *</p>									
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691, 0642692, 0647778-0647782, 0647740-0647750			P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018		
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED			P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018		
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED			P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0647891		0647892	
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			SET		SHEET	REV
			SCALE NTS			20	5	4	
			CAD REF: SERIES 6000						
			FILE No: 6302						

## SPEC SHEET


SAP MATERIAL No.:	0642559									
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;HAND ;0ES									
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; ESKOM DRAWING No. D-DT-6302 *</p>									
SAP MATERIAL No.:	0642560									
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;HAND ;0ES									
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 MM; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; ESKOM DRAWING No. D-DT-6302 *</p>									
SAP MATERIAL No.:	0642572									
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;HAND ;0ES									
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; ESKOM DRAWING No. D-DT-6302 *</p>									
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750			P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018			
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED			P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018			
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED			P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:				
CHKD:	C. CLARK	DATE:	27/11/2007			0642559	0642572			
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			0642560	SET	SHEET	REV	
								20	6	4




## SPEC SHEET

SAP MATERIAL No.:	0642573							
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;HAND ;0ES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 MM; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0647774							
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;INLHAND;0ES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: INLHAND; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; INLHAND: INLINE HAND; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0647775							
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;INLHAND;0ES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: INLHAND; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; INLHAND: INLINE HAND; ESKOM DRAWING No. D-DT-6302 *</p>							
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750		P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018		
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED		P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018		
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED		P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:		
CHKD:	C. CLARK	DATE:	27/11/2007			0642573	0647775	
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			0647774	SET	SHEET
						20	7	4


## SPEC SHEET

SAP MATERIAL No.:	0642576								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;INLHAND;0ES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: INLHAND; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3600 MM; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; INLHAND: INLINE HAND; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647777								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;INLHAND;0ES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: INLHAND; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3600 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; INLHAND: INLINE HAND; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0642796								
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;INLHAND								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: INLHAND; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 MM; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; ESKOM DRAWING No. D-DT-6302 *</p>								
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750			P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018		
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED			P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018		
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED			P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0642576		0642796	
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			0647777		SET	SHEET
						20		8	4


## SPEC SHEET

SAP MATERIAL No.:	0642798								
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;INLHAND								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: INLHAND; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 MM; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647760								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;RES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: RES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; RES: RIGHT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647761								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;RES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: RES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; RES: RIGHT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750	P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018				
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED	P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018				
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED	P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012				
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS			
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0642798	0647761		
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			0647760	SET	SHEET	REV
						20	9	4	


## SPEC SHEET

SAP MATERIAL No.:	0647762							
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;RES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: RES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; RES: RIGHT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0647763							
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;RES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: RES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; RES: RIGHT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0647766							
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;LES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: LES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; LES: LEFT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>							
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750	P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018			
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED	P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018			
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED	P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012			
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:		
CHKD:	C. CLARK	DATE:	27/11/2007			0647762		0647766
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			SET	SHEET	REV
						20	10	4

## SPEC SHEET

SAP MATERIAL No.:	0647767							
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;RES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: LES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; LES: LEFT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0647768							
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;RES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: LES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; LES: LEFT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0647769							
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;LES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: LES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; LES: LEFT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>							
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750	P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018			
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED	P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018			
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED	P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012			
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:		
CHKD:	C. CLARK	DATE:	27/11/2007			0647767		0647769
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			SET	SHEET	REV
						20	10	4

## SPEC SHEET

SAP MATERIAL No.:	0647770								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;DES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: DES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; DES: DOUBLE EARTH SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647771								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;DES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: DES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; DES: DOUBLE EARTH SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647772								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;DES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: DES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; DES: DOUBLE EARTH SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750	P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018				
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED	P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018				
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED	P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012				
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0647770	0647772		
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			0647771	SET	SHEET	REV
						20	12	4	


## SPEC SHEET

SAP MATERIAL No.:	0647773							
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;HAND;DES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: HAND; EARTH SWITCH CONFIGURATION: DES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH (4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; DES: DOUBLE EARTH SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0642689							
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: NOT APPLICABLE M; SWITCHGEAR DESIGN: PANTOGRAPH; TYPE: VERTICAL BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0642690							
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: NOT APPLICABLE; SWITCHGEAR DESIGN: PANTOGRAPH; TYPE: VERTICAL BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; ESKOM DRAWING No. D-DT-6302 *</p>							
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750	P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018			
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED	P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018			
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED	P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:		
CHKD:	C. CLARK	DATE:	27/11/2007			0647773	0642690	
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			SET	SHEET	REV
						20	13	4

Unique Identifier:240-48887441


Revision 1

## SPEC SHEET


SAP MATERIAL No.:	0642691							
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: 1ES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: NOT APPLICABLE; SWITCHGEAR DESIGN: PANTOGRAPH; TYPE: VERTICAL BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0642692							
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: 1ES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: NOT APPLICABLE; SWITCHGEAR DESIGN: PANTOGRAPH; TYPE: VERTICAL BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0647778							
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR;0ES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2400 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM;0ES: WITHOUT EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>							
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750		P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018		
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED		P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018		
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED		P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:		
CHKD:	C. CLARK	DATE:	27/11/2007			0642691	0647778	
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			0642692	SET	SHEET
						20	14	4




## SPEC SHEET

SAP MATERIAL No.:	0642691							
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: 1ES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: NOT APPLICABLE; SWITCHGEAR DESIGN: PANTOGRAPH; TYPE: VERTICAL BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0642692							
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: 1ES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: NOT APPLICABLE; SWITCHGEAR DESIGN: PANTOGRAPH; TYPE: VERTICAL BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; ESKOM DRAWING No. D-DT-6302 *</p>							
SAP MATERIAL No.:	0647778							
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR;0ES							
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2400 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM;0ES: WITHOUT EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>							
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750		P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018		
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED		P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018		
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED		P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:		
CHKD:	C. CLARK	DATE:	27/11/2007			0642691	0647778	
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			0642692	SET	SHEET
						20	15	4


## SPEC SHEET

SAP MATERIAL No.:	0647779								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;MOTOR;0ES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2400 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; 0ES: WITHOUT EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647780								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;MOTOR;0ES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 MM; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; 0ES: WITHOUT EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647781								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;MOTOR;0ES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: 0ES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 MM; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; 0ES: WITHOUT EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750		P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018			
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED		P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018			
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED		P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0647779	0647781		
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			0647780	SET	SHEET	REV
							20	16	4

## SPEC SHEET

SAP MATERIAL No.:	0647782								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;MOTOR;RES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: RES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; RES: RIGHT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647740								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;MOTOR;RES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: RES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; RES: RIGHT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647741								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;MOTOR;LES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: LES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; LES: LEFT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750			P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018		
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED			P.A.T.	I.SEBEKO	I.SEBEKO	05.074.2018		
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED			P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0647782		0647741	
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			SET	SHEET	REV	
				SCALE			20	17	4
				NTS					
				CAD REF:					
				SERIES 6000					
				FILE No:					
				6302					


## SPEC SHEET

SAP MATERIAL No.:	0647742								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;MOTOR;LES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: LES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; LES: LEFT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647743								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;MOTOR;DES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: DES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; DES: DOUBLE HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647744								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;MOTOR;DES								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: DES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 2.4 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; DES: DOUBLE HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750			P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018		
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED			P.A.T.	I.SEBEKO	I.SEBEKO	05.074.2018		
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED			P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0647742		0647744	
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			SET	SHEET	REV	
							20	18	4


## SPEC SHEET

SAP MATERIAL No.:	0647745								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;MOTOR;RES								
TECH. DESCRIPTION:									
<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: RES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 MM; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; RES: RIGHT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>									
SAP MATERIAL No.:	0647746								
SHORT DESCRIPTION:	ISO,EL:132 KV;2500 A;40 KA;MOTOR;RES								
TECH. DESCRIPTION:									
<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: RES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 MM; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; RES: RIGHT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>									
SAP MATERIAL No.:	0647747								
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR								
TECH. DESCRIPTION:									
<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: LES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 MM; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; LES: LEFT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>									
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750			P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018		
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED			P.A.T.	I.SEBEKO	I.SEBEKO	05.074.2018		
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED			P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0647745		0647747	
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			SET		SHEET	REV
						20	19	4	

## SPEC SHEET

SAP MATERIAL No.:	0647748								
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: LES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 MM; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; LES: LEFT HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647749								
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: DES; CONTROL VOLTAGE: 110 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; DES: DOUBLE HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
SAP MATERIAL No.:	0647750								
SHORT DESCRIPTION:	ISO,EL:132 KV ;2500 A ;40 KA ;MOTOR								
TECH. DESCRIPTION:	<p>ISOLATOR, ELECTRICAL: POTENTIAL: 132 KV; CURRENT: 2500 A; SHORT TIME CURRENT: 40 KA; OPERATION: MOTOR; EARTH SWITCH CONFIGURATION: DES; CONTROL VOLTAGE: 220 VDC; BASIC INSULATION LEVEL: 550 KV; CREEPAGE: 31 MM/KVAC; PHASE SPACING: 3000 M; SWITCHGEAR DESIGN: THREE COLUMN; TYPE: DOUBLE SIDE BREAK; AUXILIARY SWITCH ARRANGEMENT: 24 POLE CONTACTS ( 9XG ; 2XGS; 5XM; 2XF; 6XN); EARTHING SWITCH(4XM,4XN); SPECIFICATION: ESKOM: 240-56063815; APPLICATION: VARIOUS (FEEDER, TRANSFORMER ETC.); POLE: 3P; MAIN TERMINAL: PAD DIMENSIONS, 8 X 14MM DIAMETER HOLES; PITCH OF HOLES: 50MM; DES: DOUBLE HAND EARTHING SWITCH; ESKOM DRAWING No. D-DT-6302 *</p>								
4	SAP'S 0642559, 0642560, 0642572-0642577, 0642796, 0642798, 0647760-0647773, 0642689-0642692, 0647778, 0642691,0642692, 0647778-0647782, 0647740-0647750		P.A.T.	I. SIBEKO	I. SIBEKO	15.01.2018			
3	0647887, 0647888, 0647891, 0647892 2400 MM, 3000 MM ADDED		P.A.T.	I.SEBEK O	I.SEBEKO	05.074.2018			
2	SAP'S 0227813, 0227814, 0227815, 0227816, 0227819, 0227820, 0227873, 0227874 REPOSITIONED ON D-DT-17302 AND 0527586 0527587, 0527588, 0527971 ADDED AND SPECS CORRECTED		P.A.T.	M. SHUTER	I.SEBEKO	24.04.2012			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	C. CLARK	DATE:	27/11/2007	 <b>D-DT-6302</b>		SAP No:			
CHKD:	C. CLARK	DATE:	27/11/2007			0647748	0647750		
DRAWN:	V. VAN ZWEEL	DATE:	29/10/2007			0647749	SET	SHEET	REV
						20	20	4	

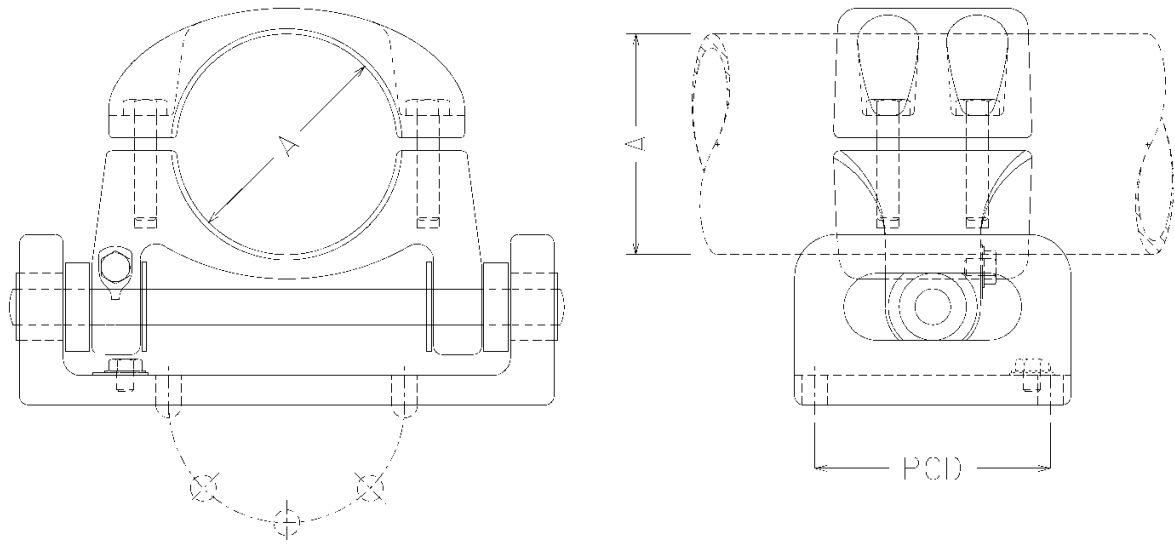
**SPEC SHEET**

SAP MATERIAL No.:		0237660	
SHORT DESCRIPTION:		VT, POWER 1PH 132kV/400V 2500VA D6315	
TECH. DESCRIPTION:			
POWER VOLTAGE TRANSFORMER FOR USE AS SUB AUX SUPPLY * SINGLE PHASE * PRIMARY VOLTAGE: 132kV/√3 * SECONDARY VOLTAGE: 400V/√3 BURDEN: 2500VA * VOLTAGE FACTOR: 2.1 * PRIMARY INSULATION REQUIREMENTS AS PER NRS 030 * CREEPAGE: 31mm/kV * DIMENSIONS AND MOUNTING AS PER D-DT-6170 * ESKOM DRAWING No. D-DT-6315			
SAP MATERIAL No.:		0632880	
SHORT DESCRIPTION:		VT:POWER VT ;1PH ;132 KV ;400 V ;16 KVA	
TECH. DESCRIPTION:			
TRANSFORMER, POTENTIAL: TYPE: POWER VT; PHASE: 1PH; INPUT POTENTIAL: 132 KV; OUTPUT POTENTIAL: 400 V; BURDEN: 16 KVA; CREEPAGE: 31 MM/KVAC; APPARENT POWER: 16 KVA; POTENTIAL: 132 KV; POWER VOLTAGE TRANSFORMER: MAXIMUM SYSTEM VOLTAGE: 145KV, BIL: 650KV AND POWER FREQUENCY: 275KV; INPUT VOLTAGE: 132KV/1.732; OUTPUT VOLTAGE: 400V/1.732; ESKOM DRAWING No. D-DT-6170 *			
SAP MATERIAL No.:		0237661	
SHORT DESCRIPTION:		VT, POWER 1PH 88kV/400V 2500VA D6315	
TECH. DESCRIPTION:			
POWER VOLTAGE TRANSFORMER FOR USE AS SUB AUX SUPPLY * SINGLE PHASE * PRIMARY VOLTAGE: 88kV/√3 * SECONDARY VOLTAGE: 400V/√3 BURDEN: 2500VA * VOLTAGE FACTOR: 2.1 * PRIMARY INSULATION REQUIREMENTS AS PER NRS 030 * CREEPAGE: 31mm/kV ESKOM DRAWING No. D-DT-6315 * DIMENSIONS AND MOUNTING AS PER D-DT-6171 *			
SAP MATERIAL No.:		0632984	
SHORT DESCRIPTION:		VT:POWER VT ;1 ;88 KV ;400 V ;16 KVA	
TECH. DESCRIPTION:			
TRANSFORMER, POTENTIAL: TYPE: POWER VT; PHASE: 1; INPUT POTENTIAL: 88 KV; OUTPUT POTENTIAL: 400 V; BURDEN: 16 KVA; CREEPAGE: 31 MM/KVAC; APPARENT POWER: 16 KVA; POTENTIAL: 88 KV; MAXIMUM SYSTEM VOLTAGE: 100KV; BIL: 450KV AND POWER FREQUENCY: 185KV; INPUT VOLTAGE: 88/1.732KV; OUTPUT VOLTAGE: 400/1.732V; ESKOM DRAWING No. D-DT-6171*			
ITEM	:- POWER VOLTAGE TRANSFORMER 1 PHASE		
MATERIAL SPECIFICATION	:- N/A		
CORROSION SPECIFICATION	:- SANS 121, SCSSCAAP9		
STANDARD SPECIFICATION	:- NRS 030		
ESKOM SPECIFICATION	:- N/A		
TEST & CERTIFICATION REQUIREMENTS	:- NRS 030		
INSPECTION	Yes	No	ESKOM RELEASE NOTE Yes No
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS			
1	SAP 0632880, 0632984 AND 0632985 ADDED		P.A.T. S. MAPHOSA S. MAPHOSA 24.07.2017
REV	REVISION DESCRIPTION		BY CHKD AUTH DATE REF. DWGS
AUTH:	G. STRELEC	DATE: 11/01/2009	SCALE NTS
CHKD:	G. STRELEC	DATE: 11/01/2009	CAD REF: SERIES 6000
DRAWN:	N.MBONGWA	DATE: 06/11/2008	FILE No: 6315
			 <b>D-DT-6315</b>
SAP No:		0237660	0237661
		0632880	0632984
SET	SHEET	REV	
2	1	1	

## SPEC SHEET

SAP MATERIAL No.:	0237662																											
SHORT DESCRIPTION:	VT, POWER 1PH 66kV/400V 2500VA D6315																											
TECH. DESCRIPTION:	<p>POWER VOLTAGE TRANSFORMER FOR USE AS SUB AUX SUPPLY *            SINGLE PHASE * PRIMARY VOLTAGE: 66kV/<math>\sqrt{3}</math> * SECONDARY VOLTAGE: 400V/<math>\sqrt{3}</math>            BURDEN: 2500VA * VOLTAGE FACTOR: 2.1 * PRIMARY INSULATION REQUIREMENTS AS PER NRS 030 *            CREEPAGE: 31mm/kV * DIMENSIONS AND MOUNTING AS PER D-DT-6176 *            ESKOM DRAWING No. D-DT-6315</p>																											
SAP MATERIAL No.:	0632985																											
SHORT DESCRIPTION:	VT:POWER VT ;1 ;66 KV ;400 V ;16 KVA																											
TECH. DESCRIPTION:	<p>TRANSFORMER, POTENTIAL: TYPE: POWER VT; PHASE: 1;            INPUT POTENTIAL: 66 KV; OUTPUT POTENTIAL: 400 V;            BURDEN: 16 KVA; CREEPAGE: 31 MM/KVAC;            APPARENT POWER: 16 KVA; POTENTIAL: 66 KV;            MAXIMUM SYSTEM VOLTAGE: 72.5KV;            BIL: 325KV AND POWER FREQUENCY: 140KV;            INPUT VOLTAGE: 66/1.732KV; OUTPUT VOLTAGE: 400/1.732V;            ESKOM DRAWING No. D-DT-6176*</p>																											
SAP MATERIAL No.:	0237663																											
SHORT DESCRIPTION:	VT, POWER 1PH 44kV/400V 2500VA D6315																											
TECH. DESCRIPTION:	<p>POWER VOLTAGE TRANSFORMER FOR USE AS SUB AUX SUPPLY *            SINGLE PHASE * PRIMARY VOLTAGE: 44kV/<math>\sqrt{3}</math> * SECONDARY VOLTAGE: 400V/<math>\sqrt{3}</math>            BURDEN: 2500VA * VOLTAGE FACTOR: 2.1 * PRIMARY INSULATION REQUIREMENTS AS PER NRS 030 *            CREEPAGE: 31mm/kV * DIMENSIONS AND MOUNTING AS PER D-DT-6177 *            ESKOM DRAWING No. D-DT-6315</p>																											
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1	SAP 0632880, 0632984 AND 0632985 ADDED	P.A.T.	S. MAPHOSA	S. MAPHOSA	24.07.2017																							
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS																						
AUTH:	G. STRELEC	DATE:	11/01/2009	 <b>D-DT-6315</b>	SAP No:																							
CHKD:	G. STRELEC	DATE:	11/01/2009		0237662		0237663																					
DRAWN:	N.MBONGWA	DATE:	06/11/2008		0632985																							
					SET	SHEET	REV																					
				2	2	1																						






NOTE: DRAWING NOT FOR MANUFACTURING PURPOSES

CODE	TUBE DIAMETER "A" (mm)	PCD (mm)	90°C RATED CURRENT (A)	RATED VOLTAGE (kV RMS)	SAP NUMBER
ESC-PI-S-B	80	127	3,150	145	0644297
ESC-PI-S-E	120	76	3,150	145	0586942
ESC-PI-S-F	120	127	3,150	145	0242920

SAP MATERIAL No.:		0644297						
SHORT DESCRIPTION:		CLAMP, TUBE:ESC-PI-S-B ;80/127;SLIDE						
TECH. DESCRIPTION: CLAMP, TUBE: TYPE: ESC-PI-S-B; COMMERCIAL SIZE: 80/127;SLIDE; MATERIAL: AL ALLOY<0.1% CU; TUBE 1 DIAMETER ACCOMMODATED: 80 MM; PITCH CIRCLE DIAMETER: 127 MM; MAXIMUM OPERATING POTENTIAL: 145 KV; POST INSULATOR MOUNTED SUPPORT CLAMP; ESKOM DRAWING No. D-DT-6316 *								
ITEM		:- CLAMP, TUBE: ESC-PI-S; POST INSULATOR MOUNTED SUPPORT CLAMP; SLIDE						
STANDARD UNIQUE IDENTIFIER:		:- 240-53113923						
2	80/127;SLIDE ADDED	P.A.T.	C.THOM AS	T.MARIAS	23.02.2018			
1	ITEM TABLE ADDED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND ADDITIONAL TUBE CLAMP ADDED	P.A.T.	M. PEFFER	T.MARIAS	05.09.2014			
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE REF. DRAWINGS		
AUTH:	T. NKAMBULE	DATE:	29.07.2009	 <b>D-DT-6316</b>		SAP No:		
CHKD:	T. NKAMBULE	DATE:	29.07.2009			0644297		
DRAWN:	P.A. TUBLET	DATE:	04.06.2009			SET	SHEET	REV
		SCALE NTS				2	1	2
		CAD REF: SERIES 6000						
		FILE No: 6316						

## SPEC SHEET


SAP MATERIAL No.:	0586942								
SHORT DESCRIPTION:	CLAMP,TUBE:ESC-PI-S-E;120/76;SLIDE								
TECH. DESCRIPTION:									
CLAMP, TUBE: TYPE: ESC-PI-S-E; COMMERCIAL SIZE: 120/76;SLIDE; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; PITCH CIRCLE DIAMETER: 76 MM; CLAMP CURRENT RATING: 3150 A; MAXIMUM OPERATING POTENTIAL: 145 KV; <b>POST INSULATOR MOUNTED SUPPORT CLAMP;</b> ESKOM DRAWING No. D-DT-6316 *									
SAP MATERIAL No.:	0242920								
SHORT DESCRIPTION:	CLAMP,TUBE:ESC-PI-S-F;120/127;SLIDE								
TECH. DESCRIPTION:									
CLAMP, TUBE: TYPE: ESC-PI-S-E; COMMERCIAL SIZE: 120/127;SLIDE; MATERIAL: Al ALLOY< 0.1% Cu; TUBE 1 DIAMETER ACCOMMODATED: 120 MM; PITCH CIRCLE DIAMETER: 127 MM; CLAMP CURRENT RATING: 3150 A; MAXIMUM OPERATING POTENTIAL: 145 KV; <b>POST INSULATOR MOUNTED SUPPORT CLAMP;</b> ESKOM DRAWING No. D-DT-6316 *									
2	80/127;SLIDE ADDED			P.A.T.	C.THOM AS	T.MARIAS	23.02.2018		
1	ITEM TABLE ADDED, SHORT AND TECHNICAL DESCRIPTIONS CHANGED AND ADDITIONAL TUBE CLAMP ADDED			P.A.T.	M. PEFFER	T.MARIAS	05.09.2014		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	T. NKAMBULE	DATE:	29.07.2009	SCALE NTS		 <b>D-DT-6316</b>	SAP No:		
CHKD:	T. NKAMBULE	DATE:	29.07.2009	CAD REF: SERIES 6000			0586942	0242920	
DRAWN:	P.A. TUBLET	DATE:	04.06.2009	FILE No: 6316			SET	SHEET	REV
							<b>2</b>	<b>2</b>	<b>2</b>

## SPEC SHEET


SAP MATERIAL No.:	0164654									
SHORT DESCRIPTION:	BAR,ST RD REINF 6mm D7027									
TECH. DESCRIPTION:										
MILD STEEL ROUND BAR * MATERIAL : TYPE A * HOT ROLLED *										
PLAIN * MINIMUM YIELD STRESS 250MPa * 6mm DIA *										
28.3mm SQ NOMINAL CROSS SECTIONAL AREA *										
APPROX MASS : 0.222kg/m *										
ESKOM DRAWING No. D-DT-7027 *										
SAP MATERIAL No.:	0172322									
SHORT DESCRIPTION:	BAR,ST RD REINF 8mm D7027									
TECH. DESCRIPTION:										
MILD STEEL ROUND BAR * MATERIAL : TYPE A * HOT ROLLED *										
PLAIN * MINIMUM YIELD STRESS 250MPa * 8mm DIA *										
APPROX MASS : 0.395kg/m *										
ESKOM DRAWING No. D-DT-7027 *										
SAP MATERIAL No.:	0017100									
SHORT DESCRIPTION:	BAR,ST RD REINF 10mm D7027									
TECH. DESCRIPTION:										
MILD STEEL ROUND BAR * MATERIAL : TYPE A * HOT ROLLED *										
PLAIN * MINIMUM YIELD STRESS 250MPa * 10mm DIA *										
APPROX MASS : 0.616kg/m *										
ESKOM DRAWING No. D-DT-7027 *										
ITEM	:- BAR REINFORCING TYPE 'R'									
MATERIAL SPECIFICATION	:- SANS 920									
CORROSION SPECIFICATION	:-									
STANDARD SPECIFICATION	:- SANS 920									
ESKOM SPECIFICATION	:- TRMSCAAC1									
TEST & CERTIFICATION REQUIREMENTS :-										
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No			
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS										
1	LOGO CHANGED AS PER NEW CORPORATE ID AND SABS CHANGED TO SANS			PBM	P.A.V.	P.A.V.	16.11.04			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	P. CROWDY	DATE:	26.03.1998	SCALE NTS				SAP No:		
CHKD:	D. PILLAY	DATE:	26.03.1998	CAD REF: Series 7000				0164654	0017100	
DRAWN:	GC P.A. VERMAAK	DATE:	08.11.1997 16.03.1998	FILE No: 7027		<b>D-DT-7027</b>		SET	SHEET	REV
								1	1	1

## 1.2. Control Plant

## SPEC SHEET

SAP MATERIAL No.:	0400642								
SHORT DESCRIPTION:	CABLE,ELECT:BVX4PCV 1,0KV 4C;CU;95 MM2								
TECH. DESCRIPTION:	CABLE, ELECTRICAL: VOLTAGE: 1,0 KV; CONDUCTOR INSULATION: PVC; CORE QUANTITY: 4C; CONDUCTOR SIZE: 95 MM2; CONDUCTOR MATERIAL: CU; ARMOR: STL WIRE; DESIGN TYPE: BVX4PCV;COVERING: PVC SHEATH; RATING: 1 KVAC; CONDUCTOR INSULATION: PVC; 4 CORE STRANDED COPPER CONDUCTOR; DRUM 300 M; ESKOM DRAWING No. D-DT-2128 *								
SAP MATERIAL No.:	0171276								
SHORT DESCRIPTION:	CABLE,ELECT:1,0 KV;PVC;35 MM2;4C;AL								
TECH. DESCRIPTION:	CABLE, ELECTRICAL: VOLTAGE: 1,0 KV; CONDUCTOR INSULATION: PVC; CORE QUANTITY: 4C; CONDUCTOR SIZE: 35 MM2; CONDUCTOR MATERIAL: AL; ARMOR: STL WIRE; DESIGN TYPE: BVX4LAV; COVERING: PVC SHEATH; RATING: 1 KVAC; CONDUCTOR INSULATION: PVC; 4 CORE STRANDED ALUMINIUM CONDUCTOR; 300 M DRUM; ESKOM DRAWING No. D-DT-2128 *								
SAP MATERIAL No.:	0528922								
SHORT DESCRIPTION:	CABLE,ELECT:1,0 KV;PVC;50 MM2;4C;AL								
TECH. DESCRIPTION:	CABLE, ELECTRICAL: VOLTAGE: 1,0 KV; CONDUCTOR INSULATION: PVC; CORE QUANTITY: 4C; CONDUCTOR SIZE: 50 MM2; CONDUCTOR MATERIAL: AL; ARMOR: STL WIRE; DESIGN TYPE: BVX4MAV; COVERING: PVC SHEATH; RATING: 1 KVAC; CONDUCTOR INSULATION: PVC; 4 CORE STRANDED ALUMINIUM CONDUCTOR; 300M DRUM; ESKOM DRAWING No. D-DT-2128 *								
ITEM	:- CABLE,1kV 4C								
MATERIAL SPECIFICATION	:-								
CORROSION SPECIFICATION	:-								
STANDARD SPECIFICATION	:- SANS 1507								
ESKOM SPECIFICATION	:- ESP 32-1272								
TEST & CERTIFICATION REQUIREMENTS	:- SANS 1507								
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No		
IDENTIFICATION:- INDELIBLE MNFRS. TRADEMARK AND PART NO ON ALL ITEMS AND DRUM STAMPED/MARKED;									
11	ALL INFORMATION RE SUBMITTED THROUGH PILOG		P.A.T.	Q. KHUMALO	B. OLIVIER	06.09.2018			
10	ESKOM SPECIFICATION UPDATED		P.A.T.	Q. KHUMALO	T. DU PLESSIS	09.10.2015			
9	SHORT AND TECH.DESCRPTIONS CHANGED AS PER PILOG		P.A.T.	M. SHUTER	B. MWAREHWA	18.04.2013			
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	G. WHYTE	DATE:	02.08.2002	 <b>D-DT-2128</b>		SAP No:			
CHKD:	T. GILLARD	DATE:	02.08.2002			0400642		0528922	
DRAWN:	P.A. VERMAAK	DATE:	12.06.2002			0171276		SET	SHEET
				SCALE					
				NTS					
				CAD REF:					
				SERIES 2000					
				FILE No:					
				2128		3	1		
							11		


## SPEC SHEET

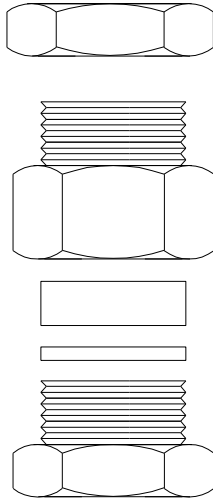
SAP MATERIAL No.:	0403082							
SHORT DESCRIPTION:	CABLE,ELECT:1,0 KV;PVC;70 MM2;4C;AL							
TECH. DESCRIPTION:	CABLE, ELECTRICAL: VOLTAGE: 1,0 KV; CONDUCTOR INSULATION: PVC; CORE QUANTITY: 4C; CONDUCTOR SIZE: 70 MM2; CONDUCTOR MATERIAL: AL; ARMOR: STL WIRE; DESIGN TYPE: BVX4NAV; COVERING: PVC OUTER SHEATH; RATING: 1 KVAC; CONDUCTOR INSULATION: PVC; 4 CORE STRANDED ALUMINIUM CONDUCTOR; 300M DRUM; ESKOM DRAWING No. D-DT-2128 *							
SAP MATERIAL No.:	0171215							
SHORT DESCRIPTION:	CABLE,ELECT:1,0 KV;PVC;95 MM2;4C;AL							
TECH. DESCRIPTION:	CABLE, ELECTRICAL: VOLTAGE: 1,0 KV; CONDUCTOR INSULATION: PVC; CORE QUANTITY: 4C; CONDUCTOR SIZE: 95 MM2; CONDUCTOR MATERIAL: AL; ARMOR: STL WIRE; DESIGN TYPE: BCX4PAV; COVERING: PVC SHEATH; RATING: 1 KVAC; SPECIFICATION: CONDUCTOR INSULATION: PVC; 4 CORE STRANDED ALUMINIUM CONDUCTOR; 300 M DRUM; ESKOM DRAWING No. D-DT-2128 *							
SAP MATERIAL No.:	0403084							
SHORT DESCRIPTION:	CABLE,ELECT:1,0 KV;PVC;120 MM2;4C;AL							
TECH. DESCRIPTION:	CABLE, ELECTRICAL: VOLTAGE: 1,0 KV; CONDUCTOR INSULATION: PVC; CORE QUANTITY: 4C; CONDUCTOR SIZE: 120 MM2; CONDUCTOR MATERIAL: AL; ARMOR: STL WIRE; DESIGN TYPE: BVX4QAV; COVERING: PVC SHEATH; RATING: 1 KVAC; CONDUCTOR INSULATION: PVC; 4 CORE STRANDED ALUMINIUM CONDUCTOR; 300M DRUM; ESKOM DRAWING No. D-DT-2128 *							
SAP MATERIAL No.:	0171265							
SHORT DESCRIPTION:	CABLE,ELECT:1,0 KV;PVC;150 MM2;4C;AL							
TECH. DESCRIPTION:	CABLE, ELECTRICAL: VOLTAGE: 1,0 KV; CONDUCTOR INSULATION: PVC; CORE QUANTITY: 4C; CONDUCTOR SIZE: 150 MM2; CONDUCTOR MATERIAL: AL; ARMOR: STL WIRE; DESIGN TYPE: BVX4RAV; COVERING: PVC SHEATH; RATING: 1 KVAC; CONDUCTOR INSULATION: PVC; 4 CORE STRANDED ALUMINIUM CONDUCTOR; 300M DRUM; ESKOM DRAWING No. D-DT-2128 *							
11	ALL INFORMATION RE SUBMITTED THROUGH PILOG		P.A.T.	Q. KHUMALO	B. OLIVIER	06.09.2018		
10	ESKOM SPECIFICATION UPDATED		P.A.T.	Q. KHUMALO	T. DU PLESSIS	09.10.2015		
9	SHORT AND TECH.DESCRPTIONS CHANGED AS PER PILOG		P.A.T.	M. SHUTER	B. MWAREHWA	18.04.2013		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	G. WHYTE	DATE:	02.08.2002	 <b>D-DT-2128</b>		SAP No:		
CHKD:	T. GILLARD	DATE:	02.08.2002			0403082	0403084	
DRAWN:	P.A. VERMAAK	DATE:	12.06.2002			0171215	0171265	
						SET	SHEET	REV
				2128	3	2	11	

## SPEC SHEET

SAP MATERIAL No.:	0403086
SHORT DESCRIPTION:	CABLE,ELECT:1,0 KV;PVC;185 MM2;4C;AL
TECH. DESCRIPTION:	
CABLE, ELECTRICAL: VOLTAGE: 1,0 KV; CONDUCTOR INSULATION: PVC; CORE QUANTITY: 4C; CONDUCTOR SIZE: 185 MM2; CONDUCTOR MATERIAL: AL; ARMOR: STL WIRE; DESIGN TYPE: BVX4SAV; COVERING: PVC SHEATH; RATING: 1 KVAC; CONDUCTOR INSULATION: PVC; 4 CORE STRANDED ALUMINIUM CONDUCTOR; 300 M DRUM; ESKOM DRAWING No. D-DT-2128 *	

SAP MATERIAL No.:	0171184
SHORT DESCRIPTION:	CABLE,ELECT:1,0 KV;PVC;240 MM2;4C;AL
TECH. DESCRIPTION:	
CABLE, ELECTRICAL: VOLTAGE: 1,0 KV; CONDUCTOR INSULATION: PVC; CORE QUANTITY: 4C; CONDUCTOR SIZE: 240 MM2; CONDUCTOR MATERIAL: AL; ARMOR: STL WIRE; DESIGN TYPE: BVX4TAV; COVERING: PVC SHEATH; RATING: 1 KVAC; CONDUCTOR INSULATION: PVC; 4 CORE STRANDED ALUMINIUM CONDUCTOR; 300 M DRUM; ESKOM DRAWING No. D-DT-2128 *	

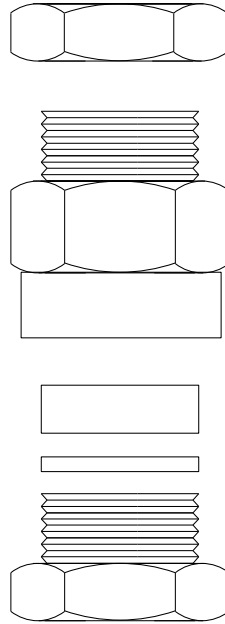
11	ALL INFORMATION RE SUBMITTED THROUGH PILOG	P.A.T.	Q. KHUMALO	B. OLIVIER	06.09.2018			
10	ESKOM SPECIFICATION UPDATED	P.A.T.	Q. KHUMALO	T. DU PLESSIS	09.10.2015			
9	SHORT AND TECH.DESCRPTIONS CHANGED AS PER PILOG	P.A.T.	M. SHUTER	B. MWAREHWA	18.04.2013			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	G. WHYTE	DATE:	02.08.2002	 <b>D-DT-2128</b>		SAP No:		
CHKD:	T. GILLARD	DATE:	02.08.2002			0403086		
DRAWN:	P.A. VERMAAK	DATE:	12.06.2002			0171184		
						SET	SHEET	REV
						3	3	11




NOTE :  
SKETCH NOT FOR MANUFACTURING PURPOSES.

SAP MATERIAL No.:	0404480						
SHORT DESCRIPTION:	GLAND,CABLE:CABTYRE 16MM2 ;NO 1						
TECH. DESCRIPTION:	<p>GLAND, CABLE: TYPE: CABTYRE 16MM2; SIZE: NO 1;  MATERIAL: PVC WHITE; CLASSIFICATION: WEATHER AND WATERPROOF;  COMPRESSION GLAND; SUITABLE FOR 16 MM CABTYRE FLEX CABLE;  20MM KNOCKOUT;  FITTED WITH NYLON BUSH, RETAINING WASHER AND COMPRESSION NUT;  32.5 MM LONG OVERALL;  ESKOM DRAWING No. D-DT-3070 *</p>						
SAP MATERIAL No.:	0168370						
SHORT DESCRIPTION:	GLAND,CABLE:POLYAMIDE 10MM2 ;NO 1						
TECH. DESCRIPTION:	<p>GLAND, CABLE: TYPE: POLYAMIDE 10MM2; SIZE: NO 1;  MATERIAL: POLYAMIDE; COMPRESSION GLAND; UV STABILISED;  FOR UNARMoured CABLE; 20MM CONDUIT ENTRY;  FOR 10MM2 CONCENTRIC CABLE CONDUCTOR;  ESKOM DRAWING No. D-DT-3070 *</p>						
ITEM	:- CABLE GLAND NON METALLIC						
MATERIAL SPECIFICATION	:-						
CORROSION SPECIFICATION	:-						
STANDARD SPECIFICATION	:-						
ESKOM SPECIFICATION	:- 34-623						
TEST & CERTIFICATION REQUIREMENTS	:-						
INSPECTION	Yes	No	ESKOM RELEASE NOTE		Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS							
13	VARIOUS SAP NO. UPDATED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED TO PILOG		P.A.T.	J.MAUDU	J.MAUDU	13.01.2015	
12	ESKOM SPEC. 34-623 REMOVED FOR METALLIC GLANDS AND SANS 1213 REMOVED FOR NON METALLIC GLANDS		P.A.T.	B. MWAREHWA	B. MWAREHWA	18.05.2009	
11	ESKOM SPEC 34-623 ADDED		N.M.	J.MAUDU	J.MAUDU	15.05.2008	
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	P. CROWDY	DATE:	17.05.95	 <b>D-DT-3070</b>	SAP No:		
CHKD:	J. SWAN	DATE:	17.05.95		0404480		
DRAWN:	P.A. VERMAAK	DATE:	30.03.95		0168370		
					SET	SHEET	REV
					6	1	13





NOTE :  
SKETCH NOT FOR MANUFACTURING PURPOSES.

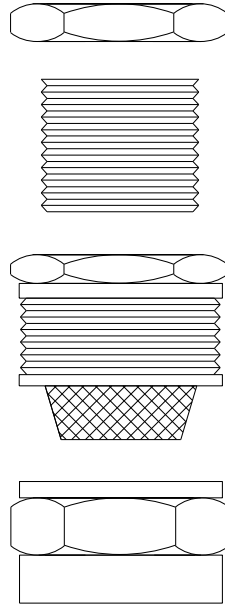
SAP MATERIAL No.:		0404471					
SHORT DESCRIPTION:		GLAND,CABLE:COMPRESSION A2;NO 1					
TECH. DESCRIPTION:							
GLAND, CABLE: TYPE: COMPRESSION A2; SIZE: NO 1;							
MATERIAL: BRS CD PLTD;							
NIPPLE DIAMETER 20MM; CABLE DIAMETER: 11.0 TO 14.5MM;							
MOISTURE-PROOF;							
USED WITH ALL TYPES OF UNARMOURED CABLE; SUPPLIED WITH SHROUD;							
ESKOM DRAWING No. D-DT-3070 *							
ITEM		:- CABLE GLAND COMPRESSION METALLIC					
MATERIAL SPECIFICATION		:-					
CORROSION SPECIFICATION		:-					
STANDARD SPECIFICATION		:- SANS 1213 (MATERIAL EXCEPTED)					
ESKOM SPECIFICATION		:-					
TEST & CERTIFICATION REQUIREMENTS :-							
INSPECTION		Yes	No	ESKOM RELEASE NOTE		Yes	No
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS							
13	VARIOUS SAP NO. UPDATED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED TO PILOG			P.A.T.	J.MAUDU	J.MAUDU	13.01.2015
12	ESKOM SPEC. 34-623 REMOVED FOR METALLIC GLANDS AND SANS 1213 REMOVED FOR NON METALLIC GLANDS			P.A.T.	B. MWAREHWA	B. MWAREHWA	18.05.2009
11	ESKOM SPEC 34-623 ADDED			N.M.	J.MAUDU	J.MAUDU	15.05.2008
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE
AUTH:	P. CROWDY	DATE:	17.05.95	SCALE		SAP No:	
				NTS		0404471	
CHKD:	J. SWAN	DATE:	17.05.95	CAD REF:		SET	SHEET
				SERIES 3000		6	2
DRAWN:	P.A. VERMAAK	DATE:	30.03.95	FILE No:		REV	
				3070		13	
							
				<b>D-DT-3070</b>			

## SPEC SHEET


SAP MATERIAL No.:	0404469							
SHORT DESCRIPTION:	GLAND,CABLE:COMPRESSION A2;NO 2							
TECH. DESCRIPTION:								
<p>GLAND, CABLE: TYPE: COMPRESSION A2; SIZE: NO 2;            MATERIAL: BRS CD PLTD; CLASSIFICATION: MOISTUREPROOF;            NIPPLE DIA. 25 MM; CABLE DIAMETER: 14.5 TO 20.5 MM;            USED WITH ALL TYPES OF UNARMoured CABLE;            SUPPLIED WITH SHROUD;            ESKOM DRAWING No. D-DT-3070 *</p>								
SAP MATERIAL No.:	0404468							
SHORT DESCRIPTION:	GLAND,CABLE:COMPRESSION A2;NO 3							
TECH. DESCRIPTION:								
<p>GLAND, CABLE: TYPE: COMPRESSION A2; SIZE: NO 3;            MATERIAL: BRS CD PLTD; CLASSIFICATION: MOISTUREPROOF;            NIPPLE DIAMETER: 32 MM; CABLE DIAMETER: 20.5 TO 26.5 MM;            USED WITH ALL TYPES OF UNARMoured CABLE;            SUPPLIED WITH SHROUD;            ESKOM DRAWING No. D-DT-3070 *</p>								
SAP MATERIAL No.:	0136924							
SHORT DESCRIPTION:	GLAND,CABLE:COMPRESSION A2;NO 4							
TECH. DESCRIPTION:								
<p>GLAND, CABLE: TYPE: COMPRESSION A2; SIZE: NO 4;            MATERIAL: BRS CD PLTD; CLASSIFICATION: MOISTURE PROOF;            CABLE DIAMETER: 26MM TO 34MM; USED WITH ALL TYPES OF UNARMoured CABLE;            SUPPLIED WITH SHROUD;            ESKOM DRAWING No. D-DT-3070 *</p>								
SAP MATERIAL No.:	0404476							
SHORT DESCRIPTION:	GLAND,CABLE:COMPRESSION A2;NO 5							
TECH. DESCRIPTION:								
<p>GLAND, CABLE: TYPE: COMPRESSION A2; SIZE: NO 5;            MATERIAL: BRS CD PLTD; CLASSIFICATION: MOISTUREPROOF;            CABLE DIAMETER: 34.0 TO 43.0 MM;            USED WITH ALL TYPES OF UNARMoured CABLE;            SUPPLIED WITH SHROUD;            ESKOM DRAWING No. D-DT-3070 *</p>								
13	VARIOUS SAP NO. UPDATED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED TO PILOG			P.A.T.	J.MAUDU	J.MAUDU	13.01.2015	
12	ESKOM SPEC. 34-623 REMOVED FOR METALLIC GLANDS AND SANS 1213 REMOVED FOR NON METALLIC GLANDS			P.A.T.	B. MWAREHWA	B. MWAREHWA	18.05.2009	
11	ESKOM SPEC 34-623 ADDED			N.M.	J.MAUDU	J.MAUDU	15.05.2008	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	P. CROWDY	DATE:	17.05.95	SCALE		SAP No:		
				NTS		0404469 0136924		
CHKD:	J. SWAN	DATE:	17.05.95	CAD REF:		0404468 0404476		
				SERIES 3000		SET	SHEET	REV
DRAWN:	P.A. VERMAAK	DATE:	30.03.95	FILE No:		6	3	13
				3070		<b>D-DT-3070</b>		



D-DT-3070



NOTE :  
SKETCH NOT FOR MANUFACTURING PURPOSES.

SAP MATERIAL No.:		0168367										
SHORT DESCRIPTION:		GLAND,CABLE:ADJUSTABLE;NO 1;BRS CD PLTD										
TECH. DESCRIPTION:												
<p>GLAND, CABLE: TYPE: ADJUSTABLE; SIZE: NO 1;  MATERIAL: BRS CD PLTD;  SUPPLIED WITH SHROUD; USED WITH PVC INSULATED STL WIRE ARMoured CABLE;  MUST BEAR THE SANS MARK (SANS 1213);  FOR USE ON SUBSTATIONS;  ESKOM DRAWING No. D-DT-3070 * S *</p>												
ITEM		:- CABLE GLAND ADJUSTABLE METALLIC										
MATERIAL SPECIFICATION		:-										
CORROSION SPECIFICATION		:-										
STANDARD SPECIFICATION		:- SANS 1213 (MATERIAL EXCEPTED)										
ESKOM SPECIFICATION		:-										
TEST & CERTIFICATION REQUIREMENTS :-												
INSPECTION		Yes		No		ESKOM RELEASE NOTE		Yes		No		
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS												
13	VARIOUS SAP NO. UPDATED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED TO PILOG			P.A.T.	J.MAUDU	J.MAUDU	13.01.2015					
12	ESKOM SPEC. 34-623 REMOVED FOR METALLIC GLANDS AND SANS 1213 REMOVED FOR NON METALLIC GLANDS			P.A.T.	B. MWAREHWA	B. MWAREHWA	18.05.2009					
11	ESKOM SPEC 34-623 ADDED			N.M.	J.MAUDU	J.MAUDU	15.05.2008					
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS				
AUTH:	P. CROWDY	DATE:	17.05.95	SCALE		 <b>D-DT-3070</b>		SAP No:				
CHKD:	J. SWAN	DATE:	17.05.95	NTS				0168367				
DRAWN:	P.A. VERMAAK	DATE:	30.03.95	CAD REF:				SET	SHEET	REV		
				SERIES 3000				6	4	13		
				FILE No:								
				3070								

## SPEC SHEET

SAP MATERIAL No.:	0168279
SHORT DESCRIPTION:	GLAND,CABLE:ADJUSTABLE;NO 2;BRS NI PLTD

**TECH. DESCRIPTION:**

GLAND, CABLE: TYPE: ADJUSTABLE; SIZE: NO 2;  
 MATERIAL: BRS NI PLTD; SUPPLIED WITH SHROUD;  
 USED WITH PVC INSULATED STL WIRE ARMoured CABLE;  
 INTENDED FOR 16 MM2, 2 CORE CABLE;  
 MUST BEAR THE SANS MARK (SANS 1213);  
 FOR SUBSTATION USE;  
 ESKOM DRAWING No. D-DT-3070 \* S \*

SAP MATERIAL No.:	0168280
SHORT DESCRIPTION:	GLAND,CABLE:ADJUSTABLE;NO 3;BRS NI PLTD


**TECH. DESCRIPTION:**

GLAND, CABLE: TYPE: ADJUSTABLE; SIZE: NO 3;  
 MATERIAL: BRS NI PLTD; SUPPLIED WITH SHROUD;  
 USED WITH PVC INSULATED STL WIRE ARMoured CABLE;  
 INTENDED FOR 12 CORE 2.6 MM2, 4 CORE 16 MM2, 3 CORE 25MM2, 4 CORE 25MM2,  
 2 CORE 35MM2, 4 CORE 35MM2 CABLE;  
 MUST BEAR THE SANS MARK (SANS 1213);  
 FOR SUBSTATION USE;  
 ESKOM DRAWING No. D-DT-3070 \* S \*

SAP MATERIAL No.:	0403461
SHORT DESCRIPTION:	GLAND,CABLE:ADJUSTABLE;NO 4;BRS NI PLTD

**TECH. DESCRIPTION:**

GLAND, CABLE: TYPE: ADJUSTABLE; SIZE: NO 4;  
 MATERIAL: BRS NI PLTD; SUPPLIED WITH SHROUD;  
 USED WITH PVC INSULATED STEEL WIRE ARMoured CABLE;  
 INTENDED FOR 70MM SQ. 3 CORE;  
 MUST BEAR THE SANS MARK (SANS 1213);  
 ESKOM DRAWING No. D-DT-3070 \*

13	VARIOUS SAP NO. UPDATED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED TO PILOG	P.A.T.	J.MAUDU	J.MAUDU	13.01.2015		
12	ESKOM SPEC. 34-623 REMOVED FOR METALLIC GLANDS AND SANS 1213 REMOVED FOR NON METALLIC GLANDS	P.A.T.	B. MWAREHWA	B. MWAREHWA	18.05.2009		
11	ESKOM SPEC 34-623 ADDED	N.M.	J.MAUDU	J.MAUDU	15.05.2008		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	P. CROWDY	DATE:	17.05.95	 <b>D-DT-3070</b>	SAP No:		
CHKD:	J. SWAN	DATE:	17.05.95		0168279	0403461	
DRAWN:	P.A. VERMAAK	DATE:	30.03.95		0168280		
					SET	SHEET	REV
					6	5	13


## SPEC SHEET

SAP MATERIAL No.:	0175859							
SHORT DESCRIPTION:	GLAND,CABLE:ADJUSTABLE;NO 5;BRS NI PLTD							
TECH. DESCRIPTION:	<p>GLAND, CABLE: TYPE: ADJUSTABLE; SIZE: NO 5;  MATERIAL: BRS NI PLTD;  SUPPLIED WITH SHROUD;  USED WITH PVC INSULATED STL WIRE ARMoured CABLE;  ESKOM DRAWING No. D-DT-3070 *</p>							
SAP MATERIAL No.:	0168368							
SHORT DESCRIPTION:	GLAND,CABLE:ADJUSTABLE;NO 6;BRS NI PLTD							
TECH. DESCRIPTION:	<p>GLAND, CABLE: TYPE: ADJUSTABLE; SIZE: NO 6;  MATERIAL: BRS NI PLTD;  SUPPLIED WITH SHROUD;  USED WITH PVC INSULATED STL WIRE ARMoured CABLE *  INTENDED FOR 150 MM2 4 CORE AND 185 MM2 4 CORE;  MUST BEAR THE SANS MARK (SANS 1213);  ESKOM DRAWING No. D-DT-3070 *</p>							
SAP MATERIAL No.:	0179962							
SHORT DESCRIPTION:	GLAND,CABLE:ADJUSTABLE;NO 7;BRS NI PLTD							
TECH. DESCRIPTION:	<p>GLAND, CABLE: TYPE: ADJUSTABLE; SIZE: NO 7;  MATERIAL: BRS NI PLTD;  SUPPLIED WITH SHROUD;  USED WITH PVC INSULATED STL WIRE ARMoured CABLE;  INTENDED FOR 240 MM2 4 CORE;  MUST BEAR THE SANS MARK (1213);  ESKOM DRAWING No. D-DT-3070 *</p>							
13	VARIOUS SAP NO. UPDATED AND SHORT AND TECHNICAL DESCRIPTIONS CHANGED TO PILOG			P.A.T.	J.MAUDU	J.MAUDU	13.01.2015	
12	ESKOM SPEC. 34-623 REMOVED FOR METALLIC GLANDS AND SANS 1213 REMOVED FOR NON METALLIC GLANDS			P.A.T.	B. MWAREHWA	B. MWAREHWA	18.05.2009	
11	ESKOM SPEC 34-623 ADDED			N.M.	J.MAUDU	J.MAUDU	15.05.2008	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	P. CROWDY	DATE:	17.05.95	 <b>Eskom</b>  <b>D-DT-3070</b>		SAP No:		0179962
CHKD:	J. SWAN	DATE:	17.05.95			0175859	0168368	
DRAWN:	P.A. VERMAAK	DATE:	30.03.95			SCALE	SET	SHEET
				NTS	6	6	13	
				CAD REF:				
				SERIES 3000				
				FILE No:				
				3070				

## SPEC SHEET

SAP MATERIAL No.:	0403351							
SHORT DESCRIPTION:	CABLE,ELECT:BVV1TCV 1,0KV 1C;CU;240 MM2							
TECH. DESCRIPTION:								
CABLE, ELECTRICAL: TYPE: BVV1TCV 1,0KV 1C; CONDUCTOR: CU; CONDUCTOR SIZE: 240 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: ALUMINIUM WIRE ARMOURED; 1 CORE STRANDED COPPER CONDUCTOR; 300M DRUM, REFERENCE NO: BVV1TCV; ESKOM DRAWING No. D-DT-3128 *								
SAP MATERIAL No.:	0403113							
SHORT DESCRIPTION:	CABLE,ELECT:BVV1WCV 1,0KV 1C;CU;500 MM2							
TECH. DESCRIPTION:								
CABLE, ELECTRICAL: TYPE: BVV1WCV 1,0KV 1C; CONDUCTOR: CU; CONDUCTOR SIZE: 500 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: ALUMINIUM WIRE ARMOURED; 1 CORE STRANDED COPPER CONDUCTOR; 300 M DRUM, REFERENCE NO: BVV1WCV; ESKOM DRAWING No. D-DT-3128 *								
ITEM	:- CABLE,1KV 1C, 2C,3C, 4C, 7C, 12C, 19C CU							
MATERIAL SPECIFICATION	:-							
CORROSION SPECIFICATION	:-							
STANDARD SPECIFICATION	:- SANS 1507, NRS 074-1							
ESKOM SPECIFICATION	:- <b>ESP 32-1272</b>							
TEST & CERTIFICATION REQUIREMENTS :-								
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS DRUM TO BE STAMPED/MARKED								
17	ESKOM SPECIFICATION UPDATED		P.A.T.	Q. KHUMALO	T. DU PLESSIS	09.10.2015		
16	0403351 AND 0403113 CHANGED TO ALUMINIUM WIRE ARMOURED AND NRS 074-1 STD. SPEC ADDED		P.A.T.	J. MAUDU	J. MAUDU	12.05.2015		
15	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG		P.A.T.	M. SHUTER	J. MAUDU	16.05.2013		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	P. CROWDY	DATE:	20.03.1998	 <b>D-DT-3128</b>		SAP No:		
CHKD:	D. PILLAY	DATE:	20.03.1998			0403351		
DRAWN:	P.A. VERMAAK	DATE:	09-04-96			0403113		
						SET	SHEET	REV
						7	1	17

## SPEC SHEET

SAP MATERIAL No.:	0404122						
SHORT DESCRIPTION:	CABLE,ELECT:BVX2ECV 1,0KV 2C;CU;4 MM2						
TECH. DESCRIPTION:	CABLE, ELECTRICAL: TYPE: BVX2ECV 1,0KV 2C; CONDUCTOR: CU; CONDUCTOR SIZE: 4 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 2 CORE STRANDED COPPER CONDUCTOR; 500 M DRUM; REFERENCE NO: BVX2ECV; ESKOM DRAWING No. D-DT-3128 *						
SAP MATERIAL No.:	0014474						
SHORT DESCRIPTION:	CABLE,ELECT:BVX2HCV 1,0KV 2C;CU;16 MM2						
TECH. DESCRIPTION:	CABLE, ELECTRICAL: TYPE: BVX2HCV 1,0KV 2C; CONDUCTOR: CU; CONDUCTOR SIZE: 16 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 2 CORE STRANDED COPPER CONDUCTOR; 500M DRUM; REFERENCE NO: BVX2HCV; ESKOM DRAWING No. D-DT-3128 *						
SAP MATERIAL No.:	0403473						
SHORT DESCRIPTION:	CABLE,ELECT:BVX2KCV 1,0KV 2C;CU;25 MM2						
TECH. DESCRIPTION:	CABLE, ELECTRICAL: TYPE: BVX2KCV 1,0KV 2C; CONDUCTOR: CU; CONDUCTOR SIZE: 25 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 2 CORE STRANDED COPPER CONDUCTOR; 300M DRUM, REFERENCE NO: BVX2KCV; ESKOM DRAWING No. D-DT-3128 *						
SAP MATERIAL No.:	0404634						
SHORT DESCRIPTION:	CABLE,ELECT:BVX2LCV 1,0KV 2C;CU;35 MM2						
TECH. DESCRIPTION:	CABLE, ELECTRICAL: TYPE: BVX2LCV 1,0KV 2C; CONDUCTOR: CU; CONDUCTOR SIZE: 35 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 2 CORE STRANDED COPPER CONDUCTOR; 300 M DRUM; REFERENCE NO: BVX2LCV; ESKOM DRAWING No. D-DT-3128 *						
17	ESKOM SPECIFICATION UPDATED		P.A.T.	Q. KHUMALO	T. DU PLESSIS	09.10.2015	
16	0403351 AND 0403113 CHANGED TO ALUMINIUM WIRE ARMoured AND NRS 074-1 STD. SPEC ADDED		P.A.T.	J. MAUDU	J. MAUDU	12.05.2015	
15	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG		P.A.T.	M. SHUTER	J. MAUDU	16.05.2013	
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	
AUTH:	P. CROWDY	DATE:	20.03.1998	 <b>D-DT-3128</b>		SAP No:	
CHKD:	D. PILLAY	DATE:	20.03.1998			0404122	0403473
DRAWN:	P.A. VERMAAK	DATE:	09-04-96			0014474	0404634
				SCALE	SET	SHEET	REV
				NTS	7	2	17
				CAD REF:			
				SERIES 3000			
				FILE No:			
				3128			

## SPEC SHEET

SAP MATERIAL No.:	0404103										
SHORT DESCRIPTION:	CABLE,ELECT:BVX3HVC 1,0KV 3C;CU;16 MM2										
TECH. DESCRIPTION:											
CABLE, ELECTRICAL: TYPE: BVX3HVC 1,0KV 3C; CONDUCTOR: CU; CONDUCTOR SIZE: 16 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 3 CORE STRANDED COPPER CONDUCTOR; 300M DRUM, REFERENCE NO: BVX3HVC; ESKOM DRAWING No. D-DT-3128 *											
SAP MATERIAL No.:	0171198										
SHORT DESCRIPTION:	CABLE,ELECT:BVX3KCV 1,0KV 3C;CU;25 MM2										
TECH. DESCRIPTION:											
CABLE, ELECTRICAL: TYPE: BVX3KCV 1,0KV 3C; CONDUCTOR: CU; CONDUCTOR SIZE: 25 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 3 CORE STRANDED COPPER CONDUCTOR; 300M DRUM; REFERENCE NO: BVX3KCV; ESKOM DRAWING No. D-DT-3128 *											
SAP MATERIAL No.:	0404489										
SHORT DESCRIPTION:	CABLE,ELECT:BVX3LCV 1,0KV 3C;CU;35 MM2										
TECH. DESCRIPTION:											
CABLE, ELECTRICAL: TYPE: BVX3LCV 1,0KV 3C; CONDUCTOR: CU; CONDUCTOR SIZE: 35 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 3 CORE STRANDED COPPER CONDUCTOR; 300 M DRUM; REFERENCE NO: BVX3LCV; ESKOM DRAWING No. D-DT-3128 *											
SAP MATERIAL No.:	0171333										
SHORT DESCRIPTION:	CABLE,ELECT:BVX3NCV 1,0KV 3C;CU;70 MM2										
TECH. DESCRIPTION:											
CABLE, ELECTRICAL: TYPE: BVX3NCV 1,0KV 3C; CONDUCTOR: CU; CONDUCTOR SIZE: 70 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 3 CORE STRANDED COPPER CONDUCTOR; 300 M DRUM, REFERENCE NO: BVX3NCV; ESKOM DRAWING No. D-DT-3128 *											
17	ESKOM SPECIFICATION UPDATED			P.A.T.	Q. KHUMALO	T. DU PLESSIS	09.10.2015				
16	0403351 AND 0403113 CHANGED TO ALUMINIUM WIRE ARMoured AND NRS 074-1 STD. SPEC ADDED			P.A.T.	J. MAUDU	J. MAUDU	12.05.2015				
15	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG			P.A.T.	M. SHUTER	J. MAUDU	16.05.2013				
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS			
AUTH:	P. CROWDY	DATE:	20.03.1998	SCALE		 <b>D-DT-3128</b>					
				NTS					SAP No:		
				CAD REF:					0404103	0404489	
				SERIES 3000					0171198	0171333	
CHKD:	D. PILLAY	DATE:	20.03.1998	FILE No:		SET	SHEET	REV			
				3128		7	3	17			



## SPEC SHEET

SAP MATERIAL No.:	0400646							
SHORT DESCRIPTION:	CABLE,ELECT:BVX4DCV 1,0KV 4C;CU;2.5 MM2							
TECH. DESCRIPTION:								
CABLE, ELECTRICAL: TYPE: BVX4DCV 1,0KV 4C; CONDUCTOR: CU; CONDUCTOR SIZE: 2.5 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 4 CORE STRANDED COPPER CONDUCTOR; 500M DRUM; FOR SUBSTATION USE; REFERENCE NO: BVX4DCV; ESKOM DRAWING No. D-DT-3128 *								
SAP MATERIAL No.:	0404764							
SHORT DESCRIPTION:	CABLE,ELECT:BVX4ECV 1,0KV 4C;CU;4 MM2							
TECH. DESCRIPTION:								
CABLE, ELECTRICAL: TYPE: BVX4ECV 1,0KV 4C; CONDUCTOR: CU; CONDUCTOR SIZE: 4 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 4 CORE STRANDED COPPER CONDUCTOR; 500M DRUM; SUBSTATION USE; REFERENCE NO: BVX4ECV; ESKOM DRAWING No. D-DT-3128 *								
SAP MATERIAL No.:	0404766							
SHORT DESCRIPTION:	CABLE,ELECT:BVX4HCV 1,0KV 4C;CU;16 MM2							
TECH. DESCRIPTION:								
CABLE, ELECTRICAL: TYPE: BVX4HCV 1,0KV 4C; CONDUCTOR: CU; CONDUCTOR SIZE: 16 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 4 CORE STRANDED COPPER CONDUCTOR; 500 METRE DRUM; SUBSTATION USE; REFERENCE NO: BVX4HCV; ESKOM DRAWING No. D-DT-3128 *								
SAP MATERIAL No.:	0404767							
SHORT DESCRIPTION:	CABLE,ELECT:BVX4KCV 1,0KV 4C;CU;25 MM2							
TECH. DESCRIPTION:								
CABLE, ELECTRICAL: TYPE: BVX4KCV 1,0KV 4C; CONDUCTOR: CU; CONDUCTOR SIZE: 25 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 4 CORE STRANDED COPPER CONDUCTOR; 300 M DRUM; REFERENCE NO: BVX4KCV; ESKOM DRAWING No. D-DT-3128 * S *								
17	ESKOM SPECIFICATION UPDATED		P.A.T.	Q. KHUMALO	T. DU PLESSIS	09.10.2015		
16	0403351 AND 0403113 CHANGED TO ALUMINIUM WIRE ARMoured AND NRS 074-1 STD. SPEC ADDED		P.A.T.	J. MAUDU	J. MAUDU	12.05.2015		
15	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG		P.A.T.	M. SHUTER	J. MAUDU	16.05.2013		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE		
AUTH:	P. CROWDY	DATE:	20.03.1998	 <b>D-DT-3128</b>		SAP No:		
CHKD:	D. PILLAY	DATE:	20.03.1998			0400646	0404766	
DRAWN:	P.A. VERMAAK	DATE:	09-04-96			0404764	0404767	
				SCALE			SET	
				NTS			SHEET	
				CAD REF:			REV	
				SERIES 3000			7	
				FILE No:			4	
				3128			17	

## SPEC SHEET

SAP MATERIAL No.:	0400639							
SHORT DESCRIPTION:	CABLE,ELECT:BVX4LCV 1,0KV 4C;CU;35 MM2							
TECH. DESCRIPTION:								
CABLE, ELECTRICAL: TYPE: BVX4LCV 1,0KV 4C; CONDUCTOR: CU; CONDUCTOR SIZE: 35 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 4 CORE STRANDED COPPER CONDUCTOR; 300M DRUM; REFERENCE NO: BVX4LCV; ESKOM DRAWING No. D-DT-3128 *								
SAP MATERIAL No.:	0403353							
SHORT DESCRIPTION:	CABLE,ELECT:BVX4MCV 1,0KV 4C;CU;50 MM2							
TECH. DESCRIPTION:								
CABLE, ELECTRICAL: TYPE: BVX4MCV 1,0KV 4C; CONDUCTOR: CU; CONDUCTOR SIZE: 50 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 4 CORE STRANDED COPPER CONDUCTOR; 300 M DRUM, REFERENCE NO: BVX4MCV; ESKOM DRAWING No. D-DT-3128 *								
SAP MATERIAL No.:	0400641							
SHORT DESCRIPTION:	CABLE,ELECT:BVX4NCV 1,0KV 4C;CU;70 MM2							
TECH. DESCRIPTION:								
CABLE, ELECTRICAL: TYPE: BVX4NCV 1,0KV 4C; CONDUCTOR: CU; CONDUCTOR SIZE: 70 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 4 CORE STRANDED COPPER CONDUCTOR; 300M DRUM; REFERENCE NO: BVX4NCV; ESKOM DRAWING No. D-DT-3128 *								
SAP MATERIAL No.:	0403090							
SHORT DESCRIPTION:	CABLE,ELECT:BVX4QCV 1,0KV 4C;CU;120 MM2							
TECH. DESCRIPTION:								
CABLE, ELECTRICAL: TYPE: BVX4QCV 1,0KV 4C; CONDUCTOR: CU; CONDUCTOR SIZE: 120 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 4 CORE STRANDED COPPER CONDUCTOR: 300M DRUM, REFERENCE NO: BVX4QCV; ESKOM DRAWING No. D-DT-3128 *								
17	ESKOM SPECIFICATION UPDATED		P.A.T.	Q. KHUMALO	T. DU PLESSIS	09.10.2015		
16	0403351 AND 0403113 CHANGED TO ALUMINIUM WIRE ARMoured AND NRS 074-1 STD. SPEC ADDED		P.A.T.	J. MAUDU	J. MAUDU	12.05.2015		
15	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG		P.A.T.	M. SHUTER	J. MAUDU	16.05.2013		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE		
AUTH:	P. CROWDY	DATE:	20.03.1998	 <b>D-DT-3128</b>		SAP No:		
CHKD:	D. PILLAY	DATE:	20.03.1998			0400639	0400641	
DRAWN:	P.A. VERMAAK	DATE:	09-04-96			0403353	0403090	
						SET	SHEET	REV
						7	5	17


## SPEC SHEET

SAP MATERIAL No.:	0404119									
SHORT DESCRIPTION:	CABLE,ELECT:BVX4RCV 1,0KV 4C;CU;150 MM2									
TECH. DESCRIPTION:	CABLE, ELECTRICAL: TYPE: BVX4RCV 1,0KV 4C; CONDUCTOR: CU; CONDUCTOR SIZE: 150 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 4 CORE STRANDED COPPER CONDUCTOR; 300 M DRUM; REFERENCE NO: BVX4RCV; ESKOM DRAWING No. D-DT-3128 *									
SAP MATERIAL No.:	0403094									
SHORT DESCRIPTION:	CABLE,ELECT:BVX4SCV 1,0KV 4C;CU;185 MM2									
TECH. DESCRIPTION:	CABLE, ELECTRICAL: TYPE: BVX4SCV 1,0KV 4C; CONDUCTOR: CU; CONDUCTOR SIZE: 185 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 4 CORE STRANDED COPPER CONDUCTOR; 300 M DRUM, REFERENCE NO: BVX4SCV; ESKOM DRAWING No. D-DT-3128 *									
SAP MATERIAL No.:	0171185									
SHORT DESCRIPTION:	CABLE,ELECT:BVX4TCV 1,0KV 4C;CU;240 MM2									
TECH. DESCRIPTION:	CABLE, ELECTRICAL: TYPE: BVX4TCV 1,0KV 4C; CONDUCTOR: CU; CONDUCTOR SIZE: 240 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMoured; 4 CORE STRANDED COPPER CONDUCTOR; 300 M DRUM, REFERENCE NO: BVX4TCV; ESKOM DRAWING No. D-DT-3128 *									
17	ESKOM SPECIFICATION UPDATED			P.A.T.	Q. KHUMALO	T. DU PLESSIS	09.10.2015			
16	0403351 AND 0403113 CHANGED TO ALUMINIUM WIRE ARMoured AND NRS 074-1 STD. SPEC ADDED			P.A.T.	J. MAUDU	J. MAUDU	12.05.2015			
15	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG			P.A.T.	M. SHUTER	J. MAUDU	16.05.2013			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	P. CROWDY	DATE:	20.03.1998	SCALE		 <b>D-DT-3128</b>		SAP No:		
CHKD:	D. PILLAY	DATE:	20.03.1998	NTS				0404119	0171185	
				CAD REF:				0403094	SET	SHEET
DRAWN:	P.A. VERMAAK	DATE:	09-04-96	SERIES 3000				7	6	17
				FILE No:						
				3128						


## SPEC SHEET

SAP MATERIAL No.:	0404761								
SHORT DESCRIPTION:	CABLE,ELECT:BVX12DCV 1,0KV 12C;CU;PVC								
TECH. DESCRIPTION:									
CABLE, ELECTRICAL: TYPE: BVX12DCV 1,0KV 12C; CONDUCTOR: CU; CONDUCTOR SIZE: 2.5 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMOURED; 12 CORE STRANDED COPPER CONDUCTOR; 500M DRUM; SUBSTATION USE; REFERENCE NO: BVX12DCV; ESKOM DRAWING No. D-DT-3128 *									
SAP MATERIAL No.:	0404118								
SHORT DESCRIPTION:	CABLE,ELECT:BVX19DCV 1.0KV 19C;CU;PVC								
TECH. DESCRIPTION:									
CABLE, ELECTRICAL: TYPE: BVX19DCV 1.0KV 19C; CONDUCTOR: CU; CONDUCTOR SIZE: 2.5 MM2; CONDUCTOR INSULATION: PVC; COVERING: PVC OUTER SHEATH; RATING: 0.6/1 KVAC; ARMOR: STEEL WIRE ARMOURED; 19 CORE STRANDED COPPER CONDUCTOR; 500 M DRUM; SUBSTATION USE; REFERENCE NO: BVX19DCV; ESKOM DRAWING No. D-DT-3128 *									
17	ESKOM SPECIFICATION UPDATED			P.A.T.	Q. KHUMALO	T. DU PLESSIS	09.10.2015		
16	0403351 AND 0403113 CHANGED TO ALUMINIUM WIRE ARMOURED AND NRS 074-1 STD. SPEC ADDED			P.A.T.	J. MAUDU	J. MAUDU	12.05.2015		
15	SHORT AND TECHNICAL DESCRIPTIONS CHANGED ACCORDING TO PILOG			P.A.T.	M. SHUTER	J. MAUDU	16.05.2013		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	P. CROWDY	DATE:	20.03.1998	<b>Eskom</b>  <b>D-DT-3128</b>		SAP No:			
CHKD:	D. PILLAY	DATE:	20.03.1998			0404761			
DRAWN:	P.A. VERMAAK	DATE:	09-04-96			0404118		SET	SHEET
						7	7	17	

## SPEC SHEET

SAP MATERIAL No.:	0404132							
SHORT DESCRIPTION:	WIRE,CU 1.5SQ 7/0.50 STR PVC RED D3137							
TECH. DESCRIPTION: RED PVC INSULATED ELECTRICAL WIRE * SINGLE CORE * 1.5mm SQ * 600 TO 1000 VOLTS * COPPER STRANDED AND ANNEALED 7/0.50mm STRANDS * 100 METER COILS * ESKOM DRAWING No. D-DT-3137 *								
SAP MATERIAL No.:	0400676							
SHORT DESCRIPTION:	WIRE,CU 1.5SQ 7/0.5 STR PVC BLACK D3137							
TECH. DESCRIPTION: BLACK PVC INSULATED ELECTRICAL WIRE * SINGLE CORE * 1.5mm SQ. * 600 TO 1000 VOLTS * COPPER STRANDED AND ANNEALED 7/0.5mm STRANDS * 100 METER COILS * ESKOM DRAWING No. D-DT-3137 *								
SAP MATERIAL No.:	0400672							
SHORT DESCRIPTION:	WIRE,CU 2.5SQ 7STR PVC GRN/YELLOW D3137							
TECH. DESCRIPTION: GREEN AND YELLOW PVC INSULATED ELECTRICAL WIRE * SINGLE CORE * 2.5mm SQ. * 600 TO 1000 VOLTS * COPPER STRANDED AND ANNEALED 7/0.68mm STRANDS * 100 METER COILS * ESKOM DRAWING No. D-DT-3137 *								
SAP MATERIAL No.:	0400648							
SHORT DESCRIPTION:	WIRE,CU 2.5SQ 7/0.68 STR PVC BLACK D3137							
TECH. DESCRIPTION: BLACK PVC INSULATED ELECTRICAL WIRE * SINGLE CORE * 2.5mm SQ. * 600 TO 1000 VOLTS * COPPER STRANDED AND ANNEALED 7/0.68mm STRANDS * 100 METER COILS * ESKOM DRAWING No. D-DT-3137 *								
ITEM	:- CONDUCTOR/WIRE,CU PVC							
MATERIAL SPECIFICATION	:- COPPER STRANDED AND ANNEALED							
CORROSION SPECIFICATION	:-							
STANDARD SPECIFICATION	:- SANS 1507							
ESKOM SPECIFICATION	:-							
TEST & CERTIFICATION REQUIREMENTS :-								
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
7	VARIOUS SAP NUMBERS AND ESKOM LOGO CHANGED AND STEEL CONDUCTOR INDICATED ON 0175491		P.A.T.	M. SHUTER	T.NKAMBULU	15.05.2012		
6	SAP 0175491 - 2000m CHANGED TO 500m DRUM LENGTH		P.A.V.	J.MAUDU	J.MAUDU	06.02.06		
5	INSULATION COLOURING ADDED TO SAP 0014530		P.A.V.	J.MAUDU	G.WHYTE	09.12.04		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	P. CROWDY	DATE:	17-07-95	 <b>D-DT-3137</b>		SAP No:		
CHKD:	J. SWAN	DATE:	17-07-95			0404132	0400672	
DRAWN:	P.A. VERMAAK	DATE:	11-05-95			0400676	0400648	
				SCALE				
				NTS				
				CAD REF:				
				SERIES 3000	SET	SHEET	REV	
				FILE No:	3	1	7	
				3137				

## SPEC SHEET

SAP MATERIAL No.:	0400660									
SHORT DESCRIPTION:	WIRE,CU 16SQ 7/1.79 STR PVC BLACK D3137									
TECH. DESCRIPTION: BLACK PVC UV STABILIZED INSULATED ELECTRICAL WIRE * INSULATION TO BE CONTINUOUSLY COLOURED THROUGH THE INSULATION, NOT SKIN COLORED * SINGLE CORE * 16mm SQ. * 600 TO 1000 VOLTS * COPPER STRANDED AND ANNEALED 7/1.79 STRANDS * 100 METER COILS * ESKOM DRAWING No. D-DT-3137 *										
SAP MATERIAL No.:	0400629									
SHORT DESCRIPTION:	WIRE,CU 16SQ 7/1.79 STR PVC RED D3137									
TECH. DESCRIPTION: RED PVC INSULATED ELECTRICAL WIRE * SINGLE CORE * 16mm SQ. * 600 TO 1000 VOLTS * COPPER STRANDED AND ANNEALED 7/1.79 STRANDS * 100 METER COILS * ESKOM DRAWING No. D-DT-3137 *										
SAP MATERIAL No.:	0403100									
SHORT DESCRIPTION:	WIRE,CU 16SQ 7/1.79 STR PVC WHITE D3137									
TECH. DESCRIPTION: WHITE PVC INSULATED ELECTRICAL WIRE * SINGLE CORE * 16mm SQ. * 600 TO 1000 VOLTS * COPPER STRANDED AND ANNEALED 7/1.79 STRANDS * 100 METER COILS * ESKOM DRAWING No. D-DT-3137 *										
SAP MATERIAL No.:	0403102									
SHORT DESCRIPTION:	WIRE,CU 16SQ 7/1.79 STR PVC BLUE D3137									
TECH. DESCRIPTION: BLUE PVC INSULATED ELECTRICAL WIRE * SINGLE CORE * 16mm SQ. * 600 TO 1000 VOLTS * COPPER STRANDED AND ANNEALED 7/1.79 STRANDS * 100 METER COILS * ESKOM DRAWING No. D-DT-3137 *										
7	VARIOUS SAP NUMBERS AND ESKOM LOGO CHANGED AND STEEL CONDUCTOR INDICATED ON 0175491			P.A.T.	M. SHUTER	T.NKAMBULU	15.05.2012			
6	SAP 0175491 - 2000m CHANGED TO 500m DRUM LENGTH			P.A.V.	J.MAUDU	J.MAUDU	06.02.06			
5	INSULATION COLOURING ADDED TO SAP 0014530			P.A.V.	J.MAUDU	G.WHYTE	09.12.04			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	P. CROWDY	DATE:	17-07-95	SCALE NTS		 <b>D-DT-3137</b>		SAP No:		
CHKD:	J. SWAN	DATE:	17-07-95	CAD REF: SERIES 3000				0400660	0403100	
DRAWN:	P.A. VERMAAK	DATE:	11-05-95	FILE No: 3137		0400629	0403102	SET	SHEET	REV
						3	2			7

## SPEC SHEET

SAP MATERIAL No.:	0403096
SHORT DESCRIPTION:	WIRE,CU 25SQ 19/1.33 STR PVC BLACK D3137


TECH. DESCRIPTION:

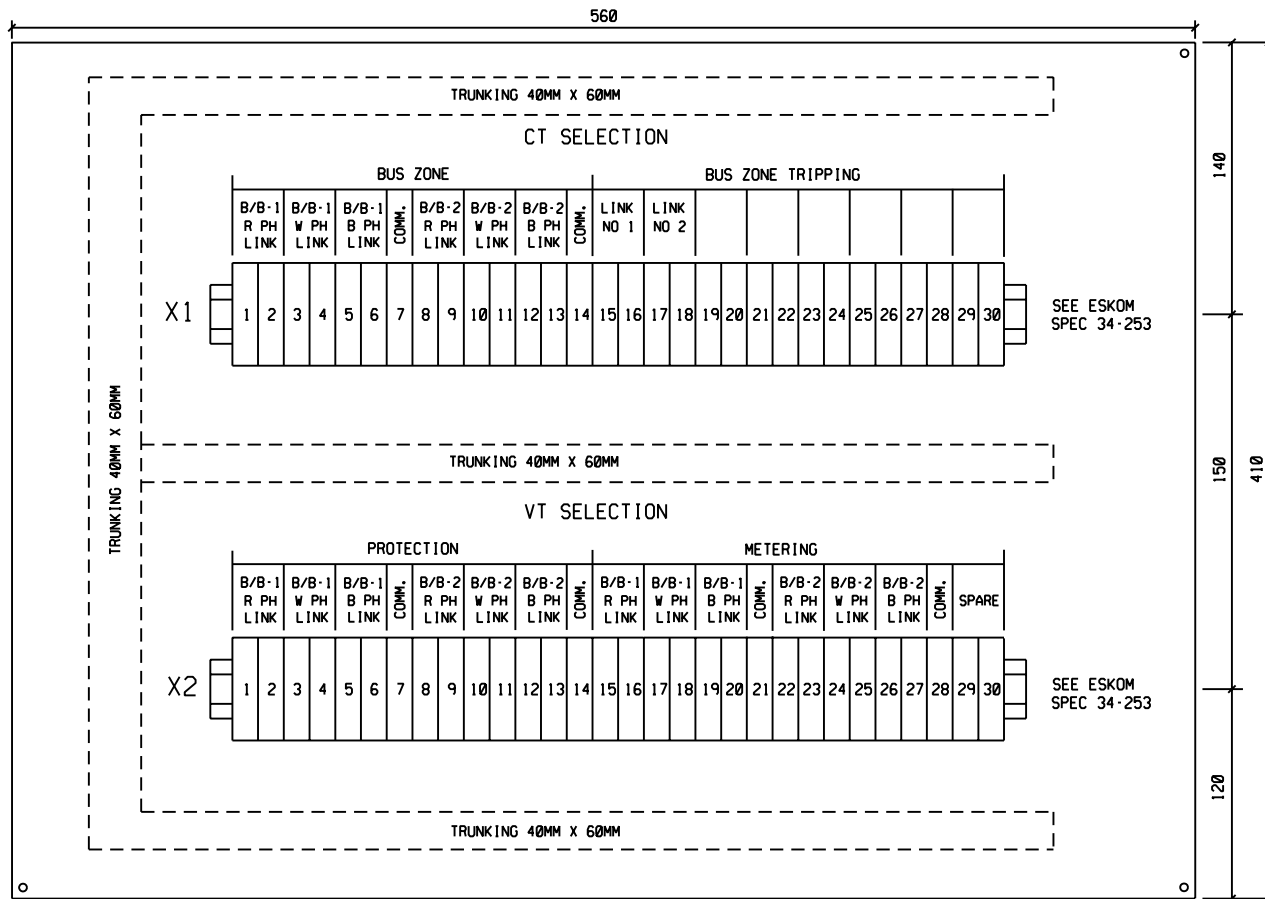
BLACK PVC UV STABLIZED INSULATED ELECTRICAL WIRE \*  
 SINGLE CORE \* 25mm SQ. \* 600 TO 1000 VOLTS \* COPPER  
 STRANDED AND ANNEALED 19/1.33 STRANDS \* 100 METER COILS \*  
 ESKOM DRAWING No. D-DT-3137 \*

SAP MATERIAL No.:	0175491
SHORT DESCRIPTION:	CONDUCTOR,CU CLAD <span style="color: red;">ST</span> 30% 1kV 5.19 D3137

TECH. DESCRIPTION:

COPPER-CLAD STEEL CONDUCTOR \* PVC INSULATED UV STABLIZED \* 1kV \*  
 30% CONDUCTIVITY OF SOLID COPPER CONDUCTOR \*  
 ANNEALED \* 5.19mm DIAMETER \* 500m DRUM LENGTH \*ESKOM DRAWING No. D-DT-3137 \*  
 ESKOM DRAWING No. D-DT-3137 \*

7	VARIOUS SAP NUMBERS AND ESKOM LOGO CHANGED AND STEEL CONDUCTOR INDICATED ON 0175491	P.A.T.	M. SHUTER	T.NKAMBULU	15.05.2012	
6	SAP 0175491 - 2000m CHANGED TO 500m DRUM LENGTH	P.A.V.	J.MAUDU	J.MAUDU	06.02.06	
5	INSULATION COLOURING ADDED TO SAP 0014530	P.A.V.	J.MAUDU	G.WHYTE	09.12.04	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	P. CROWDY	DATE:	17-07-95	 <b>D-DT-3137</b>	SAP No:	
CHKD:	J. SWAN	DATE:	17-07-95		0403096	
DRAWN:	P.A. VERMAAK	DATE:	11-05-95		0175491	
					SET	SHEET
				3	3	7



3	TRUNKING ADDED. KLIPPPON TEXT CHANGED TO REFLECT LATEST ESKOM SPEC	VvZ	H. SITHOLE	20/03/09	
2	CHANGED TRAY DIMENSION FROM 510 TO 560mm DWG NO. CHANGED FROM D-DT-5036	VvZ	P. GERBER	22/10/02	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE
					PROJECT NO.



DISTRIBUTION TECHNOLOGY

# JUNCTION BOX

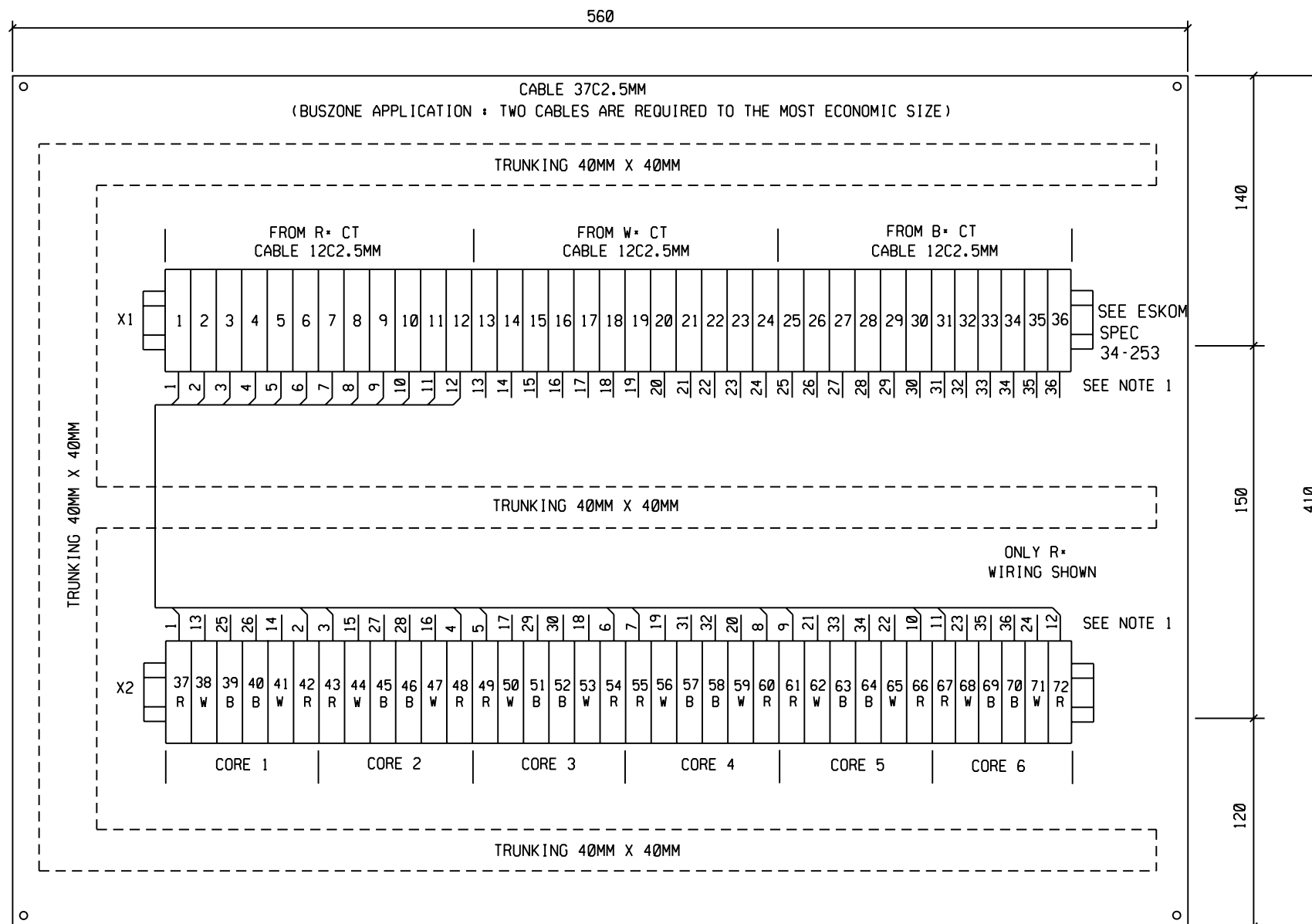
VRW20 DOUBLE BUSBAR ISOL. INSERT  
CT & VT TRAY LAYOUT

AUTH:	PHIL CROWDY
DATE:	10/97
CHKD:	C.B.C. N.C.Z.
DATE:	10/97 07/97
DRAWN:	M.I.W.
DATE:	07/97

D-DT-5403

SET	SHEET	REVISION
1	1	3





**NOTE 1-**

- FERRULE EACH WIRE AS SHOWN. E.G. TERMINAL X1.16 SHALL BE FERRULED 16 ON BOTH ENDS. X1.16 IS CONNECTED TO X2.47 BUT STILL FERRULED 16.

COLOUR CODE THE WIRING AS FOLLOWS :-

- ALL WIRING FROM X1.1 - X1.12: RED
- ALL WIRING FROM X1.13 - X1.24: WHITE
- ALL WIRING FROM X1.25 - X1.36: BLUE

- ALL WIRING TO BE DONE WITH 2.5MM<sup>2</sup> WIRE. WIRING SHALL BE TERMINATED WITH YELLOW INSULATED 2.5MM<sup>2</sup> HOOK BLADE LUGS. WIRING SHALL BE INSULATED TO 1000 VOLTS AC.

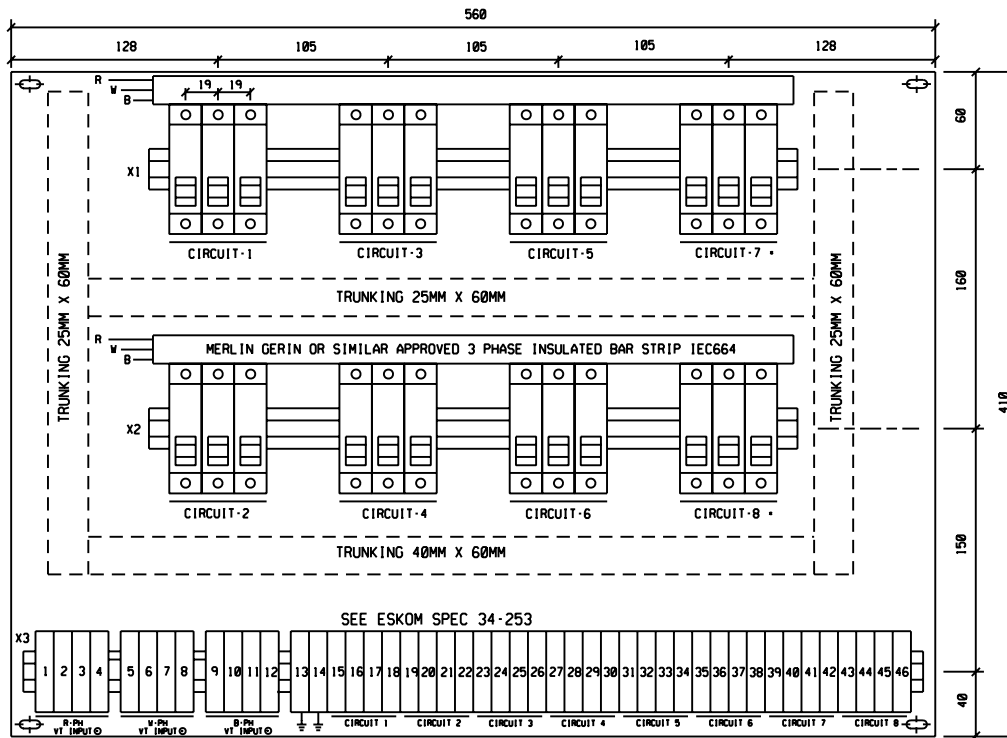
**APPLICATION STANDARD**

- CORES TO BE APPLIED SEQUENTIALLY.  
 . . . R+ 1....10  
 1S1-1S2 (1 & 2)  
 6S1-6S2 (11 & 12) ETC.  
 THUS THE SEQUENCE IS AS PER CT.
- SAP NO : 0011384

3	TRUNKING ADDED. KLIPPON TEXT CHANGED TO REFLECT LATEST ESKOM SPEC. WIRING SIZE CHANGED FROM 4mm SQ. TO 2.5mm SQ.	VvZ	H. SITHOLE	20/03/09		
2	X1 TO X2 RAIL FERRULING CHANGED. NOTE 1 & 2 ADDED. DIMENSION CHANGED FROM 570 TO 560 DWG NO. CHANGED FROM D-DT-5037	VvZ	P. GERBER	22/10/02		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		DISTRIBUTION TECHNOLOGY				
AUTH: PHIL CROWDY		JUNCTION BOX				
DATE: 10/97		VRW20 6 CORE CT INSERT				
CHKD: C.B.C. P.A.G.		TRAY WIRING KEY DIAGRAM				
DATE: 10/97 07/97		D-DT-5404		SET	SHEET	REVISION
DRAWN: M.I.W.		1	1	3		
DATE: 07/97						

PROTECTION SUPPLY  
MCBS MERLIN GERIN  
MULTI 9 10A TYPE 2/  
OR SIMILAR APPROVED  
D40 110 5KA

PROTECTION SUPPLY  
MCBS MERLIN GERIN  
MULTI 9 10A TYPE 2/  
OR SIMILAR APPROVED  
D40 110 5KA



NOTE :

- CIRCUIT 7 & 8 ARE RESERVED FOR METERING
- ⊙ IF REQUIRED A SEPARATE INPUT IS ALLOWED TO CATER FOR MEASUREMENT CORE . .
- CIRCUIT-2, 4, 6, 8 MUST BE MADE AVAILABLE FOR MEASUREMENTS.
- THE NEW TESCO STANDARD HOWEVER CATER FOR SINGLE CORE VTS ONLY.
- IN THIS CASE LOOP TERMINAL 1-3, 2-4, 5-7, 6-8, 9-11, 10-12.
- TRAY MUST BE MADE OF 3CR12, 1.6MM THICK PLATE.

3	TRUNKING ADDED. KLIPPON TEXT CHANGED TO REFLECT LATEST ESKOM SPEC	VvZ	J SCHOLTZ	H.SITHOLE	11.12.2007	
2	DWG NO. CHANGED FROM D-DT-5038	VvZ	P GERBER	P GERBER	22/10/02	
1	TERMINAL No.'S ADDED (X1; X2 & X3)	J.F.S.	C.B.C.	P.CROWDY	02/99	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



DISTRIBUTION TECHNOLOGY

# JUNCTION BOX

VRW20 INSERT  
VT TRAY LAYOUT

AUTH: P. CROWDY

DATE: 10.1997

CHKD: C. CLARK

DATE: 06.1997

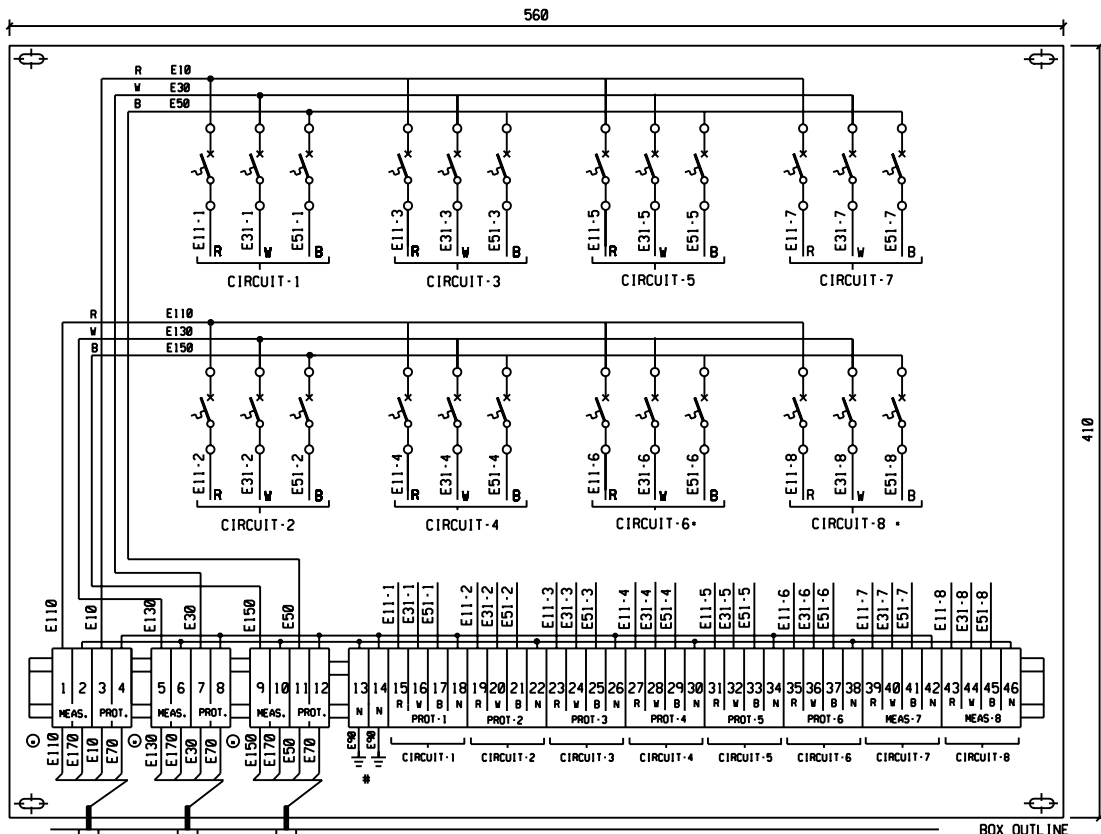
DRAWN: M.I.W.

DATE: 06.1997

D-DT-5405

SET	SHEET	REVISION
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2	1	3
---	---	---



MERLIN GERIN  
D40 S.P. MCB  
MULTI-9  
10A TYPE 2

MERLIN GERIN  
D40 S.P. MCB  
MULTI-9  
10A TYPE 2

KLIPPON  
RSF1  
TERMINALS

OUTDOOR VT  
STD DEMINATION

**NOTE :**

- CIRCUIT 6 & 8 ARE RESERVED FOR METERING
- IF REQUIRED A SEPARATE INPUT IS ALLOWED TO CATER FOR MEASUREMENT CORE . . .
- CIRCUIT-2, 4, 6, 8 MUST BE MADE AVAILABLE FOR MEASUREMENTS.
- THE NEW TESCO STANDARD HOWEVER Caters FOR SINGLE CORE VTS ONLY.
- IN THIS CASE LOOP TERMINAL 1-3, 2-4, 5-7, 6-8, 9-11, 10-12.
- ALL WIRING TO BE DONE WITH 4mm<sup>2</sup> CONDUCTOR INSULATED AT 1000 VOLTS AC.
- COLOUR CODING :-  
 RED - E11, E10  
 WHITE - E13, E30, E31  
 BLUE - E15, E50, E31  
 BLACK - E17, E70
- \* DENOTES THE FOLLOW ON NUMBERING EG. E11-2/3 ETC.
- ALL LUGS TO BE DONE WITH YELLOW INSULATED HOOK BLADE LUGS TO THE REQUIRED STANDARD.
- \* EARTHING WIRING ON TERMINAL BLOCKS 13 & 14 TO BE CONNECTED TO THE BRASS EARTHING STUD.

3	NOTE # ADDED ON EARTHING	VvZ	J SCHOLTZ	H SITHOLE	11.12.2007	
2	CORRECTED METERING CIRCUIT ALLOCATION. ADDED WIRING REQUIREMENT, COLOUR CODING AND LUG SPECIFICATION. DWG NO. CHANGED FROM D-DT-5038	VvZ	P GERBER	P GERBER	22/10/02	
1	CIRCUIT NO.'S CORRECTED	J.F.S.	C.B.C.	P.CROWDY	02/99	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

**Eskom**  
Distribution

AUTH: P. CROWDY

DATE: 10.1997

CHKD: C. CLARK

DATE: 06.1997

DRAWN: M.I.W.

DATE: 06.1997

DISTRIBUTION TECHNOLOGY  
INDUSTRIAL SUBSTATION

# JUNCTION BOX

VRW20 VT INSERT  
TRAY WIRING KEY DIAGRAM

D-DT-5405	SET	SHEET	REVISION
	2	2	3

**SPEC SHEET**

SAP MATERIAL No.:	0224921
SHORT DESCRIPTION:	SCHEME, PROT 4BC1800-110 1A SE D9047

TECH. DESCRIPTION:


4BC1800 BUS COUPLER PROTECTION AND CONTROL SCHEME \*  
 DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; SYNCHRONISM CHECK; TRIP CCT SUP; ANTI-PUMP FUNCTION \*  
 SUPERVISORY INDICATIONS AND CONTROLS VIA SERIAL COMMUNICATION ONLY: REAR EIA-485  
 PORT WITH DNP3 PROTOCOL \*  
 AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*  
 WIRED FOR 1A CURRENT TRANSFORMER RATING \*  
 MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*  
 INCLUDING :-  
 - 1x MICOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/16 OUTPUTS, REAR EIA-485 PORT  
 SUPPORTING DNP3 \*  
 - PK2-4 WAY CT & VT TEST BLOCKS \*  
 - FAULT COUNTER \*  
 - HARD-WIRED PNH ALARM TO SCADA \*  
 - SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY  
 MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*  
 EXCLUDES :-  
 - TRADITIONAL HARD-WIRED SCADA ALARMS AND CONTROLS \*  
 - OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME  
 SYNCH INTERFACE \*  
 - OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*  
 - OPTIONAL SINGLE PHASE VOLTAGE TRANSDUCERS \*  
 - OPTIONAL ANALOGUE VOLT METER MODULE \*  
 - SWING FRAME PANEL AND BLANKING PLATES \*  
 - CRATING FOR TRANSPORT \*  
 ESKOM DRAWING No. D-DT-9047 \*

ITEM	:- SCHEME, PROT 4BC1x00				
MATERIAL SPECIFICATION	:- REFER TO ESKOM SPEC				
CORROSION SPECIFICATION	:- REFER TO ESKOM SPEC				
STANDARD SPECIFICATION	:- REFER TO ESKOM SPEC				
ESKOM SPECIFICATION	:- DISSCABB9 REV1, DISASAC19 REV2				
TEST & CERTIFICATION REQUIREMENTS	:- REFER TO ESKOM SPEC				

INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

2	As per previous issue	SVZ	AK	SVZ	28 Sept 07	
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	14 Aug 07	
0	First issue					

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS				
AUTH:	S van Zyl	DATE:	30 Apr 07	SCALE		<b>D-DT-9047</b>	SAP No:		12	1	2	
			NTS	0224921								
CHKD:	A Kerr	DATE:	30 Apr 07	CAD REF:			SET	SHEET				REV
				SERIES 9000								
DRAWN:	S van Zyl	DATE:	30 Apr 07	FILE No:								
				9047								

**SPEC SHEET**

SAP MATERIAL No.:	0224923
SHORT DESCRIPTION:	SCHEME, PROT 4BC1800-110 1A HW D9047

TECH. DESCRIPTION:

4BC1800 BUS COUPLER PROTECTION AND CONTROL SCHEME \*

DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; SYNCRONISM CHECK; TRIP CCT SUP; ANTI-PUMP FUNCTION \*  
 SUPPORTS TRADITIONAL HARD-WIRED SUPERVISORY INDICATIONS AND CONTROLS PLUS SERIAL COMMUNICATION TO RTU VIA REAR EIA-485 PORT WITH DNP3 PROTOCOL \*


AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*  
 WIRED FOR 1A CURRENT TRANSFORMER RATING \*  
 MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (17U) 755.65mm HIGH x (19IN) 282mm WIDE \*  
 INCLUDING :-

- 1x MiCOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/24 OUTPUTS, REAR EIA-485 PORT SUPPORTING DNP3 \*
- PK2-4 WAY CT & VT TEST BLOCKS \*
- FAULT COUNTER \*
- HARD-WIRED SCADA ALARMS AND CONTROLS \*
- SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*

EXCLUDES :-

- OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME SYNCH INTERFACE \*
- OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*
- OPTIONAL SINGLE PHASE VOLTAGE TRANSDUCERS \*
- OPTIONAL ANALOGUE VOLT METER MODULE \*
- SWING FRAME PANEL AND BLANKING PLATES \*
- CRATING FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9047 \*


2	As per previous issue	SVZ	AK	SVZ	28 Sept 07			
1	Back Plate dimension increased from 12U to 17U. P145 relay output complement increased from 16 to 24.	SVZ	AK	SVZ	14 Aug 07			
0	First issue							
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9047</b>		SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07			0224923		
DRAWN:	S van Zyl	DATE:	30 Apr 07			SET	SHEET	REV
				SCALE				
				NTS				
				CAD REF:				
				SERIES 9000				
				FILE No:				
				9047				

## SPEC SHEET

SAP MATERIAL No.:	0224925
SHORT DESCRIPTION:	SCHEME, PROT 4BC1100-220 1A SE D9047

**TECH. DESCRIPTION:**

4BC1800 BUS COUPLER PROTECTION AND CONTROL SCHEME \*  
 DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; SYNCRONISM CHECK; TRIP CCT SUP; ANTI-PUMP FUNCTION \*  
 SUPERVISORY INDICATIONS AND CONTROLS VIA SERIAL COMMUNICATION ONLY: REAR EIA-485  
 PORT WITH DNP3 PROTOCOL \*  
 AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*  
 WIRED FOR 1A CURRENT TRANSFORMER RATING \*  
 MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*  
 INCLUDING :-  
 - 1x MICOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/16 OUTPUTS, REAR EIA-485 PORT  
 SUPPORTING DNP3 \*  
 - PK2-4 WAY CT & VT TEST BLOCKS \*  
 - FAULT COUNTER \*  
 - HARD-WIRED PNH ALARM TO SCADA \*  
 - SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY  
 MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*  
 EXCLUDES :-  
 - TRADITIONAL HARD-WIRED SCADA ALARMS AND CONTROLS \*  
 - OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME  
 SYNCH INTERFACE \*  
 - OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*  
 - OPTIONAL SINGLE PHASE VOLTAGE TRANSDUCERS \*  
 - OPTIONAL ANALOGUE VOLT METER MODULE \*  
 - SWING FRAME PANEL AND BLANKING PLATES \*  
 - CRATING FOR TRANSPORT \*  
 ESKOM DRAWING No. D-DT-9047 \*

2	As per previous issue	SVZ	AK	SVZ	28 Sept 07		
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	14 Aug 07		
0	First issue						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9047</b>	SAP No: 0224925		
CHKD:	A Kerr	DATE:	30 Apr 07		SET	SHEET	REV
					12	3	2
DRAWN:	S van Zyl	DATE:	30 Apr 07				


**SPEC SHEET**

SAP MATERIAL No.:	0224926
SHORT DESCRIPTION:	SCHEME, PROT 4BC1800-220 1A HW D9047

TECH. DESCRIPTION:

4BC1800 BUS COUPLER PROTECTION AND CONTROL SCHEME \*  
 DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; SYNCRONISM CHECK; TRIP CCT SUP; ANTI-PUMP FUNCTION \*  
 SUPPORTS TRADITIONAL HARD-WIRED SUPERVISORY INDICATIONS AND CONTROLS PLUS SERIAL COMMUNICATION TO RTU VIA REAR EIA-485 PORT WITH DNP3 PROTOCOL \*  
 AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*  
 WIRED FOR 1A CURRENT TRANSFORMER RATING \*  
 MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (17U) 755.65mm HIGH x (19IN) 282mm WIDE \*  
 INCLUDING :-  
 - 1x MiCOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/24 OUTPUTS, REAR EIA-485 PORT SUPPORTING DNP3 \*  
 - PK2-4 WAY CT & VT TEST BLOCKS \*  
 - FAULT COUNTER \*  
 - HARD-WIRED SCADA ALARMS AND CONTROLS \*  
 - SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*  
 EXCLUDES :-  
 - OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME SYNCH INTERFACE \*  
 - OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*  
 - OPTIONAL SINGLE PHASE VOLTAGE TRANSDUCERS \*  
 - OPTIONAL ANALOGUE VOLT METER MODULE \*  
 - SWING FRAME PANEL AND BLANKING PLATES \*  
 - CRATING FOR TRANSPORT \*  
 ESKOM DRAWING No. D-DT-9047 \*

2	As per previous issue	SVZ	AK	SVZ	28 Sept 07	
1	Back Plate dimension increased from 12U to 17U. P145 relay output complement increased from 16 to 24.	SVZ	AK	SVZ	14 Aug 07	
0	First issue					

REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	S van Zyl	DATE:	30 Apr 07	SCALE	 <b>D-DT-9047</b>			SAP No:			
CHKD:	A Kerr	DATE:	30 Apr 07	NTS				0224926			
				CAD REF:				SET	SHEET	REV	
				SERIES 9000				12	4	2	
DRAWN:	S van Zyl	DATE:	30 Apr 07	FILE No:							
				9047							

**SPEC SHEET**

SAP MATERIAL No.:	0224927
SHORT DESCRIPTION:	SCHEME, PROT 4BC1800-110 5A SE D9047

TECH. DESCRIPTION:

4BC1800 BUS COUPLER PROTECTION AND CONTROL SCHEME \*

DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; SYNCRONISM CHECK; TRIP CCT SUP; ANTI-PUMP FUNCTION \*  
 SUPERVISORY INDICATIONS AND CONTROLS VIA SERIAL COMMUNICATION ONLY: REAR EIA-485  
 PORT WITH DNP3 PROTOCOL \*

AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*

WIRED FOR 5A CURRENT TRANSFORMER RATING \*

MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*

INCLUDING :-


- 1x MiCOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/16 OUTPUTS, REAR EIA-485 PORT SUPPORTING DNP3 \*
- PK2-4 WAY CT & VT TEST BLOCKS \*
- FAULT COUNTER \*
- HARD-WIRED PNH ALARM TO SCADA \*
- SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*

EXCLUDES :-

- TRADITIONAL HARD-WIRED SCADA ALARMS AND CONTROLS \*
- OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME SYNCH INTERFACE \*
- OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*
- OPTIONAL SINGLE PHASE VOLTAGE TRANSDUCERS \*
- OPTIONAL ANALOGUE VOLT METER MODULE \*
- SWING FRAME PANEL AND BLANKING PLATES \*
- CRATING FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9047 \*

2	As per previous issue	SVZ	AK	SVZ	28 Sept 07	
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	14 Aug 07	
0	First issue					

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS								
AUTH:	S van Zyl	DATE:	30 Apr 07			SAP No: 0224927		<table border="1"> <tr> <td>SET</td> <td>SHEET</td> <td>REV</td> </tr> <tr> <td>12</td> <td>5</td> <td>2</td> </tr> </table>			SET	SHEET	REV	12	5	2
SET	SHEET	REV														
12	5	2														
CHKD:	A Kerr	DATE:	30 Apr 07													
DRAWN:	S van Zyl	DATE:	30 Apr 07													
				<b>D-DT-9047</b>												
				SCALE NTS												
				CAD REF: SERIES 9000												
				FILE No: 9047												



## SPEC SHEET


SAP MATERIAL No.:	0224928
SHORT DESCRIPTION:	SCHEME, PROT 4BC1800-110 5A HW D9047

**TECH. DESCRIPTION:**

4BC1800 BUS COUPLER PROTECTION AND CONTROL SCHEME \*

DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; SYNCRONISM CHECK; TRIP CCT SUP; ANTI-PUMP FUNCTION \*  
 SUPPORTS TRADITIONAL HARD-WIRED SUPERVISORY INDICATIONS AND CONTROLS PLUS SERIAL COMMUNICATION TO RTU VIA REAR EIA-485 PORT WITH DNP3 PROTOCOL \*  
 AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*  
 WIRED FOR 5A CURRENT TRANSFORMER RATING \*  
 MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (17U) 755.65mm HIGH x (19IN) 282mm WIDE \*  
 INCLUDING :-  
 - 1x MiCOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/24 OUTPUTS, REAR EIA-485 PORT SUPPORTING DNP3 \*  
 - PK2-4 WAY CT & VT TEST BLOCKS \*  
 - FAULT COUNTER \*  
 - HARD-WIRED SCADA ALARMS AND CONTROLS \*  
 - SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*  
 EXCLUDES :-  
 - OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME SYNCH INTERFACE \*  
 - OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*  
 - OPTIONAL SINGLE PHASE VOLTAGE TRANSDUCERS \*  
 - OPTIONAL ANALOGUE VOLT METER MODULE \*  
 - SWING FRAME PANEL AND BLANKING PLATES \*  
 - CRATING FOR TRANSPORT \*  
 ESKOM DRAWING No. D-DT-9047 \*

2	As per previous issue	SVZ	AK	SVZ	28 Sept 07	
1	Back Plate dimension increased from 12U to 17U. P145 relay output complement increased from 16 to 24.	SVZ	AK	SVZ	14 Aug 07	
0	First issue					

REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	S van Zyl	DATE:	30 Apr 07	SCALE NTS	 <b>D-DT-9047</b>			SAP No: 0224928	
CHKD:	A Kerr	DATE:	30 Apr 07	CAD REF: SERIES 9000				SET	SHEET
DRAWN:	S van Zyl	DATE:	30 Apr 07	FILE No: 9047	12	6	2		

**SPEC SHEET**

SAP MATERIAL No.:	0224929
SHORT DESCRIPTION:	SCHEME, PROT 4BC1800-220 5A SE D9047

TECH. DESCRIPTION:

4BC1800 BUS COUPLER PROTECTION AND CONTROL SCHEME \*

DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; SYNCRONISM CHECK; TRIP CCT SUP; ANTI-PUMP FUNCTION \*  
 SUPERVISORY INDICATIONS AND CONTROLS VIA SERIAL COMMUNICATION ONLY: REAR EIA-485  
 PORT WITH DNP3 PROTOCOL \*

AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*

WIRED FOR 5A CURRENT TRANSFORMER RATING \*

MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*

INCLUDING :-


- 1x MiCOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/16 OUTPUTS, REAR EIA-485 PORT SUPPORTING DNP3 \*
- PK2-4 WAY CT & VT TEST BLOCKS \*
- FAULT COUNTER \*
- HARD-WIRED PNH ALARM TO SCADA \*
- SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*

EXCLUDES :-

- TRADITIONAL HARD-WIRED SCADA ALARMS AND CONTROLS \*
- OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME SYNCH INTERFACE \*
- OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*
- OPTIONAL SINGLE PHASE VOLTAGE TRANSDUCERS \*
- OPTIONAL ANALOGUE VOLT METER MODULE \*
- SWING FRAME PANEL AND BLANKING PLATES \*
- CRATING FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9047 \*

2	As per previous issue	SVZ	AK	SVZ	28 Sept 07	
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	14 Aug 07	
0	First issue					

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	S van Zyl	DATE:	30 Apr 07	SCALE				SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07	NTS				0224929		
DRAWN:	S van Zyl	DATE:	30 Apr 07	CAD REF:				SET	SHEET	REV
				SERIES 9000	<b>D-DT-9047</b>			12	7	2
				FILE No:						
				9047						

**SPEC SHEET**

SAP MATERIAL No.:	0224930
SHORT DESCRIPTION:	SCHEME, PROT 4BC1800-220 5A HW D9047

TECH. DESCRIPTION:

4BC1800 BUS COUPLER PROTECTION AND CONTROL SCHEME \*

DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; SYNCRONISM CHECK; TRIP CCT SUP; ANTI-PUMP FUNCTION \*  
 SUPPORTS TRADITIONAL HARD-WIRED SUPERVISORY INDICATIONS AND CONTROLS PLUS SERIAL COMMUNICATION TO RTU VIA REAR EIA-485 PORT WITH DNP3 PROTOCOL \*


AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*  
 WIRED FOR 5A CURRENT TRANSFORMER RATING \*  
 MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (17U) 755.65mm HIGH x (19IN) 282mm WIDE \*  
 INCLUDING :-

- 1x MiCOM P145 PROTECTION RELAY INCL. 24 DIGITAL INPUTS/24 OUTPUTS, REAR EIA-485 PORT SUPPORTING DNP3 \*
- PK2-4 WAY CURRENT TRANSFORMER & VT TEST BLOCKS \*
- FAULT COUNTER \*
- HARD-WIRED SCADA ALARMS AND CONTROLS\*
- SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*

EXCLUDES :-

- OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME SYNCH INTERFACE \*
- OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*
- OPTIONAL SINGLE PHASE VOLTAGE TRANSDUCERS \*
- OPTIONAL ANALOGUE VOLT METER MODULE \*
- SWING FRAME PANEL AND BLANKING PLATES \*
- CRATING FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9047 \*

2	As per previous issue	SVZ	AK	SVZ	28 Sept 07		
1	Back Plate dimension increased from 12U to 17U. P145 relay output complement increased from 16 to 24.	SVZ	AK	SVZ	14 Aug 07		
0	First issue						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9047</b>	SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0224930		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
					12	8	2

**SPEC SHEET**

SAP MATERIAL No.:	0224931
SHORT DESCRIPTION:	SCHEME, PROT 4BC1900-110 D9047

TECH. DESCRIPTION:

4BC1900 CIRCUIT BREAKER CONTROL SCHEME \*

PROVIDES LOCAL AND REMOTE CONTROL OF A CIRCUIT-BREAKER OR MOTORISED ISOLATOR;  
 LOCAL AND REMOTE STATUS INDICATION; NOT HEALTHY INDICATION; TRIP CCT SUPERVISION \*

AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*

MODULE DIMENSIONS: (5U) 222.25mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*

BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*


INCLUDING :-

- CBO, CBC, CBNH LOCAL INDICATIONS AND CONTROLS \*
- CBO, CBC, CBNH SCADA INDICATIONS AND CONTROLS VIA HARD-WIRED INTERFACE \*
- TRIP CIRCUIT SUPERVISION FOR ONE CIRCUIT \*
- SINGLE PHASE CURRENT TRANSDUCER (1A NOMINAL) \*
- 72mm x 72mm TRANSDUCER-FED AMMETER (SCALED TO USER REQUIREMENTS)\*
- MCBs, AUXILIARY RELAYS, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*

EXCLUDES :-

- PROTECTION FUNCTIONALITY \*
- OPTIONAL ANTI-PUMP TIMER MODULE \*
- OPTIONAL SINGLE PHASE VOLTAGE TRANSDUCERS \*
- OPTIONAL ANALOGUE VOLT METER MODULE \*
- SWING FRAME PANEL AND BLANKING PLATES \*
- CRATING FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9047 \*

2	As per previous issue	SVZ	AK	SVZ	28 Sept 07		
1	Front Panel reduced from 7U to 5U. Back Plate dimension increased from 12U to 14U. Transducer and Ammeter added.	SVZ	AK	SVZ	14 Aug 07		
0	First issue						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9047</b>	SAP No: 0224931		
CHKD:	A Kerr	DATE:	30 Apr 07		SET	SHEET	REV
DRAWN:	S van Zyl	DATE:	30 Apr 07		12	9	2

**SPEC SHEET**

SAP MATERIAL No.:	0224932
SHORT DESCRIPTION:	SCHEME, PROT 4BC1900-220 D9047

TECH. DESCRIPTION:

4BC1900 CIRCUIT BREAKER CONTROL SCHEME \*

PROVIDES LOCAL AND REMOTE CONTROL OF A CIRCUIT-BREAKER OR MOTORISED ISOLATOR;  
 LOCAL AND REMOTE STATUS INDICATION; NOT HEALTHY INDICATION; TRIP CCT SUPERVISION \*

AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*

MODULE DIMENSIONS: (5U) 222.25mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*

BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*


INCLUDING :-

- CBO, CBC, CBNH LOCAL INDICATIONS AND CONTROLS \*
- CBO, CBC, CBNH SCADA INDICATIONS AND CONTROLS VIA HARD-WIRED INTERFACE \*
- TRIP CIRCUIT SUPERVISION FOR ONE CIRCUIT \*
- SINGLE PHASE CURRENT TRANSDUCER (1A NOMINAL) \*
- 72mm x 72mm TRANSDUCER-FED AMMETER (SCALED TO USER REQUIREMENTS)\*
- MCBs, AUXILIARY RELAYS, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*


EXCLUDES :-

- PROTECTION FUNCTIONALITY \*
- OPTIONAL ANTI-PUMP TIMER MODULE \*
- OPTIONAL SINGLE PHASE VOLTAGE TRANSDUCERS \*
- OPTIONAL ANALOGUE VOLT METER MODULE \*
- SWING FRAME PANEL AND BLANKING PLATES \*
- CRATING FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9047 \*

2	As per previous issue	SVZ	AK	SVZ	28 Sept 07		
1	Front Panel reduced from 7U to 5U. Back Plate dimension increased from 12U to 14U. Transducer and Ammeter added.	SVZ	AK	SVZ	14 Aug 07		
0	First issue						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07		SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0224932		
DRAWN:	S van Zyl	DATE:	30 Apr 07				
				<b>D-DT-9047</b>	SET	SHEET	REV
					12	10	2

**SPEC SHEET**

SAP MATERIAL No.:		0224934							
SHORT DESCRIPTION:		PANEL, S/FRAME INCL B/PLATES 4BC1x00 D9047							
TECH. DESCRIPTION:									
SWING FRAME PANEL OF DIMENSIONS: 2400mm HIGH x 800mm WIDE x 600mm DEEP * FOR 4BC1800 AND 4BC1900 PROTECTION SCHEMES * SUITABLE FOR TOP OR BOTTOM ENTRY OF CABLES * AS PER SCSSCABB7 REV 1* INCLUDES :- - INSTALLATION OF SCHEMES INTO PANEL * - ALL BLANKING PLATES TO CLOSE FRONT PANEL APERTURE * - CRATING FOR TRANSPORT * ESKOM DRAWING No. D-DT-9047 *									
SAP MATERIAL No.:		0225040							
SHORT DESCRIPTION:		CRATING, 4BC1x00 PROT SCHEME D9047							
TECH. DESCRIPTION:									
NON-STOCK ITEM FOR COSTING PURPOSES ONLY * CRATING OF ONE 4BC1800 OR 4BC1900 PROTECTION SCHEME MODULE FOR TRANSPORT * USE WHEN NOT INCLUDING A SWING FRAME CABINET WITH ORDER * ESKOM DRAWING No. D-DT-9047 *									
SAP MATERIAL No.:		0224935							
SHORT DESCRIPTION:		MODULE, ANTI-PUMP 4BC1900 D9047							
TECH. DESCRIPTION:									
OPTIONAL ANTI-PUMP TIMER AND ARC SUPPRESSOR FOR 4BC1900 SCHEME * INCLUDES <b>ENTRELEC MFS</b> ELECTRONIC TIMER * SUITABLE FOR 110VDC AND 220VDC SUPPLY* WHEN ORDERED WITH A SCHEME, DC SUPPLY RATING WILL MATCH THAT OF THE SCHEME * WHEN ORDERED SEPARATELY, 110V DC RATING WILL BE SUPPLIED AS DEFAULT * DC SUPPLY RATED FOR 220V ON REQUEST * ESKOM DRAWING No. D-DT-9047 *									
SAP MATERIAL No.:		0224937							
SHORT DESCRIPTION:		TRANSDUCER, AMP 4BC1x00 D9047							
TECH. DESCRIPTION:									
SINGLE PHASE CURRENT TRANSDUCER FOR 4BC1800 AND 4BC1900 SCHEME * MANUFACTURER: POWERCON * TYPE: CA4 * RATED CURRENT: 1 AMP OR 5 AMP * SECONDARY CURRENT: 5mA RATED, 6.25mA FULL SCALE * WHEN ORDERED WITH A 4BC1800 SCHEME, CURRENT RATING WILL MATCH THAT OF THE SCHEME * WHEN ORDERED SEPARATELY OR WITH A 4BC1900 SCHEME, 1 AMP RATING WILL BE SUPPLIED AS DEFAULT; 5A RATING ON REQUEST * INCLUDES INSTALLATION WHEN ORDERED WITH A SCHEME * ESKOM DRAWING No. D-DT-9047 *									
2	Item 0224935 changed from Omron to Entrelec timer				SVZ	AK	SVZ	28 Sept 07	
1	Top and/or Bottom Cable entry specified				SVZ	AK	SVZ	14 Aug 07	
0	First issue								
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	S van Zyl	DATE:	30 Apr 07	SCALE			SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07	NTS			0224934	0225040	
				CAD REF:			0224935		
				SERIES 9000	<b>D-DT-9047</b>		SET	SHEET	REV
DRAWN:	S van Zyl	DATE:	30 Apr 07	FILE No:			12	11	2
				9047					

## SPEC SHEET

SAP MATERIAL No.:	0224938
SHORT DESCRIPTION:	TRANSDUCER, VOLT 4BC1x00 D9047

**TECH. DESCRIPTION:**

ONE SINGLE PHASE VOLTAGE TRANSDUCER FOR 4BC1800 AND 4BC1900 SCHEMES \*  
 MANUFACTURER: POWERCON \*  
 TYPE: VA4 \*  
 RATED VOLTAGE: 110 VOLT AC \*  
 SECONDARY CURRENT: 5mA RATED, 6.25mA FULL SCALE \*  
 ORDER ONE VOLTAGE TRANSDUCER PER BUSBAR/BUS SECTION \*  
 INCLUDES INSTALLATION WHEN ORDERED WITH A SCHEME \*  
 ESKOM DRAWING No. D-DT-9047 \*

SAP MATERIAL No.:	0224939
SHORT DESCRIPTION:	MODULE, VOLT METER 4BC1x00 D9047


**TECH. DESCRIPTION:**

MODULE INCLUDING TWO ANALOGUE VOLT METERS FOR 4BC1800 AND 4BC1900 SCHEMES \*  
 VOLT METERS MOUNTED ONTO A 2U BLANKING PLATE FOR FRONT PANEL MOUNTING AND  
 INCLUDING WIRING TAIL TO BACK PLATE \*  
 TRANSDUCER DRIVEN OR VT DRIVEN VOLT METERS (APPLICATION DEPENDENT):  
 - 110V/5mA NOMINAL, 137.5V/6.25mA FULL SCALE \*  
 - 90 DEGREE FULL SCALE DEFLECTION \*  
 SPECIFY NOMINAL VOLTAGE FOR CALIBRATION \*  
 ESKOM DRAWING No. D-DT-9047 \*

SAP MATERIAL No.:	0224940
SHORT DESCRIPTION:	ARC SUPPRESSOR, 4BC1x00 D9047

**TECH. DESCRIPTION:**

REPLACEMENT ARC SUPPRESSOR (SNUBBER CIRCUIT) FOR CONTACT PROTECTION ON 4BC1800  
 AND 4BC1900 SCHEMES \*  
 SUITABLE FOR USE ON 110V AND 220V DC CIRCUITS \*  
 ESKOM DRAWING No. D-DT-9047 \*

2	As per previous issue	SVZ	AK	SVZ	28 Sept 07				
1	Voltmeter module includes transducer-driven or VT-driven meters	SVZ	AK	SVZ	14 Aug 07				
0	First issue								
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS			
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9047</b>		SAP No:			
CHKD:	A Kerr	DATE:	30 Apr 07			0224938			
DRAWN:	S van Zyl	DATE:	30 Apr 07			0224939			
							0224940		
							SET	SHEET	REV
							12	12	2

## SPEC SHEET

SAP MATERIAL No.:	0224943
SHORT DESCRIPTION:	SCHEME, PROT 4RF1100-110 1A SE D9048

**TECH. DESCRIPTION:**

4RF1100 RURAL FEEDER PROTECTION SCHEME \*  
 DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE; TRIP CCT SUP;  
 ANTI-PUMP FUNCTION \*  
 SUPERVISORY INDICATIONS AND CONTROLS VIA SERIAL COMMUNICATION: REAR EIA-485 PORT  
 WITH DNP3 PROTOCOL \*  
 AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*  
 WIRED FOR 1A CURRENT TRANSFORMER RATING \*  
 MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*  
 INCLUDING :-  
 - 1x MiCOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/16 OUTPUTS, REAR EIA-485 PORT  
 SUPPORTING DNP3 \*  
 - PK2-4 WAY CT & VT TEST BLOCKS \*  
 - FAULT COUNTER \*  
 - HARD-WIRED PNH ALARM TO SCADA \*  
 - SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY  
 MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*  
 EXCLUDES :-  
 - TRADITIONAL HARD-WIRED SCADA ALARMS AND CONTROLS \*  
 - OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME  
 SYNCH INTERFACE \*  
 - OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*  
 - SWING FRAME PANEL AND BLANKING PLATES \*  
 - CRATING FOR TRANSPORT \*  
 ESKOM DRAWING No. D-DT-9048 \*

ITEM	:- SCHEME, PROT 4RF1100 <b>AND 4RF1101-110</b>				
MATERIAL SPECIFICATION	:- REFER TO ESKOM SPEC				
CORROSION SPECIFICATION	:- REFER TO ESKOM SPEC				
STANDARD SPECIFICATION	:- REFER TO ESKOM SPEC				
ESKOM SPECIFICATION	:- DISSCAAQ2 REV2, DISASAC19 REV2				
TEST & CERTIFICATION REQUIREMENTS	:- REFER TO ESKOM SPEC				

INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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**IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS**

3	CONTROL PANELS 4RF1101-110V AND 220V ADDED	P.A.T.	S. VAN ZYL	11.05.2014	
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE S. VAN ZYL	5 AUG 13	
1	Back Plate dimension increased from 12U to 14U	SVZ	AK SVZ	28 Sept 07	

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>		SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07			0224943		
DRAWN:	S van Zyl	DATE:	30 Apr 07			SET	SHEET	REV
				9048	<b>15</b>	<b>1</b>	<b>3</b>	



## SPEC SHEET

SAP MATERIAL No.:	0224944
SHORT DESCRIPTION:	SCHEME, PROT 4RF1100-110 1A HW D9048

**TECH. DESCRIPTION:**

4RF1100 RURAL FEEDER PROTECTION SCHEME \*  
 DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE; TRIP CCT SUP;  
 ANTI-PUMP FUNCTION \*  
 SUPPORTS TRADITIONAL HARD-WIRED SUPERVISORY INDICATIONS AND CONTROLS PLUS SERIAL  
 COMMUNICATION TO RTU VIA REAR EIA-485 PORT WITH DNP3 PROTOCOL \*  
 AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*  
 WIRED FOR 1A CURRENT TRANSFORMER RATING \*  
 MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*  
 INCLUDING :-  
 - 1x MICOM P145 PROTECTION RELAY INCL. 24 DIGITAL INPUTS/24 OUTPUTS, REAR EIA-485 PORT  
 SUPPORTING DNP3 \*  
 - PK2-4 WAY CT & VT TEST BLOCKS \*  
 - FAULT COUNTER \*  
 - HARD-WIRED SCADA ALARMS AND CONTROLS \*  
 - SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY  
 MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*  
 EXCLUDES :-  
 - OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME  
 SYNCH INTERFACE \*  
 - OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*  
 - SWING FRAME PANEL AND BLANKING PLATES \*  
 - CRATING FOR TRANSPORT \*  
 ESKOM DRAWING No. D-DT-9048 \*

3	CONTROL PANELS 4RF1101-110V AND 220V ADDED	P.A.T.	S. VAN ZYL	11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE	S. VAN ZYL	5 AUG 13		
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	28 Sept 07		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>	SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0224944		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
					15	2	3

# SPEC SHEET

SAP MATERIAL No.:	0224945
SHORT DESCRIPTION:	SCHEME, PROT 4RF1100-220 1A SE D9048

TECH. DESCRIPTION:

4RF1100 RURAL FEEDER PROTECTION SCHEME \*

DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE; TRIP CCT SUP;  
 ANTI-PUMP FUNCTION \*

SUPERVISORY INDICATIONS AND CONTROLS VIA SERIAL COMMUNICATION: REAR EIA-485 PORT  
 WITH DNP3 PROTOCOL \*

AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*

WIRED FOR 1A CURRENT TRANSFORMER RATING \*

MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*

INCLUDING :-

- 1x MiCOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/16 OUTPUTS, REAR EIA-485 PORT SUPPORTING DNP3 \*
- PK2-4 WAY CT & VT TEST BLOCKS \*
- FAULT COUNTER \*
- HARD-WIRED PNH ALARM TO SCADA \*
- SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*

EXCLUDES :-

- TRADITIONAL HARD-WIRED SCADA ALARMS AND CONTROLS \*
- OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME SYNCH INTERFACE \*
- OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*
- SWING FRAME PANEL AND BLANKING PLATES \*
- CRATING FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9048 \*

3	<b>CONTROL PANELS 4RF1101-110V AND 220V ADDED</b>	P.A.T.	<b>S. VAN ZYL</b>	11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE	S. VAN ZYL	5 AUG 13		
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	28 Sept 07		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>	SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0224945		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
					<b>15</b>	<b>3</b>	<b>3</b>

## SPEC SHEET

SAP MATERIAL No.:	0224946
SHORT DESCRIPTION:	SCHEME, PROT 4RF1100-220 1A HW D9048

**TECH. DESCRIPTION:**

4RF1100 RURAL FEEDER PROTECTION SCHEME \*  
 DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE; TRIP CCT SUP;  
 ANTI-PUMP FUNCTION \*  
 SUPPORTS TRADITIONAL HARD-WIRED SUPERVISORY INDICATIONS AND CONTROLS PLUS SERIAL  
 COMMUNICATION TO RTU VIA REAR EIA-485 PORT WITH DNP3 PROTOCOL \*  
 AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*  
 WIRED FOR 1A CURRENT TRANSFORMER RATING \*  
 MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*  
 INCLUDING :-  
 - 1x MICOM P145 PROTECTION RELAY INCL. 24 DIGITAL INPUTS/24 OUTPUTS, REAR EIA-485 PORT  
 SUPPORTING DNP3 \*  
 - PK2-4 WAY CT & VT TEST BLOCKS \*  
 - FAULT COUNTER \*  
 - HARD-WIRED SCADA ALARMS AND CONTROLS \*  
 - SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY  
 MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*  
 EXCLUDES :-  
 - OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME  
 SYNCH INTERFACE \*  
 - OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*  
 - SWING FRAME PANEL AND BLANKING PLATES \*  
 - CRATING FOR TRANSPORT \*  
 ESKOM DRAWING No. D-DT-9048 \*

3	CONTROL PANELS 4RF1101-110V AND 220V ADDED	P.A.T.	S. VAN ZYL	11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE S. VAN ZYL	5 AUG 13			
1	Back Plate dimension increased from 12U to 14U	SVZ	AK SVZ	28 Sept 07			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>	SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0224946		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
		SCALE NTS CAD REF: SERIES 9000 FILE No: 9048			15	4	3

## SPEC SHEET

SAP MATERIAL No.:	0224947
SHORT DESCRIPTION:	SCHEME, PROT 4RF1100-110 5A SE D9048

TECH. DESCRIPTION:

4RF1100 RURAL FEEDER PROTECTION SCHEME \*

DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE; TRIP CCT SUP;  
 ANTI-PUMP FUNCTION \*

SUPERVISORY INDICATIONS AND CONTROLS VIA SERIAL COMMUNICATION: REAR EIA-485 PORT  
 WITH DNP3 PROTOCOL \*

AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*

WIRED FOR 5A CURRENT TRANSFORMER RATING \*

MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*


INCLUDING :-

- 1x MiCOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/16 OUTPUTS, REAR EIA-485 PORT SUPPORTING DNP3 \*
- PK2-4 WAY CT & VT TEST BLOCKS \*
- FAULT COUNTER \*
- HARD-WIRED PNH ALARM TO SCADA \*
- SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*

EXCLUDES :-

- TRADITIONAL HARD-WIRED SCADA ALARMS AND CONTROLS \*
- OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME SYNCH INTERFACE \*
- OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*
- SWING FRAME PANEL AND BLANKING PLATES \*
- CRATING FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9048 \*


3	<b>CONTROL PANELS 4RF1101-110V AND 220V ADDED</b>	P.A.T.	<b>S. VAN ZYL</b>	11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE	S. VAN ZYL	5 AUG 13		
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	28 Sept 07		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>	SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0224947		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
			9048		<b>15</b>	<b>5</b>	<b>3</b>

# SPEC SHEET

SAP MATERIAL No.:	0224948
SHORT DESCRIPTION:	SCHEME, PROT 4RF1100-110 5A HW D9048

**TECH. DESCRIPTION:**

4RF1100 RURAL FEEDER PROTECTION SCHEME \*  
 DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE; TRIP CCT SUP;  
 ANTI-PUMP FUNCTION \*  
 SUPPORTS TRADITIONAL HARD-WIRED SUPERVISORY INDICATIONS AND CONTROLS PLUS SERIAL  
 COMMUNICATION TO RTU VIA REAR EIA-485 PORT WITH DNP3 PROTOCOL \*  
 AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*  
 WIRED FOR 5A CURRENT TRANSFORMER RATING \*  
 MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*  
 INCLUDING :-  
 - 1x MiCOM P145 PROTECTION RELAY INCL. 24 DIGITAL INPUTS/24 OUTPUTS, REAR EIA-485 PORT  
 SUPPORTING DNP3 \*  
 - PK2-4 WAY CT & VT TEST BLOCKS \*  
 - FAULT COUNTER \*  
 - HARD-WIRED SCADA ALARMS AND CONTROLS \*  
 - SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY  
 MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*  
 EXCLUDES :-  
 - OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME  
 SYNCH INTERFACE \*  
 - OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*  
 - SWING FRAME PANEL AND BLANKING PLATES \*  
 - CRATING FOR TRANSPORT \*  
 ESKOM DRAWING No. D-DT-9048 \*

3	CONTROL PANELS 4RF1101-110V AND 220V ADDED	P.A.T.	S. VAN ZYL		11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE	S. VAN ZYL	5 AUG 13			
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	28 Sept 07			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>		SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07			0224948		
DRAWN:	S van Zyl	DATE:	30 Apr 07			SET	SHEET	REV
					<b>15</b>	<b>6</b>	<b>3</b>	

# SPEC SHEET

SAP MATERIAL No.:	0224949
SHORT DESCRIPTION:	SCHEME, PROT 4RF1100-220 5A SE D9048

TECH. DESCRIPTION:

4RF1100 RURAL FEEDER PROTECTION SCHEME \*

DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE; TRIP CCT SUP;  
 ANTI-PUMP FUNCTION \*

SUPERVISORY INDICATIONS AND CONTROLS VIA SERIAL COMMUNICATION: REAR EIA-485 PORT  
 WITH DNP3 PROTOCOL \*

AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*

WIRED FOR 5A CURRENT TRANSFORMER RATING \*

MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*

INCLUDING :-

- 1x MiCOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/16 OUTPUTS, REAR EIA-485 PORT SUPPORTING DNP3 \*
- PK2-4 WAY CT & VT TEST BLOCKS \*
- FAULT COUNTER \*
- HARD-WIRED PNH ALARM TO SCADA \*
- SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*

EXCLUDES :-

- TRADITIONAL HARD-WIRED SCADA ALARMS AND CONTROLS \*
- OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME SYNCH INTERFACE \*
- OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*
- SWING FRAME PANEL AND BLANKING PLATES \*
- CRATING FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9048 \*

3	CONTROL PANELS 4RF1101-110V AND 220V ADDED	P.A.T.	S. VAN ZYL	11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE S. VAN ZYL	5 AUG 13			
1	Back Plate dimension increased from 12U to 14U	SVZ	AK SVZ	28 Sept 07			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07		SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0224949		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
				<b>D-DT-9048</b>	<b>15</b>	<b>7</b>	<b>3</b>

## SPEC SHEET

SAP MATERIAL No.:	0224950
SHORT DESCRIPTION:	SCHEME, PROT 4RF1100-220 5A HW D9048

TECH. DESCRIPTION:

4RF1100 RURAL FEEDER PROTECTION SCHEME \*

DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION \*  
 BREAKER FAIL; AUTO RECLOSE; UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE; TRIP CCT SUP;  
 ANTI-PUMP FUNCTION \*

SUPPORTS TRADITIONAL HARD-WIRED SUPERVISORY INDICATIONS AND CONTROLS PLUS SERIAL COMMUNICATION TO RTU VIA REAR EIA-485 PORT WITH DNP3 PROTOCOL \*

AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*

WIRED FOR 5A CURRENT TRANSFORMER RATING \*

MODULE DIMENSIONS: (7U) 311.15mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE \*

INCLUDING :-

- 1x MiCOM P145 PROTECTION RELAY INCL. 24 DIGITAL INPUTS/24 OUTPUTS, REAR EIA-485 PORT SUPPORTING DNP3 \*
- PK2-4 WAY CURRENT TRANSFORMER & VT TEST BLOCKS \*
- FAULT COUNTER \*
- HARD-WIRED SCADA ALARMS AND CONTROLS \*
- SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING \*

EXCLUDES :-

- OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND IRIG-B TIME SYNCH INTERFACE \*
- OPTIONAL SINGLE PHASE CURRENT TRANSDUCER \*
- SWING FRAME PANEL AND BLANKING PLATES \*
- CRATING FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9048 \*

3	<b>CONTROL PANELS 4RF1101-110V AND 220V ADDED</b>	P.A.T.	<b>S. VAN ZYL</b>	11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE	S. VAN ZYL	5 AUG 13		
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	28 Sept 07		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>	SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0224950		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
					<b>15</b>	<b>8</b>	<b>3</b>

**SPEC SHEET**

SAP MATERIAL No.:	0224951
SHORT DESCRIPTION:	PANEL, S/FRAME INCL B/PLATES 4RF1100 D9048

TECH. DESCRIPTION:

SWING FRAME PANEL OF DIMENSIONS: 2400mm HIGH x 800mm WIDE x 600mm DEEP \*  
 SUITABLE FOR TOP AND BOTTOM ENTRY OF CABLES \*  
 FOR 4RF1100 PROTECTION SCHEME \*  
 AS PER SCSSCABB7 REV 1\*  
 INCLUDES :-  
 - INSTALLATION OF SCHEMES INTO PANEL \*  
 - ALL BLANKING PLATES TO CLOSE-UP FRONT PANEL APERTURE \*  
 - CRATING FOR TRANSPORT \*  
 ESKOM DRAWING No. D-DT-9048 \*

SAP MATERIAL No.:	0225041
SHORT DESCRIPTION:	CRATING 4RF1100 PROT SCHEME D9048

TECH. DESCRIPTION:

NON-STOCK ITEM FOR COSTING PURPOSES ONLY \*  
 CRATING OF ONE 4RF1100 PROTECTION SCHEME MODULE FOR TRANSPORT \*  
 USE WHEN NOT INCLUDING A SWING FRAME CABINET WITH ORDER \*  
 ESKOM DRAWING No. D-DT-9048 \*

SAP MATERIAL No.:	0404056
SHORT DESCRIPTION:	CABLE COMM, USB/DB9 MICOM D9048

TECH. DESCRIPTION:


USB TO DB9 MALE "STRAIGHT THROUGH" SERIAL COMMUNICATION CABLE FOR AREVA MiCOM PROTECTION RELAYS \*  
 ALSO SUITABLE FOR GE RELAYS AND THE COOPER FORM 5 RECLOSER \*  
 ESKOM DRAWING No. D-DT-9048 \*

SAP MATERIAL No.:	0224953
SHORT DESCRIPTION:	TRANSDUCER, AMP 4RF1100 D9048

TECH. DESCRIPTION:

SINGLE PHASE CURRENT TRANSDUCER FOR 4RF1100 SCHEME \*  
 MANUFACTURER: POWERCON \*  
 TYPE: CA4 \*  
 RATED CURRENT: 1 AMP OR 5 AMP \*  
 SECONDARY CURRENT: 5mA RATED, 6.25mA FULL SCALE \*  
 WHEN ORDERED WITH A SCHEME, CURRENT RATING WILL MATCH THAT OF THE SCHEME \*  
 WHEN ORDERED SEPARATELY, 1 AMP RATING WILL BE SUPPLIED AS DEFAULT; 5A ON REQUEST \*  
 ESKOM DRAWING No. D-DT-9048 \*

3	CONTROL PANELS 4RF1101-110V AND 220V ADDED	P.A.T.	S. VAN ZYL		11.05.2014	
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE	S. VAN ZYL	5 AUG 13	
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	28 Sept 07	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS

AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>	SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0224951	0404056	
					0225041	0224953	
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
				15	9	3	



## SPEC SHEET

SAP MATERIAL No.:	0224955								
SHORT DESCRIPTION:	COMM PORT, P145 EIA485 COURIER IRIGB D9048								
TECH. DESCRIPTION:									
OPTIONAL SECOND REAR COMMUNICATION PORT FOR MiCOM P145 RELAY * SUPPORTS COURIER PROTOCOL ON EIA-485 PORT FOR REMOTE ENGINEERING ACCESS * INCLUDES IRIG-B TIME SYNCH INTERFACE * ESKOM DRAWING No. D-DT-9048 *									
SAP MATERIAL No.:	0224956								
SHORT DESCRIPTION:	RELAY, PROT P145 I16-O16 D9048								
TECH. DESCRIPTION:									
MiCOM P145 FEEDER MANAGEMENT PROTECTION RELAY WITH 16 DIGITAL INPUTS AND 16 OUTPUT CONTACTS * DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION * BREAKER FAIL; AUTO RECLOSE; UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE * SYNCHRONISM CHECK * INCLUDES REAR EIA-485 COMMUNICATION PORT WITH DNP3 PROTOCOL * SUITABLE FOR 1 A AND 5 A RATED CURRENT TRANSFORMERS * SUITABLE FOR 110V AND 220V DC AUXILIARY VOLTAGE SUPPLY* EXCLUDES OPTIONAL SECOND REAR COMMUNICATION PORT AND IRIG-B TIME SYNCH INTERFACE * USED IN 4RF1100 (SERIAL SCADA) AND 4BC1800 PROTECTION SCHEMES * ESKOM DRAWING No. D-DT-9048 *									
SAP MATERIAL No.:	0224957								
SHORT DESCRIPTION:	RELAY, PROT P145 I24-O24 D9048								
TECH. DESCRIPTION:									
MICOM P145 FEEDER MANAGEMENT PROTECTION RELAY WITH 24 DIGITAL INPUTS AND 24 OUTPUT CONTACTS * DIRECTIONAL OVER CURRENT; EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION * BREAKER FAIL; AUTO RECLOSE; UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE * SYNCHRONISM CHECK * INCLUDES REAR EIA-485 COMMUNICATION PORT WITH DNP3 PROTOCOL * SUITABLE FOR 1 A AND 5 A RATED CURRENT TRANSFORMERS * SUITABLE FOR 110V AND 220V DC AUXILIARY VOLTAGE SUPPLY* EXCLUDES OPTIONAL SECOND REAR COMMUNICATION PORT AND IRIG-B TIME SYNCH INTERFACE * USED IN 4RF1100 (HARD-WIRED SCADA) PROTECTION SCHEMES * ESKOM DRAWING No. D-DT-9048 *									
3	CONTROL PANELS 4RF1101-110V AND 220V ADDED	P.A.T.	S. VAN ZYL			11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE	S. VAN ZYL	5 AUG 13				
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	28 Sept 07				
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS			
AUTH:	S van Zyl	DATE:	30 Apr 07			SAP No:			
						0224955			
						0224956			
				0224957					
CHKD:	A Kerr	DATE:	30 Apr 07	<b>D-DT-9048</b>		SET	SHEET	REV	
						15	10	3	
DRAWN:	S van Zyl	DATE:	30 Apr 07						
				FILE No:					
				9048					

## SPEC SHEET

SAP MATERIAL No.:	0224958
SHORT DESCRIPTION:	ARC SUPPRESSOR, 4RF1100 D9048
TECH. DESCRIPTION:	
REPLACEMENT ARC SUPPRESSOR (SNUBBER CIRCUIT) FOR CONTACT PROTECTION ON THE 4RF1100 SCHEME * SUITABLE FOR USE ON 110V AND 220V DC CIRCUITS * ESKOM DRAWING No. D-DT-9048 *	
SAP MATERIAL No.:	0224959
SHORT DESCRIPTION:	CARD, OUTPUT CONTACT P145 RELAY D9048
TECH. DESCRIPTION:	
REPLACEMENT OUTPUT CONTACT CARD FOR MiCOM P145 PROTECTION RELAY* INCLUDES 8 STANDARD OUTPUT CONTACTS * REPLACEMENT FOR BOARD B (RELAYS 17 – 24) OR BOARD G (RELAYS 9 – 16) * SUITABLE FOR USE ON 110V AND 220V DC CIRCUITS * ESKOM DRAWING No. D-DT-9048 *	
SAP MATERIAL No.:	0224960
SHORT DESCRIPTION:	TRAINING, PROT MiCOM P145 RELAY D9048
TECH. DESCRIPTION:	
NON-STOCK ITEM FOR COSTING PURPOSES ONLY * THREE DAY SCHEME TRAINING COURSE FOR 6 TO 10 DELEGATES * SCOPE: MiCOM P145 PROTECTION RELAY AND 4RF1100, 4BC1800 AND 4BC1900 PROTECTION SCHEMES * LOCATION: ALSTOM OFFICES, KNIGHTS, GERMISTON * ALTERNATIVE LOCATION BY ARRANGEMENT * ESKOM DRAWING No. D-DT-9048 *	


3	<b>CONTROL PANELS 4RF1101-110V AND 220V ADDED</b>	P.A.T.	<b>S. VAN ZYL</b>	11.05.2014				
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE	S. VAN ZYL	5 AUG 13			
1	Back Plate dimension increased from 12U to 14U	SVZ	AK	SVZ	28 Sept 07			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>		SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07			0224958		REV
DRAWN:	S van Zyl	DATE:	30 Apr 07			0224959		
				0224960		SET		
				FILE No:		15	11	
				9048		3		

## SPEC SHEET

SAP MATERIAL No.:	0583094
SHORT DESCRIPTION:	PANEL,CNTRL:4RF1101-110;RURAL FDR 1A SE

**TECH. DESCRIPTION:**

PANEL, CONTROL: TYPE: RURAL FDR 1A SE;  
 4RF1101 RURAL FEEDER PROTECTION SCHEME;  
 DIRECTIONAL OVER CURRENT;  
 EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION;  
 BREAKER FAIL; AUTO RECLOSE;  
 UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE;  
 TRIP CCT SUP; ANTI-PUMP FUNCTION;  
 REVERSE POWER PROTECTION;  
 SYNCH/SYSTEM CHECK FUNCTION;  
 SUPERVISORY INDICATIONS AND CONTROLS VIA  
 SERIAL COMMUNICATION: REAR EIA-485 PORT WITH DNP3 PROTOCOL;  
 AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC;  
 WIRED FOR 1A CURRENT TRANSFORMER RATING;  
 MODULE DIMENSIONS: (7U) 311.15MM HIGH X (19IN) 282MM WIDE X 300MM DEPTH;  
 BACKPLATE DIMENSIONS: (14U) 622.3MM HIGH X (19IN) 282MM WIDE;  
 INCLUDING: 1X MICOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/16 OUTPUTS,  
 REAR EIA-485 PORT SUPPORTING DNP3;  
 PK2-4 WAY CT & VT TEST BLOCKS; FAULT COUNTER;  
 HARD-WIRED PNH ALARM TO SCADA;  
 SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES,  
 LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING;  
 EXCLUDES: TRADITIONAL HARD-WIRED SCADA ALARMS AND CONTROLS;  
 OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND  
 IRIG-B TIME SYNCH INTERFACE;  
 OPTIONAL SINGLE PHASE CURRENT TRANSDUCER;  
 SWING FRAME PANEL AND BLANKING PLATES; CRATING FOR TRANSPORT;  
 REFERENCE NO: 4RF1101-110;  
 ESKOM DRAWING No. D-DT-9048 \*


3	CONTROL PANELS 4RF1101-110V AND 220V ADDED	P.A.T.	S. VAN ZYL	11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE S. VAN ZYL	5 AUG 13			
1	Back Plate dimension increased from 12U to 14U	SVZ	AK SVZ	28 Sept 07			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>	SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0583094		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
					15	12	3

## SPEC SHEET

SAP MATERIAL No.:	0583095
SHORT DESCRIPTION:	PANEL,CNTRL:4RF1101-110;RURAL FDR 1A HW

**TECH. DESCRIPTION:**

PANEL, CONTROL: TYPE: RURAL FDR 1A HW;  
 4RF1101 RURAL FEEDER PROTECTION SCHEME;  
 DIRECTIONAL OVER CURRENT;  
 EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION;  
 BREAKER FAIL; AUTO RECLOSE;  
 UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE;  
 TRIP CCT SUP; ANTI-PUMP FUNCTION;  
 REVERSE POWER PROTECTION;  
 SYNCH/SYSTEM CHECK FUNCTION;  
 SUPPORTS TRADITIONAL HARD-WIRED SUPERVISORY INDICATIONS AND CONTROLS  
 PLUS SERIAL COMMUNICATION TO RTU VIA REAR EIA-485 PORT WITH DNP3 PROTOCOL;  
 AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC;  
 WIRED FOR 1A CURRENT TRANSFORMER RATING;  
 MODULE DIMENSIONS: (7U) 311.15MM HIGH X (19IN) 282MM WIDE X 300MM DEPTH;  
 BACKPLATE DIMENSIONS: (14U) 622.3MM HIGH x (19IN) 282MM WIDE;  
 INCLUDING : 1X MiCOM P145 PROTECTION RELAY INCL. 24 DIGITAL INPUTS/24 OUTPUTS,  
 REAR EIA-485 PORT SUPPORTING DNP3;  
 PK2-4 WAY CT & VT TEST BLOCKS; FAULT COUNTER;  
 HARD-WIRED SCADA ALARMS AND CONTROLS;  
 SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND  
 ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING;  
 EXCLUDES : OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS  
 AND IRIG-B TIME SYNCH INTERFACE;  
 OPTIONAL SINGLE PHASE CURRENT TRANSDUCER;  
 SWING FRAME PANEL AND BLANKING PLATES; CRATING FOR TRANSPORT;  
 REFERENCE NO: 4RF1101-110;  
 ESKOM DRAWING No. D-DT-9048 \*


3	CONTROL PANELS 4RF1101-110V AND 220V ADDED	P.A.T.	S. VAN ZYL	11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE S. VAN ZYL	5 AUG 13			
1	Back Plate dimension increased from 12U to 14U	SVZ	AK SVZ	28 Sept 07			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 Eskom	SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0583095		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
				<b>D-DT-9048</b>	<b>15</b>	<b>13</b>	<b>3</b>

## SPEC SHEET

SAP MATERIAL No.:	0583096
SHORT DESCRIPTION:	PANEL,CNTRL;4RF1101-220;RURAL FDR 1A SE

**TECH. DESCRIPTION:**

PANEL, CONTROL: TYPE: RURAL FDR 1A SE;  
 4RF1101 RURAL FEEDER PROTECTION SCHEME;  
 DIRECTIONAL OVER CURRENT;  
 EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION;  
 BREAKER FAIL; AUTO RECLOSE;  
 UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE;  
 TRIP CCT SUP; ANTI-PUMP FUNCTION; REVERSE POWER PROTECTION;  
 SYNCH/SYSTEM CHECK FUNCTION; SUPERVISORY INDICATIONS AND CONTROLS  
 VIA SERIAL COMMUNICATION: REAR EIA-485 PORT WITH DNP3 PROTOCOL;  
 AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC;  
 WIRED FOR 1A CURRENT TRANSFORMER RATING;  
 MODULE DIMENSIONS: (7U) 311.15MM HIGH X (19IN) 282MM WIDE X 300MM DEPTH;  
 BACKPLATE DIMENSIONS: (14U) 622.3mm HIGH x (19IN) 282mm WIDE;  
 INCLUDING : 1X MiCOM P145 PROTECTION RELAY INCL. 16 DIGITAL INPUTS/16 OUTPUTS,  
 REAR EIA-485 PORT SUPPORTING DNP3;  
 PK2-4 WAY CT & VT TEST BLOCKS; FAULT COUNTER;  
 HARD-WIRED PNH ALARM TO SCADA;  
 SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND  
 ASSEMBLY MATERIAL, SCHEME ASSEMBLY,  
 WIRING AND ROUTINE TESTING;  
 EXCLUDES : TRADITIONAL HARD-WIRED SCADA ALARMS AND CONTROLS;  
 OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS AND  
 IRIG-B TIME SYNCH INTERFACE; OPTIONAL SINGLE PHASE CURRENT TRANSDUCER;  
 SWING FRAME PANEL AND BLANKING PLATES; CRATING FOR TRANSPORT;  
 REFERENCE NO: 4RF1101-220;  
 ESKOM DRAWING No. D-DT-9048 \*


3	CONTROL PANELS 4RF1101-110V AND 220V ADDED	P.A.T.	S. VAN ZYL	11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE S. VAN ZYL	5 AUG 13			
1	Back Plate dimension increased from 12U to 14U	SVZ	AK SVZ	28 Sept 07			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>	SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0583096		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
					15	14	3

## SPEC SHEET

SAP MATERIAL No.:	0583097
SHORT DESCRIPTION:	PANEL,CNTRL:4RF1101-220;RURAL FDR 1A HW

**TECH. DESCRIPTION:**

PANEL, CONTROL: TYPE: RURAL FDR 1A HW;  
 4RF1101 RURAL FEEDER PROTECTION SCHEME;  
 DIRECTIONAL OVER CURRENT;  
 EARTH FAULT AND SENSITIVE EARTH FAULT PROTECTION;  
 BREAKER FAIL; AUTO RECLOSE;  
 UNDER/OVER FREQUENCY; UNDER/OVER VOLTAGE;  
 TRIP CCT SUP; ANTI-PUMP FUNCTION;  
 REVERSE POWER PROTECTION;  
 SYNCH/SYSTEM CHECK FUNCTION;  
 SUPPORTS TRADITIONAL HARD-WIRED SUPERVISORY INDICATIONS AND CONTROLS  
 PLUS SERIAL COMMUNICATION TO RTU VIA REAR EIA-485 PORT WITH DNP3 PROTOCOL;  
 AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC;  
 WIRED FOR 1A CURRENT TRANSFORMER RATING;  
 MODULE DIMENSIONS: (7U) 311.15MM HIGH X (19IN) 282MM WIDE X 300MM DEPTH;  
 BACKPLATE DIMENSIONS: (14U) 622.3MM HIGH x (19IN) 282MM WIDE;  
 INCLUDING :- 1X MICOM P145 PROTECTION RELAY INCL. 24 DIGITAL INPUTS/24 OUTPUTS,  
 REAR EIA-485 PORT SUPPORTING DNP3;  
 PK2-4 WAY CT & VT TEST BLOCKS; FAULT COUNTER;  
 HARD-WIRED SCADA ALARMS AND CONTROLS;  
 SNUBBER CCT, PNH AUXILIARY, MCBs, TERMINALS, TAILS, FRAMES, LABELS AND  
 ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING AND ROUTINE TESTING;  
 EXCLUDES : OPTIONAL SECOND REAR COMMS PORT FOR REMOTE ENGINEERING ACCESS  
 AND IRIG-B TIME SYNCH INTERFACE;  
 OPTIONAL SINGLE PHASE CURRENT TRANSDUCER;  
 SWING FRAME PANEL AND BLANKING PLATES;  
 CRATING FOR TRANSPORT;  
 REFERENCE NO: 4RF1101-220;  
 ESKOM DRAWING No. D-DT-9048 \*

3	CONTROL PANELS 4RF1101-110V AND 220V ADDED	P.A.T.	S. VAN ZYL	11.05.2014			
2	SAP NO. 0224952 CHANGED TO 0404056	P.A.T.	H. SITHOLE S. VAN ZYL	5 AUG 13			
1	Back Plate dimension increased from 12U to 14U	SVZ	AK SVZ	28 Sept 07			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9048</b>	SAP No:		
CHKD:	A Kerr	DATE:	30 Apr 07		0583097		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
					15	15	3

## SPEC SHEET

SAP MATERIAL No.:	0224967
SHORT DESCRIPTION:	SCHEME, PROT 4BZ5700-110 PANEL D9049

**TECH. DESCRIPTION:**

4BZ5700 HIGH IMPEDANCE BUS ZONE PROTECTION SCHEME \*  
 COMPLETE SCHEME MOUNTED IN A DUAL ENTRY SWING FRAME PANEL WITH BLANKING PLATES \*  
 TWO ZONE DIFFERENTIAL PROTECTION WITH A CHECK ZONE \*  
 SUITABLE FOR APPLICATION ON A DOUBLE BUSBAR WITH UP TO 8 BAYS PLUS A BUS COUPLER BAY \*  
 AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*  
 WIRED FOR 1A CURRENT TRANSFORMER RATING \*  
 INCLUDING :-

- 1 x GE MULTILIN F35 PROTECTION RELAY INCLUDING TWO REAR EIA-485 COMMUNICATION PORTS FOR REMOTE ENGINEERING ACCESS / SCADA SUPPORTING MODBUS / DNP3 AND IRIG-B TIME SYNCH INTERFACE \*
- 9 x 2000 OHM VARIABLE STABILISING RESISTORS \*
- 3 x THREE PHASE METROSILS \*
- 10 x PRIMA PRH TRIP REPEAT RELAYS \*
- 3 x ARTECHE BF4 BUS WIRE SHORTING RELAYS \*
- 29 x PK2-4 WAY CT TEST BLOCKS \*
- SCADA ALARMS VIA HARD WIRED INTERFACE AND SERIAL INTERFACE \*
- BUS ZONE ISOLATE AND BREAKER FAIL ISOLATE SWITCHES \*
- BUS ZONE TRIP AND PROTECTION NOT HEALTHY INDICATIONS \*
- MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING, INSTALLATION IN A PANEL AND ROUTINE TESTING \*
- 1 x SWING FRAME PANEL OF DIMENSIONS: 2400mm HIGH x 800mm WIDE x 600mm DEEP SUITABLE FOR TOP OR BOTTOM CABLE ENTRY \*
- BLANKING PLATES TO CLOSE THE FRONT PANEL APERTURE \*
- CRATING OF COMPLETE SCHEME FOR TRANSPORT \*


ESKOM DRAWING No. D-DT-9049 \*

ITEM	:- SCHEME, PROT 4BZ5xx0		
MATERIAL SPECIFICATION	:- REFER TO ESKOM SPEC		
CORROSION SPECIFICATION	:- REFER TO ESKOM SPEC		
STANDARD SPECIFICATION	:- REFER TO ESKOM SPEC		
ESKOM SPECIFICATION	:- DISSCABD1 REV2, DISASAC19 REV2		
TEST & CERTIFICATION REQUIREMENTS	:- REFER TO ESKOM SPEC		

INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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**IDENTIFICATION:- INDELIBILE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS**

2	As per previous issue.	SvZ	HS	SvZ	10/07/2008
1	Stabilising resistor size changed from 800 to 2000 ohm	SvZ	HS	SvZ	18/07/2007
0	First issue				

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS		
AUTH:	S van Zyl	DATE:	30 Apr 07			SAP No: 0224967		
CHKD:	H Sithole	DATE:	30 Apr 07					
DRAWN:	S van Zyl	DATE:	30 Apr 07	<b>D-DT-9049</b>		SET	SHEET	REV
						14	1	2

## SPEC SHEET


SAP MATERIAL No.:	0224968
SHORT DESCRIPTION:	SCHEME, PROT 4BZ5700-220 PANEL D9049

**TECH. DESCRIPTION:**

4BZ5700 HIGH IMPEDANCE BUS ZONE PROTECTION SCHEME \*  
 COMPLETE SCHEME MOUNTED IN A DUAL ENTRY SWING FRAME PANEL WITH BLANKING PLATES \*  
 TWO ZONE DIFFERENTIAL PROTECTION WITH A CHECK ZONE \*  
 SUITABLE FOR APPLICATION ON A DOUBLE BUSBAR WITH UP TO 8 BAYS PLUS A BUS COUPLER BAY \*  
 AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*  
 WIRED FOR 1A CURRENT TRANSFORMER RATING \*  
 INCLUDING :-

- 1 x GE MULTILIN F35 PROTECTION RELAY INCLUDING TWO REAR EIA-485 COMMUNICATION PORTS FOR REMOTE ENGINEERING ACCESS / SCADA SUPPORTING MODBUS / DNP3 AND IRIG-B TIME SYNCH INTERFACE \*
- 9 x 2000 OHM VARIABLE STABILISING RESISTORS \*
- 3 x THREE PHASE METROSILS \*
- 10 x PRIMA TRIP REPEAT RELAYS \*
- 3 x ARTECHE BF4 BUS WIRE SHORTING RELAYS \*
- 29 x PK2-4 WAY CT TEST BLOCKS \*
- SCADA ALARMS VIA HARD WIRED INTERFACE AND SERIAL INTERFACE \*
- BUS ZONE ISOLATE AND BREAKER FAIL ISOLATE SWITCHES \*
- BUS ZONE TRIP AND PROTECTION NOT HEALTHY INDICATIONS \*
- MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING, INSTALLATION IN A PANEL AND ROUTINE TESTING \*
- 1 x SWING FRAME PANEL OF DIMENSIONS: 2400mm HIGH x 800mm WIDE x 600mm DEEP SUITABLE FOR TOP OR BOTTOM CABLE ENTRY \*
- BLANKING PLATES TO CLOSE THE FRONT PANEL APERTURE \*
- CRATING OF COMPLETE SCHEME FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9049 \*


<b>2</b>	<b>As per previous issue.</b>	<b>SvZ</b>	<b>HS</b>	<b>SvZ</b>	<b>10/07/2008</b>		
1	Stabilising resistor size changed from 800 to 2000 ohm	SvZ	HS	SvZ	18/07/2007		
0	First issue						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9049</b>	SAP No: 0224968		
CHKD:	H Sithole	DATE:	30 Apr 07		SET	SHEET	REV
DRAWN:	S van Zyl	DATE:	30 Apr 07		14	2	2



## SPEC SHEET

SAP MATERIAL No.:	0224969								
SHORT DESCRIPTION:	SCHEME, PROT 4BZ5750-110 PANEL D9049								
TECH. DESCRIPTION:									
<p>4BZ5750 EXPANSION PANEL FOR 4BZ5700 BUS ZONE PROTECTION SCHEME *</p> <p>COMPLETE SCHEME MOUNTED IN A DUAL ENTRY SWING FRAME PANEL WITH BLANKING PLATES *</p> <p>EXPANSION PANEL TO BE USED IN CONJUNCTION WITH A 4BZ5700 SCHEME TO EXTEND THE BUS ZONE BY AN ADDITIONAL 8 BAYS *</p> <p>AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC *</p> <p>SUITABLE FOR 1A OR 5A CURRENT TRANSFORMER RATINGS *</p> <p>INCLUDING :-</p> <ul style="list-style-type: none"> <li>- 8 x PRIMA TRIP REPEAT RELAYS *</li> <li>- 24 x PK2-4 WAY CT TEST BLOCKS *</li> <li>- BUS ZONE ISOLATE SWITCH *</li> <li>- TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING, INSTALLATION IN A PANEL AND ROUTINE TESTING *</li> <li>- 1 x SWING FRAME PANEL OF DIMENSIONS: 2400mm HIGH x 800mm WIDE x 600mm DEEP SUITABLE FOR TOP OR BOTTOM CABLE ENTRY *</li> <li>- BLANKING PLATES TO CLOSE THE FRONT PANEL APERTURE *</li> <li>- CRATING OF COMPLETE SCHEME FOR TRANSPORT *</li> </ul> <p>ESKOM DRAWING No. D-DT-9049 *</p>									
SAP MATERIAL No.:	0224970								
SHORT DESCRIPTION:	SCHEME, PROT 4BZ5750-220 PANEL D9049								
TECH. DESCRIPTION:									
<p>4BZ5750 EXPANSION PANEL FOR 4BZ5700 BUS ZONE PROTECTION SCHEME *</p> <p>COMPLETE SCHEME MOUNTED IN A DUAL ENTRY SWING FRAME PANEL WITH BLANKING PLATES *</p> <p>EXPANSION PANEL TO BE USED IN CONJUNCTION WITH A 4BZ5700 SCHEME TO EXTEND THE BUS ZONE BY AN ADDITIONAL 8 BAYS *</p> <p>AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC *</p> <p>SUITABLE FOR 1A OR 5A CURRENT TRANSFORMER RATINGS *</p> <p>INCLUDING :-</p> <ul style="list-style-type: none"> <li>- 8 x PRIMA TRIP REPEAT RELAYS *</li> <li>- 24 x PK2-4 WAY CT TEST BLOCKS *</li> <li>- BUS ZONE ISOLATE SWITCH *</li> <li>- TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING, INSTALLATION IN A PANEL AND ROUTINE TESTING *</li> <li>- 1 x SWING FRAME PANEL OF DIMENSIONS: 2400mm HIGH x 800mm WIDE x 600mm DEEP SUITABLE FOR TOP OR BOTTOM CABLE ENTRY *</li> <li>- BLANKING PLATES TO CLOSE THE FRONT PANEL APERTURE *</li> <li>- CRATING OF COMPLETE SCHEME FOR TRANSPORT *</li> </ul> <p>ESKOM DRAWING No. D-DT-9049 *</p>									
2	As per previous issue.			SvZ	HS	SvZ	10/07/2008		
1	As per previous issue.			SvZ	HS	SvZ	18/07/2007		
0	First issue								
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	SCALE			SAP No:		
CHKD:	H Sithole	DATE:	30 Apr 07	NTS			0224969		
DRAWN:	S van Zyl	DATE:	30 Apr 07	CAD REF:			0224970		
				SERIES 9000	<b>D-DT-9049</b>		SET	SHEET	REV
				FILE No:		14	3	2	
				9049					

## SPEC SHEET


SAP MATERIAL No.:	0224971								
SHORT DESCRIPTION:	SCHEME, PROT 4BZ5800-110 PANEL D9049								
TECH. DESCRIPTION:									
<p>4BZ5800 HIGH IMPEDANCE BUS ZONE PROTECTION SCHEME *</p> <p>COMPLETE SCHEME MOUNTED IN A DUAL ENTRY SWING FRAME PANEL WITH BLANKING PLATES *</p> <p>TWO ZONE DIFFERENTIAL PROTECTION WITH A CHECK ZONE *</p> <p>SUITABLE FOR APPLICATION ON A SINGLE BUSBAR DIVIDED INTO TWO SECTIONS WITH UP TO 8 BAYS PER SECTION PLUS A BUS SECTION BAY *</p> <p>AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC *</p> <p>WIRED FOR 1A CURRENT TRANSFORMER RATING *</p> <p>INCLUDING :-</p> <ul style="list-style-type: none"> <li>- 1 x GE MULTILIN F35 PROTECTION RELAY INCLUDING TWO REAR EIA-485 COMMUNICATION PORTS FOR REMOTE ENGINEERING ACCESS / SCADA SUPPORTING MODBUS / DNP3 AND IRIG-B TIME SYNCH INTERFACE *</li> <li>- 9 x 2000 OHM VARIABLE STABILISING RESISTORS *</li> <li>- 3 x THREE PHASE METROSILS *</li> <li>- 2 x ARTECHE BJ8 AND 2 x ARTECHE BF4 TRIP REPEAT RELAYS *</li> <li>- 3 x ARTECHE BF4 BUS WIRE SHORTING RELAYS *</li> <li>- 37 x PK2-4 WAY CT TEST BLOCKS *</li> <li>- SCADA ALARMS VIA HARD WIRED INTERFACE AND SERIAL INTERFACE *</li> <li>- BUS ZONE ISOLATE AND BREAKER FAIL ISOLATE SWITCHES *</li> <li>- BUS ZONE TRIP AND PROTECTION NOT HEALTHY INDICATIONS *</li> <li>- MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING, INSTALLATION IN A PANEL AND ROUTINE TESTING *</li> <li>- 1 x SWING FRAME PANEL OF DIMENSIONS: 2400mm HIGH x 800mm WIDE x 600mm DEEP SUITABLE FOR TOP OR BOTTOM CABLE ENTRY *</li> <li>- BLANKING PLATES TO CLOSE THE FRONT PANEL APERTURE *</li> <li>- CRATING OF COMPLETE SCHEME FOR TRANSPORT *</li> </ul> <p>ESKOM DRAWING No. D-DT-9049 *</p>									
2	As per previous issue.			SvZ	HS	SvZ	10/07/2008		
1	Stabilising resistor size changed from 800 to 2000 ohm. CT Test block quantity corrected.			SvZ	HS	SvZ	18/07/2007		
0	First issue								
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9049</b>		SAP No:			
CHKD:	H Sithole	DATE:	30 Apr 07			0224971			
DRAWN:	S van Zyl	DATE:	30 Apr 07			SET	SHEET	REV	
				SCALE					
				NTS					
				CAD REF:					
				SERIES 9000					
				FILE No:					
				9049					
					14	4	2		

## SPEC SHEET

SAP MATERIAL No.:	0224972
SHORT DESCRIPTION:	SCHEME, PROT 4BZ5800-220 PANEL D9049

**TECH. DESCRIPTION:**

4BZ5800 HIGH IMPEDANCE BUS ZONE PROTECTION SCHEME \*  
 COMPLETE SCHEME MOUNTED IN A DUAL ENTRY SWING FRAME PANEL WITH BLANKING PLATES \*  
 TWO ZONE DIFFERENTIAL PROTECTION WITH A CHECK ZONE \*  
 SUITABLE FOR APPLICATION ON A SINGLE BUSBAR DIVIDED INTO TWO SECTIONS WITH UP TO 8 BAYS PER SECTION PLUS A BUS SECTION BAY \*  
 AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*  
 WIRED FOR 1A CURRENT TRANSFORMER RATING \*  
 INCLUDING :-  
 - 1 x GE MULTILIN F35 PROTECTION RELAY INCLUDING TWO REAR EIA-485 COMMUNICATION PORTS FOR REMOTE ENGINEERING ACCESS / SCADA SUPPORTING MODBUS / DNP3 AND IRIG-B TIME SYNCH INTERFACE \*  
 - 9 x 2000 OHM VARIABLE STABILISING RESISTORS \*  
 - 3 x THREE PHASE METROSILS \*  
 - 2 x ARTECHE BJ8 AND 2 x ARTECHE BF4 TRIP REPEAT RELAYS \*  
 - 3 x ARTECHE BF4 BUS WIRE SHORTING RELAYS \*  
 - 37 x PK2-4 WAY CT TEST BLOCKS \*  
 - SCADA ALARMS VIA HARD WIRED INTERFACE AND SERIAL INTERFACE \*  
 - BUS ZONE ISOLATE AND BREAKER FAIL ISOLATE SWITCHES \*  
 - BUS ZONE TRIP AND PROTECTION NOT HEALTHY INDICATIONS \*  
 - MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING, INSTALLATION IN A PANEL AND ROUTINE TESTING \*  
 - 1 x SWING FRAME PANEL OF DIMENSIONS: 2400mm HIGH x 800mm WIDE x 600mm DEEP SUITABLE FOR TOP OR BOTTOM CABLE ENTRY \*  
 - BLANKING PLATES TO CLOSE THE FRONT PANEL APERTURE \*  
 - CRATING OF COMPLETE SCHEME FOR TRANSPORT \*  
 ESKOM DRAWING No. D-DT-9049 \*

2	As per previous issue.	SvZ	HS	SvZ	10/07/2008		
1	Stabilising resistor size changed from 800 to 2000 ohm. CT Test block quantity corrected.	SvZ	HS	SvZ	18/07/2007		
0	First issue						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9049</b>	SAP No:		
CHKD:	H Sithole	DATE:	30 Apr 07		0224972		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
					14	5	2

## SPEC SHEET


SAP MATERIAL No.:	0224973
SHORT DESCRIPTION:	SCHEME, PROT 4BZ5900-110 PANEL D9049

**TECH. DESCRIPTION:**

4BZ5900 HIGH IMPEDANCE BUS ZONE PROTECTION SCHEME \*  
 COMPLETE SCHEME MOUNTED IN A DUAL ENTRY SWING FRAME PANEL WITH BLANKING PLATES \*  
 SINGLE ZONE DIFFERENTIAL PROTECTION WITHOUT A CHECK ZONE \*  
 SUITABLE FOR APPLICATION ON A SINGLE BUSBAR WITH UP TO 6 BAYS \*  
 AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*  
 SUITABLE FOR 1A CURRENT TRANSFORMER RATING ONLY \*  
 MODULE DIMENSIONS: (17U) 755.65mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 INCLUDING :-

- 1 x GE MULTILIN MIB-II PROTECTION RELAY INCLUDING ONE REAR EIA-485 COMMUNICATION PORT FOR REMOTE ENGINEERING ACCESS / SCADA COMMUNICATION SUPPORTING MODBUS \*
- 3 x 200 OHM VARIABLE STABILISING RESISTORS \*
- 1 x THREE PHASE METROSIL \*
- 1 x ARTECHE BJ8 TRIP REPEAT RELAY \*
- 1 x ARTECHE BF4 BUS WIRE SHORTING RELAY \*
- 7 x PK2-4 WAY CT TEST BLOCKS \*
- SCADA ALARMS VIA HARD WIRED INTERFACE \*
- BUS ZONE ISOLATE AND BREAKER FAIL ISOLATE SWITCHES \*
- BUS ZONE TRIP, BUSWIRE SUPERVISION AND PROTECTION NOT HEALTHY INDICATIONS \*
- MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING, INSTALLATION IN A PANEL AND ROUTINE TESTING \*
- 1 x SWING FRAME PANEL OF DIMENSIONS: 2400mm HIGH x 800mm WIDE x 600mm DEEP SUITABLE FOR TOP OR BOTTOM CABLE ENTRY \*
- BLANKING PLATES TO CLOSE THE FRONT PANEL APERTURE \*
- CRATING OF COMPLETE SCHEME FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9049 \*

<b>2</b>	<b>As per previous issue.</b>	SvZ	HS	SvZ	10/07/2008							
1	Stabilising resistor size changed from 800 to 200 ohm	SvZ	HS	SvZ	18/07/2007							
0	First issue											
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS						
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9049</b>	SAP No: 0224973							
CHKD:	H Sithole	DATE:	30 Apr 07		SCALE NTS	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">SET</td> <td style="width: 33%; text-align: center;">SHEET</td> <td style="width: 33%; text-align: center;">REV</td> </tr> <tr> <td style="text-align: center;">14</td> <td style="text-align: center;">6</td> <td style="text-align: center;">2</td> </tr> </table>	SET	SHEET	REV	14	6	2
SET	SHEET	REV										
14	6	2										
DRAWN:	S van Zyl	DATE:	30 Apr 07	CAD REF: SERIES 9000								
				FILE No: 9049								

## SPEC SHEET


SAP MATERIAL No.:	0224974
SHORT DESCRIPTION:	SCHEME, PROT 4BZ5900-220 PANEL D9049

**TECH. DESCRIPTION:**

4BZ5900 HIGH IMPEDANCE BUS ZONE PROTECTION SCHEME \*  
 COMPLETE SCHEME MOUNTED IN A DUAL ENTRY SWING FRAME PANEL WITH BLANKING PLATES \*  
 SINGLE ZONE DIFFERENTIAL PROTECTION WITHOUT A CHECK ZONE \*  
 SUITABLE FOR APPLICATION ON A SINGLE BUSBAR WITH UP TO 6 BAYS \*  
 AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*  
 SUITABLE FOR 1A CURRENT TRANSFORMER RATING ONLY \*  
 MODULE DIMENSIONS: (17U) 755.65mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 INCLUDING :-

- 1 x GE MULTILIN MIB-II PROTECTION RELAY INCLUDING ONE REAR EIA-485 COMMUNICATION PORT FOR REMOTE ENGINEERING ACCESS / SCADA COMMUNICATION SUPPORTING MODBUS \*
- 3 x 200 OHM VARIABLE STABILISING RESISTORS \*
- 1 x THREE PHASE METROSIL \*
- 1 x ARTECHE BJ8 TRIP REPEAT RELAY \*
- 1 x ARTECHE BF4 BUS WIRE SHORTING RELAY \*
- 7 x PK2-4 WAY CT TEST BLOCKS \*
- SCADA ALARMS VIA HARD WIRED INTERFACE \*
- BUS ZONE ISOLATE AND BREAKER FAIL ISOLATE SWITCHES \*
- BUS ZONE TRIP, BUSWIRE SUPERVISION AND PROTECTION NOT HEALTHY INDICATIONS \*
- MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING, INSTALLATION IN A PANEL AND ROUTINE TESTING \*
- 1 x SWING FRAME PANEL OF DIMENSIONS: 2400mm HIGH x 800mm WIDE x 600mm DEEP SUITABLE FOR TOP OR BOTTOM CABLE ENTRY \*
- BLANKING PLATES TO CLOSE THE FRONT PANEL APERTURE \*
- CRATING OF COMPLETE SCHEME FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9049 \*

<b>2</b>	<b>As per previous issue.</b>	SvZ	HS	SvZ	10/07/2008	
1	Stabilising resistor size changed from 800 to 200 ohm	SvZ	HS	SvZ	18/07/2007	
0	First issue					
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	S van Zyl	DATE:	30 Apr 07	 <b>D-DT-9049</b>		SAP No:
CHKD:	H Sithole	DATE:	30 Apr 07			0224974
DRAWN:	S van Zyl	DATE:	30 Apr 07			SET
						14      7      2

## SPEC SHEET


SAP MATERIAL No.:	0224975
SHORT DESCRIPTION:	SCHEME, PROT 4BZ5900-110 CRATE D9049

**TECH. DESCRIPTION:**

4BZ5900 HIGH IMPEDANCE BUS ZONE PROTECTION SCHEME \*  
 MODULE AND BLANKING PLATES CRATED FOR TRANSPORT \*  
 EXCLUDES SWING FRAME PANEL \*  
 SINGLE ZONE DIFFERENTIAL PROTECTION WITHOUT A CHECK ZONE \*  
 SUITABLE FOR APPLICATION ON A SINGLE BUSBAR WITH UP TO 6 BAYS \*  
 AUXILIARY VOLTAGE SUPPLY: 110 VOLT DC \*  
 SUITABLE FOR 1A CURRENT TRANSFORMER RATING ONLY \*  
 MODULE DIMENSIONS: (17U) 755.65mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 INCLUDING :-

- 1 x GE MULTILIN MIB-II PROTECTION RELAY INCLUDING ONE REAR EIA-485 COMMUNICATION PORT FOR REMOTE ENGINEERING ACCESS / SCADA COMMUNICATION SUPPORTING MODBUS \*
- 3 x 200 OHM VARIABLE STABILISING RESISTORS \*
- 1 x THREE PHASE METROSIL \*
- 1 x ARTECHE BJ8 TRIP REPEAT RELAY \*
- 1 x ARTECHE BF4 BUS WIRE SHORTING RELAY \*
- 7 x PK2-4 WAY CT TEST BLOCKS \*
- SCADA ALARMS VIA HARD WIRED INTERFACE \*
- BUS ZONE ISOLATE AND BREAKER FAIL ISOLATE SWITCHES \*
- BUS ZONE TRIP, BUSWIRE SUPERVISION AND PROTECTION NOT HEALTHY INDICATIONS \*
- MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING, INSTALLATION IN A PANEL AND ROUTINE TESTING \*
- BLANKING PLATES TO CLOSE A 48U FRONT PANEL APERTURE WITH SCHEME MOUNTED\*
- CRATING OF COMPLETE SCHEME FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9049 \*

2	<b>As per previous issue.</b>	SvZ	HS	SvZ	10/07/2008		
1	Stabilising resistor size changed from 800 to 200 ohm	SvZ	HS	SvZ	18/07/2007		
0	First issue						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07		SAP No:		
CHKD:	H Sithole	DATE:	30 Apr 07		0224975		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
					<b>D-DT-9049</b>	14	8

## SPEC SHEET


SAP MATERIAL No.:	0224976
SHORT DESCRIPTION:	SCHEME, PROT 4BZ5900-220 CRATE D9049

**TECH. DESCRIPTION:**


4BZ5900 HIGH IMPEDANCE BUS ZONE PROTECTION SCHEME \*  
 MODULE AND BLANKING PLATES CRATED FOR TRANSPORT \*  
 EXCLUDES SWING FRAME PANEL \*  
 SINGLE ZONE DIFFERENTIAL PROTECTION WITHOUT A CHECK ZONE \*  
 SUITABLE FOR APPLICATION ON A SINGLE BUSBAR WITH UP TO 6 BAYS \*  
 AUXILIARY VOLTAGE SUPPLY: 220 VOLT DC \*  
 SUITABLE FOR 1A CURRENT TRANSFORMER RATING ONLY \*  
 MODULE DIMENSIONS: (17U) 755.65mm HIGH x (19IN) 282mm WIDE x 300mm DEPTH \*  
 INCLUDING :-

- 1 x GE MULTILIN MIB-II PROTECTION RELAY INCLUDING ONE REAR EIA-485 COMMUNICATION PORT FOR REMOTE ENGINEERING ACCESS / SCADA COMMUNICATION SUPPORTING MODBUS \*
- 3 x 200 OHM VARIABLE STABILISING RESISTORS \*
- 1 x THREE PHASE METROSIL \*
- 1 x ARTECHE BJ8 TRIP REPEAT RELAY \*
- 1 x ARTECHE BF4 BUS WIRE SHORTING RELAY \*
- 7 x PK2-4 WAY CT TEST BLOCKS \*
- SCADA ALARMS VIA HARD WIRED INTERFACE \*
- BUS ZONE ISOLATE AND BREAKER FAIL ISOLATE SWITCHES \*
- BUS ZONE TRIP, BUSWIRE SUPERVISION AND PROTECTION NOT HEALTHY INDICATIONS \*
- MCBs, TERMINALS, TAILS, FRAMES, LABELS AND ASSEMBLY MATERIAL, SCHEME ASSEMBLY, WIRING, INSTALLATION IN A PANEL AND ROUTINE TESTING \*
- BLANKING PLATES TO CLOSE A 48U FRONT PANEL APERTURE WITH SCHEME MOUNTED\*
- CRATING OF COMPLETE SCHEME FOR TRANSPORT \*

ESKOM DRAWING No. D-DT-9049 \*


2	As per previous issue.	SvZ	HS	SvZ	10/07/2008		
1	Stabilising resistor size changed from 800 to 200 ohm	SvZ	HS	SvZ	18/07/2007		
0	First issue						
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07		SAP No:		
CHKD:	H Sithole	DATE:	30 Apr 07		0224976		
DRAWN:	S van Zyl	DATE:	30 Apr 07		SET	SHEET	REV
					14	9	2
				<b>D-DT-9049</b>			

## SPEC SHEET


SAP MATERIAL No.:	0224977								
SHORT DESCRIPTION:	RESISTOR, REP W 200 OHM 4BZ57/5800 D9049								
TECH. DESCRIPTION:									
NON-STOCK ITEM FOR COSTING / ORDERING PURPOSES ONLY * OPTION TO REPLACE 9 x 2000 OHM VARIABLE STABILISING RESISTORS WITH 9 x 200 OHM VARIABLE STABILISING RESISTORS * SPECIFY AS REQUIRED WHEN ORDERING A 4BZ5700 OR 4BZ5800 SCHEME * ESKOM DRAWING No. D-DT-9049 *									
SAP MATERIAL No.:	0224978								
SHORT DESCRIPTION:	RESISTOR, REP W 800 OHM 4BZ57/5800 D9049								
TECH. DESCRIPTION:									
NON-STOCK ITEM FOR COSTING / ORDERING PURPOSES ONLY * OPTION TO REPLACE 9 x 2000 OHM VARIABLE STABILISING RESISTORS WITH 9 x 800 OHM VARIABLE STABILISING RESISTORS * SPECIFY AS REQUIRED WHEN ORDERING A 4BZ5700 OR 4BZ5800 SCHEME * ESKOM DRAWING No. D-DT-9049 *									
SAP MATERIAL No.:	0224979								
SHORT DESCRIPTION:	RESISTOR, REP W 800 OHM 4BZ5900 D9049								
TECH. DESCRIPTION:									
NON-STOCK ITEM FOR COSTING / ORDERING PURPOSES ONLY * OPTION TO REPLACE 3 x 200 OHM VARIABLE STABILISING RESISTORS WITH 3 x 800 OHM VARIABLE STABILISING RESISTORS * SPECIFY AS REQUIRED WHEN ORDERING A 4BZ5900 SCHEME * ESKOM DRAWING No. D-DT-9049 *									
SAP MATERIAL No.:	0224980								
SHORT DESCRIPTION:	RESISTOR, REP W 2000 OHM 4BZ5900 D9049								
TECH. DESCRIPTION:									
NON-STOCK ITEM FOR COSTING / ORDERING PURPOSES ONLY * OPTION TO REPLACE 3 x 200 OHM VARIABLE STABILISING RESISTORS WITH 3 x 2000 OHM VARIABLE STABILISING RESISTORS * SPECIFY AS REQUIRED WHEN ORDERING A 4BZ5900 SCHEME * ESKOM DRAWING No. D-DT-9049 *									
2	As per previous issue.			SvZ	HS	SvZ	10/07/2008		
1	Resistor change options updated to reflect changes from 2000ohm (4BZ5700 and 4BZ5800) and 200 ohm (4BZ5900)			SvZ	HS	SvZ	18/07/2007		
0	First issue								
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	SCALE NTS			SAP No:		
CHKD:	H Sithole	DATE:	30 Apr 07	CAD REF:			0224977	0224980	
				SERIES 9000			0224978		
DRAWN:	S van Zyl	DATE:	30 Apr 07	FILE No:		<b>D-DT-9049</b>	SET	SHEET	REV
				9049			14	10	2




## SPEC SHEET

SAP MATERIAL No.:	0224981										
SHORT DESCRIPTION:	CABLE COMM, DB9 GE D9049										
TECH. DESCRIPTION:											
DB9 MALE TO DB9 FEMALE "STRAIGHT THROUGH" SERIAL COMMUNICATION CABLE FOR GE MULTILIN PROTECTION RELAYS *											
ALSO SUITABLE FOR THE COOPER FORM 5 RECLOSER AND AREVA PROTECTION RELAYS *											
ESKOM DRAWING No. D-DT-9049 *											
SAP MATERIAL No.:	0224982										
SHORT DESCRIPTION:	RELAY, LATCH BJ8-110 4BZ5x00 D9049										
TECH. DESCRIPTION:											
REPLACEMENT LATCHING RELAY FOR 4BZ5800 AND 4BZ5900 PROTECTION SCHEMES *											
ELECTRICAL OPERATE AND RESET FUNCTIONS *											
ARTECHE BJ8 INCLUDING BASE *											
AUXILIARY SUPPLY VOLTAGE: 110V DC *											
USED AS A TRIP REPEAT RELAY *											
ESKOM DRAWING No. D-DT-9049 *											
SAP MATERIAL No.:	0224983										
SHORT DESCRIPTION:	RELAY, LATCH BJ8-220 4BZ5x00 D9049										
TECH. DESCRIPTION:											
REPLACEMENT LATCHING RELAY FOR 4BZ5800 AND 4BZ5900 PROTECTION SCHEMES *											
ELECTRICAL OPERATE AND RESET FUNCTIONS *											
ARTECHE BJ8 INCLUDING BASE *											
AUXILIARY SUPPLY VOLTAGE: 220V DC *											
USED AS A TRIP REPEAT RELAY *											
ESKOM DRAWING No. D-DT-9049 *											
SAP MATERIAL No.:	0224984										
SHORT DESCRIPTION:	RELAY, LATCH BF4-110 4BZ5xx0 D9049										
TECH. DESCRIPTION:											
REPLACEMENT LATCHING RELAY FOR 4BZ5700, 4BZ5800 AND 4BZ5900 PROTECTION SCHEMES *											
ELECTRICAL OPERATE AND RESET FUNCTIONS *											
ARTECHE BF4 INCLUDING BASE *											
AUXILIARY SUPPLY VOLTAGE: 110V DC *											
USED AS TRIP REPEAT AND BUSWIRE SHORTING RELAYS *											
ESKOM DRAWING No. D-DT-9049 *											
2	As per previous issue.			SvZ	HS	SvZ	10/07/2008				
1	As per previous issue.			SvZ	HS	SvZ	18/07/2007				
0	First issue										
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS			
AUTH:	S van Zyl	DATE:	30 Apr 07	SCALE	 <b>D-DT-9049</b>			SAP No:			
CHKD:	H Sithole	DATE:	30 Apr 07	NTS				0224981		0224984	
				CAD REF:				0224982			
				SERIES 9000	0224983		SET	SHEET	REV		
DRAWN:	S van Zyl	DATE:	30 Apr 07	FILE No:				14	11	2	
				9049							


## SPEC SHEET

SAP MATERIAL No.:	0224985								
SHORT DESCRIPTION:	RELAY, LATCH BF4-220 4BZ5xx0 D9049								
TECH. DESCRIPTION:	REPLACEMENT LATCHING RELAY FOR 4BZ5700, 4BZ5800 AND 4BZ5900 PROTECTION SCHEMES * ELECTRICAL OPERATE AND RESET FUNCTIONS * ARTECHE BF4 INCLUDING BASE * AUXILIARY SUPPLY VOLTAGE: 220V DC * USED AS TRIP REPEAT AND BUSWIRE SHORTING RELAYS * ESKOM DRAWING No. D-DT-9049 *								
SAP MATERIAL No.:	0224986								
SHORT DESCRIPTION:	RELAY, LATCH <b>BF4RPT</b> -110 4BZ57x0 D9049								
TECH. DESCRIPTION:	REPLACEMENT LATCHING RELAY FOR 4BZ5700 AND 4BZ5750 PROTECTION SCHEMES * ELECTRICAL OPERATE; HAND/ <b>ELECTRICAL</b> RESET FUNCTIONS * <b>ARTECHE BF4RPT</b> INCLUDING BASE * AUXILIARY SUPPLY VOLTAGE: 110V DC * USED AS TRIP REPEAT RELAYS * ESKOM DRAWING No. D-DT-9049 *								
SAP MATERIAL No.:	0224987								
SHORT DESCRIPTION:	RELAY, LATCH <b>BF4RPT</b> -220 4BZ57x0 D9049								
TECH. DESCRIPTION:	REPLACEMENT LATCHING RELAY FOR 4BZ5700 AND 4BZ5750 PROTECTION SCHEMES * ELECTRICAL OPERATE; HAND/ <b>ELECTRICAL</b> RESET FUNCTIONS * <b>ARTECHE BF4RPT</b> INCLUDING BASE * AUXILIARY SUPPLY VOLTAGE: 220V DC * USED AS TRIP REPEAT RELAYS * ESKOM DRAWING No. D-DT-9049 *								
SAP MATERIAL No.:	0224988								
SHORT DESCRIPTION:	RESISTOR, STABILISING 200 OHM 4BZ5x00 D9049								
TECH. DESCRIPTION:	ONE REPLACEMENT 200 OHM VARIABLE STABILISING RESISTOR FOR 4BZ5700, 4BZ5800 AND 4BZ5900 PROTECTION SCHEMES * RATING: 200 W * ESKOM DRAWING No. D-DT-9049 *								
2	SAP No's 0224986 and 0224987: latching relays changed from AREVA Prima type to Arteche BF4RPT.			SvZ	HS	SvZ	10/07/2008		
1	As per previous issue.			SvZ	HS	SvZ	18/07/2007		
0	First issue								
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	SCALE			SAP No:		
CHKD:	H Sithole	DATE:	30 Apr 07	NTS			0224985	0224988	
DRAWN:	S van Zyl	DATE:	30 Apr 07	CAD REF:			0224986		
				SERIES 9000	<b>D-DT-9049</b>		SET	SHEET	REV
				FILE No:			14	12	2
				9049					

## SPEC SHEET

SAP MATERIAL No.:	0224989							
SHORT DESCRIPTION:	RESISTOR, STABILISING 800 OHM 4BZ5x00 D9049							
TECH. DESCRIPTION:	<p>ONE REPLACEMENT 800 OHM VARIABLE STABILISING RESISTOR FOR 4BZ5700, 4BZ5800 AND 4BZ5900 PROTECTION SCHEMES *</p> <p>RATING: 200 W *</p> <p>ESKOM DRAWING No. D-DT-9049 *</p>							
SAP MATERIAL No.:	0224990							
SHORT DESCRIPTION:	RESISTOR, STABILISING 2000 OHM 4BZ5x00 D9049							
TECH. DESCRIPTION:	<p>ONE REPLACEMENT 2000 OHM VARIABLE STABILISING RESISTOR FOR 4BZ5700, 4BZ5800 AND 4BZ5900 PROTECTION SCHEMES *</p> <p>RATING: 200 W *</p> <p>ESKOM DRAWING No. D-DT-9049 *</p>							
SAP MATERIAL No.:	0224991							
SHORT DESCRIPTION:	METROSIL, 3 PHASE 4BZ5x00 D9049							
TECH. DESCRIPTION:	<p>ONE REPLACEMENT THREE PHASE METROSIL FOR 4BZ5700, 4BZ5800 AND 4BZ5900 PROTECTION SCHEMES *</p> <p>ESKOM DRAWING No. D-DT-9049 *</p>							
SAP MATERIAL No.:	0224992							
SHORT DESCRIPTION:	RELAY, PROT F35 4BZ5x00 D9049							
TECH. DESCRIPTION:	<p>GE MULTILIN F35 PROTECTION RELAY *</p> <p>OVERCURRENT AND EARTH FAULT PROTECTION ON FOUR INDEPENDENT THREE PHASE CURRENT INPUTS *</p> <p>INCLUDES TWO REAR EIA-485 COMMUNICATION PORTS WITH DNP3 / MODBUS PROTOCOLS *</p> <p>INCLUDES IRIG-B TIME SYNCH INTERFACE *</p> <p>SUITABLE FOR 1A AND 5A RATED CURRENT TRANSFORMERS *</p> <p>SUITABLE FOR 110V AND 220V DC AUXILIARY VOLTAGE SUPPLY *</p> <p>USED IN 4BZ5700 AND 4BZ5800 PROTECTION SCHEMES *</p> <p>ESKOM DRAWING No. D-DT-9049 *</p>							
2	As per previous issue.			SvZ	HS	SvZ	10/07/2008	
1	As per previous issue.			SvZ	HS	SvZ	18/07/2007	
0	First issue							
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	S van Zyl	DATE:	30 Apr 07	SCALE			SAP No:	
CHKD:	H Sithole	DATE:	30 Apr 07	NTS			0224989	
DRAWN:	S van Zyl	DATE:	30 Apr 07	CAD REF:	<b>D-DT-9049</b>		0224990	0224991
				SERIES 9000			SET	SHEET
				FILE No:	14	13	2	
				9049				

## SPEC SHEET

SAP MATERIAL No.:	0224998								
SHORT DESCRIPTION:	RELAY, PROT MIBII 4BZ5900 D9049								
TECH. DESCRIPTION:	<p>GE MULTILIN MIB-II PROTECTION RELAY *</p> <p>NUMERICAL HIGH IMPEDANCE PROTECTION RELAY FOR A SINGLE ZONE *</p> <p>INCLUDES ONE REAR EIA-485 COMMUNICATION PORT SUPPORTING MODBUS RTU PROTOCOL *</p> <p>EXCLUDES HID STABILISING RESISTOR / METROSIL MODULE *</p> <p>SUITABLE FOR 1A CURRENT TRANSFORMERS ONLY *</p> <p>SUITABLE FOR 110V AND 220V DC AUXILIARY VOLTAGE SUPPLY *</p> <p>USED IN 4BZ5900 PROTECTION SCHEMES *</p> <p>ESKOM DRAWING No. D-DT-9049 *</p>								
SAP MATERIAL No.:	0225000								
SHORT DESCRIPTION:	CLIP, PK-2 TEST BLOCK 4BZ5x00 D9049								
TECH. DESCRIPTION:	<p>PACKAGE OF 50 RE-USABLE SPRING STEEL CLIPS TO BE USED TO SECURE THE COVER ON GE-TYPE PK-2 TEST BLOCKS *</p> <p>CAN BE USED ON ALL PROTECTION SCHEMES THAT USE PK-2 CT AND VT TEST BLOCKS *</p> <p>ONE CLIP IS SUPPLIED PER TEST BLOCK ON ALL 4BZ5xx0 SCHEMES *</p> <p>THIS ITEM CAN BE USED TO REPLACE MISSING CLIPS OR FOR OTHER SCHEMES *</p> <p>ESKOM DRAWING No. D-DT-9049 *</p>								
SAP MATERIAL No.:	0225002								
SHORT DESCRIPTION:	TRAINING, PROT GE RELAY 4BZ5xx0 D9049								
TECH. DESCRIPTION:	<p>NON-STOCK ITEM FOR COSTING PURPOSES ONLY *</p> <p>ONE WEEK PRINCIPAL SCHEME TRAINING QUOTED PER DELEGATE FOR A MINIMUM OF 6 DELEGATES*</p> <p>SCOPE: INTRODUCTORY AND ADVANCED GE MULTILIN PROTECTION RELAYS, SPECIFICALLY THE F35 AND MIB-II; 4BZ5700, 4BZ5750, 4BZ5800 AND 4BZ5900 PROTECTION SCHEMES *</p> <p>LOCATION: IST OFFICES, MENLYN, PRETORIA *</p> <p>ALTERNATIVE LOCATION BY ARRANGEMENT *</p> <p>ESKOM DRAWING No. D-DT-9049 *</p>								
2	As per previous issue.			SvZ	HS	SvZ	10/07/2008		
1	MIB relay supports MODBUS RTU protocol			SvZ	HS	SvZ	18/07/2007		
0	First issue								
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	S van Zyl	DATE:	30 Apr 07	SCALE			SAP No:		
CHKD:	H Sithole	DATE:	30 Apr 07	NTS			0224998		
DRAWN:	S van Zyl	DATE:	30 Apr 07	CAD REF:			0225000		
				SERIES 9000	<b>D-DT-9049</b>		SET	SHEET	REV
				FILE No:			14	14	2
				9049					

**SPEC SHEET**

SAP MATERIAL No.:	0248556
SHORT DESCRIPTION:	SCHEME, PROT 4FZ3920 110VDC 1A 3P D9051

TECH. DESCRIPTION:

4FZ3920 PRODUCTION UNIT SCHEME THREE-POLE FOR 110 VOLT DC WITH 1AMP CT INPUTS \*  
 19INCH RACK; 23U ENCLOSURE AND 22U BACKPLATE \*  
 THREE-POLE TRIPPING (FOR SINGLE MECHANISM CB's) \*  
 DISTANCE PROTECTION; DIRECTIONAL OVERCURRENT AND EARTH FAULT PROTECTION; BREAKER FAIL; AUTO-RECLOSE; SYNCHRO-CHECK; MEASUREMENT CIRCUIT \*  
 INCLUDING :-  
 - 1x RED670 (VERSION 1.1) MAIN PROTECTION DISTANCE RELAY, SPA BUS FIBRE REA COMM \*  
 - 1x REF615 DIRECTIONAL BACK-UP PROTECTION RELAY WITH O/C, E/F, FIBRE LC REA COMM \*  
 - DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL \*  
 - PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM \*  
 - EXTERNAL TIME SYNCHRONISATION INPUT ON BACK-UP PROTECTION RELAY \*  
 - MATERIAL, SCHEME ASSEMBLY AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15007 \*  
 TO SPECIFY :-  
 - 5 AMP CT CIRCUIT IF REQUIRED \*  
 EXCLUDES :-  
 - DIFFERENTIAL FUNCTION ON RED670 RELAY OPTION \*  
 - SUPERVISORY HARDWIRED CONTROLS AND ALARMS OPTION \*  
 - DISTURBANCE RECORDER EXTERNAL OPTION \*  
 - TELEPROTECTION AND COMMUNICATION INTERNAL CARD ON RED670 RELAY OPTION \*  
 - VOLTAGE SELECTOR RELAYS FOR DOUBLE BUSBAR OPTION \*  
 - BYPASS CT PRIMARY PLANT OPTION \*  
 - 110/48V DC CONVERTER FOR POWER LINE CARRIER INTERFACE \*  
 - IEC61850 TESTING AND REMOTE ENGINEERING ACCESS OPTION \*  
 - INTERNAL/EXTERNAL TIME SYNCHRONISATION ON RED670 RELAY OPTIONS \*  
 - AMMETER AND VOLTMETER (0-5mA) INSTRUMENTS 48mm, 90deg. BLANK SCALE \*  
 - SPECIFICATION OF VALUES FOR PRE-CALIBRATION OF VOLT & AMP METERS \*  
 - TRANSDUCER THREE-PHASE OR SINGLE-PHASE OPTIONS \*  
 - CRATING FOR SCHEME TRANSPORT \*  
 - SWING FRAME PANEL \*  
 ESKOM DRAWING No. D-DT-9051 \*

ITEM	:-	SCHEME, PROT 4FZ39x0/4FZD39x0
MATERIAL SPECIFICATION	:-	REFER TO ESKOM SPEC
CORROSION SPECIFICATION	:-	REFER TO ESKOM SPEC
STANDARD SPECIFICATION	:-	REFER TO ESKOM SPEC
ESKOM SPECIFICATION	:-	DSP 34-1288 REV0
TEST & CERTIFICATION REQUIREMENTS	:-	REFER TO ESKOM SPEC

INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

0	First issue	A.C.	S.v.Z	A.C	Mar 2010	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	A.M.A.Craib	DATE:	1 March 2010	SCALE	SAP No:	
CHKD:	S.J. van Zyl	DATE:	2 March 2010	NTS	0248556	
DRAWN:	A.M.A.Craib	DATE:	1 March 2010	CAD REF:	SET	SHEET
				SERIES 9000	29	1
				FILE No:	REV	0
				9051		




## SPEC SHEET

SAP MATERIAL No.:	0248557
SHORT DESCRIPTION:	SCHEME, PROT 4FZ3940 110VDC 1A 1P D9051

TECH. DESCRIPTION:

4FZ3940 PRODUCTION UNIT SCHEME SINGLE-POLE FOR 110 VOLT DC WITH 1AMP CT INPUTS \*  
 19INCH RACK; 23U ENCLOSURE AND 22U BACKPLATE SUITABLE \*  
 SINGLE-POLE TRIPPING (FOR TRIPLE MECHANISM CB's) \*  
 DISTANCE PROTECTION; DIRECTIONAL OVERCURRENT AND EARTH FAULT PROTECTION; BREAKER  
 FAIL; AUTO-RECLOSE; SYNCHRO-CHECK; MEASUREMENT CIRCUIT \*  
 INCLUDING :-  
 - 1x RED670 (VERSION 1.1) MAIN PROTECTION DISTANCE RELAY, SPA BUS FIBRE REA COMM \*  
 - 1x REF615 DIRECTIONAL BACK-UP PROTECTION RELAY WITH O/C, E/F, FIBRE LC REA COMM \*  
 - DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL \*  
 - PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM \*  
 - EXTERNAL TIME SYNCHRONISATION INPUT ON BACK-UP PROTECTION RELAY \*  
 - MATERIAL, SCHEME ASSEMBLY AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15008 \*  
 TO SPECIFY :-  
 - 5 AMP CT CIRCUIT IF REQUIRED \*  
 EXCLUDES :-  
 - DIFFERENTIAL FUNCTION ON RED670 RELAY OPTION \*  
 - SUPERVISORY HARDWIRED CONTROLS AND ALARMS OPTION \*  
 - DISTURBANCE RECORDER EXTERNAL OPTION \*  
 - TELEPROTECTION AND COMMUNICATION INTERNAL CARD ON RED670 RELAY OPTION \*  
 - VOLTAGE SELECTOR RELAYS FOR DOUBLE BUSBAR \*  
 - BYPASS CT PRIMARY PLANT OPTION \*  
 - 110/48V DC CONVERTOR FOR POWER LINE CARRIER INTERFACE \*  
 - IEC61850 TESTING AND REMOTE ENGINEERING ACCESS OPTION \*  
 - INTERNAL/EXTERNAL TIME SYNCHRONISATION ON RED670 RELAY OPTION \*  
 - AMMETER AND VOLTMETER (0-5mA) INSTRUMENTS 48mm, 90deg. BLANK SCALE \*  
 - SPECIFICATION OF VALUES FOR PRE-CALIBRATION OF VOLT & AMP METERS \*  
 - TRANSDUCER THREE-PHASE OR SINGLE-PHASE OPTIONS \*  
 - CRATING FOR SCHEME TRANSPORT \*  
 - SWING FRAME PANEL \*  
 ESKOM DRAWING No. D-DT-9051 \*


0	First issue	A.C.	S.v.Z	A.C	Mar 2010		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	A.M.A. Craib	DATE:	1 March 2010	 <b>D-DT-9051</b>	SAP No:		
CHKD:	S.J. van Zyl	DATE:	2 March 2010		0248557		
DRAWN:	A.M.A. Craib	DATE:	1 March 2010		SET	SHEET	REV
					29	2	0

## SPEC SHEET

SAP MATERIAL No.:	0248558
SHORT DESCRIPTION:	SCHEME, PROT 4FZD3920 110VDC 1A 3P D9051

TECH. DESCRIPTION:

4FZD3920 PRODUCTION UNIT SCHEME THREE-POLE FOR 110 VOLT DC WITH 1AMP CT INPUTS \*  
 19INCH RACK; 23U ENCLOSURE AND 22U BACKPLATE \*  
 THREE-POLE TRIPPING (FOR SINGLE MECHANISM CB's) \*  
 DISTANCE/DIFFERENTIAL PROTECTION; DIRECTIONAL OVERCURRENT AND EARTH FAULT PROTECTION; BREAKER FAIL; AUTO-RECLOSE; SYNCHRO-CHECK; MEASUREMENT CIRCUIT \*  
 INCLUDING :-  
 - 1x RED670 (VERSION 1.1) MAIN PROTECTION DIST/DIFF RELAY, SPA BUS FIBRE REA COMM \*  
 - 1x REF615 DIRECTIONAL BACK-UP PROTECTION RELAY WITH O/C, E/F, FIBRE LC REA COMM \*  
 - DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL \*  
 - 1550nm 27Db OB INTERNAL TELEPROTECTION AND COMMUNICATION FIBRE CARD (LDCM1) \*  
 - PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM \*  
 - EXTERNAL TIME SYNCHRONISATION INPUT ON BACK-UP PROTECTION RELAY \*  
 - MATERIAL, SCHEME ASSEMBLY AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15007 \*  
 TO SPECIFY :-  
 - 5 AMP CT CIRCUIT IF REQUIRED \*  
 - AN ALTERNATIVE FIBRE TELEPROTECTION AND COMMUNICATION CARD IF REQUIRED \*  
 EXCLUDES :-  
 - SUPERVISORY HARDWIRED CONTROLS AND ALARMS OPTION \*  
 - DISTURBANCE RECORDER EXTERNAL OPTION \*  
 - VOLTAGE SELECTOR RELAYS FOR DOUBLE BUSBAR \*  
 - BYPASS CT PRIMARY PLANT OPTION \*  
 - 110/48V DC CONVERTOR FOR POWER LINE CARRIER INTERFACE \*  
 - IEC61850 TESTING AND REMOTE ENGINEERING ACCESS OPTION \*  
 - INTERNAL/EXTERNAL TIME SYNCHRONISATION ON RED670 RELAY OPTION \*  
 - AMMETER AND VOLTMETER (0-5mA) INSTRUMENTS 48mm, 90deg. BLANK SCALE \*  
 - SPECIFICATION OF VALUES FOR PRE-CALIBRATION OF VOLT & AMP METERS \*  
 - TRANSDUCER THREE-PHASE OR SINGLE-PHASE OPTIONS \*  
 - CRATING FOR SCHEME TRANSPORT \*  
 - SWING FRAME PANEL \*  
 ESKOM DRAWING No. D-DT-9051 \*

0	First issue	A.C.	S.v.Z	A.C	Mar 2010		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	A.M.A. Craib	DATE:	1 March 2010	 <b>D-DT-9051</b>	SAP No:		
CHKD:	S.J. van Zyl	DATE:	2 March 2010		0248558		
DRAWN:	A.M.A. Craib	DATE:	1 March 2010		SET	SHEET	REV
					29	3	0

## SPEC SHEET

SAP MATERIAL No.:	0248559
SHORT DESCRIPTION:	SCHEME, PROT 4FZD3940 110VDC 1A 1P D9051

**TECH. DESCRIPTION:**


4FZD3940 PRODUCTION UNIT SCHEME SINGLE-POLE FOR 110 VOLT DC WITH 1AMP CT INPUTS \*  
 19INCH RACK; 23U ENCLOSURE AND 22U BACKPLATE \*  
 SINGLE-POLE TRIPPING (FOR TRIPLE MECHANISM CB's) \*  
 DISTANCE/DIFFERENTIAL PROTECTION ; DIRECTIONAL OVERCURRENT AND EARTH FAULT PROTECTION; BREAKER FAIL; AUTO-RECLOSE; SYNCHRO-CHECK; MEASUREMENT CIRCUIT \*  
 INCLUDING :-

- 1x RED670 (VERSION 1.1) MAIN PROTECTION DIST/DIFF RELAY, SPA BUS FIBRE REA COMM \*
- 1x REF615 DIRECTIONAL BACK-UP PROTECTION RELAY WITH O/C, E/F, FIBRE LC REA COMM \*
- DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL \*
- 1550nm 27Db OB INTERNAL TELEPROTECTION AND COMMUNICATION FIBRE CARD (LDCM1) \*
- PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM \*
- EXTERNAL TIME SYNCHRONISATION INPUT ON BACK-UP PROTECTION RELAY \*
- MATERIAL, SCHEME ASSEMBLY AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15008 \*  
 TO SPECIFY :-
- 5 AMP CT CIRCUIT IF REQUIRED \*
- AN ALTERNATIVE FIBRE TELEPROTECTION AND COMMUNICATION CARD IF REQUIRED \*

EXCLUDES :-

- SUPERVISORY HARDWIRED CONTROLS AND ALARMS OPTION \*
- DISTURBANCE RECORDER EXTERNAL OPTION \*
- VOLTAGE SELECTOR RELAYS FOR DOUBLE BUSBAR \*
- BYPASS CT PRIMARY PLANT OPTION \*
- 110/48V DC CONVERTOR FOR POWER LINE CARRIER INTERFACE \*
- IEC61850 TESTING AND REMOTE ENGINEERING ACCESS OPTION \*
- INTERNAL/EXTERNAL TIME SYNCHRONISATION ON RED670 RELAY OPTION \*
- AMMETER AND VOLTMETER (0-5mA) INSTRUMENTS 48mm, 90deg. BLANK SCALE \*
- SPECIFICATION OF VALUES FOR PRE-CALIBRATION OF VOLT & AMP METERS \*
- TRANSDUCER THREE-PHASE OR SINGLE-PHASE OPTIONS \*
- CRATING FOR SCHEME TRANSPORT \*
- SWING FRAME PANEL \*

ESKOM DRAWING No. D-DT-9051 \*

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS		
0	First issue	A.C.	S.v.Z	A.C	Mar 2010			
AUTH:	A.M.A. Craib	DATE:	1 March 2010	 <b>D-DT-9051</b>	SAP No:			
CHKD:	S.J. van Zyl	DATE:	2 March 2010		0248559			
DRAWN:	A.M.A. Craib	DATE:	1 March 2010				SET	SHEET
						29	4	0




## SPEC SHEET

SAP MATERIAL No.:	0248560
SHORT DESCRIPTION:	SCHEME, PROT 4FZ3920 220VDC 1A 3P D9051

TECH. DESCRIPTION:

4FZ3920 PRODUCTION UNIT SCHEME THREE-POLE FOR 220 VOLT DC WITH 1AMP CT INPUTS \*  
 19INCH RACK; 23U ENCLOSURE AND 22U BACKPLATE \*  
 THREE-POLE TRIPPING (FOR SINGLE MECHANISM CB's) \*  
 DISTANCE PROTECTION ; DIRECTIONAL OVERCURRENT AND EARTH FAULT PROTECTION; BREAKER  
 FAIL; AUTO-RECLOSE; SYNCHRO-CHECK; MEASUREMENT CIRCUIT \*  
 INCLUDING :-  
 - 1x RED670 (VERSION 1.1) MAIN PROTECTION DISTANCE RELAY, SPA BUS FIBRE REA COMM \*  
 - 1x REF615 DIRECTIONAL BACK-UP PROTECTION RELAY WITH O/C, E/F, FIBRE LC REA COMM \*  
 - DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL \*  
 - PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM \*  
 - EXTERNAL TIME SYNCHRONISATION INPUT ON BACK-UP PROTECTION RELAY \*  
 - MATERIAL, SCHEME ASSEMBLY AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15007 \*  
 TO SPECIFY :-  
 - 5 AMP CT CIRCUIT IF REQUIRED \*  
 EXCLUDES :-  
 - DIFFERENTIAL FUNCTION ON RED670 RELAY OPTION \*  
 - SUPERVISORY HARDWIRED CONTROLS AND ALARMS OPTION \*  
 - DISTURBANCE RECORDER EXTERNAL OPTION \*  
 - TELEPROTECTION AND COMMUNICATION INTERNAL CARD ON RED670 RELAY OPTION \*  
 - VOLTAGE SELECTOR RELAYS FOR DOUBLE BUSBAR \*  
 - BYPASS CT PRIMARY PLANT OPTION \*  
 - 110/48V DC CONVERTOR FOR POWER LINE CARRIER INTERFACE \*  
 - IEC61850 TESTING AND REMOTE ENGINEERING ACCESS OPTION \*  
 - INTERNAL/EXTERNAL TIME SYNCHRONISATION ON RED670 RELAY OPTION \*  
 - AMMETER AND VOLTMETER (0-5mA) INSTRUMENTS 48mm, 90deg. BLANK SCALE \*  
 - SPECIFICATION OF VALUES FOR PRE-CALIBRATION OF VOLT & AMP METERS \*  
 - TRANSDUCER THREE-PHASE OR SINGLE-PHASE OPTIONS \*  
 - CRATING FOR SCHEME TRANSPORT \*  
 - SWING FRAME PANEL \*  
 ESKOM DRAWING No. D-DT-9051 \*


REV	REVISION DESCRIPTION			A.C. BY	S.v.Z CHKD	A.C AUTH	Mar 2010 DATE	REF. DRAWINGS		
0	First issue									
AUTH:	A.M.A. Craib	DATE:	1 March 2010	 <b>D-DT-9051</b>		SAP No: 0248560		SET	SHEET	REV
CHKD:	S.J. van Zyl	DATE:	2 March 2010					29	5	0
DRAWN:	A.M.A. Craib	DATE:	1 March 2010							
				SCALE						
				NTS						
				CAD REF:						
				SERIES 9000						
				FILE No:						
				9051						

## SPEC SHEET

SAP MATERIAL No.:	0248561
SHORT DESCRIPTION:	SCHEME, PROT 4FZ3940 220VDC 1A 1P D9051

TECH. DESCRIPTION:

4FZ3940 PRODUCTION UNIT SCHEME SINGLE POLE FOR 220 VOLT DC WITH 1AMP CT INPUTS \*  
 19INCH RACK; 23U ENCLOSURE AND 22U BACKPLATE \*  
 SINGLE-POLE TRIPPING (FOR TRIPLE MECHANISM CB's) \*  
 DISTANCE PROTECTION; DIRECTIONAL OVERCURRENT AND EARTH FAULT PROTECTION; BREAKER  
 FAIL; AUTO-RECLOSE; SYNCHRO-CHECK; MEASUREMENT CIRCUIT \*  
 INCLUDING :-  
 - 1x RED670 (VERSION 1.1) MAIN PROTECTION DISTANCE RELAY, SPA BUS FIBRE REA COMM \*  
 - 1x REF615 DIRECTIONAL BACK-UP PROTECTION RELAY WITH O/C, E/F, FIBRE LC REA COMM \*  
 - DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL \*  
 - PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM \*  
 - EXTERNAL TIME SYNCHRONISATION INPUT ON BACK-UP PROTECTION RELAY \*  
 - MATERIAL, SCHEME ASSEMBLY AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15008 \*  
 TO SPECIFY :-  
 - 5 AMP CT CIRCUIT IF REQUIRED \*  
 EXCLUDES :-  
 - DIFFERENTIAL FUNCTION ON RED670 RELAY OPTION \*  
 - SUPERVISORY HARDWIRED CONTROLS AND ALARMS OPTION \*  
 - DISTURBANCE RECORDER EXTERNAL OPTION \*  
 - TELEPROTECTION AND COMMUNICATION INTERNAL CARD ON RED670 RELAY OPTION \*  
 - VOLTAGE SELECTOR RELAYS FOR DOUBLE BUSBAR \*  
 - BYPASS CT PRIMARY PLANT OPTION \*  
 - 110/48V DC CONVERTOR FOR POWER LINE CARRIER INTERFACE \*  
 - IEC61850 TESTING AND REMOTE ENGINEERING ACCESS OPTION \*  
 - INTERNAL/EXTERNAL TIME SYNCHRONISATION ON RED670 RELAY OPTION \*  
 - AMMETER AND VOLTMETER (0-5mA) INSTRUMENTS 48mm, 90deg. BLANK SCALE \*  
 - SPECIFICATION OF VALUES FOR PRE-CALIBRATION OF VOLT & AMP METERS \*  
 - TRANSDUCER THREE-PHASE OR SINGLE-PHASE OPTIONS \*  
 - CRATING FOR SCHEME TRANSPORT \*  
 - SWING FRAME PANEL\*  
 ESKOM DRAWING No. D-DT-9051 \*


0	First issue	A.C.	S.v.Z	A.C	Mar 2010		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	A.M.A. Craib	DATE:	1 March 2010	 <b>D-DT-9051</b>	SAP No:		
CHKD:	S.J. van Zyl	DATE:	2 March 2010		0248561		
DRAWN:	A.M.A. Craib	DATE:	1 March 2010		SET	SHEET	REV
					29	6	0

## SPEC SHEET

SAP MATERIAL No.:	0248562
SHORT DESCRIPTION:	SCHEME, PROT 4FZD3920 220VDC 1A 3P D9051

**TECH. DESCRIPTION:**

4FZD3920 PRODUCTION UNIT SCHEME THREE-POLE FOR 110 VOLT DC WITH 1AMP CT INPUTS \*  
 19INCH RACK; 23U ENCLOSURE AND 22U BACKPLATE \*  
 THREE-POLE TRIPPING (FOR SINGLE MECHANISM CB's) \*  
 DISTANCE/DIFFERENTIAL PROTECTION; DIRECTIONAL OVERCURRENT AND EARTH FAULT PROTECTION; BREAKER FAIL; AUTO-RECLOSE; SYNCHRO-CHECK; MEASUREMENT CIRCUIT \*  
 INCLUDING :-  
 - 1x RED670 (VERSION 1.1) MAIN PROTECTION DIST/DIFF RELAY, SPA BUS FIBRE REA COMM \*  
 - 1x REF615 DIRECTIONAL BACK-UP PROTECTION RELAY WITH O/C, E/F, FIBRE LC REA COMM \*  
 - DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL \*  
 - 1550nm 27Db OB INTERNAL TELEPROTECTION AND COMMUNICATION FIBRE CARD (LDCM1) \*  
 - PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM \*  
 - EXTERNAL TIME SYNCHRONISATION INPUT ON BACK-UP PROTECTION RELAY \*  
 - MATERIAL, SCHEME ASSEMBLY AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15007 \*  
 TO SPECIFY :-  
 - 5 AMP CT CIRCUIT IF REQUIRED \*  
 - AN ALTERNATIVE FIBRE TELEPROTECTION AND COMMUNICATION CARD IF REQUIRED VIA SAP \*  
 EXCLUDES :-  
 - SUPERVISORY HARDWIRED CONTROLS AND ALARMS OPTION \*  
 - DISTURBANCE RECORDER EXTERNAL OPTION \*  
 - VOLTAGE SELECTOR RELAYS FOR DOUBLE BUSBAR \*  
 - BYPASS CT PRIMARY PLANT OPTION \*  
 - 110/48V DC CONVERTOR FOR POWER LINE CARRIER INTERFACE \*  
 - IEC61850 TESTING AND REMOTE ENGINEERING ACCESS OPTION \*  
 - INTERNAL/EXTERNAL TIME SYNCHRONISATION ON RED670 RELAY OPTION \*  
 - AMMETER AND VOLTMETER (0-5mA) INSTRUMENTS 48mm, 90deg. BLANK SCALE \*  
 - SPECIFICATION OF VALUES FOR PRE-CALIBRATION OF VOLT & AMP METERS \*  
 - TRANSDUCER THREE-PHASE OR SINGLE-PHASE OPTION \*  
 - CRATING FOR SCHEME TRANSPORT \*  
 - SWING FRAME PANEL \*  
 ESKOM DRAWING No. D-DT-9051 \*

0	First issue	A.C.	S.v.Z	A.C	Mar 2010	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	A.M.A. Craib	DATE:	1 March 2010	 <b>D-DT-9051</b>	SAP No:	
CHKD:	S.J. van Zyl	DATE:	2 March 2010		0248562	
DRAWN:	A.M.A. Craib	DATE:	1 March 2010		SET	SHEET
			SCALE NTS			
			CAD REF:			
			SERIES 9000			
			FILE No:			
			9051		29	7
						0

## SPEC SHEET

SAP MATERIAL No.:	0248563
SHORT DESCRIPTION:	SCHEME, PROT 4FZD3940 220VDC 1A 1P D9051

**TECH. DESCRIPTION:**

4FZD3940 PRODUCTION UNIT SCHEME SINGLE-POLE FOR 220 VOLT DC WITH 1AMP CT INPUTS \*  
 19INCH RACK; 23U ENCLOSURE AND 22U BACKPLATE \*  
 SINGLE-POLE TRIPPING (FOR TRIPLE MECHANISM CB's) \*  
 DISTANCE/DIFFERENTIAL PROTECTION; DIRECTIONAL OVERCURRENT AND EARTH FAULT PROTECTION; BREAKER FAIL; AUTO-RECLOSE; SYNCHRO-CHECK; MEASUREMENT CIRCUIT \*  
 INCLUDING :-

- 1x RED670 (VERSION 1.1) MAIN PROTECTION DIST/DIFF RELAY, SPA BUS FIBRE REA COMM \*
- 1x REF615 DIRECTIONAL BACK-UP PROTECTION RELAY WITH O/C, E/F, FIBRE LC REA COMM \*
- DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL \*
- 1550nm 27Db OB INTERNAL TELEPROTECTION AND COMMUNICATION FIBRE CARD (LDCM1) \*
- PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM \*
- EXTERNAL TIME SYNCHRONISATION INPUT ON BACK-UP PROTECTION RELAY \*
- MATERIAL, SCHEME ASSEMBLY AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15008 \*


TO SPECIFY :-

- 5 AMP CT CIRCUIT IF REQUIRED \*
- AN ALTERNATIVE FIBRE TELEPROTECTION AND COMMUNICATION CARD IF REQUIRED VIA SAP \*

EXCLUDES :-


- SUPERVISORY HARDWIRED CONTROLS AND ALARMS OPTION \*
- DISTURBANCE RECORDER EXTERNAL OPTION \*
- VOLTAGE SELECTOR RELAYS FOR DOUBLE BUSBAR \*
- BYPASS CT PRIMARY PLANT OPTION \*
- 110/48V DC CONVERTOR FOR POWER LINE CARRIER INTERFACE \*
- IEC61850 TESTING AND REMOTE ENGINEERING ACCESS OPTION \*
- INTERNAL/EXTERNAL TIME SYNCHRONISATION ON RED670 RELAY OPTION \*
- AMMETER AND VOLTMETER (0-5mA) INSTRUMENTS 48mm, 90deg. BLANK SCALE \*
- SPECIFICATION OF VALUES FOR PRE-CALIBRATION OF VOLT & AMP METERS \*
- TRANSDUCER THREE-PHASE OR SINGLE-PHASE OPTIONS \*
- CRATING FOR SCHEME TRANSPORT \*
- SWING FRAME PANEL \*

ESKOM DRAWING No. D-DT-9051 \*

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS	
0	First issue	A.C.	S.v.Z	A.C	Mar 2010		
AUTH:	A.M.A. Craib	DATE:	1 March 2010	 <b>D-DT-9051</b>	SAP No:		
CHKD:	S.J. van Zyl	DATE:	2 March 2010		0248563		
DRAWN:	A.M.A. Craib	DATE:	1 March 2010		SET	SHEET	REV
					29	8	0

**SPEC SHEET**

SAP MATERIAL No.:	0248564
SHORT DESCRIPTION:	PANEL, S/FRAME 4FZ39x0/4FZD39x0 D9051
TECH. DESCRIPTION:	
SWING FRAME PANEL WITH DUAL ENTRY ABILITY FOR SCHEMES 4FZ39x0 AND 4FZD39x0 * INCLUDES :- - SWING FRAME PANEL ACCORDING TO SPECIFICATION DSP 34-464 REV0 * - INSTALLATION OF SCHEME INTO PANEL * - ALL BLANKING PLATES TO CLOSE-UP FRONT PANEL APERTURE * - APPROPRIATE PACKAGING * ESKOM DRAWING No. D-DT-9051*	
SAP MATERIAL No.:	0248565
SHORT DESCRIPTION:	CRATING, PROT 4FZ39x0/4FZD39x0 D9051
TECH. DESCRIPTION:	
BOX SCHEME IN WOODEN CRATE FOR SHIPPING * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248567
SHORT DESCRIPTION:	CABLE COMM, PC TO IEDs, PROT D9051
TECH. DESCRIPTION:	
RED670 AND REF615 PROTECTION RELAY FRONT ACCESS COMMUNICATION CABLE, ABB TYPE 1MRK001665-CA * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248568
SHORT DESCRIPTION:	SUPERVISORY HARDWIRED OPTION, PROT D9051
TECH. DESCRIPTION:	
ADDITIONAL DISCRETE SUPERVISORY BINARY OUTPUT CARD 1MRK000614-AB FOR ABB RED670 RELAY * USED ON 4FZ39x0/4FZD39x0 SCHEMES IF THE DEFAULT DNP3 PROTOCOL SUPERVISORY LINK IS NOT BEING USED * MATERIAL AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15007/8 * (ORDERED AS AN OPTION TOGETHER WITH THE SCHEME) * INCLUDES :- - 3U BACKPLATE MODULE WITH TERMINALS * - BACKPLATE WIRING TO SCHEME FOR SUPERVISORY CONTROL, INDICATION AND STATUS VIA IDF * - TWO SHRACK RELAYS 48V DC FOR SUPERVISORY CONTROL * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248570
SHORT DESCRIPTION:	DISTURB RECORDER EXT. OPTION, PROT D9051
TECH. DESCRIPTION:	
ADDITIONAL DISTURBANCE BINARY OUTPUT CARD 1MRK000614-AB FOR ABB RED670 MAIN RELAY * USED ON 4FZ39x0/4FZD39x0 IF THERE IS A REQUIREMENT FOR AN EXTERNAL S/S RECORDER * MATERIAL AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15007/8 * (ORDERED AS AN OPTION TOGETHER WITH THE SCHEME) * INCLUDES :- - 3U BACKPLATE MODULE WITH TERMINALS AND TWO MCB'S * - BACKPLATE WIRING TO SCHEME FOR INDICATION AND CT/VT SUPPLY POINTS * ESKOM DRAWING No. D-DT-9051 *	

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REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS		
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CHKD:	S.J. van Zyl	DATE:	2 March 2010	CAD REF:			0248564	0248568		
				SERIES 9000			0248565	0248570		
DRAWN:	A.M.A. Craib	DATE:	1 March 2010	FILE No:		<b>D-DT-9051</b>	SET	SHEET	REV	
				9051			29	9	0	


**SPEC SHEET**

SAP MATERIAL No.:	0248571
SHORT DESCRIPTION:	X21 TELEPROTECTION OPTION, PROT D9051
TECH. DESCRIPTION:	
X21 INTERNAL TELEPROTECTION AND COMMUNICATION CARD FOR ABB RED670 MAIN RELAY * (ORDERED AS THE MICROWAVE LINK OPTION TOGETHER WITH THE 4FZ3920/4FZ3940 SCHEMES) * INCLUDES :- - PLACEMENT OF CARD 1MRK002307-AA WITHIN RED670 RELAY * - INITIALISING OF INTERNAL COMMUNICATION CARD SLOT (LDCM1) * - REAR ACCESS PLUG POINT (D-15 MICRO) * EXCLUDES :- - X21 PORT PLUG ADAPTOR OPTION (D-15 MICRO TO D-15 ADAPTOR) * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248572
SHORT DESCRIPTION:	FIBRE TELEPROT 1550nm OPTION, PROT D9051
TECH. DESCRIPTION:	
FIBRE INTERNAL TELEPROTECTION AND COMM. CARD 1550nm FOR ABB RED670 MAIN RELAY * 100km LINK SPECIFICATION WITH OPTICAL BUDGET 27dB, MODES HIGH/LOW POWER * (ORDERED AS A FIBRE LINK OPTION TOGETHER WITH THE 4FZ3920 OR 4FZ3940 SCHEMES) * INCLUDES :- - PLACEMENT OF CARD 1MRK002311-BA WITHIN RED670 RELAY * - INITIALISING OF INTERNAL COMMUNICATION CARD SLOT (LDCM1) * - REAR ACCESS FIBRE PLUG POINTS WITH SINGLE MODE FC CONNECTORS * SPECIFY :- - IF IN-LINE ATTENUATION IS REQUIRED * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248573
SHORT DESCRIPTION:	FIBRE TELEPROT 1310nm OPTION, PROT D9051
TECH. DESCRIPTION:	
FIBRE INTERNAL TELEPROTECTION AND COMM. CARD 1310nm FOR ABB RED670 MAIN RELAY * 40km LINK SPECIFICATION WITH OPTICAL BUDGET 23dB, MODES HIGH/LOW POWER * (ORDERED AS A FIBRE LINK OPTION TOGETHER WITH THE 4FZ3920 OR 4FZ3940 SCHEMES) * (ORDERED AS A REPLACEMENT OF THE DEFAULT 1550nm CARD WITH THE 4FZD3920/40 SCHEMES) * (ORDERED AS A REPLACEMENT OF THE DEFAULT 1550nm CARD WITH THE RED670 DIST/DIFF RELAY) * INCLUDES :- - PLACEMENT OF CARD 1MRK002311-AA WITHIN RED670 RELAY * - INITIALISING OF INTERNAL COMMUNICATION CARD SLOT (LDCM1) * - REAR ACCESS FIBRE PLUG POINTS WITH SINGLE MODE FC CONNECTORS * SPECIFY :- - IF IN-LINE ATTENUATION IS REQUIRED * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248574
SHORT DESCRIPTION:	ATTENUATOR IN-LINE FIBRE, PROT D9051
TECH. DESCRIPTION:	
FIBRE ATTENUATORS FOR COMM. CARDS 1310nm AND 1550nm FOR ABB RED670 MAIN RELAY * (TO BE ORDERED ONLY IF EXCESSIVE DB POWER RECEIVED, CALCULATION TO BE PROVEN PRIOR TO ORDER DISPATCHED) * SPECIFY :- - THE OPTICAL BUDGET CALCULATION RESULTS ESKOM DRAWING No. D-DT-9051 *	

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CHKD:	S.J. van Zyl	DATE:	2 March 2010	CAD REF:				0248571	0248574	
				SERIES 9000				0248572		
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				9051				29	10	0

## SPEC SHEET

SAP MATERIAL No.:	0248575
SHORT DESCRIPTION:	FIBRE TELEPROT 3km OPTION, PROT D9051

**TECH. DESCRIPTION:**

FIBRE INTERNAL TELEPROTECTION AND COMM. CARD 3km FOR ABB RED670 MAIN RELAY \*  
 3km LINK SPECIFICATION SHORT RANGE \*  
 (ORDERED AS A FIBRE LINK OPTION TOGETHER WITH THE 4FZ3920 OR 4FZ3940 SCHEMES) \*  
 (ORDERED AS A REPLACEMENT OF THE DEFAULT 1550nm CARD WITH THE 4FZD3920/40 SCHEMES) \*  
 (ORDERED AS REPLACEMENT OF THE DEFAULT 1550nm CARD WITH THE RED670 DIST/DIFF RELAY) \*  
**INCLUDES :-**  
 - PLACEMENT OF CARD 1MRK002122-AB WITHIN RED670 RELAY \*  
 - INITIALISING OF INTERNAL COMMUNICATION CARD SLOT (LDCM1) \*  
 - REAR ACCESS MULTIMODE FIBRE PLUG POINTS WITH MULTIMODE ST CONNECTORS \*  
 ESKOM DRAWING No. D-DT-9051 \*

SAP MATERIAL No.:	0248576
SHORT DESCRIPTION:	X21 TELEPROTECTION RETROFIT, PROT D9051

**TECH. DESCRIPTION:**

X21 INTERNAL TELEPROTECTION AND COMMUNICATION CARD FOR ABB RED670 MAIN RELAY \*  
 (ORDERED AS A RETROFIT TO A RED670 RELAY WHICH HAD NO CARD BEFORE, Ex WORKS) \*  
**INCLUDES :-**  
 - PLACEMENT OF CARD 1MRK002307-AA WITHIN RED670 RELAY \*  
 - INITIALISING OF INTERNAL COMMUNICATION CARD SLOT (LDCM1) \*  
 - REAR ACCESS PLUG POINT (D-15 MICRO) \*  
**EXCLUDES :-**  
 - X21 PORT PLUG ADAPTOR OPTION (D-15 MICRO TO D-15 ADAPTOR)  
 ESKOM DRAWING No. D-DT-9051 \*

SAP MATERIAL No.:	0248577
SHORT DESCRIPTION:	FIBRE TELEPT RETROFIT 1550nm, PROT D9051


**TECH. DESCRIPTION:**

FIBRE INTERNAL TELEPROTECTION AND COMM. CARD 1550nm FOR ABB RED670 MAIN RELAY \*  
 100km LINK SPECIFICATION WITH OPTICAL BUDGET 27dB, MODES HIGH/LOW POWER \*  
 (ORDERED AS A RETROFIT TO A RED670 RELAY WHICH HAD NO CARD BEFORE, Ex WORKS) \*  
**INCLUDES :-**  
 - PLACEMENT OF CARD 1MRK002311-BA WITHIN RED670 RELAY \*  
 - INITIALISING OF INTERNAL COMMUNICATION CARD SLOT (LDCM1) \*  
 - REAR ACCESS FIBRE PLUG POINTS WITH SINGLE MODE FC CONNECTORS \*  
**SPECIFY :-**  
 - IF IN-LINE ATTENUATION IS REQUIRED \*  
 ESKOM DRAWING No. D-DT-9051 \*

SAP MATERIAL No.:	0248992
SHORT DESCRIPTION:	PORT PLUG ADAPTOR X21OPTION,PROT D9051

**TECH. DESCRIPTION:**

X21 COMMUNICATION CARD PORT PLUG ADAPTOR D-15 MICRO (MALE) TO D-15 (FEMALE) \*  
 ESKOM DRAWING No. D-DT-9051 \*

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0	First issue			A.C.	S.v.Z	A.C	Mar 2010		
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CHKD:	S.J. van Zyl	DATE:	2 March 2010	NTS					
DRAWN:	A.M.A. Craib	DATE:	1 March 2010	CAD REF:					
				SERIES 9000					
				FILE No:		SAP No:			
				9051		0248575	0248992		
						0248576	SET	SHEET	REV
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## SPEC SHEET

SAP MATERIAL No.:	0248578
SHORT DESCRIPTION:	FIBRE TELEPT RETROFIT 1310nm, PROT D9051
TECH. DESCRIPTION:	
<p>FIBRE INTERNAL TELEPROTECTION AND COMM. CARD 1310nm FOR ABB RED670 MAIN RELAY *                      40km LINK SPECIFICATION WITH OPTICAL BUDGET 23dB, MODES HIGH/LOW POWER *                      (ORDERED AS A RETROFIT TO A RED670 RELAY WHICH HAD NO CARD BEFORE, Ex WORKS) *                      INCLUDES :                      - PLACEMENT OF CARD 1MRK002311-AA WITHIN RED670 RELAY *                      - INITIALISING OF INTERNAL COMMUNICATION CARD SLOT (LDCM1) *                      - REAR ACCESS FIBRE PLUG POINTS WITH SINGLE MODE FC CONNECTORS *                      SPECIFY :-                      - IF IN-LINE ATTENUATION IS REQUIRED *                      ESKOM DRAWING No. D-DT-9051 *</p>	

SAP MATERIAL No.:	0248579
SHORT DESCRIPTION:	FIBRE TELEPROT RETROFIT 3km, PROT D9051
TECH. DESCRIPTION:	
<p>FIBRE INTERNAL TELEPROTECTION AND COMM. CARD 3km FOR ABB RED670 MAIN RELAY *                      3km LINK SPECIFICATION SHORT RANGE *                      (ORDERED AS A RETROFIT TO A RED670 RELAY WHICH HAD NO CARD BEFORE, Ex WORKS) *                      INCLUDES :                      - PLACEMENT OF CARD 1MRK002122-AB WITHIN RED670 RELAY *                      - INITIALISING OF INTERNAL COMMUNICATION CARD SLOT (LDCM1) *                      - REAR ACCESS MULTIMODE FIBRE PLUG POINTS WITH MULTIMODE ST CONNECTORS                      ESKOM DRAWING No. D-DT-9051 *</p>	

SAP MATERIAL No.:	0248580
SHORT DESCRIPTION:	EXT. TIME SYNCH INTERFACE OPTION D9051
TECH. DESCRIPTION:	
<p>TIME SYNCHRONISATION EXTERNAL IRIG-B002 INTERFACE MODULE FOR ABB RED670 MAIN RELAY *                      (ORDERED AS AN ALTERNATIVE OPTION TO THE INTERNAL TIME SYNCH GPS ON THE RED670) *                      (THIS OPTION MAY NOT BE ORDERED IF THE INTERNAL TIME SYNCH OPTION IS ORDERED) *                      BACK-UP RELAY HAS DEFAULT EXTERNAL IRIG-B INTERFACE *                      INCLUDES :                      - PLACEMENT AND INITIALISING OF CARD 1MRK002305-AA WITHIN RED670 RELAY *                      - WIRING TO BACKPLATE *                      ESKOM DRAWING No. D-DT-9051 *</p>	

SAP MATERIAL No.:	0248581
SHORT DESCRIPTION:	INT. TIME SYNCH GPS OPTION, 20m D9051
TECH. DESCRIPTION:	
<p>TIME SYNCHRONISATION INTERNAL GPS MODULE 1MRK002282-AA FOR ABB RED670 MAIN RELAY *                      (ORDERED AS AN ALTERNATIVE OPTION TO THE EXTERNAL TIME SYNCH ON THE RED670) *                      (THIS OPTION MAY NOT BE ORDERED IF THE EXTERNAL TIME SYNCH OPTION IS ORDERED) *                      BACK-UP RELAY HAS DEFAULT EXTERNAL IRIG-B INTERFACE *                      INCLUDES :                      - PLACEMENT AND INITIALISING OF CARD 1MRK002282-AA WITHIN RED670 RELAY *                      - EXTERNAL AERIAL AND MOUNTING BRACKET (1MRK001640-AA) *                      - IN-LINE LIGHTNING ARRESTOR *                      - CABLE OF LENGTH 20m (1MRK002245-AA) *                      ESKOM DRAWING No. D-DT-9051 *</p>	

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REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DRAWINGS
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CHKD:	S.J. van Zyl	DATE:	2 March 2010	NTS	0248578	
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				SERIES 9000	0248580	
				FILE No:	SET	SHEET
				9051	29	12
				<b>D-DT-9051</b>	REV	0





**SPEC SHEET**

SAP MATERIAL No.:	0248582
SHORT DESCRIPTION:	INT. TIME SYNCH GPS OPTION, 40m D9051
TECH. DESCRIPTION:	
TIME SYNCHRONISATION INTERNAL GPS MODULE 1MRK002282-AA FOR ABB RED670 MAIN RELAY * (ORDERED AS AN ALTERNATIVE OPTION TO THE EXTERNAL TIME SYNCH ON THE RED670) * (THIS OPTION MAY NOT BE ORDERED IF THE EXTERNAL TIME SYNCH OPTION IS ORDERED) * BACK-UP RELAY HAS DEFAULT EXTERNAL IRIG-B INTERFACE * INCLUDES : - PLACEMENT AND INITIALISING OF CARD 1MRK002282-AA WITHIN RED670 RELAY * - EXTERNAL AERIAL AND MOUNTING BRACKET (1MRK001640-AA) * - IN-LINE LIGHTNING ARRESTOR * - CABLE OF LENGTH 40m (1MRK002245-BA) * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248583
SHORT DESCRIPTION:	IEC61850 SCADA OPTION, PROT D9051
TECH. DESCRIPTION:	
ALTERNATIVE IED COMMUNICATION INTERFACE IEC61850 SCADA OPTION FOR 4FZ39x0/4FZD39x0 * REPLACES OFFICIAL ESKOM USED SCADA DNP3 PROTOCOL ON ABB RED670 AND REF615 RELAYS * INCLUDES : REAR GALVANIC COMMUNICATION PORT:- RJ45 CONNECTOR * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248584
SHORT DESCRIPTION:	DNP3 SCADA FIBRE OPTION, PROT D9051
TECH. DESCRIPTION:	
ALTERNATIVE IED COMM. FIBRE INTERFACE DNP3 SCADA OPTION FOR 4FZ39x0/4FZD39x0* REPLACES THE DEFAULT GALVANIC DNP3 COMMUNICATION PORT WITH A FIBRE DNP3 PORT * INCLUDES : REAR FIBRE PORT FOR SCADA COMMUNICATION VIA DNP3 PROTOCOL * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248585
SHORT DESCRIPTION:	IEC61850 REA AND TESTING, PROT D9051
TECH. DESCRIPTION:	
IEC61850 REMOTE ENGINEERING ACCESS VIA ETHERNET AND LOCAL TESTING OPTION * (ALTERNATIVE TO THE DEFAULT SPABUS PLASTIC FIBRE REMOTE ENG. ACCESS (REA) ON RED670) * (ALT. TO THE DEFAULT ETHERNET MULTIMODE FIBRE LC REAR PORT REA ON REF615 RELAY) * MATERIAL AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15007/8 * INCLUDES : - REAR MOUNTED RUGGEDCOM RS900-HI 8 PORT SWITCH (6 GALVANIC/3 FIBRE PORTS) * - TWO ETHERNET RJ45 LINKS BETWEEN FRONT PANEL AND SWITCH * - IEC61850 REA FIBRE PORT ON RED670 RELAY WHICH REPLACES THE SPABUS REAR PORT * - IEC61850 REA GALVANIC PORT (RJ45)ON REF615 RELAY WHICH REPLACES THE FIBRE LC REAR PORT * - WIRING OF SWITCH TO SCHEME * ESKOM DRAWING No. D-DT-9051 *	

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CHKD:	S.J. van Zyl	DATE:	3 March 2010	NTS		0248582		0248585
				CAD REF:		0248583		
DRAWN:	A.M.A. Craib	DATE:	1 March 2010	SERIES 9000		0248584		REV
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## SPEC SHEET

SAP MATERIAL No.:	0248586
SHORT DESCRIPTION:	PSUPPLY TELEPROT 24-250/48VDC,PROT D9051
TECH. DESCRIPTION:	
DC/DC 24-250/48V CONVERTER REGULATED SUPPLY FOR EXTERNAL TELEPROTECTION * MATERIAL AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15007/8 * CONVERTER ABB (1MRK 000 592-A) MAY BE USED FOR xFx39xx, xFZD39x0 SCHEMES * (REQUIRED IF NO 48V DC BATTERY BANK AVAILABLE AND USING EXTERNAL TELEPROTECTION) * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248587
SHORT DESCRIPTION:	THREE TERMINAL DIFF OPTION, PROT D9051
TECH. DESCRIPTION:	
THREE-TERMINAL DIFFERENTIAL PROTECTION OPTION FOR SCHEMES 3FZD3920/3FZD3940 * (MAY BE REQUIRED WHEN PROTECTING A THREE-TERMINAL CONFIGURATION WITH FIBRE LINKS) * INCLUDES : - AN ADDITIONAL FIBRE TELEPROTECTION AND COMMUNICATION CARD (LDCM2) * - PLACEMENT AND INITIALISING OF THE FIBRE CARD WITHIN THE RED670 RELAY * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248588
SHORT DESCRIPTION:	RELAY,VOLT SELECT BUS-BAR, PROT D9051
TECH. DESCRIPTION:	
BUSBAR VOLTAGE SELECTION RELAYS (RK 251 205-AN) FOR xFx39xx, xFZD39x0 SCHEMES * (REQUIRED FOR DOUBLE BUSBAR VT SELECTION) * INCLUDES : - 2x RXMVB 2 FOR 110V DC * SPECIFY : - 220V DC VERSION AVAILABLE IF REQUIRED – WHEN ORDERED WITH A SCHEME THE D.C. RATING SHALL BE MATCHED TO THE SCHEME RATING * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248589
SHORT DESCRIPTION:	SINGLE-PHASE CT&VT TRNSDCRS, PROT D9051
TECH. DESCRIPTION:	
SUPPLY OF SINGLE-PHASE CT AND VT TRANSducers OPTION * (AN ALTERNATIVE TO 3 PHASE TRANSducer FOR SUPPLY OF PANEL ANALOGUE METERS) * INCLUDES : - 2 x AC VOLTAGE CAMILLE BAUER SINEAX U 543 TRANSducers, ORDER: 137 142 * - WIRING OF TRANSducers INTO SCHEME CIRCUITS TO ESKOM MASTER DRAWINGS D-DT-15007/8 * ESKOM DRAWING No. D-DT-9051 *	

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CHKD:	S.J. van Zyl	DATE:	3 March 2010		0248586	0248589	
DRAWN:	A.M.A. Craib	DATE:	1 March 2010		0248587	SET	SHEET
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## SPEC SHEET

SAP MATERIAL No.:	0248590
SHORT DESCRIPTION:	THREE-PHASE TRNSDUCER OPTION, PROT D9051
TECH. DESCRIPTION:	
SUPPLY OF THREE-PHASE TRANSDUCER OPTION * (AN ALTERNATIVE TO SINGLE PHASE TRANSDUCERS FOR SUPPLY OF PANEL ANALOGUE METERS) * (REQUIRED IF METERING MEASUREMENT TRANSDUCER IS TO RESIDE IN FEEDER PANEL) * INCLUDES : - 1 x CAMILLE BAUER SINEAX CAM TRANSUCER, ORDER 158734 * - WIRING OF TRANSDUCER INTO SCHEME CIRCUITS TO ESKOM MASTER DRAWINGS D-DT-15007/8 * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248591
SHORT DESCRIPTION:	INSTALLATION OF ISSUED TRANSDUCER, D9051
TECH. DESCRIPTION:	
NON STOCK ITEM FOR COSTING PURPOSES * INSTALLATION OF FREE ISSUE TRANSDUCER ACCORDING TO ESKOM MASTER DRAWINGS D-DT-15007/8 INTO 4FZ39x0 AND 4FZD39x0 SCHEMES * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248593
SHORT DESCRIPTION:	V&I ANALOGUE METERS, TRANSDCER FED D9051
TECH. DESCRIPTION:	
EXTERNAL POWER CONTRACTORS CA/VA ANALOGUE AMMETER AND VOLTMETER (48x48mm) * (REQUIRED FOR EXTERNAL METERS OPTION OF SCHEMES 4FZ39x0 AND 4FZD39x0) * INCLUDES : - UNSCALED INSTRUMENT * - MOUNTING OF INSTRUMENT AND WIRING WITHIN THE SCHEME * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248595
SHORT DESCRIPTION:	CALIBRATION OF CURRENT METER 200/1 D9051
TECH. DESCRIPTION:	
NON STOCK ITEM FOR COSTING PURPOSES * CALIBRATION AND MARKING OF THE ANALOGUE FRONT PANEL CURRENT METER OPTION * CT RATIO 200/1, 5mA = 200A, FULL SCALE DEFLECTION = 300A * INCLUDES : - CALIBRATION OF METER WHEN 4FZ39x0 OR 4FZD39x0 SCHEMES ORDERED * ESKOM DRAWING No. D-DT-9051 *	

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AUTH:	A.M.A. Craib	DATE:	1 March 2010	 <b>D-DT-9051</b>		SAP No:		
CHKD:	S.J. van Zyl	DATE:	3 March 2010			0248590	0248595	
DRAWN:	A.M.A. Craib	DATE:	1 March 2010			0248591	0248593	
				SCALE				
				NTS				
				CAD REF:				
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				9051				


## SPEC SHEET

SAP MATERIAL No.:	0248602
SHORT DESCRIPTION:	CALIBRATION OF CURRENT METER 400/1 D9051
TECH. DESCRIPTION:	
NON STOCK ITEM FOR COSTING PURPOSES * CALIBRATION AND MARKING OF THE ANALOGUE FRONT PANEL CURRENT METER OPTION * CT RATIO 400/1, 5mA = 400A, FULL SCALE DEFLECTION = 600A * INCLUDES : - CALIBRATION OF METER WHEN 4FZ39x0 OR 4FZD39x0 SCHEMES ORDERED * ESKOM DRAWING No. D-DT-9051 *	


SAP MATERIAL No.:	0248603
SHORT DESCRIPTION:	CALIBRATION OF CURRENT METER 600/1 D9051
TECH. DESCRIPTION:	
NON STOCK ITEM FOR COSTING PURPOSES * CALIBRATION AND MARKING OF THE ANALOGUE FRONT PANEL CURRENT METER OPTION * CT RATIO 600/1, 5mA = 600A, FULL SCALE DEFLECTION = 900A * INCLUDES : - CALIBRATION OF METER WHEN 4FZ39x0 OR 4FZD39x0 SCHEMES ORDERED * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248604
SHORT DESCRIPTION:	CALIBRATION OF CURRENT METER 800/1 D9051
TECH. DESCRIPTION:	
NON STOCK ITEM FOR COSTING PURPOSES * CALIBRATION AND MARKING OF THE ANALOGUE FRONT PANEL CURRENT METER OPTION * CT RATIO 800/1, 5mA = 800A, FULL SCALE DEFLECTION = 1200A * INCLUDES : - CALIBRATION OF METER WHEN 4FZ39x0 OR 4FZD39x0 SCHEMES ORDERED * ESKOM DRAWING No. D-DT-9051 *	


SAP MATERIAL No.:	0248605
SHORT DESCRIPTION:	CALIBRATION OF CURRENT METER 1200/1, D9051
TECH. DESCRIPTION:	
NON STOCK ITEM FOR COSTING PURPOSES * CALIBRATION AND MARKING OF THE ANALOGUE FRONT PANEL CURRENT METER OPTION * CT RATIO 1200/1, 5mA = 1200A, FULL SCALE DEFLECTION = 1800A * INCLUDES : - CALIBRATION OF METER WHEN 4FZ39x0 OR 4FZD39x0 SCHEMES ORDERED * ESKOM DRAWING No. D-DT-9051 *	

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				NTS		
CHKD:	S.J. van Zyl	DATE:	3 March 2010	CAD REF:	SAP No: 0248602 0248603 0248604 0248605	
				SERIES 9000		
DRAWN:	A.M.A. Craib	DATE:	1 March 2010	FILE No:	<b>D-DT-9051</b> SET SHEET REV 29 16 0	
				9051		

## SPEC SHEET

SAP MATERIAL No.:	0248606								
SHORT DESCRIPTION:	CALIBRATN OF CURRENT METER 1600/1, D9051								
TECH. DESCRIPTION:									
NON STOCK ITEM FOR COSTING PURPOSES * CALIBRATION AND MARKING OF THE ANALOGUE FRONT PANEL CURRENT METER OPTION * CT RATIO 1600/1, 5Ma = 1600A, FULL SCALE DEFLECTION = 2400A * INCLUDES : - CALIBRATION OF METER WHEN 4FZ39x0 OR 4FZD39x0 SCHEMES ORDERED * ESKOM DRAWING No. D-DT-9051 *									
SAP MATERIAL No.:	0248607								
SHORT DESCRIPTION:	CALIBRATN OF CURRENT METER 2000/1, D9051								
TECH. DESCRIPTION:									
NON STOCK ITEM FOR COSTING PURPOSES * CALIBRATION AND MARKING OF THE ANALOGUE FRONT PANEL CURRENT METER OPTION * CT RATIO 2000/1, 5Ma = 2000A, FULL SCALE DEFLECTION = 3000A * INCLUDES : - CALIBRATION OF METER WHEN 4FZ39x0 OR 4FZD39x0 SCHEMES ORDERED * ESKOM DRAWING No. D-DT-9051 *									
SAP MATERIAL No.:	0248608								
SHORT DESCRIPTION:	CALIBRATN OF CURRENT METER 2400/1, D9051								
TECH. DESCRIPTION:									
NON STOCK ITEM FOR COSTING PURPOSES * CALIBRATION AND MARKING OF THE ANALOGUE FRONT PANEL CURRENT METER OPTION * CT RATIO 2400/1, 5Ma = 2400A, FULL SCALE DEFLECTION = 3600A * INCLUDES : - CALIBRATION OF METER WHEN 4FZ39x0 OR 4FZD39x0 SCHEMES ORDERED * ESKOM DRAWING No. D-DT-9051 *									
SAP MATERIAL No.:	0248609								
SHORT DESCRIPTION:	CALIBRATION OF VOLTAGE METER 66kV D9051								
TECH. DESCRIPTION:									
NON STOCK ITEM FOR COSTING PURPOSES * CALIBRATION AND MARKING OF THE ANALOGUE FRONT PANEL VOLTAGE METER OPTION * VT RATIO 110/66000, 5Ma = 66Kv, FULL SCALE DEFLECTION = 80Kv INCLUDES : - CALIBRATION OF METER WHEN 4FZ39x0 OR 4FZD39x0 SCHEMES ORDERED * ESKOM DRAWING No. D-DT-9051 *									
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CHKD:	S.J. van Zyl	DATE:	3 March 2010	CAD REF:			0248606	0248609	
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DRAWN:	A.M.A. Craib	DATE:	1 March 2010	FILE No:			SET	SHEET	REV
				9051			29	17	0

## SPEC SHEET

SAP MATERIAL No.:	0248610												
SHORT DESCRIPTION:	CALIBRATION OF VOLTAGE METER 88kV D9051												
TECH. DESCRIPTION:													
NON STOCK ITEM FOR COSTING PURPOSES * CALIBRATION AND MARKING OF THE ANALOGUE FRONT PANEL VOLTAGE METER OPTION * VT RATIO 110/88000, 5mA = 88kV, FULL SCALE DEFLECTION = 106.7kV INCLUDES : - CALIBRATION OF METER WHEN 4FZ39x0 OR 4FZD39x0 SCHEMES ORDERED * ESKOM DRAWING No. D-DT-9051 *													
SAP MATERIAL No.:	0248611												
SHORT DESCRIPTION:	CALIBRATION OF VOLTAGE METER 132kV D9051												
TECH. DESCRIPTION:													
NON STOCK ITEM FOR COSTING PURPOSES * CALIBRATION AND MARKING OF THE ANALOGUE FRONT PANEL VOLTAGE METER OPTION * VT RATIO 110/132000, 5mA = 132kV, FULL SCALE DEFLECTION = 160kV INCLUDES : - CALIBRATION OF METER WHEN 4FZ39x0 OR 4FZD39x0 SCHEMES ORDERED * ESKOM DRAWING No. D-DT-9051 *													
SAP MATERIAL No.:	0248612												
SHORT DESCRIPTION:	BYPASS CT SHORTING OPTION, PROT D9051												
TECH. DESCRIPTION:													
PRIMARY PLANT BYPASS, SECONDARY CT RELAY SHORTING OPTION FOR SCHEMES 4FZ39x0 AND 4FZD39x0 * INCLUDES : - 2 x ARTHECHE BJ8 FLIP-FLOP RELAYS * - SCHEME MATERIAL AND WIRING TO ESKOM MASTER DRAWINGS D-DT-15007/8 * RELAY AUXILIARY SUPPLY RATING CHOSEN TO MATCH SCHEME RATING * ESKOM DRAWING No. D-DT-9051 *													
SAP MATERIAL No.:	0248613												
SHORT DESCRIPTION:	REGIONAL TRAINING, PROT D9051												
TECH. DESCRIPTION:													
REGIONAL TRAINING OF GROUPS OF 15 CANDIDATES PER WEEK FOR SCHEMES 4FZ39x0/4FZD39x0 * INCLUDES : - MAXIMUM OF 15 CANDIDATES PER TRAINING SESSION * - TRAINING TO BE HELD WITHIN THE REGION * - DURATION PER TRAINING SESSION IS ONE WEEK * ESKOM DRAWING No. D-DT-9051 *													
SAP MATERIAL No.:	0248614												
SHORT DESCRIPTION:	SOFTWARE CORPORATE LICENCE, PROT D9051												
TECH. DESCRIPTION:													
CORPORATE LICENCE FOR IED SOFTWARE, PCM600 ESKOM DRAWING No. D-DT-9051 *													
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				NTS				0248610		0248613			
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				SERIES 9000	<b>D-DT-9051</b>			SET	SHEET	REV			
DRAWN:	A.M.A. Craib	DATE:	1 March 2010	FILE No:				29	18	0			
				9051									

**SPEC SHEET (SPARES)**

SAP MATERIAL No.:	0248615
SHORT DESCRIPTION:	RED670 DIST 110VDC 1A, PROT D9051

TECH. DESCRIPTION:

MAIN PROTECTION RELAY 110V DC, 1AMP CT INPUTS, ABB RED670 DISTANCE RELAY \*

INCLUDING :-

- 1x RED670 (VERSION 1.1) MAIN PROTECTION DISTANCE RELAY WITH 4 ZONES IMPEDANCE \*
- SPA BUS FIBRE REMOTE ENGINEERING ACCESS COMMUNICATION PORT \*
- DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL \*
- PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM OUTPUT \*

TO SPECIFY :-

- 5 AMP CT CIRCUIT IF REQUIRED \*
- IEC61850 TESTING AND REMOTE ENGINEERING ACCESS PORT (REPLACEMENT OF SPA BUS PORT) \*

EXCLUDES :-

- DIFFERENTIAL FUNCTION ON RED670 RELAY OPTION \*
- SUPERVISORY CONTROLS & ALARMS DISCRETE CARD OPTION (FOR HARDWIRED SUPERVISORY) \*
- DISTURBANCE RECORDER EXTERNAL DISCRETE CARD OPTION \*
- TELEPROTECTION AND COMMUNICATION INTERNAL CARD OPTION \*
- INTERNAL/EXTERNAL TIME SYNCHRONISATION RELAY OPTIONS \*

ESKOM DRAWING No. D-DT-9051 \*

SAP MATERIAL No.:	0248616
SHORT DESCRIPTION:	RED670 DIST/DIFF 110VDC 1A, PROT D9051

TECH. DESCRIPTION:

MAIN PROTECTION RELAY 110V DC, 1AMP CT INPUTS, ABB RED670 DISTANCE/DIFFERENTIAL RELAY \*

INCLUDING :-

- 1x RED670 (VERSION 1.1) MAIN PROTECTION DISTANCE/DIFFERENTIAL RELAY \*
- SPA BUS FIBRE REMOTE ENGINEERING ACCESS COMMUNICATION PORT \*
- DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL \*
- 1550nm 27Db OB INTERNAL TELEPROTECTION AND COMMUNICATION FIBRE CARD (LDCM1) \*
- PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM OUTPUT \*


TO SPECIFY :-

- 5 AMP CT CIRCUIT IF REQUIRED \*
- AN ALTERNATIVE FIBRE TELEPROTECTION AND COMMUNICATION CARD IF REQUIRED – SEE SAP NUMBERS XXX OR XXX \*
- IEC61850 TESTING AND REMOTE ENGINEERING ACCESS PORT (REPLACEMENT OF SPA BUS PORT) \*

EXCLUDES :-

- SUPERVISORY CONTROLS & ALARMS DISCRETE CARD OPTION (FOR HARDWIRED SUPERVISORY) \*
- DISTURBANCE RECORDER EXTERNAL DISCRETE CARD OPTION \*
- INTERNAL/EXTERNAL TIME SYNCHRONISATION RELAY OPTIONS \*


ESKOM DRAWING No. D-DT-9051 \*

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CHKD:	S.J. van Zyl	DATE:	3 March 2010			0248615 0248616		
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			9051					

### SPEC SHEET (SPARES)

SAP MATERIAL No.:	0248617
SHORT DESCRIPTION:	REF615 O/C&E/F 48-250VDC 1/5A PROT D9051
TECH. DESCRIPTION:	
BACK-UP PROTECTION RELAY, ABB REF615 DIRECTIONAL O/C AND E/F RELAY * INCLUDING :- - 1x REF615 RELAY, SETTABLE DC VOLTAGE RANGE 48-250V DC AND CT 1/5AMP INPUTS * - FIBRE LC REMOTE ENGINEERING ACCESS COMMUNICATION (REAR PORT) * - DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION AND CONTROL * - I/O FOR SUPERVISORY HARDWIRED CONTROL AND INDICATION * TO SPECIFY :- - IEC61850 TESTING AND REMOTE ENGINEERING ACCESS PORT (REPLACEMENT OF FIBRE LC REAR PORT) * ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248618
SHORT DESCRIPTION:	RED670 DIST 220VDC 1A, PROT D9051
TECH. DESCRIPTION:	
MAIN PROTECTION RELAY 220V DC, 1AMP CT INPUTS, ABB RED670 DISTANCE RELAY * INCLUDING :- - 1x RED670 (VERSION 1.1) MAIN PROTECTION DISTANCE RELAY WITH 4 ZONES IMPEDANCE * - SPA BUS FIBRE REMOTE ENGINEERING ACCESS COMMUNICATION PORT * - DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL * - PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM OUTPUT * TO SPECIFY :- - 5 AMP CT CIRCUIT IF REQUIRED * - IEC61850 TESTING AND REMOTE ENGINEERING ACCESS PORT (REPLACEMENT OF SPA BUS PORT) * * EXCLUDES :- - DIFFERENTIAL FUNCTION ON RED670 RELAY OPTION * - SUPERVISORY CONTROLS & ALARMS DISCRETE CARD OPTION (FOR HARDWIRED SUPERVISORY) * - DISTURBANCE RECORDER EXTERNAL DISCRETE CARD OPTION * - TELEPROTECTION AND COMMUNICATION INTERNAL CARD OPTION * - INTERNAL/EXTERNAL TIME SYNCHRONISATION RELAY OPTIONS * ESKOM DRAWING No. D-DT-9051 *	

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CHKD:	S.J. van Zyl	DATE:	3 March 2010		0248617	
					0248618	
DRAWN:	A.M.A. Craib	DATE:	1 March 2010		SET	SHEET
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**SPEC SHEET (SPARES)**

SAP MATERIAL No.:	0248619
SHORT DESCRIPTION:	RED670 DIST/DIFF 220VDC 1A, PROT D9051

TECH. DESCRIPTION:

MAIN PROTECTION RELAY 220V DC, 1AMP CT INPUTS, ABB RED670 DISTANCE/DIFFERENTIAL RELAY \* INCLUDING :-

- 1x RED670 (VERSION 1.1) MAIN PROTECTION DISTANCE/DIFFERENTIAL RELAY \*
- SPA BUS FIBRE REMOTE ENGINEERING ACCESS COMMUNICATION PORT \*
- DNP3 PROTOCOL ON RS-485 FOR SCADA INDICATION & CONTROL \*
- 1550nm 27Db OB INTERNAL TELEPROTECTION AND COMMUNICATION FIBRE CARD (LDCM1) \*
- PROTECTION NOT HEALTHY HARDWIRED SUPERVISORY ALARM OUTPUT \*

TO SPECIFY :-

- 5 AMP CT CIRCUIT IF REQUIRED \*
- AN ALTERNATIVE FIBRE TELEPROTECTION AND COMMUNICATION CARD IF REQUIRED – SEE SAP NUMBERS XXX OR XXX \*
- IEC61850 TESTING AND REMOTE ENGINEERING ACCESS PORT (REPLACEMENT OF SPA BUS PORT) \*

EXCLUDES :-

- SUPERVISORY CONTROLS & ALARMS DISCRETE CARD OPTION (FOR HARDWIRED SUPERVISORY) \*
- DISTURBANCE RECORDER EXTERNAL DISCRETE CARD OPTION \*
- INTERNAL/EXTERNAL TIME SYNCHRONISATION RELAY OPTIONS \*

ESKOM DRAWING No. D-DT-9051 \*

SAP MATERIAL No.:	0248620
SHORT DESCRIPTION:	X21 TELEPROTECTION CARD, PROT D9051

TECH. DESCRIPTION:

X21 INTERNAL TELEPROTECTION AND COMM. CARD FOR ABB RED670 MAIN RELAY \* INCLUDES :-

- CONNECTOR TYPE: GALVANIC 15 PIN CONNECTORS (D-15 MICRO) \*
- CARD ABB 1MRK002307-AA \*

EXCLUDES :-

- X21 PORT PLUG ADAPTOR (D-15 MICRO TO D-15 ADAPTOR)

ESKOM DRAWING No. D-DT-9051 \*

SAP MATERIAL No.:	0248621
SHORT DESCRIPTION:	X21 PORT PLUG ADAPTOR, PROT D9051

TECH. DESCRIPTION:

X21 COMMUNICATION CARD PORT PLUG ADAPTOR D-15 MICRO (MALE) TO D-15 (FEMALE) \* ESKOM DRAWING No. D-DT-9051 \*


SAP MATERIAL No.:	0248622
SHORT DESCRIPTION:	FIBRE TELEPROT CARD 1550NM, PROT D9051

TECH. DESCRIPTION:


FIBRE INTERNAL TELEPROTECTION AND COMM. CARD 1550nm FOR ABB RED670 MAIN RELAY \* 100km SINGLE MODE LINK SPECIFICATION WITH OPTICAL BUDGET 27dB, MODES HIGH/LOW POWER \* INCLUDES :-

- CONNECTOR TYPE: SINGLE MODE FC CONNECTORS \*
- CARD ABB 1MRK002311-BA

ESKOM DRAWING No. D-DT-9051 \*

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AUTH:	A.M.A. Craib	DATE:	1 March 2010	SCALE	 <b>D-DT-9051</b>				
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				9051					
							SAP No:		
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							0248620		
							0248621		
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**SPEC SHEET (SPARES)**

SAP MATERIAL No.:	0248623								
SHORT DESCRIPTION:	FIBRE TELEPROT CARD 1310NM, PROT D9051								
TECH. DESCRIPTION:									
FIBRE INTERNAL TELEPROTECTION AND COMM. CARD 1310nm FOR ABB RED670 MAIN RELAY * 40km SINGLE MODE LINK SPECIFICATION WITH OPTICAL BUDGET 23dB, MODES HIGH/LOW POWER * INCLUDES :- - CONNECTOR TYPE: SINGLE MODE FC CONNECTORS * - CARD ABB 1MRK002311-AA ESKOM DRAWING No. D-DT-9051 *									
SAP MATERIAL No.:	0248624								
SHORT DESCRIPTION:	FIBRE TELEPROT CARD 3KM, PROT D9051								
TECH. DESCRIPTION:									
FIBRE INTERNAL TELEPROTECTION AND COMM. CARD 3km FOR ABB RED670 MAIN RELAY * 3km MULTIMODE LINK SPECIFICATION * INCLUDES :- - CONNECTOR TYPE: MULTIMODE ST CONNECTORS * - CARD ABB 1MRK002122-AB * ESKOM DRAWING No. D-DT-9051 *									
SAP MATERIAL No.:	0248625								
SHORT DESCRIPTION:	IEC61850 ETHERNET SWITCH, PROT D9051								
TECH. DESCRIPTION:									
IEC61850 REMOTE ENGINEERING ACCESS ETHERNET SWITCH * INCLUDES :- - RUGGEDCOM ETHERNET SWITCH TYPE: RS900-HI-D-MTMTMT * ESKOM DRAWING No. D-DT-9051 *									
SAP MATERIAL No.:	0248626								
SHORT DESCRIPTION:	DNP3 SCADA RS485 CARD, PROT D9051								
TECH. DESCRIPTION:									
DNP3 SCADA TELECOMMUNICATION CARD (RS485) FOR ABB RED670 MAIN RELAY * INCLUDES :- - CARD ABB 1MRK002309-AA * ESKOM DRAWING No. D-DT-9051 *									
SAP MATERIAL No.:	0248627								
SHORT DESCRIPTION:	REA SPA PROTOCOL OPTICAL CARD, D9051								
TECH. DESCRIPTION:									
REMOTE ENGINEERING ACCESS SPA PROTOCOL CARD (OPTICAL) FOR ABB RED670 MAIN RELAY * INCLUDES :- - CARD ABB 1MRK001608-AA * ESKOM DRAWING No. D-DT-9051 *									
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CHKD:	S.J. van Zyl	DATE:	3 March 2010	CAD REF:			0248623	0248626	0248627
				SERIES 9000			0248624		
DRAWN:	A.M.A. Craib	DATE:	1 March 2010	FILE No:		<b>D-DT-9051</b>	SET	SHEET	REV
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**SPEC SHEET (SPARES)**

SAP MATERIAL No.:	0248628
SHORT DESCRIPTION:	REA IEC61850 PROTOCOL OPTICAL CARD,D9051
TECH. DESCRIPTION:	
REMOTE ENGINEERING ACCESS IEC61850 PROTOCOL CARD (OPTICAL) FOR ABB RED670 MAIN RELAY *	
INCLUDES :-	
- CARD ABB 1MRK002266 *	
ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248629
SHORT DESCRIPTION:	BINARY I/O MODULE CARD, PROT D9051
TECH. DESCRIPTION:	
BINARY 110V DC INPUT/OUTPUT MODULE CARD FOR ABB RED670 MAIN RELAY *	
INCLUDES :-	
- CARD ABB 1MRK000173-B *	
SPECIFY :-	
- ALTERNATIVE INPUT VOLTAGE: 220V DC = 'C' IF REQUIRED *	
ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248630
SHORT DESCRIPTION:	BINARY INPUT MODULE CARD, PROT D9051
TECH. DESCRIPTION:	
BINARY 110V DC INPUT MODULE CARD FOR ABB RED670 MAIN RELAY *	
INCLUDES :-	
- CARD ABB 1MRK000508-B *	
SPECIFY :-	
- ALTERNATIVE INPUT VOLTAGES: 48V DC = 'A', OR 220V DC = 'C' IF REQUIRED *	
ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248631
SHORT DESCRIPTION:	BINARY OUTPUT MODULE CARD, PROT D9051
TECH. DESCRIPTION:	
BINARY OUTPUT MODULE CARD FOR ABB RED670 MAIN RELAY *	
INCLUDES :-	
- CARD ABB 1MRK000614-AB *	
ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248632
SHORT DESCRIPTION:	POWER SUPPLY UNIT RED670, PROT D9051
TECH. DESCRIPTION:	
POWER SUPPLY UNIT (90 – 250V DC) FOR ABB RED670 MAIN RELAY *	
INCLUDES :-	
- UNIT ABB 1MRK002239-BB	
ESKOM DRAWING No. D-DT-9051 *	

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CHKD:	S.J. van Zyl	DATE:	3 March 2010	NTS	0248628	0248631
DRAWN:	A.M.A. Craib	DATE:	1 March 2010	CAD REF:	0248629	0248632
				SERIES 9000	0248630	
				FILE No:	SET	SHEET
				9051	29	23
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**SPEC SHEET (SPARES)**

SAP MATERIAL No.:	0248633
SHORT DESCRIPTION:	CURRENT/VOLTAGE MODULE RED670, D9051
TECH. DESCRIPTION: TRANSFORMER CURRENT AND VOLTAGE INPUT MODULE FOR ABB RED670 MAIN RELAY * CURRENT INPUT RATED 1A, VOLTAGE INPUT RATED 110V * INCLUDES :- - INPUT MODULE 6U + 6I * SPECIFY :- - 5A RATED CURRENT INPUT IF REQUIRED * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248635
SHORT DESCRIPTION:	RELAY AUX ABB RXMB1, PROT D9051
TECH. DESCRIPTION: AUXILIARY RELAY ABB RXMB1 - 1MRK000803-110V DC FOR 4FZ39X0 AND 4FZD39X0 SCHEMES * INCLUDES :- - SPARE INDEPENDENT COIL AND CONTACTS (VARIANT B) * SPECIFY :- - ALTERNATIVE 220V DC VOLTAGE IF REQUIRED * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248636
SHORT DESCRIPTION:	RELAY AUX ABB RXMA1, PROT D9051
TECH. DESCRIPTION: AUXILIARY RELAY ABB RXMA1 - RK211 073-AN (110V-125V) DC FOR 4FZ39X0 AND 4FZD39X0 SCHEMES * INCLUDES :- - BUILT IN SERIES RESISTOR * SPECIFY :- - ALTERNATIVE VOLTAGE 220V-250V DC = 'AS' IF REQUIRED * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248637
SHORT DESCRIPTION:	RELAY AUX, SCHRACK, PROT D9051
TECH. DESCRIPTION: AUXILIARY RELAY SCHRACK TYPE MT321110 (110V DC) FOR 4FZ39X0 AND 4FZD39X0 SCHEMES * INCLUDES :- - MOUNTING BASE * SPECIFY :- - ALTERNATIVE VOLTAGES: 220V DC = 'MT321220', 48V DC = 'MT321048' IF REQUIRED * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248638
SHORT DESCRIPTION:	ANTI-PUMP TIMER RELAY, PROT D9051
TECH. DESCRIPTION: ANTI-PUMP TIMER RELAY ABB RXKL1 (110-220V DC) FOR HV BREAKERS WITHOUT ANTI-PUMP CIRCUITS * ESKOM DRAWING No. D-DT-9051 *	

0	First issue	A.C.	S.v.Z	A.C	Mar 2010		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	A.M.A. Craib	DATE:	1 March 2010	SCALE	SAP No:		
				NTS	0248633		
CHKD:	S.J. van Zyl	DATE:	3 March 2010	CAD REF:	0248635		0248637
				SERIES 9000	0248636		0248638
DRAWN:	A.M.A. Craib	DATE:	1 March 2010	FILE No:	SET SHEET REV		
				9051	<b>D-DT-9051</b>		
					29	24	0



**SPEC SHEET (SPARES)**

SAP MATERIAL No.:	0248639
SHORT DESCRIPTION:	TRIP CCT SUPERVISION RELAY, PROT D9051

TECH. DESCRIPTION:  
 TRIP CIRCUIT SUPERVISION RELAY TYPE BTCS110 (DUAL 110/220V DC) FOR 4FZ39X0 AND 4FZD39X0 SCHEMES \*  
 ESKOM DRAWING No. D-DT-9051 \*

SAP MATERIAL No.:	0248640
SHORT DESCRIPTION:	SNUBBER CIRCUIT RCMP1, PROT D9051

TECH. DESCRIPTION:  
 SNUBBER CIRCUIT RCMP1 FOR 4FZ39X0 AND 4FZD39X0 SCHEMES \*  
 ESKOM DRAWING No. D-DT-9051 \*

SAP MATERIAL No.:	0248641
SHORT DESCRIPTION:	INDICATION LAMP 110V DC, PROT D9051


TECH. DESCRIPTION:  
 INDICATION LAMP WITH LED CLUSTER AND HOLDER TYPE CL515, FOR 4FZ39X0 AND 4FZD39X0 SCHEMES \*  
 INCLUDES :-  
 - CLEAR LED CLUSTER RATED 110V DC \*  
 - COLOURED LAMP COVER \*  
 - MOUNTING BASE \*  
 SPECIFY :-  
 - COLOURED LAMP COVER: GREEN = 'G', RED = 'R', AMBER = 'Y' \*  
 ESKOM DRAWING No. D-DT-9051 \*

SAP MATERIAL No.:	0248642
SHORT DESCRIPTION:	INDICATION LAMP 220V DC, PROT D9051

TECH. DESCRIPTION:  
 INDICATION LAMP WITH LED CLUSTER AND HOLDER TYPE CL520, FOR 4FZ39X0 AND 4FZD39X0 SCHEMES \*  
 INCLUDES :-  
 - CLEAR LED CLUSTER RATED 220V DC \*  
 - COLOURED LAMP COVER \*  
 - MOUNTING BASE \*  
 SPECIFY :-  
 - COLOURED LAMP COVER: GREEN = 'G', RED = 'R', AMBER = 'A' \*  
 ESKOM DRAWING No. D-DT-9051 \*

SAP MATERIAL No.:	0248643
SHORT DESCRIPTION:	INDICATION LAMP 240V AC, PROT D9051

TECH. DESCRIPTION:  
 INDICATION LAMP WITH LED CLUSTER AND HOLDER TYPE CL523Y, FOR 4FZ39X0 AND 4FZD39X0 SCHEMES \*  
 INCLUDES :-  
 - CLEAR LED CLUSTER RATED 220V AC \*  
 - AMBER COLOURED LAMP COVER \*  
 - MOUNTING BASE \*  
 ESKOM DRAWING No. D-DT-9051 \*

0	First issue	A.C.	S.v.Z	A.C	Mar 2010			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	A.M.A. Craib	DATE:	1 March 2010	SCALE		SAP No:		
CHKD:	S.J. van Zyl	DATE:	3 March 2010	CAD REF:		0248639	0248642	
				SERIES 9000		0248640	0248643	
DRAWN:	A.M.A. Craib	DATE:	1 March 2010	FILE No:	<b>D-DT-9051</b>	SET	SHEET	REV
				9051		29	25	0

**SPEC SHEET (SPARES)**


SAP MATERIAL No.:	0248644
SHORT DESCRIPTION:	PUSHBUTTON LAMP, PROT D9051
TECH. DESCRIPTION:	
PUSHBUTTON WITH INDICATION LED CLUSTER & HOLDER FOR 4FZ39X0 AND 4FZD39X0 SCHEMES * TYPE MP3-11Y, MBH-101 *	
INCLUDES :-	
- CLEAR LED CLUSTER RATED 110V DC *	
- CONTACTS RATED 110V DC *	
- AMBER COLOURED LAMP COVER *	
- MOUNTING BASE *	
SPECIFY :-	
- ALTERNATIVE VOLTAGE OF 220V DC IF REQUIRED *	
ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248645
SHORT DESCRIPTION:	TEST PUSHBUTTON INC. COVER, PROT D9051
TECH. DESCRIPTION:	
TRIP TEST PUSHBUTTON (RED) WITH COVER FOR 4FZ39X0 AND 4FZD39X0 SCHEMES * TYPE CP10-10R-10/YSF *	
INCLUDES :-	
- PROTECTIVE HINGED CLEAR COVER *	
ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248646
SHORT DESCRIPTION:	CIRCUIT BKR CONTROL SWITCH, PROT D9051
TECH. DESCRIPTION:	
CIRCUIT BREAKER CONTROL SWITCH, MAKE LOP CR-0604 FOR 4FZ39X0 AND 4FZD39X0 SCHEMES *	
INCLUDES :-	
- ENGRAVING *	
ESKOM DRAWING No. D-DT-9051 *	

SAP MATERIAL No.:	0248647
SHORT DESCRIPTION:	TEST NORMAL SWITCH, PROT D9051
TECH. DESCRIPTION:	
TEST NORMAL SWITCH (TNS), MAKE LOP CR-0867 FOR 4FZ39X0 AND 4FZD39X0 SCHEMES *	
INCLUDES :-	
- ENGRAVING *	
ESKOM DRAWING No. D-DT-9051 *	


SAP MATERIAL No.:	0248648
SHORT DESCRIPTION:	SUPERVISORY ISOLATOR SWITCH, PROT D9051
TECH. DESCRIPTION:	
SUPERVISORY ISOLATOR SWITCH (SIS), MAKE LOP CR-0316 FOR 4FZ39X0 AND 4FZD39X0 SCHEMES *	
INCLUDES :-	
- ENGRAVING *	
ESKOM DRAWING No. D-DT-9051 *	

0	First issue	A.C.	S.v.Z	A.C	Mar 2010			
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	A.M.A. Craib	DATE:	1 March 2010			SAP No:		
CHKD:	S.J. van Zyl	DATE:	3 March 2010			0248644	0248647	
DRAWN:	A.M.A. Craib	DATE:	1 March 2010			0248645	0248648	
				<b>D-DT-9051</b>		SET	SHEET	REV
						29	26	0



## SPEC SHEET (SPARES)


SAP MATERIAL No.:	0248654
SHORT DESCRIPTION:	DIODES, BLOCKING/CROSSTRIP, PROT D9051
TECH. DESCRIPTION:	
BLOCKING AND CROSSTRIP DIODES FOR 4FZ39X0 AND 4FZD39X0 SCHEMES *	
MAKE: ABB/WEIDMULLER, TYPE: PR56512033.BA *	
INCLUDES :-	
- 2 DIODES HOUSED WITHIN A TERMINAL, DIN RAIL MOUNTED *	
ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248655
SHORT DESCRIPTION:	VT, AUXILIARY INTERPOSING, PROT D9051
TECH. DESCRIPTION:	
AUXILIARY SINGLE-PHASE VOLTAGE TRANSFORMER FOR 4FZ39X0 AND 4FZD39X0 SCHEMES *	
USED IN OPEN DELTA CONNECTION FOR BACK-UP EARTH-FAULT DIRECTIONALITY *	
RATIO: 1:1 *1	
ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248656
SHORT DESCRIPTION:	MCB DOUBLE POLE, 1A RATED, PROT D9051
TECH. DESCRIPTION:	
MCB DOUBLE-POLE, DIN RAIL MOUNTED, 1 AMPERES RATED, FOR 4FZ39X0 AND 4FZD39X0 SCHEMES *	
MAKE: ABB, TYPE: S202-C 1, RATING INCLUDES 110V AC, CONNECTION: SINGLE-PHASE *	
ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248657
SHORT DESCRIPTION:	MCB TRIPLE POLE, 1A RATED, PROT D9051
TECH. DESCRIPTION:	
MCB TRIPLE-POLE, DIN RAIL MOUNTED, 1 AMPERES RATED, FOR 4FZ39X0 AND 4FZD39X0 SCHEMES *	
MAKE: ABB, TYPE: S203-C 1, RATING INCLUDES 110V AC, CONNECTION: THREE-PHASE *	
ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248658
SHORT DESCRIPTION:	MCB DOUBLE POLE, 2A RATED, PROT D9051
TECH. DESCRIPTION:	
MCB DOUBLE-POLE, DIN RAIL MOUNTED, 2 AMPERES RATED, FOR 4FZ39X0 AND 4FZD39X0 SCHEMES *	
MAKE: ABB, TYPE: S202-C 2, RATING INCLUDES 110V AC, CONNECTION: SINGLE-PHASE *	
ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248659
SHORT DESCRIPTION:	MCB TRIPLE POLE, 2A RATED, PROT D9051
TECH. DESCRIPTION:	
MCB TRIPLE-POLE, DIN RAIL MOUNTED, 2 AMPERES RATED, FOR 4FZ39X0 AND 4FZD39X0 SCHEMES *	
MAKE: ABB, TYPE: S203-C 2, RATING INCLUDES 110V AC, CONNECTION: THREE-PHASE *	
ESKOM DRAWING No. D-DT-9051 *	

0	First issue	A.C.	S.v.Z	A.C	Mar 2010		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DRAWINGS
AUTH:	A.M.A. Craib	DATE:	1 March 2010	 <b>D-DT-9051</b>		SAP No:	
CHKD:	S.J. van Zyl	DATE:	3 March 2010			0248654	0248657
DRAWN:	A.M.A. Craib	DATE:	1 March 2010			0248655	0248658
			SCALE			0248656	0248659
			NTS			SET	SHEET
			CAD REF:			29	28
			SERIES 9000			REV	0
			FILE No:				
			9051				




**SPEC SHEET (SPARES)**


SAP MATERIAL No.:	0248740
SHORT DESCRIPTION:	MCB DOUBLE POLE, 6A RATED, PROT D9051
TECH. DESCRIPTION: MCB DOUBLE-POLE, DIN RAIL MOUNTED, 6 AMPERES RATED, FOR 4FZ39X0 AND 4FZD39X0 SCHEMES * MAKE: ABB, TYPE: S282-UC B6, RATING INCLUDES 240V AC, CONNECTION: SINGLE-PHASE * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248741
SHORT DESCRIPTION:	MCB DOUBLE POLE, 10A RATED, PROT D9051
TECH. DESCRIPTION: MCB DOUBLE-POLE, DIN RAIL MOUNTED, 10 AMPERES RATED, FOR 4FZ39X0 AND 4FZD39X0 SCHEMES * MAKE: ABB, TYPE: S282-UC B10, RATING INCLUDES 240V AC AND 110/220V DC * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248742
SHORT DESCRIPTION:	MCB DOUBLE POLE, 16A RATED, PROT D9051
TECH. DESCRIPTION: MCB DOUBLE-POLE, DIN RAIL MOUNTED, 16 AMPERES RATED, FOR 4FZ39X0 AND 4FZD39X0 SCHEMES * MAKE: ABB, TYPE: S282-UC B16, RATING INCLUDES 110/220V DC * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248743
SHORT DESCRIPTION:	MCB DOUBLE POLE, 20A RATED, PROT D9051
TECH. DESCRIPTION: MCB DOUBLE-POLE, DIN RAIL MOUNTED, 20 AMPERES RATED, FOR 4FZ39X0 AND 4FZD39X0 SCHEMES * MAKE: ABB, TYPE: S282-UC B20, RATING INCLUDES 110/220V DC * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248744
SHORT DESCRIPTION:	AUX CONTACT MCB S28* SERIES, PROT D9051
TECH. DESCRIPTION: AUXILIARY CONTACT TYPE S2-H11 I FOR ABB MCBs TYPE S28*-UC FOR 4FZ39X0 AND 4FZD39X0 SCHEMES * ESKOM DRAWING No. D-DT-9051 *	
SAP MATERIAL No.:	0248745
SHORT DESCRIPTION:	AUX CONTACT MCB S20* SERIES, PROT D9051
TECH. DESCRIPTION: AUXILIARY CONTACT TYPE S2C-H6R FOR ABB MCBs TYPE S20* FOR 4FZ39X0 AND 4FZD39X0 SCHEMES * ESKOM DRAWING No. D-DT-9051 *	

0	First issue				A.C.	S.v.Z	A.C	Mar 2010		
REV	REVISION DESCRIPTION				BY	CHKD	AUTH	DATE	REF. DRAWINGS	
AUTH:	A.M.A. Craib	DATE:	1 March 2010	SCALE				SAP No:		
				NTS				0248740	0248743	
CHKD:	S.J. van Zyl	DATE:	3 March 2010	CAD REF:				0248741	0248744	
				SERIES 9000	<b>D-DT-9051</b>			SET	SHEET	REV
DRAWN:	A.M.A. Craib	DATE:	1 March 2010	FILE No:				29	29	0
				9051						

**SEE D-DT-5400  
SWING FRAME CABINET**

SAP MATERIAL No.:	<b>0402613</b>							
SHORT DESCRIPTION:	CABINET, SWING FRAME DUAL ENTRY D9141							
TECH. DESCRIPTION:								
SWING FRAME CABINET * 800mm x 600mm x 2400mm COMPLETE WITH: - EARTHING, TRUNKING, PRE PUNCHED GLAND PLATES * DUAL ENTRY * SUITABLE FOR TOP AND BOTTOM ENTRY OF CABLES * AS PER D-DT-5400 SHT 1 * ESKOM DRAWING No. D-DT-9141 *								
SAP MATERIAL No.:	<b>0401942</b>							
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 1U M/S D9141							
TECH. DESCRIPTION:								
BLANKING PLATE * TYPE: 1U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *								
SAP MATERIAL No.:	<b>0401944</b>							
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 2U M/S D9141							
TECH. DESCRIPTION:								
BLANKING PLATE * TYPE: 2U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *								
SAP MATERIAL No.:	<b>0401952</b>							
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 3U M/S D9141							
TECH. DESCRIPTION:								
BLANKING PLATE * TYPE: 3U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *								
SAP MATERIAL No.:	<b>0401954</b>							
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 4U M/S D9141							
TECH. DESCRIPTION:								
BLANKING PLATE * TYPE: 4U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *								
ITEM	:- AS ABOVE							
MATERIAL SPECIFICATION	:- MILD STEEL							
CORROSION SPECIFICATION	:- SCSSCAAP9							
STANDARD SPECIFICATION	:- N/A							
ESKOM SPECIFICATION	:- DSP 34-464							
TEST & CERTIFICATION REQUIREMENTS	:- N/A							
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURE'S TRADEMARK & PART No. ON ALL ITEMS								
6	SAP 0011357, 0006327, 0006328, 0006491, 0006492, 0006493, 0008190, 0006494, 0006495, 0006496, 0006497, 0006498, 0008191, 0001166 CORRECTED			P.A.T.	D. RAMJASS	D. RAMJASS	31.03.2017	
5	0247919 PANEL SUPPORT BRACKET ADDED AND SPEC CHANGED.			P.A.T.	SvZ	H. SITHOLE	12/03/2010	
4	SAP'S 0185156, 0185157 TO 0185163 AND 0185994 TO 0186000 MADE OBSOLETE. NEW SAPS ADDED FOR WIRCON CABINET SWING FRAME & BLANKING PLATES.			P.A.T.	H. SITHOLE	H. SITHOLE	26/11/2008	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	A. de JONGH	DATE:	01/2000	SCALE		SAP No:		
CHKD:		DATE:		NTS		0402613	0401952	
				CAD REF:		0401942	0401954	
				SERIES 9000	<b>D-DT-9141</b>	SET	SHEET	REV
DRAWN:	J.F. SCHOLTZ	DATE:	07/98	FILE No:		6	1	6
				9141				

## SPEC SHEET

SAP MATERIAL No.:	0401956							
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 5U M/S D9141							
TECH. DESCRIPTION:	BLANKING PLATE * TYPE: 5U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *							
SAP MATERIAL No.:	0402097							
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 6U M/S D9141							
TECH. DESCRIPTION:	BLANKING PLATE * TYPE: 6U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *							
SAP MATERIAL No.:	0401958							
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 7U M/S D9141							
TECH. DESCRIPTION:	BLANKING PLATE * TYPE: 7U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *							
SAP MATERIAL No.:	0401960							
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 8U M/S D9141							
TECH. DESCRIPTION:	BLANKING PLATE * TYPE: 8U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141*							
SAP MATERIAL No.:	0401962							
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 9U M/S D9141							
TECH. DESCRIPTION:	BLANKING PLATE * TYPE: 9U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *							
SAP MATERIAL No.:	0401964							
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 10U M/S D9141							
TECH. DESCRIPTION:	BLANKING PLATE * TYPE: 10U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *							
6	SAP 0011357, 0006327, 0006328, 0006491, 0006492, 0006493, 0008190, 0006494, 0006495, 0006496, 0006497, 0006498, 0008191, 0001166 CORRECTED	P.A.T.	D. RAMJASS	D. RAMJASS	31.03.2017			
5	0247919 PANEL SUPPORT BRACKET ADDED AND SPEC CHANGED.	P.A.T.	SvZ	H. SITHOLE	12/03/2010			
4	SAP'S 0185156, 0185157 TO 0185163 AND 0185994 TO 0186000 MADE OBSOLETE. NEW SAPS ADDED FOR WIRCON CABINET SWING FRAME & BLANKING PLATES.	P.A.T.	H. SITHOLE	H. SITHOLE	26/11/2008			
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	A. de JONGH	DATE:	01/2000	 <b>D-DT-9141</b>		SAP No:		
CHKD:		DATE:				0401956	0401960	
						0402097	0401962	
					0401958	0401964		
DRAWN:	J.F. SCHOLTZ	DATE:	07/98			SET	SHEET	REV
						6	2	6


## SPEC SHEET

SAP MATERIAL No.:	0401966
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 11U M/S D9141
TECH. DESCRIPTION:	
BLANKING PLATE * TYPE: 11U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *	
SAP MATERIAL No.:	0402099
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 12U M/S D9141
TECH. DESCRIPTION:	
BLANKING PLATE * TYPE: 12U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *	
SAP MATERIAL No.:	0175777
SHORT DESCRIPTION:	PLATE, BLANKING PROT SCHEME 14U M/S D9141
TECH. DESCRIPTION:	
BLANKING PLATE * TYPE: 14U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * ESKOM DRAWING No. D-DT-9141 *	
SAP MATERIAL No.:	0237935
SHORT DESCRIPTION:	CABINET, SWING FRAME DUAL ENTRY D9141
TECH. DESCRIPTION:	
SWING FRAME CABINET * 800mm x 600mm x 2400mm COMPLETE WITH: - EARTHING, TRUNKING, PRE PUNCHED GLAND PLATES * SUPPLIED BY WIRCON * AS PER D-DT-5400 SHT 1 * ESKOM DRAWING No. D-DT-9141 *	
SAP MATERIAL No.:	0237936
SHORT DESCRIPTION:	PLATE, BLANKING 1U M/S WIRCON D9141
TECH. DESCRIPTION:	
BLANKING PLATE * TYPE: 1U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * SUPPLIED BY WIRCON * ESKOM DRAWING No. D-DT-9141 *	


6	SAP 0011357, 0006327, 0006328, 0006491, 0006492, 0006493, 0008190, 0006494, 0006495, 0006496, 0006497, 0006498, 0008191, 0001166 CORRECTED	P.A.T.	D. RAMJASS	D. RAMJASS	31.03.2017	
5	0247919 PANEL SUPPORT BRACKET ADDED AND SPEC CHANGED.	P.A.T.	SvZ	H. SITHOLE	12/03/2010	
4	SAP'S 0185156, 0185157 TO 0185163 AND 0185994 TO 0186000 MADE OBSOLETE. NEW SAPS ADDED FOR WIRCON CABINET SWING FRAME & BLANKING PLATES.	P.A.T.	H. SITHOLE	H. SITHOLE	26/11/2008	

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS			
AUTH:	A. de JONGH	DATE:	01/2000	 <b>D-DT-9141</b>		SAP No:			
CHKD:		DATE:				0401966	0237935		
						0402099	0237936		
						0175777			
							SET	SHEET	REV
DRAWN:	J.F. SCHOLTZ	DATE:	07/98				6	3	6

**SPEC SHEET**

SAP MATERIAL No.:		0237937								
SHORT DESCRIPTION:		PLATE, BLANKING 2U M/S WIRCON D9141								
TECH. DESCRIPTION:		BLANKING PLATE * TYPE: 2U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * SUPPLIED BY WIRCON * ESKOM DRAWING No. D-DT-9141 *								
SAP MATERIAL No.:		0237938								
SHORT DESCRIPTION:		PLATE, BLANKING 3U M/S WIRCON D9141								
TECH. DESCRIPTION:		BLANKING PLATE * TYPE: 3U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * SUPPLIED BY WIRCON * ESKOM DRAWING No. D-DT-9141*								
SAP MATERIAL No.:		0237939								
SHORT DESCRIPTION:		PLATE, BLANKING 4U M/S WIRCON D9141								
TECH. DESCRIPTION:		BLANKING PLATE * TYPE: 4U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * SUPPLIED BY WIRCON * ESKOM DRAWING No. D-DT-9141 *								
SAP MATERIAL No.:		0237940								
SHORT DESCRIPTION:		PLATE, BLANKING 5U M/S WIRCON D9141								
TECH. DESCRIPTION:		BLANKING PLATE * TYPE: 5U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * SUPPLIED BY WIRCON * ESKOM DRAWING No. D-DT-9141 *								
SAP MATERIAL No.:		0237941								
SHORT DESCRIPTION:		PLATE, BLANKING 6U M/S WIRCON D9141								
TECH. DESCRIPTION:		BLANKING PLATE * TYPE: 6U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * SUPPLIED BY WIRCON * ESKOM DRAWING No. D-DT-9141 *								
6	SAP 0011357, 0006327, 0006328, 0006491, 0006492, 0006493, 0008190, 0006494, 0006495, 0006496, 0006497, 0006498, 0008191, 0001166 CORRECTED			P.A.T.	D. RAMJASS	D. RAMJASS	31.03.2017			
5	0247919 PANEL SUPPORT BRACKET ADDED AND SPEC CHANGED.			P.A.T.	SvZ	H. SITHOLE	12/03/2010			
4	SAP'S 0185156, 0185157 TO 0185163 AND 0185994 TO 0186000 MADE OBSOLETE. NEW SAPS ADDED FOR WIRCON CABINET SWING FRAME & BLANKING PLATES.			P.A.T.	H. SITHOLE	H. SITHOLE	26/11/2008			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	A. de JONGH	DATE:	01/2000	SCALE NTS		 <b>D-DT-9141</b>		SAP No:		
CHKD:		DATE:		CAD REF:				0237937	0237940	
				SERIES 9000				0237938	0237941	
DRAWN:	J.F. SCHOLTZ	DATE:	07/98	FILE No:		SET	SHEET	REV		
				9141		6	4	6		

**SPEC SHEET**

SAP MATERIAL No.:		0237942						
SHORT DESCRIPTION:		PLATE, BLANKING 7U M/S WIRCON D9141						
TECH. DESCRIPTION:								
BLANKING PLATE * TYPE: 7U * 19" (482.6mm) RACK *								
MATERIAL: MILD STEEL * PROTECTION SCHEME *								
SUPPLIED BY WIRCON *								
ESKOM DRAWING No. D-DT-9141 *								
SAP MATERIAL No.:		0237943						
SHORT DESCRIPTION:		PLATE, BLANKING 8U M/S WIRCON D9141						
TECH. DESCRIPTION:								
BLANKING PLATE * TYPE: 8U * 19" (482.6mm) RACK *								
MATERIAL: MILD STEEL * PROTECTION SCHEME *								
SUPPLIED BY WIRCON *								
ESKOM DRAWING No. D-DT-9141*								
SAP MATERIAL No.:		0237944						
SHORT DESCRIPTION:		PLATE, BLANKING 9U M/S WIRCON D9141						
TECH. DESCRIPTION:								
BLANKING PLATE * TYPE: 9U * 19" (482.6mm) RACK *								
MATERIAL: MILD STEEL * PROTECTION SCHEME *								
SUPPLIED BY WIRCON *								
ESKOM DRAWING No. D-DT-9141 *								
SAP MATERIAL No.:		0237945						
SHORT DESCRIPTION:		PLATE, BLANKING 10U M/S WIRCON D9141						
TECH. DESCRIPTION:								
BLANKING PLATE * TYPE: 10U * 19" (482.6mm) RACK *								
MATERIAL: MILD STEEL * PROTECTION SCHEME *								
ESKOM DRAWING No. D-DT-9141 *								
SAP MATERIAL No.:		0237946						
SHORT DESCRIPTION:		PLATE, BLANKING 11U M/S WIRCON D9141						
TECH. DESCRIPTION:								
BLANKING PLATE * TYPE: 11U * 19" (482.6mm) RACK *								
MATERIAL: MILD STEEL * PROTECTION SCHEME *								
SUPPLIED BY WIRCON *								
ESKOM DRAWING No. D-DT-9141 *								
6	SAP 0011357, 0006327, 0006328, 0006491, 0006492, 0006493, 0008190, 0006494, 0006495, 0006496, 0006497, 0006498, 0008191, 0001166 CORRECTED			P.A.T.	D. RAMJASS	D. RAMJASS	31.03.2017	
5	0247919 PANEL SUPPORT BRACKET ADDED AND SPEC CHANGED.			P.A.T.	SvZ	H. SITHOLE	12/03/2010	
4	SAP'S 0185156, 0185157 TO 0185163 AND 0185994 TO 0186000 MADE OBSOLETE. NEW SAPS ADDED FOR WIRCON CABINET SWING FRAME & BLANKING PLATES.			P.A.T.	H. SITHOLE	H. SITHOLE	26/11/2008	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	A. de JONGH	DATE:	01/2000	SCALE		SAP No:		
				NTS		0237942		
CHKD:		DATE:		CAD REF:		0237943		
				SERIES 9000		0237944		
DRAWN:	J.F. SCHOLTZ	DATE:	07/98	FILE No:		SET	SHEET	REV
				9141		6	5	6
								
					<b>D-DT-9141</b>			

**SPEC SHEET**

SAP MATERIAL No.:	0237947
SHORT DESCRIPTION:	PLATE, BLANKING 12U M/S WIRCON D9141
TECH. DESCRIPTION: BLANKING PLATE * TYPE: 12U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * SUPPLIED BY WIRCON * ESKOM DRAWING No. D-DT-9141 *	
SAP MATERIAL No.:	0237948
SHORT DESCRIPTION:	PLATE, BLANKING 14U M/S WIRCON D9141
TECH. DESCRIPTION: BLANKING PLATE * TYPE: 14U * 19" (482.6mm) RACK * MATERIAL: MILD STEEL * PROTECTION SCHEME * SUPPLIED BY WIRCON * ESKOM DRAWING No. D-DT-9141 *	
SAP MATERIAL No.:	0401414
SHORT DESCRIPTION:	CAGE NUT, BOLT WITH SEALING WASHER 6mm D9141
TECH. DESCRIPTION: CAGE NUT, BOLT WITH SEALING WASHER 6mm * STANDARD FOR 19" (482,6mm) RACK MOUNTED SCHEMES AND BLANKING PLATES * ESKOM DRAWING No. D-DT-9141 *	
SAP MATERIAL No.:	0185212
SHORT DESCRIPTION:	PLINTH-MOUNTING ANGLE D1941
TECH. DESCRIPTION: PLINTH-MOUNTING ANGLE (SUPPORTS REAR TRENCH COVER PLATE * FOR 19" (482,6mm) RACK MOUNTED SCHEMES AND BLANKING PLATES * AS PER D-DT-5400 ITEM 11 * ESKOM DRAWING No. D-DT-9141*	
SAP MATERIAL No.:	0247919
SHORT DESCRIPTION:	BRACKET,PANEL SUPPORT D9141
TECH. DESCRIPTION: SWING FRAME PANEL SUPPORT / MOUNTING BRACKET (2 OFF) FOR USE WITH CABLE TRENCHES * AS PER D-DT-5400 SHT 6 * ESKOM DRAWING No. D-DT-9141 *	

6	SAP 0011357, 0006327, 0006328, 0006491, 0006492, 0006493, 0008190, 0006494, 0006495, 0006496, 0006497, 0006498, 0008191, 0001166 CORRECTED	P.A.T.	D. RAMJASS	D. RAMJASS	31.03.2017	
5	0247919 PANEL SUPPORT BRACKET ADDED AND SPEC CHANGED.	P.A.T.	SvZ	H. SITHOLE	12/03/2010	
4	SAP'S 0185156, 0185157 TO 0185163 AND 0185994 TO 0186000 MADE OBSOLETE. NEW SAPS ADDED FOR WIRCON CABINET SWING FRAME & BLANKING PLATES.	P.A.T.	H. SITHOLE	H. SITHOLE	26/11/2008	

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	A. de JONGH	DATE:	01/2000	SCALE		SAP No:		
				NTS		0237947		
CHKD:		DATE:		CAD REF:		0237948		0185212
				SERIES 9000		0401414		0247919
DRAWN:	J.F. SCHOLTZ	DATE:	07/98	FILE No:		SET	SHEET	REV
				9141		6	6	6



**D-DT-9141**

**D-DT-11200**

SAP MATERIAL No.:	0175649
SHORT DESCRIPTION:	PANEL, YARD AC DISTRIBUTION D9200
TECH. DESCRIPTION:	
ENCLOSURE MOUNTED ON THE AUXILIARY TRANSFORMER * IP55 * ENCLOSURE HOUSES MAIN AUXILIARY AC SUPPLY MAXIMUM TWO CONTROL MODULE * PANEL SIZE: 1200mm HIGH x 850mm WIDE x 340mm DEEP * MATERIAL: 3CR12 * BOTTOM CABLE ENTRY ONLY * 3 PIN SWITCHED SOCKET OUTLET WITH EARTH LEAKAGE * 5 PIN INDUSTRIAL TEST SOCKET * ESKOM DRAWING No. D-DT-9200 *	


SAP MATERIAL No.:	0175655
SHORT DESCRIPTION:	MODULE, SINGLE CONTROL D9200
TECH. DESCRIPTION:	
MODULE INSTALLED IN YARD AC DISTRIBUTION PANEL * INCOMING ISOLATOR CONTROL CCT MCB* FITTED WITH PHASE FAIL / PHASE ROTATION RELAY AND CONTACTOR * POTENTIAL FREE ALARM CONTACT AVAILABLE FOR DETECTION OF AN AC FAILURE CONDITION * DELAY-ON DROP-OFF TIMER* PREFERRED SUPPLY SELECTOR SWITCH* PILOT LAMP* ESKOM DRAWING No. D-DT-9200 *	

SAP MATERIAL No.:	0175656
SHORT DESCRIPTION:	MODULE, DUAL CONTROL D9200
TECH. DESCRIPTION:	
MODULE: TWO INTERCONNECTED SINGLE CONTROL MODULES * WITH PREFERRED SUPPLY SELECTION SWITCH * MODULES INSTALLED IN YARD AC DISTRIBUTION PANEL * MODULE CHOPS-OVER BETWEEN TWO INCOMING AC SUPPLIES * POTENTIAL FREE ALARM CONTACT AVAILABLE PER SINGLE CONTROL MODULE FOR DETECTION OF ANY AC FAILURE CONDITION * ESKOM DRAWING No. D-DT-9200 *	


ITEM	:- PANEL & MODULE YARD AC DISTRIBUTION		
MATERIAL SPECIFICATION	:- 3CR12 STEEL		
CORROSION SPECIFICATION	:- SCSSCAAP9 REV 1		
STANDARD SPECIFICATION	:- SCSSCAAZ2 REV 0		
ESKOM SPECIFICATION	:- SCSSCAAZ2 REV 0		
TEST & CERTIFICATION REQUIREMENTS	:- SCSSCAAZ2 REV 0		

INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS					


2	LOGO CHANGED AS PER NEW CORPORATE ID. HEADINGS REMOVED AND SPECS UPDATED. 3 SHTS COMBINED INTO 2.	VvZ	T. JACOBS	08/04		
1	SPECS UPDATED. SHEET 3 ADDED	VvZ	T. JACOBS	02/02		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS

AUTH:	T. JACOBS	DATE:	16/08/2000	SCALE		SAP No:		
CHKD:	T. JACOBS	DATE:	16/08/2000	NTS		0175649		
DRAWN:	J.F. SCHOLTZ	DATE:	07/99	CAD REF:		0175655		
				SERIES 9000		0175656		
				FILE No:	D-DT-9200			
				9200	SET	SHEET	REV	
					2	1	2	



D-DT-11200								
SAP MATERIAL No.:		0175658						
SHORT DESCRIPTION:		MODULE, YARD AC DISTRIBUTION D9200						
TECH. DESCRIPTION:								
FOLLOWING MCB's ON THIS MODULE: THREE PHASE : 1 x 63A, 5 x 10A, 2 x 32A and 1 x 20A SINGLE PHASE : 2 x 10A, 1 x 20A * MODULE HAS CONTACTOR (THREE PHASE CONTACTS) FOR FLOODLIGHT CIRCUIT * EARTH LEAKAGE UNIT : 30mA, 20A * ALL MCB'S 5kA, C-CURVE* ESKOM DRAWING No. D-DT-9200 *								
SAP MATERIAL No.:		0175659						
SHORT DESCRIPTION:		MODULE, YARD AC TERMINATION D9200						
TECH. DESCRIPTION:								
MODULE: TERMINALS FOR INCOMING AND OUTGOING CIRCUITS * TERMINALS 1-4: M16/12, R1-N2: M35/26EE, ALL OTHER M4/6 ENTRELEC TERMINALS OR EQUIVALENT * ESKOM DRAWING No. D-DT-9200 *								
SAP MATERIAL No.:		0185221						
SHORT DESCRIPTION:		PANEL, YARD AC DIST SINGLE CONT. D9200						
TECH. DESCRIPTION:								
YARD AC DISTRIBUTION BOARD WITH FOLLOWING MODULES: - SINGLE CONTROL MODULE (0175655) - DISTRIBUTION MODULE (0175658) - TERMINATION MODULE (0175659) * ESKOM DRAWING No. D-DT-9200 *								
SAP MATERIAL No.:		0185222						
SHORT DESCRIPTION:		PANEL, YARD AC DIST DUAL CONT. D9200						
TECH. DESCRIPTION:								
YARD AC DISTRIBUTION BOARD WITH FOLLOWING MODULES: - DUAL CONTROL MODULE = 2 x INTERCONNECTED SINGLE CONTROL MODULES (0175655) - DISTRIBUTION MODULE (0175658) - TERMINATION MODULE (0175659) * ESKOM DRAWING No. D-DT-9200 *								
SAP MATERIAL No.:		0185223						
SHORT DESCRIPTION:		PANEL, YARD AC DUAL CONT. D9200						
TECH. DESCRIPTION:								
YARD AC DISTRIBUTION BOARD WITH FOLLOWING MODULES: - DUAL CONTROL * ESKOM DRAWING No. D-DT-9200 *								
2	LOGO CHANGED AS PER NEW CORPORATE ID. HEADINGS REMOVED AND SPECS UPDATED. 3 SHTS COMBINED INTO 2.			VvZ		T. JACOBS	08/04	
1	SPECS UPDATED. SHEET 3 ADDED			VvZ		T. JACOBS	02/02	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	
AUTH:	T. JACOBS	DATE:	16/08/2000	SCALE	 <b>D-DT-9200</b>	SAP No:		
				NTS		0175658	0185222	
CHKD:	T. JACOBS	DATE:	16/08/2000	CAD REF:		0175659		
				SERIES 9000		0185221		
DRAWN:	J.F. SCHOLTZ	DATE:	07/99	FILE No:		SET	SHEET	REV
				9200		2	2	2

**D-DT-11216**

SAP MATERIAL No.:	0175662								
SHORT DESCRIPTION:	MODULE, MAIN SCHEME AC/DC BOARD D9203								
TECH. DESCRIPTION:									
MAIN SCHEME MODULE OF AC/DC DISTRIBUTION BOARD * 19 INCH RACK * 3U HIGH * SUITABLE TO BE MOUNTED IN 800mm SWING FRAME CABINET * MATERIAL: MILDSTEEL * MAIN MODULE TO HAVE FOLLOWING FUNCTIONALITY:- - DISPLAY PHASE SELECTABLE <b>PHASE</b> TO N 230V AC MEASURED SUPPLY VOLTAGE - 400V 3 <b>PHASE</b> AC PHASE FAIL AND AC FAIL ALARMING. * MODULE CONSISTS OF FOLLOWING :- - VOLTMETER WITH VOLTAGE SELECTION SWITCH - TIME DELAYED AC FAIL RELAY - CONTROL CIRCUIT PROTECTION MCB (230V AC, 5A 5kA 2 POLE MINIATURE BRKR) C - TRIPPING CURVE * ESKOM DRAWING No. D-DT-9203 *									
SAP MATERIAL No.:	0175667								
SHORT DESCRIPTION:	MODULE, INDICATION EXT. AC/DC BOARD D9203								
TECH. DESCRIPTION:									
INDICATION EXTENSION MODULE OF AC/DC DISTRIBUTION BOARD * 19 INCH RACK * 3U HIGH * SUITABLE TO BE MOUNTED IN 800mm SWING FRAME CABINET * INDICATION EXTENSION MODULE TO HAVE FOLLOWING FUNCTIONALITY:- - TEN (10) EXTENSIONS INDICATION LAMP SUPPLY CIRCUITS. - INDICATION SUPPLY TAKEN FROM INDICATION MODULE * ESKOM DRAWING No. D-DT-9203 *									
SAP MATERIAL No.:	0175664								
SHORT DESCRIPTION:	MODULE, AC 400V 3 PH. SCHEME AC/DC D9203								
TECH. DESCRIPTION:									
400V 3 AC SCHEME MODULE OF AC/DC DISTRIBUTION BOARD * 19 INCH RACK * 4U HIGH * MATERIAL : MILDSTEEL * SUITABLE TO BE MOUNTED IN 800mm SWING FRAME CABINET * MODULE CONSISTS OF FOLLOWING :- - TWO (2) 400V AC, 32A 5kA 3 POLE MINIATURE BRKR (C - TRIPPING CURVE) - TWO (2) 400V AC, 16A 5kA 3 POLE MINIATURE BRKR (C - TRIPPING CURVE) - NEUTRAL BAR * 400V AC 4 POLE INCOMING ISOLATOR 60A 5kA * ESKOM DRAWING No. D-DT-9203 *									
ITEM	:- MODULES, AC/DC D9203								
MATERIAL SPECIFICATION	:- MILD STEEL (SANS 121)								
CORROSION SPECIFICATION	:- SCSSCAAP9 REV 1								
STANDARD SPECIFICATION	:- SCSSCAAZ2								
ESKOM SPECIFICATION	:- SCSSCAAZ2								
TEST & CERTIFICATION REQUIREMENTS	:- SCSSCAAZ2								
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No		
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS									
6	D-DT-5606 SPEC SHEET NUMBER CORRECTED D-DT-11216 AND VARIOUS TECH. DESC. PHASE CORRECTED.		J.SHINTA	T. JACOBS	T. JACOBS	27/06/19			
5	ADDED MODULE AC 230V 1 PH & DC 110V SCHEMES		VvZ		T. JACOBS	06/04/05			
4	LOGO CHANGED AS PER NEW CORPORATE ID. HEADINGS REMOVED AND SPECS UPDATED. 7 SHTS COMBINED INTO 5.		VvZ		T. JACOBS	10/04			
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	T. JACOBS	DATE:	16/08/2000	 <b>D-DT-9203</b>		SAP No:			
CHKD:	T. JACOBS	DATE:	16/08/2000			0175662			
DRAWN:	J.F. SCHOLTZ	DATE:	07/99			0175667			
						SET	SHEET	REV	
						4	1	6	

**D-DT-11216**


SAP MATERIAL No.:	0175665
SHORT DESCRIPTION:	MODULE, AC 230V 1 PH. SCHEME 1 AC/DC D9203
TECH. DESCRIPTION:	
230V 1ø AC SCHEME 1 MODULE OF AC/DC DISTRIBUTION BOARD * 19 INCH RACK * 4U HIGH * SUITABLE TO BE MOUNTED IN 800mm SWING FRAME CABINET * MODULE CONSISTS OF FOLLOWING:- - FOURTEEN (14) 230V AC, 20A 5kA 1 POLE MINIATURE BRKR (C - TRIPPING CURVE) - NEUTRAL BAR * ESKOM DRAWING No. D-DT-9203 *	

SAP MATERIAL No.:	0175668
SHORT DESCRIPTION:	MODULE, DC 110V SCHEME 1 DISTR. BOARD D9203
TECH. DESCRIPTION:	
110V DC SCHEME 1 MODULE OF AC/DC DISTRIBUTION BOARD * 19 INCH RACK * 4U HIGH * SUITABLE TO BE MOUNTED IN 800mm SWING FRAME CABINET * 1 x 110Vdc, 60A, 5kA INCOMING ISOLATOR * MODULE CONSISTS OF FOLLOWING :- - TEN (10) 110V DC, 32A 5kA 2 POLE MINIATURE BRKR (C-TRIPPING CURVE) * ESKOM DRAWING No. D-DT-9203 *	

SAP MATERIAL No.:	0175666
SHORT DESCRIPTION:	MODULE, INDICATION AC/DC DISTR. BRD D9203
TECH. DESCRIPTION:	
INDICATION MODULE OF AC/DC DISTRIBUTION BOARD * 19 INCH RACK * 3U HIGH * SUITABLE TO BE MOUNTED IN 800mm SWING FRAME CABINET * INDICATION MODULE TO HAVE FOLLOWING FUNCTIONALITY:- - TEN (10) MECHANICAL-TIMER CONTROLLED INDICATION LAMP SUPPLY CIRCUITS WITH PROVISIONS FOR EXTENSION. MODULE CONSISTS OF FOLLOWING:- - ONE (1) 110V DC, 16A 5kA 2 POLE MINIATURE BRKR (C - TRIPPING CURVE) - MECHANICAL TIMER - MECHANICAL TIMER AUXILIARY RELAY * ESKOM DRAWING No. D-DT-9203 *	

SAP MATERIAL No.:	0185251
SHORT DESCRIPTION:	MODULE, CONTROL DUAL D9203
TECH. DESCRIPTION:	
DUAL CONTROL MODULE * INSTALLATION IN 19 INCH CABINET * TWO INTERCONNECTED 19 INCH SINGLE CONTROL MODULES * MODULE CHOPS-OVER BETWEEN TWO INCOMING AC SUPPLIES * POTENTIAL FREE ALARM CONTACT AVAILABLE PER SINGLE CONTROL MODULE FOR DETECTION OF AN AC FAILURE CONDITION * ESKOM DRAWING No. D-DT-9203 *	

6	D-DT-5606 SPEC SHEET NUMBER CORRECTED D-DT-11216 AND VARIOUS TECH. DESC. PHASE CORRECTED.	J.SHINTA	T. JACOBS	T. JACOBS	27/06/19	
5	ADDED MODULE AC 230V 1 PH & DC 110V SCHEMES	VvZ		T. JACOBS	06/04/05	
4	LOGO CHANGED AS PER NEW CORPORATE ID. HEADINGS REMOVED AND SPECS UPDATED. 7 SHTS COMBINED INTO 5.	VvZ		T. JACOBS	10/04	

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	T. JACOBS	DATE:	16/08/2000	SCALE		SAP No:		0185251
CHKD:	T. JACOBS	DATE:	16/08/2000	NTS		0175665		
DRAWN:	J.F. SCHOLTZ	DATE:	07/99	CAD REF:		0175668		
				SERIES 9000	<b>D-DT-9203</b>	SET	SHEET	REV
				FILE No:		4	2	6
				9203				


**D-DT-11216**

SAP MATERIAL No.:	0175669
SHORT DESCRIPTION:	MODULE, AC SUPPLY SCHEME DISTR. BOARD D9203
TECH. DESCRIPTION:	
<p>AC SUPPLY SCHEME MODULE OF AC/DC DISTRIBUTION BOARD *            19 INCH RACK * 4U HIGH *            SUITABLE TO BE MOUNTED IN 800mm SWING FRAME CABINET *            MODULE CONSISTS OF FOLLOWING :-            - ONE (1) 5 PIN 400V 3 AC 16A SOCKET            - TWO (2) 230V 1 PHASE AC 16A SOCKETS            - ONE (1) 400V AC, 20A 5kA 3 POLE MINIATURE BRKR (C-TRIPPING CURVE)            - ONE (1) 230V AC, 20A 5kA 30mA MINIATURE BRKR WITH EARTH LEAKAGE (C - TRIPPING CURVE) *            ESKOM DRAWING No. D-DT-9203 *</p>	

SAP MATERIAL No.:	0185229
SHORT DESCRIPTION:	MODULE, INTERFACE BATT. STANDBY D9203
TECH. DESCRIPTION:	
<p>DC INTERFACE MODULE *            TO INTERFACE BETWEEN THE BATTERY CHARGER, BATTERY, LOAD AND STANDBY DC SUPPLY *            2 x 110Vdc 63A ISOLATORS *            110Vdc, 63A 5kA BATTERY SUPPLY MCB *            110Vdc, 63A, STANDBY DC SUPPLY PLUG SOCKET *            ESKOM DRAWING No. D-DT-9203 *</p>	

SAP MATERIAL No.:	0186797
SHORT DESCRIPTION:	MODULE, AC MAIN INCOMING D9203
TECH. DESCRIPTION:	
<p>MAIN AC INCOMING MODULE *            INSTALLATION IN 19 INCH CABINET *            FITTED WITH PHASE FAIL / PHASE ROTATION RELAY *            1 x 400V 100A CONTACTOR *            1 x 400V 100A 5kA ISOLATOR *            1 x 400V 5A 5kA MCB *            POTENTIAL FREE ALARM CONTACT AVAILABLE FOR DETECTION OF AN AC FAILURE CONDITION *            INCOMING PHASES PILOT LAMPS AVAILABLE *            ESKOM DRAWING No. D-DT-9203 *</p>	


6	D-DT-5606 SPEC SHEET NUMBER CORRECTED D-DT-11216 AND VARIOUS TECH. DESC. PHASE CORRECTED.	J.SHINTA	T. JACOBS	T. JACOBS	27/06/19	
5	ADDED MODULE AC 230V 1 PH & DC 110V SCHEMES	VvZ		T. JACOBS	06/04/05	
4	LOGO CHANGED AS PER NEW CORPORATE ID. HEADINGS REMOVED AND SPECS UPDATED. 7 SHTS COMBINED INTO 5.	VvZ		T. JACOBS	10/04	

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	T. JACOBS	DATE:	16/08/2000	SCALE	 <b>D-DT-9203</b>	SAP No:		
CHKD:	T. JACOBS	DATE:	16/08/2000	NTS		0175669		
				CAD REF:		0185229		
				SERIES 9000		0186797	SET	SHEET
DRAWN:	J.F. SCHOLTZ	DATE:	07/99	FILE No:		4	3	6
				9203				


**D-DT-11216**

SAP MATERIAL No.:	0216215
SHORT DESCRIPTION:	MODULE, AC 230V 1 PH SCHEME D9203
TECH. DESCRIPTION:	
230V 1 PHASE AC SCHEME 19 INCH MODULE * 3U HIGH * SUITABLE TO BE MOUNTED IN 800mm SWING FRAME CABINET * MODULE CONSISTS OF THE FOLLOWING : - FOURTEEN (14) 230V AC, 20A, 5kA, 1 POLE MINIATURE CIRCUIT BREAKERS (C-TRIPPING CURVE) - NEUTRAL TERMINALS * ESKOM DRAWING No. D-DT-9203 *	

SAP MATERIAL No.:	0216216
SHORT DESCRIPTION:	MODULE, DC 110V SCHEME D9203
TECH. DESCRIPTION:	
110V 1 PHASE DC SCHEME 19 INCH MODULE * 3U HIGH * SUITABLE TO BE MOUNTED IN 800mm SWING FRAME CABINET * MODULE CONSISTS OF THE FOLLOWING : - 1 x 110V DC, 60A, 5kA INCOMING ISOLATOR - TEN (10) 110V DC, 32A, 5kA, 2 POLE MINIATURE CIRCUIT BREAKERS (C-TRIPPING CURVE) * ESKOM DRAWING No. D-DT-9203 *	

6	D-DT-5606 SPEC SHEET NUMBER CORRECTED D-DT-11216 AND VARIOUS TECH. DESC. PHASE CORRECTED.	J.SHINTA	T. JACOBS	T. JACOBS	27/06/19			
5	ADDED MODULE AC 230V 1 PH & DC 110V SCHEMES	VvZ		T. JACOBS	06/04/05			
4	LOGO CHANGED AS PER NEW CORPORATE ID. HEADINGS REMOVED AND SPECS UPDATED. 7 SHTS COMBINED INTO 5.	VvZ		T. JACOBS	10/04			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	T. JACOBS	DATE:	16/08/2000	 SAP No: 0216215 0216216				
CHKD:	T. JACOBS	DATE:	16/08/2000			SET	SHEET	REV
DRAWN:	J.F. SCHOLTZ	DATE:	07/99			4	4	6
				<b>D-DT-9203</b>				

## SPEC SHEET

SAP MATERIAL No.:	0209843								
SHORT DESCRIPTION:	BOOK, MAINT LOG LA BATT 54CELL D9215								
TECH. DESCRIPTION:									
LEAD ACID BATTERY MAINTENANCE LOGBOOK FOR 54 CELL BATTERY CONSISTING OF THE FOLLOWING :- - A4 SIZE - LIGHT BLUE FRONT COVER (160G TOKAI PAPER) - DOUBLE SIDED INSTRUCTION SHEET (WHITE BOND PAPER) - LOGSHEETS SHALL BE PRINTED ON "NO CARBON REQUIRED" (NCR) PAPER, WHICH IS PERFORATED ALONG THE LEFT HAND SIDE - A LOOSE SHEET OF CHIPBOARD SHALL BE PROVIDED WITH EACH LOGBOOK, WHICH SHALL BE USED TO WRITE ON, THEREBY RESTRICTING THE WRITING TO APPEAR ONLY ON THE PAIR OF LOGSHEETS BEING WRITTEN ON. - THE ORIGINAL LOGSHEET SHALL BE WHITE. - THE DUPLICATE LOGSHEET, WHICH REMAINS IN THE LOGBOOK, SHALL BE YELLOW. - A TOTAL OF 50 LOGSHEETS (ORIGINALS & COPIES) SHALL BE PROVIDED PER LOGBOOK. - THE BACK COVER OF THE LOGBOOK SHALL BE MADE OF GREY CHIPBOARD. * <b style="color: red;">- EACH LOGBOOK SHALL BE ISSUED WITH A CLEAR PLASTIC SLEEVE TO PROTECT IT FROM THE ENVIRONMENT *</b> ESKOM DRAWING No. D-DT-9215 *									
SAP MATERIAL No.:	0209844								
SHORT DESCRIPTION:	BOOK, MAINT LOG LA BATT 108CELL D9215								
TECH. DESCRIPTION:									
LEAD ACID BATTERY MAINTENANCE LOGBOOK FOR 108 CELL BATTERY CONSISTING OF THE FOLLOWING:- - A4 SIZE - LIGHT BLUE FRONT COVER (160G TOKAI PAPER) - DOUBLE SIDED INSTRUCTION SHEET (WHITE BOND PAPER) - LOGSHEETS SHALL BE PRINTED ON "NO CARBON REQUIRED" (NCR) PAPER, WHICH IS PERFORATED ALONG THE LEFT HAND SIDE - A LOOSE SHEET OF CHIPBOARD SHALL BE PROVIDED WITH EACH LOGBOOK, WHICH SHALL BE USED TO WRITE ON, THEREBY RESTRICTING THE WRITING TO APPEAR ONLY ON THE PAIR OF LOGSHEETS BEING WRITTEN ON. - THE ORIGINAL LOGSHEET SHALL BE WHITE. - THE DUPLICATE LOGSHEET, WHICH REMAINS IN THE LOGBOOK, SHALL BE YELLOW. - A TOTAL OF 50 LOGSHEETS (ORIGINALS & COPIES) SHALL BE PROVIDED PER LOGBOOK. - THE BACK COVER OF THE LOGBOOK SHALL BE MADE OF GREY CHIPBOARD. * <b style="color: red;">- EACH LOGBOOK SHALL BE ISSUED WITH A CLEAR PLASTIC SLEEVE TO PROTECT IT FROM THE ENVIRONMENT *</b> ESKOM DRAWING No. D-DT-9215 *									
ITEM	:- BOOK, MAINT LOG BATT D9215								
MATERIAL SPECIFICATION	:- <b style="color: red;">DSP_34-365</b>								
CORROSION SPECIFICATION	:- N/A								
STANDARD SPECIFICATION	:- <b style="color: red;">DSP_34-365</b>								
ESKOM SPECIFICATION	:- <b style="color: red;">DSP_34-365</b>								
TEST & CERTIFICATION REQUIREMENTS	:- <b style="color: red;">DSP_34-365</b>								
INSPECTION	Yes	No	ESKOM RELEASE NOTE				Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS : <b style="color: red;">DSP_34-365</b>									
<b style="color: red;">LAP MATERIAL GROUP</b>		<b style="color: red;">BATTERY ANCILLARY EQUIPMENT</b>							
1	<b style="color: red;">NOTE RE LOGBOOK ADDED TO TECH. DESCRIPTION AND LAP MATERIAL GROUP ADDED</b>			P.A.T.	T. JACOBS	T. JACOBS	07.04.2010		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	T. JACOBS	DATE:	19/09/2003	SCALE			SAP No:		
CHKD:	T. JACOBS	DATE:	19/09/2003	NTS			0209843		
				CAD REF:			0209844		
				SERIES 9000	<b style="font-size: 1.2em;">D-DT-9215</b>		SET	SHEET	REV
DRAWN:	V. van ZWEEL	DATE:	18/08/03	FILE No:			2	1	1
				9215					



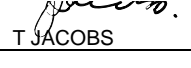
## SPEC SHEET

SAP MATERIAL No.:	0209845
SHORT DESCRIPTION:	BOOK, MAINT LOG NICAD BATT 90CELL D9215
TECH. DESCRIPTION:	
<p>NICKEL CADMIUM BATTERY MAINTENANCE LOGBOOK FOR 90 CELL BATTERY CONSISTING OF THE FOLLOWING :-</p> <ul style="list-style-type: none"> <li>- A4 SIZE</li> <li>- YELLOW FRONT COVER (160G TOKAI PAPER)</li> <li>- DOUBLE SIDED INSTRUCTION SHEET (WHITE BOND PAPER)</li> <li>- LOGSHEETS SHALL BE PRINTED ON "NO CARBON REQUIRED" (NCR) PAPER, WHICH IS PERFORATED ALONG THE LEFT HAND SIDE</li> <li>- A LOOSE SHEET OF CHIPBOARD SHALL BE PROVIDED WITH EACH LOGBOOK, WHICH SHALL BE USED TO WRITE ON, THEREBY RESTRICTING THE WRITING TO APPEAR ONLY ON THE PAIR OF LOGSHEETS BEING WRITTEN ON.</li> <li>- THE ORIGINAL LOGSHEET SHALL BE WHITE.</li> <li>- THE DUPLICATE LOGSHEET, WHICH REMAINS IN THE LOGBOOK, SHALL BE YELLOW.</li> <li>- A TOTAL OF 50 LOGSHEETS (ORIGINALS &amp; COPIES) SHALL BE PROVIDED PER LOGBOOK.</li> <li>- THE BACK COVER OF THE LOGBOOK SHALL BE MADE OF GREY CHIPBOARD. *</li> <li>- <b>EACH LOGBOOK SHALL BE ISSUED WITH A CLEAR PLASTIC SLEEVE TO PROTECT IT FROM THE ENVIRONMENT *</b></li> </ul> <p>ESKOM DRAWING No. D-DT-9215 *</p>	

SAP MATERIAL No.:	0209846
SHORT DESCRIPTION:	BOOK, MAINT LOG NICAD BATT174 CELL D9215
TECH. DESCRIPTION:	
<p>NICKEL CADMIUM BATTERY MAINTENANCE LOGBOOK FOR 174 CELL BATTERY CONSISTING OF THE FOLLOWING :-</p> <ul style="list-style-type: none"> <li>- A4 SIZE</li> <li>- YELLOW FRONT COVER (160G TOKAI PAPER)</li> <li>- DOUBLE SIDED INSTRUCTION SHEET (WHITE BOND PAPER)</li> <li>- LOGSHEETS SHALL BE PRINTED ON "NO CARBON REQUIRED" (NCR) PAPER, WHICH IS PERFORATED ALONG THE LEFT HAND SIDE</li> <li>- A LOOSE SHEET OF CHIPBOARD SHALL BE PROVIDED WITH EACH LOGBOOK, WHICH SHALL BE USED TO WRITE ON, THEREBY RESTRICTING THE WRITING TO APPEAR ONLY ON THE PAIR OF LOGSHEETS BEING WRITTEN ON.</li> <li>- THE ORIGINAL LOGSHEET SHALL BE WHITE.</li> <li>- THE DUPLICATE LOGSHEET, WHICH REMAINS IN THE LOGBOOK, SHALL BE YELLOW.</li> <li>- A TOTAL OF 50 LOGSHEETS (ORIGINALS &amp; COPIES) SHALL BE PROVIDED PER LOGBOOK.</li> <li>- THE BACK COVER OF THE LOGBOOK SHALL BE MADE OF GREY CHIPBOARD. *</li> <li>- <b>EACH LOGBOOK SHALL BE ISSUED WITH A CLEAR PLASTIC SLEEVE TO PROTECT IT FROM THE ENVIRONMENT *</b></li> </ul> <p>ESKOM DRAWING No. D-DT-9215 *</p>	

1	NOTE RE LOGBOOK ADDED TO TECH. DESCRIPTION AND LAP MATERIAL GROUP ADDED	P.A.T.	T. JACOBS	T. JACOBS	07.04.2010		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	T. JACOBS	DATE:	19/09/2003	 <b>D-DT-9215</b>	SAP No:		
CHKD:	T. JACOBS	DATE:	19/09/2003		0209845	0209846	
DRAWN:	V. van ZWEEL	DATE:	18/08/03		SET	SHEET	REV
			9215		2	2	1




**SPEC SHEET**

SAP MATERIAL No.:	0256085							
SHORT DESCRIPTION:	CELL, NICD 1.2V 15Ah VTX1 L15 D9308							
TECH. DESCRIPTION:	SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * LOW PERFORMANCE * 15 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 L15 * ESKOM DRAWING No. D-DT-9308							
SAP MATERIAL No.:	0256086							
SHORT DESCRIPTION:	CELL, NICD 1.2V 30Ah VTX1 L30 D9308							
TECH. DESCRIPTION:	SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * LOW PERFORMANCE * 30 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 L30 * ESKOM DRAWING No. D-DT-9308							
SAP MATERIAL No.:	0256087							
SHORT DESCRIPTION:	CELL, NICD 1.2V 47Ah VTX1 L47 D9308							
TECH. DESCRIPTION:	SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * LOW PERFORMANCE * 47 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 L47 * ESKOM DRAWING No. D-DT-9308							
SAP MATERIAL No.:	0256088							
SHORT DESCRIPTION:	CELL, NICD 1.2V 62Ah VTX1 L62 D9308							
TECH. DESCRIPTION:	SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * LOW PERFORMANCE * 62 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 L62 * ESKOM DRAWING No. D-DT-9308							
SAP MATERIAL No.:	0256089							
SHORT DESCRIPTION:	CELL, NICD 1.2V 75Ah VTX1 L75 D9308							
TECH. DESCRIPTION:	SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * LOW PERFORMANCE * 75 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 L75 * ESKOM DRAWING No. D-DT-9308							
ITEM	:- ALCAD VANTEX SEMI-SEALED NICD CELLS							
MATERIAL SPECIFICATION	:- DSP_34-1065							
CORROSION SPECIFICATION	:- N/A							
STANDARD SPECIFICATION	:- DSP_34-1065							
ESKOM SPECIFICATION	:- DSP_34-1065							
TEST & CERTIFICATION REQUIREMENTS	:- DSP_34-1065							
INSPECTION	Yes	No	ESKOM RELEASE NOTE			Yes	No	
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS								
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	 P. GROENEWALD	DATE:	26/05/2011	SCALE	 <b>D-DT-9308</b>	SAP No:		
CHKD:		 T JACOBS	DATE:	25.05.2011		CAD REF:	0256085	0256088
DRAWN:	P.A. TRUBLET		DATE:	11.05.2011		SERIES 9000	0256086	0256089
					FILE No:	0256087	SET	SHEET
				9308		4	1	0







## SPEC SHEET

SAP MATERIAL No.:	0256096							
SHORT DESCRIPTION:	CELL, NICD 1.2V 24Ah VTX1 M24 D9308							
TECH. DESCRIPTION:	SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * MEDIUM PERFORMANCE * 24 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 M24 * ESKOM DRAWING No. D-DT-9308							
SAP MATERIAL No.:	0256097							
SHORT DESCRIPTION:	CELL, NICD 1.2V 32Ah VTX1 M32 D9308							
TECH. DESCRIPTION:	SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * MEDIUM PERFORMANCE * 32 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 M32 * ESKOM DRAWING No. D-DT-9308							
SAP MATERIAL No.:	0256098							
SHORT DESCRIPTION:	CELL, NICD 1.2V 40Ah VTX1 M40 D9308							
TECH. DESCRIPTION:	SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * MEDIUM PERFORMANCE * 40 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 M40 * ESKOM DRAWING No. D-DT-9308							
SAP MATERIAL No.:	0256099							
SHORT DESCRIPTION:	CELL, NICD 1.2V 48Ah VTX1 M48 D9308							
TECH. DESCRIPTION:	SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * MEDIUM PERFORMANCE * 48 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 M48 * ESKOM DRAWING No. D-DT-9308							
SAP MATERIAL No.:	0256100							
SHORT DESCRIPTION:	CELL, NICD 1.2V 65Ah VTX1 M65 D9308							
TECH. DESCRIPTION:	SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * MEDIUM PERFORMANCE * 65 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 M65 * ESKOM DRAWING No. D-DT-9308							
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	 P. GROENEWALD	DATE:	26/05/2011	SCALE	 <b>D-DT-9308</b>	SAP No:		
CHKD:		DATE:	25.05.2011	NTS		0256096	0256099	
	 T. JACOBS			CAD REF:		0256097	0256100	
					SERIES 9000	0256098		
DRAWN:	P.A. TRUBLET	DATE:	11.05.2011	FILE No:		SET	SHEET	REV
				9308		4	3	0

**SPEC SHEET**

SAP MATERIAL No.:	0256101
SHORT DESCRIPTION:	CELL, NICD 1.2V 75Ah VTX1 M75 D9308
TECH. DESCRIPTION:	
SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * MEDIUM PERFORMANCE * 75 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 M75 * ESKOM DRAWING No. D-DT-9308	
SAP MATERIAL No.:	0256102
SHORT DESCRIPTION:	CELL, NICD 1.2V 100Ah VTX1 M100 D9308
TECH. DESCRIPTION:	
SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * MEDIUM PERFORMANCE * 100 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 M100 * ESKOM DRAWING No. D-DT-9308	
SAP MATERIAL No.:	0256103
SHORT DESCRIPTION:	CELL, NICD 1.2V 125Ah VTX1 M125 D9308
TECH. DESCRIPTION:	
SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * MEDIUM PERFORMANCE * 125 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 M125 * ESKOM DRAWING No. D-DT-9308	
SAP MATERIAL No.:	0256104
SHORT DESCRIPTION:	CELL, NICD 1.2V 150Ah VTX1 M150 D9308
TECH. DESCRIPTION:	
SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * MEDIUM PERFORMANCE * 150 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 M150 * ESKOM DRAWING No. D-DT-9308	
SAP MATERIAL No.:	0256105
SHORT DESCRIPTION:	CELL, NICD 1.2V 170Ah VTX1 M170 D9308
TECH. DESCRIPTION:	
SEMI-SEALED NICD SINGLE CELL * 1.2 VOLT * MEDIUM PERFORMANCE * 170 AMPHOUR (C5 @ 20 DEG CELSIUS) * MODEL NO: VTX1 M170 * ESKOM DRAWING No. D-DT-9308	


REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	 P. GROENEWALD	DATE:	26/05/2011	SCALE	 <b>D-DT-9308</b>	SAP No:		
CHKD:		DATE:	25.05.2011	NTS		0256101	0256104	
DRAWN:	P.A. TRUBLET	DATE:	11.05.2011	CAD REF:		0256102	0256105	
				SERIES 9000		SET	SHEET	REV
				FILE No:		4	4	0
				9308				

## SPEC SHEET

SAP MATERIAL No.:	0175685
SHORT DESCRIPTION:	MODULE:METERING OLD;STD METER SUBPANEL

TECH. DESCRIPTION:

MODULE: TYPE: METERING OLD;  
 APPLICATION: STD METER SUBPANEL;  
 DIMENSIONS: WD 483 X D 2 X HT 622 MM;  
 MOUNTING IN 800MM SWING FRAME CABINET;  
 MATERIAL: MILDSTEEL;  
 FRONT METER MODULE PLATE:- 14U HIGH; (FOR FITMENT OF METERS);  
 CONSISTS OF FOLLOWING: PK2 4 WAY TEST BLOCKS, TERMINALS,TRUNKING,WIRING;  
 BACK METER MODULE PLATE:- 5U HIGH; (FOR TERMINATION OF CT AND VT CABLES);  
 CONSISTS OF THE FOLLOWING: MCBs 5/6A,2.5KA,TERMINALS,TRUNKING,WIRING;  
 ESKOM DRAWING No. D-DT-9400 \*

SAP MATERIAL No.:	0569918
SHORT DESCRIPTION:	MODULE:METERING SURFACE MOUNT 4WAY

TECH. DESCRIPTION:


MODULE: TYPE: METERING SURFACE MOUNT 4WAY;  
 APPLICATION: STD METERING PANEL;  
 DIMENSIONS: WD 483 X D 50 X HT 622 MM;  
 SURFACE MOUNT WITH 4-WAY CT TEST BLOCK;  
 MATERIAL: MILDSTEEL;  
 FRONT METER MODULE PLATE: 14U HIGH; (FOR FITMENT OF METERS);  
 CONSISTS OF FOLLOWING: PK2 4 WAY TEST BLOCKS,TERMINALS,TRUNKING,WIRING,  
 BACK METER MODULE PLATE: 5U HIGH; (FOR TERMINATION OF CT AND VT CABLES);  
 CONSISTS OF THE FOLLOWING: MCBs,5/6A,2.5KA,TERMINALS,TRUNKING,WIRING;  
 ESKOM DRAWING No. D-DT-9400 \*

ITEM	:- MODULE, METERING STD METER SUB PANEL D9400				
MATERIAL SPECIFICATION	:- N/A				
CORROSION SPECIFICATION	:- N/A				
STANDARD SPECIFICATION	:- N/A				
ESKOM SPECIFICATION	:- D-DT-8501, D-DT-5804				
TEST & CERTIFICATION REQUIREMENTS	:- N/A				

INSPECTION	Yes	No	ESKOM RELEASE NOTE	Yes	No
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IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS

4	ADDED NEW ITEM FOR SLIMLINE PANEL	H.GROENEWALD	H GROENEWALD	18.09.2013	D-DT-5801
3	ADDED NEW MODULES – RACK MOUNT AND 6-WAY	H.GROENEWALD	H GROENEWALD	12.07.2013	
2	DESCRIPTION CHANGED AND SAP 0199106 DELETED	P.A.T.	H.GROENEWALD	H.GROENEWALD	12.08.2010
1	CABLE ADDED – SAP 0199106	VvZ		H.GROENEWALD	08/2005

REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	P. CROWDY	DATE:	28/11/2000	SCALE	 <b>D-DT-9400</b>	SAP No:		
CHKD:	C. CLARK	DATE:	28/11/2000	NTS		0175685		
				CAD REF:		0569918		
				SERIES 9000		SET	SHEET	REV
DRAWN:	J.F. SCHOLTZ	DATE:	07/99	FILE No:	3	1	4	
				9400				

## SPEC SHEET

SAP MATERIAL No.:	0569919
SHORT DESCRIPTION:	MODULE:METERING SURFACE MOUNT 6WAY
TECH. DESCRIPTION:	
<p>MODULE: TYPE: METERING SURFACE MOUNT 6WAY;          APPLICATION: STD METER PANEL;          DIMENSIONS: WD 483 X D 50 X HT 622 MM;          SURFACE MOUNT WITH 6-WAY CT TEST BLOCK;          MATERIAL: MILDSTEEL;          FRONT METER MODULE PLATE: 14U HIGH; (FOR FITMENT OF METERS);          CONSISTS OF FOLLOWING: PK2 4 WAY AND 6 WAY TEST BLOCKS, TERMINALS, TRUNKING, WIRING,          BACK METER MODULE PLATE: 5U HIGH;          (FOR TERMINATION OF CT AND VT CABLES);          CONSISTS OF THE FOLLOWING: MCBs, 5/6A, 2.5KA, TERMINALS, TRUNKING, WIRING;          ESKOM DRAWING No. D-DT-9400 *</p>	

SAP MATERIAL No.:	0569920
SHORT DESCRIPTION:	MODULE:METERING RACK MOUNT 4WAY
TECH. DESCRIPTION:	
<p>MODULE: TYPE: METERING RACK MOUNT 4WAY;          APPLICATION: STD METERING PANEL;          DIMENSIONS: WD 483 X D 312 X HT 445 MM;          19 INCH RACK MOUNT WITH 4-WAY CT TEST BLOCK;          MATERIAL: MILDSTEEL;          FRONT METER MODULE PLATE: 14U HIGH; (FOR FITMENT OF METERS);          CONSISTS OF FOLLOWING: 19" RACK FOR THE FITMENT OF TWO METERS;          ESSAILEC CONNECTOR BLOCKS, PK2 4 WAY TEST BLOCKS, TERMINALS, TRUNKING, WIRING,          BACK METER MODULE PLATE: 5U HIGH; (FOR TERMINATION OF CT AND VT CABLES);          CONSISTS OF THE FOLLOWING: MCBs, 5/6A, 2.5KA, TERMINALS, TRUNKING, WIRING;          ESKOM DRAWING No. D-DT-9400 *</p>	

4	ADDED NEW ITEM FOR SLIMLINE PANEL	H.GROENEWALD	H GROENEWALD	18.09.2013	D-DT-5801		
3	ADDED NEW MODULES – RACK MOUNT AND 6-WAY	H.GROENEWALD	H GROENEWALD	12.07.2013			
2	DESCRIPTION CHANGED AND SAP 0199106 DELETED	P.A.T.	H.GROENEWALD	H.GROENEWALD	12.08.2010		
1	CABLE ADDED – SAP 0199106	VvZ	H.GROENEWALD	08/2005			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	P. CROWDY	DATE:	28/11/2000	SCALE NTS	SAP No:		
CHKD:	C. CLARK	DATE:	28/11/2000	CAD REF:	0569919		
DRAWN:	J.F. SCHOLTZ	DATE:	07/99	SERIES 9000	0569920		
				FILE No:	<b>D-DT-9400</b>		
					SET	SHEET	REV
					3	2	4


## SPEC SHEET

<b>SAP MATERIAL No.:</b>	0569921							
<b>SHORT DESCRIPTION:</b>	MODULE:METERING RACK MOUNT 6WAY							
<b>TECH. DESCRIPTION:</b>								
<p>MODULE: TYPE: METERING RACK MOUNT 6WAY;            APPLICATION: STD METERING PANEL;            DIMENSIONS: WD 483 X D 312 X HT 445 MM;            RACK MOUNT WITH 6-WAY CT TEST BLOCK;            MATERIAL: MILDSTEEL; FRONT METER MODULE PLATE: 14U HIGH; (FOR FITMENT OF METERS);            CONSISTS OF FOLLOWING: 19" RACK FOR THE FITMENT OF TWO METERS;            ESSAILEC CONNECTOR BLOCKS, PK2 4 WAY AND 6 WAY TEST            BLOCKS,TERMINALS,TRUNKING,WIRING, BACK METER MODULE PLATE: 5U HIGH;            (FOR TERMINATION OF CT AND VT CABLES);            CONSISTS OF THE FOLLOWING: MCBs,5/6A,2.5KA,TERMINALS,TRUNKING,WIRING;            ESKOM DRAWING No. D-DT-9400 *</p>								
<b>SAP MATERIAL No.:</b>	0574602							
<b>SHORT DESCRIPTION:</b>	PANEL:SLIMLINE WALL MOUNT							
<b>TECH. DESCRIPTION:</b>								
<p>PANEL: TYPE: SLIMLINE WALL MOUNT;            DIMENSIONS: WD 700MM X LG 1.4M X DP 350MM X THK 2MM MM;            MATERIAL: STEEL MILD POWDER COATED;            SLIMLINE SUBSTATION PANEL D-DT-5801;            SUITABLE FOR THE MOUNTING OF TWO SURFACE MOUNT METERING MODULES;            GLAND PLATES BOTH ON TOP AND BOTTOM OF PANEL WITH PLASTIC COVERS ON ALL HOLES;            ESKOM DRAWING No. D-DT-9400 *</p>								
4	ADDED NEW ITEM FOR SLIMLINE PANEL			H.GROENEWALD	H GROENEWALD	18.09.2013	D-DT-5801	
3	ADDED NEW MODULES – RACK MOUNT AND 6-WAY			H.GROENEWALD	H GROENEWALD	12.07.2013		
2	DESCRIPTION CHANGED AND SAP 0199106 DELETED			P.A.T.	H.GROENEWALD	H.GROENEWALD	12.08.2010	
1	CABLE ADDED – SAP 0199106			VvZ		H.GROENEWALD	08/2005	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	P. CROWDY	DATE:	28/11/2000	SCALE NTS		SAP No:		
CHKD:	C. CLARK	DATE:	28/11/2000	CAD REF:		0569921		0574602
DRAWN:	J.F. SCHOLTZ	DATE:	07/99	SERIES 9000		D-DT-9400		
				FILE No:		SET	SHEET	REV
						3	3	4






## SPEC SHEET

SAP MATERIAL No.:	0216512								
SHORT DESCRIPTION:	METER,kWh:1PH PROG;80 A;RS232;230 V								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 1PH PROG; CURRENT: 80 A; PORT TYPE: RS232; VOLTAGE: 230 V; CLASS: 1 ACTIVE; NUMBER OF OUTPUTS: 1 PULSE OUTPUT, 1 CONTROL OUTPUT; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-70427065; ESKOM APPROVED ELECTRONIC, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>								
SAP MATERIAL No.:	0216513								
SHORT DESCRIPTION:	METER,kWh:3PH PROG;100 A;RS232;400 V								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 3PH PROG; CURRENT: 100 A; PORT TYPE: RS232; VOLTAGE: 400 V; CLASS: 1 ACTIVE &amp; 2 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-76628289; ESKOM APPROVED ELECTRONIC, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>								
SAP MATERIAL No.:	0242570								
SHORT DESCRIPTION:	METER,kWh:3PH PROG;160 A;RS232;400 V								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 3PH PROG; CURRENT: 160 A; PORT TYPE: RS232; VOLTAGE: 400 V; CLASS: 1 ACTIVE AND 2 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>								
ITEM	:- METER, PROGRAMMABLE kWh 1 & 3 PHASE								
MATERIAL SPECIFICATION	:- N/A								
CORROSION SPECIFICATION	:- N/A								
STANDARD SPECIFICATION	:- N/A								
ESKOM SPECIFICATION	:- 240-70427065, 240-52840736, 240-76628289								
TEST & CERTIFICATION REQUIREMENTS	:- CALIBRATION STICKER ATTACHED								
INSPECTION	Yes	No	INSPECTION	Yes	No				
IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK & PART No. ON ALL ITEMS									
6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED			P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018		
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010		
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	H. GROENEWALD	DATE:	15/07/2004	SCALE NTS		  <b>D-DT-9420</b>	SAP No:		
CHKD:	H. GROENEWALD	DATE:	15/07/2004	CAD REF: SERIES 9400			0216512	0242570	
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004	FILE No: 9420			SET	SHEET	REV
							<b>14</b>	<b>2</b>	<b>6</b>



## SPEC SHEET

SAP MATERIAL No.:	0251638									
SHORT DESCRIPTION:	METER,kWh:3PH CL0.5;5 A;RS232;400 V									
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 3PH CL0.5; CURRENT: 5 A; PORT TYPE: RS232; VOLTAGE: 400 V; CLASS: 0.5 ACTIVE AND 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>									
SAP MATERIAL No.:	0216514									
SHORT DESCRIPTION:	METER,kWh:3PH CL0.5 ;5 A ;RS232, 485									
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 3PH CL0.5; CURRENT: 5 A; PORT TYPE: RS232, 485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>									
SAP MATERIAL No.:	0242571									
SHORT DESCRIPTION:	METER,kWh:3PH CL0.5 ;5 A ;RS232									
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 3PH CL0.5; CURRENT: 5 A; PORT TYPE: RS232; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>									
SAP MATERIAL No.:	0242574									
SHORT DESCRIPTION:	METER,kWh:3PH CL0.5 ;5 A ;DUAL RS485									
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 3PH CL0.5; CURRENT: 5 A; PORT TYPE: DUAL RS485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>									
6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED			P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018			
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010			
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	H. GROENEWALD	DATE:	15/07/2004	SCALE NTS		 <b>D-DT-9420</b>		SAP No:		
CHKD:	H. GROENEWALD	DATE:	15/07/2004	CAD REF: SERIES 9400				0251638	0242571	
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004	FILE No: 9420		0216514	0242574	SET	SHEET	REV
						14	3			6

## SPEC SHEET


SAP MATERIAL No.:	0230646							
SHORT DESCRIPTION:	METER,kWh:3PH CL0.5;1 A;RS232, 485							
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 3PH CL0.5; CURRENT: 1 A; PORT TYPE: RS232, 485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>							
SAP MATERIAL No.:	0242578							
SHORT DESCRIPTION:	METER,kWh:3PH CL0.5;1 A;RS232							
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 3PH CL0.5; CURRENT: 1 A; PORT TYPE: RS232; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>							
SAP MATERIAL No.:	0242580							
SHORT DESCRIPTION:	METER,kWh:3PH CL0.5;1 A;DUAL RS485							
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 3PH CL0.5; CURRENT: 1 A; PORT TYPE: DUAL RS485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>							
6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED			P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018	
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010	
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	H. GROENEWALD	DATE:	15/07/2004	SCALE	 <b>Eskom</b>  <b>D-DT-9420</b>		SAP No:	
CHKD:	H. GROENEWALD	DATE:	15/07/2004	NTS			0230646	0242578
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004	CAD REF:			0242580	
				SERIES 9400	SET	SHEET	REV	
				FILE No:	14	4	6	
				9420				

## SPEC SHEET

SAP MATERIAL No.:	0230647
SHORT DESCRIPTION:	METER,kWh:3PH CL0.5;1&5 A;RS232, 485
TECH. DESCRIPTION:	
<p style="color: red;">METER, KILOWATT HOUR: TYPE: 3PH CL0.5; CURRENT: 1&amp;5 A; PORT TYPE: RS232, 485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; DRAWING NO: D-DT-9420; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE). ESKOM DRAWING No. D-DT-9420 *</p>	
SAP MATERIAL No.:	0242582
SHORT DESCRIPTION:	METER,kWh:3PH CL0.5;1&5 A;RS232
TECH. DESCRIPTION:	
<p style="color: red;">METER, KILOWATT HOUR: TYPE: 3PH CL0.5; CURRENT: 1&amp;5 A; PORT TYPE: RS232; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>	
SAP MATERIAL No.:	0242584
SHORT DESCRIPTION:	METER,kWh:3PH CL0.5;1&5 A;DUAL RS485
TECH. DESCRIPTION:	
<p style="color: red;">METER, KILOWATT HOUR: TYPE: 3PH CL0.5; CURRENT: 1&amp;5 A; PORT TYPE: DUAL RS485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>	
SAP MATERIAL No.:	0216515
SHORT DESCRIPTION:	METER,kWh:3PH CL0.2 ;1 A ;RS232, 485
TECH. DESCRIPTION:	
<p style="color: red;">METER, KILOWATT HOUR: TYPE: 3PH CL0.2; CURRENT: 1 A; PORT TYPE: RS232, 485; VOLTAGE: 63.5/110 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>	

6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED	P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018		
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER	H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010		
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS	H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	H. GROENEWALD	DATE:	15/07/2004	 <b>D-DT-9420</b>	SAP No:		
CHKD:	H. GROENEWALD	DATE:	15/07/2004		0230647	0242584	
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004		0242582	0216515	
					SET	SHEET	REV
					14	5	6

# SPEC SHEET


SAP MATERIAL No.:	0242586							
SHORT DESCRIPTION:	METER,kWh:3PH CL0.2 ;1 A ;DUAL RS485							
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 3PH CL0.2; CURRENT: 1 A; PORT TYPE: DUAL RS485; VOLTAGE: 63.5/110 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>							
SAP MATERIAL No.:	0230648							
SHORT DESCRIPTION:	METER,kWh:CL0.2 AUX ;1 A ;RS232, 485							
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: CL0.2 AUX; CURRENT: 1 A; PORT TYPE: RS232, 485; VOLTAGE: 63.5/110 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; AUXILIARY SUPPLY: 110 VAC; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>							
SAP MATERIAL No.:	0242587							
SHORT DESCRIPTION:	METER,kWh:CL0.2 AUX ;1 A ;DUAL RS485							
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: CL0.2 AUX; CURRENT: 1 A; PORT TYPE: DUAL RS485; VOLTAGE: 63.5/110 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; AUXILIARY SUPPLY: 110 VAC; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>							
SAP MATERIAL No.:	0242589							
SHORT DESCRIPTION:	METER,kWh:3PH CL0.2 4Q ;1 A ;RS232, 485							
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: 3PH CL0.2 4Q; CURRENT: 1 A; PORT TYPE: RS232, 485; VOLTAGE: 63.5/110 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; NUMBER OF OUTPUTS: 6 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>							
6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED			P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018	
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010	
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	H. GROENEWALD	DATE:	15/07/2004	SCALE NTS	 <b>D-DT-9420</b>	SAP No:		
CHKD:	H. GROENEWALD	DATE:	15/07/2004	CAD REF: SERIES 9400		0242586	0242587	
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004	FILE No: 9420		0230648	SET	SHEET
						<b>14</b>	<b>6</b>	<b>6</b>

## SPEC SHEET

SAP MATERIAL No.:	0242590
SHORT DESCRIPTION:	METER,kWh:3PH CL0.2 4Q ;1 A ;DUAL RS485
TECH. DESCRIPTION:	
<p>METER, KILOWATT HOUR: TYPE: 3PH CL0.2 4Q; CURRENT: 1 A; PORT TYPE: DUAL RS485; VOLTAGE: 63.5/110 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; NUMBER OF OUTPUTS: 6 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>	
SAP MATERIAL No.:	0242591
SHORT DESCRIPTION:	METER,kWh:CL0.2 AUX 4Q ;1 A ;RS232, 485
TECH. DESCRIPTION:	
<p>METER, KILOWATT HOUR: TYPE: CL0.2 AUX 4Q; CURRENT: 1 A; PORT TYPE: RS232, 485; VOLTAGE: 63.5/110 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; AUXILIARY SUPPLY: 110 VAC; NUMBER OF OUTPUTS: 6 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>	
SAP MATERIAL No.:	0242592
SHORT DESCRIPTION:	METER,kWh:CL0.2 AUX 4Q ;1 A ;DUAL RS485
TECH. DESCRIPTION:	
<p>METER, KILOWATT HOUR: TYPE: CL0.2 AUX 4Q; CURRENT: 1 A; PORT TYPE: DUAL RS485; VOLTAGE: 63.5/110 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; AUXILIARY SUPPLY: 110 VAC; NUMBER OF OUTPUTS: 6 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; ESKOM APPROVED PROGRAMMABLE, LISTED METER; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>	

6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED	P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018					
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER	H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010					
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS	H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009					
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS				
AUTH:	H. GROENEWALD	DATE:	15/07/2004	<b>Eskom</b>  <b>D-DT-9420</b>		SAP No:				
CHKD:	H. GROENEWALD	DATE:	15/07/2004			0242590	0242592			
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004			SET	SHEET	REV		
							FILE No: 9420	14	7	6


## SPEC SHEET

SAP MATERIAL No.:	0207978					
SHORT DESCRIPTION:	METER,kWh:L+G ZMD;100 A;RS232, 485;400 V					
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMD; CURRENT: 100 A; PORT TYPE: RS232, 485; VOLTAGE: 400 V; CLASS: 1 ACTIVE &amp; 2 REACTIVE; NUMBER OF OUTPUTS: 2 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMD310CT44.240007.A5B4+; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>					
SAP MATERIAL No.:	0615212					
SHORT DESCRIPTION:	METER,kWh:L+G ZMG ;100 A ;RS232+, 485					
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMG; CURRENT: 100 A; PORT TYPE: RS232+, 485; VOLTAGE: 400 V; CLASS: 1 ACTIVE &amp; 2 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMG310CR4.041B.37; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>					
SAP MATERIAL No.:	0615127					
SHORT DESCRIPTION:	METER,kWh:L+G ZMG ;160 A ;RS232+, 485					
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMG; CURRENT: 160 A; PORT TYPE: RS232+, 485; VOLTAGE: 400 V; CLASS: 1 ACTIVE &amp; 2 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMG310CR4.041B.37; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>					
SAP MATERIAL No.:	0615099					
SHORT DESCRIPTION:	METER,kWh:L+G ZMG ;1&5 A ;RS232+, 485					
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMG; CURRENT: 1&amp;5 A; PORT TYPE: RS232+, 485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMG405CR4.041B.37; NOMINAL CURRENT: 0.05-5(10)A; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>					
6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED	P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018	
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER	H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010	
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS	H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	H. GROENEWALD	DATE:	15/07/2004	 <b>D-DT-9420</b>	SAP No:	
CHKD:	H. GROENEWALD	DATE:	15/07/2004		0207978	0615127
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004		0615212	0615099
					SET	SHEET
					14	8
						REV
						6


Unique Identifier:240-4887441

Revision 1

## SPEC SHEET


SAP MATERIAL No.:	0207977								
SHORT DESCRIPTION:	METER,kWh:L+G ZMD;5 A;RS232+, 485								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMD; CURRENT: 5 A; PORT TYPE: RS232+, 485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMD405CT44.2407.B4+; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>								
SAP MATERIAL No.:	0207979								
SHORT DESCRIPTION:	METER,kWh:L+G ZMD;1 A;RS232+, 485								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMD; CURRENT: 1 A; PORT TYPE: RS232+, 485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMD405CT44.2407.B4+; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>								
SAP MATERIAL No.:	0207980								
SHORT DESCRIPTION:	METER,kWh:L+G ZMD;1 A;DUAL RS485								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMD; CURRENT: 1 A; PORT TYPE: DUAL RS485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMD405CT44.2407.B2; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>								
SAP MATERIAL No.:	0213154								
SHORT DESCRIPTION:	METER,kWh:L+G ZMD ;1&5 A ;RS232+, 485								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMD; CURRENT: 1&amp;5 A; PORT TYPE: RS232+, 485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMD405CT44.2407.B4+; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>								
6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED			P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018		
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010		
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	H. GROENEWALD	DATE:	15/07/2004	SCALE NTS		 <b>D-DT-9420</b>		SAP No:	
CHKD:	H. GROENEWALD	DATE:	15/07/2004	CAD REF: SERIES 9400				0207977	0207980
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004	FILE No: 9420				0207979	0213154
						SET	SHEET	REV	
						14	9	6	

## SPEC SHEET

SAP MATERIAL No.:	0207981							
SHORT DESCRIPTION:	METER,kWh:L+G ZMD CL0.2;1 A;RS232+, 485							
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMD CL0.2; CURRENT: 1 A; PORT TYPE: RS232+, 485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; NUMBER OF OUTPUTS: 6 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMD402CT44.0607.B4+; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>							
SAP MATERIAL No.:	0207982							
SHORT DESCRIPTION:	METER,kWh:L+G ZMD CL0.2;1 A;DUAL RS485							
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMD CL0.2; CURRENT: 1 A; PORT TYPE: DUAL RS485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; NUMBER OF OUTPUTS: 6 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMD402CT44.0607.B2; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>							
SAP MATERIAL No.:	0615101							
SHORT DESCRIPTION:	METER,kWh:L+G ZMD CL0.2 AUX ;1 A							
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMD CL0.2 AUX; CURRENT: 1 A; PORT TYPE: RS232+, 485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMD402CT44.0457.B4+; AUXILIARY SUPPLY 100-240V AC/DC; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>							
SAP MATERIAL No.:	0615102							
SHORT DESCRIPTION:	METER,kWh:L+G ZMD CL0.2 AUX ;1 A							
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: L+G ZMD CL0.2 AUX; CURRENT: 1 A; PORT TYPE: DUAL RS485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER LANDIS + GYR ZMD402CT44.0457.B2; AUXILIARY SUPPLY 100-240V AC/DC; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER;</p> <p>ESKOM DRAWING No. D-DT-9420 *</p>							
6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED			P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018	
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010	
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009	
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	H. GROENEWALD	DATE:	15/07/2004	SCALE NTS	 <b>D-DT-9420</b>	SAP No:		
CHKD:	H. GROENEWALD	DATE:	15/07/2004	CAD REF: SERIES 9400		0207981	0615101	
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004	FILE No: 9420		0207982	0615102	
						SET	SHEET	REV
						14	10	6




## SPEC SHEET

SAP MATERIAL No.:	0182795								
SHORT DESCRIPTION:	METER,kWh:ELSTER A1700 CL0.2;1 A								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1700 CL0.2; CURRENT: 1 A; PORT TYPE: RS232, 485; VOLTAGE: 63.5/110 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; AUXILIARY SUPPLY: 4 PROGRAMMABLE; NUMBER OF OUTPUTS: SANAS APPROVED FACILITY; CALIBRATE: ESKOM: 240-52840736; METER ELSTER A1700; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>								
SAP MATERIAL No.:	0242593								
SHORT DESCRIPTION:	METER,kWh:ELSTER A1700 CL0.2 ;1 A								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1700 CL0.2; CURRENT: 1 A; PORT TYPE: RS232; VOLTAGE: 63.5/110 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1700; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>								
SAP MATERIAL No.:	0242594								
SHORT DESCRIPTION:	METER,kWh:ELSTER A1700 CL0.2 ;1 A								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1700 CL0.2; CURRENT: 1 A; PORT TYPE: RS485; VOLTAGE: 63.5/110 V; CLASS: 0.2 ACTIVE &amp; 0.5 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1700; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>								
SAP MATERIAL No.:	0182793								
SHORT DESCRIPTION:	METER,kWh:ELSTER A1700;5 A;RS232, 485								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1700; CURRENT: 5 A; PORT TYPE: RS232, 485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1700; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>								
6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED			P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018		
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010		
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	H. GROENEWALD	DATE:	15/07/2004	SCALE NTS	 <b>D-DT-9420</b>		SAP No:		
CHKD:	H. GROENEWALD	DATE:	15/07/2004	CAD REF: SERIES 9400			0182795	0242594	0182793
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004	FILE No: 9420			SET	SHEET	REV
						<b>14</b>	<b>11</b>	<b>6</b>	


## SPEC SHEET

SAP MATERIAL No.:	0242596								
SHORT DESCRIPTION:	METER,kWh:ELSTER A1700 ;5 A ;RS232								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1700; CURRENT: 5 A; PORT TYPE: RS232; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1700; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>								
SAP MATERIAL No.:	0242597								
SHORT DESCRIPTION:	METER,kWh:ELSTER A1700 ;5 A ;RS485								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1700; CURRENT: 5 A; PORT TYPE: RS485; VOLTAGE: 58/100 - 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1700; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>								
SAP MATERIAL No.:	0182792								
SHORT DESCRIPTION:	METER,kWh:ELSTER A1700;1 A;RS232,485								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1700; CURRENT: 1 A; PORT TYPE: RS232,485; VOLTAGE: 63.5/110 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 0.5 ACTIVE &amp; 1 REACTIVE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1700; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>								
SAP MATERIAL No.:	0242598								
SHORT DESCRIPTION:	METER,kWh:ELSTER A1700 ;1 A ;RS232								
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1700; CURRENT: 1 A; PORT TYPE: RS232; VOLTAGE: 63.5/110 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1700; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>								
6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED			P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018		
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010		
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009		
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	H. GROENEWALD	DATE:	15/07/2004	SCALE NTS		 <b>D-DT-9420</b>		SAP No:	
CHKD:	H. GROENEWALD	DATE:	15/07/2004	CAD REF: SERIES 9400				0242596	0182792
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004	FILE No: 9420				0242597	0242598
						SET	SHEET	REV	
						<b>14</b>	<b>12</b>	<b>6</b>	


## SPEC SHEET

SAP MATERIAL No.:	0242600									
SHORT DESCRIPTION:	METER,kWh:ELSTER A1700 ;1 A ;RS485									
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1700; CURRENT: 1 A; PORT TYPE: RS485; VOLTAGE: 63.5/110 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1700; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>									
SAP MATERIAL No.:	0182794									
SHORT DESCRIPTION:	METER,kWh:ELSTER A1700;100 A;RS232									
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1700; CURRENT: 100 A; PORT TYPE: RS232; VOLTAGE: 240/415 V; CLASS: 1 ACTIVE &amp; 2 REACTIVE; NUMBER OF OUTPUTS: 4 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1700; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>									
SAP MATERIAL No.:	0615218									
SHORT DESCRIPTION:	METER,kWh:ELSTER A1140 ;5 A ;RS232									
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1140; CURRENT: 5 A; PORT TYPE: RS232; VOLTAGE: 240/415 V; CLASS: 0.5 ACTIVE &amp; 1 REACTIVE; NUMBER OF OUTPUTS: 1 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1140; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>									
SAP MATERIAL No.:	0615219									
SHORT DESCRIPTION:	METER,kWh:ELSTER A1140 ;100 A ;RS232									
TECH. DESCRIPTION:	<p>METER, KILOWATT HOUR: TYPE: ELSTER A1140; CURRENT: 100 A; PORT TYPE: RS232; VOLTAGE: 240/415 V; CLASS: 1 ACTIVE &amp; 2 REACTIVE; NUMBER OF OUTPUTS: 1 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1140; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *</p>									
6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED			P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018			
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010			
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS			H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009			
REV	REVISION DESCRIPTION			BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	H. GROENEWALD	DATE:	15/07/2004	SCALE NTS		 <b>D-DT-9420</b>		SAP No:		
CHKD:	H. GROENEWALD	DATE:	15/07/2004	CAD REF: SERIES 9400				0242600	0615218	
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004	FILE No: 9420				0182794	0615219	
						SET	SHEET	REV		
						14	13	6		


## SPEC SHEET

SAP MATERIAL No.:	0615220						
SHORT DESCRIPTION:	METER,kWh:ELSTER A1160 ;160 A ;RS232						
TECH. DESCRIPTION:							
METER, KILOWATT HOUR: TYPE: ELSTER A1160; CURRENT: 160 A; PORT TYPE: RS232; VOLTAGE: 240/415 V; CLASS: 1 ACTIVE & 2 REACTIVE; NUMBER OF OUTPUTS: 1 PROGRAMMABLE; CALIBRATE: SANAS APPROVED FACILITY; STANDARD: ESKOM: 240-52840736; METER ELSTER A1160; CALIBRATED AND SEALED WITH CALIBRATION STICKER AFFIXED TO THE METER; ESKOM DRAWING No. D-DT-9420 *							
SAP MATERIAL No.:	0635958						
SHORT DESCRIPTION:	METER,kWh:L+G ZMQ ;1 A ;RS232 & RS485						
TECH. DESCRIPTION:							
METER, KILOWATT HOUR: TYPE: L+G ZMQ; CURRENT: 1 A; PORT TYPE: RS232 & RS485; VOLTAGE: 63.5 V; PHASE QUANTITY: 3PH; CLASS: 0.2S ACTIVE; 0.5 REACTIVE; AUXILIARY SUPPLY: 100 VAC-240 VDC VAC; NUMBER OF OUTPUTS: 4; STANDARD: ESKOM: 240-52840736; 19" RACK MOUNTED METER; ESKOM DRAWING No. D-DT-9420 *							
SAP MATERIAL No.:	0635959						
SHORT DESCRIPTION:	METER,kWh:ION P8800-A2-E0-B5-A0-B1A						
TECH. DESCRIPTION:							
METER, KILOWATT HOUR: TYPE: ION P8800-A2-E0-B5-A0-B1A; CURRENT: 1 A; PORT TYPE: 1 X RS232/RS485;1 X RS485; VOLTAGE: 63.5 V; PHASE QUANTITY: 3PH; CLASS: 0.2 ACTIVE; 0.5 REACTIVE; AUXILIARY SUPPLY: 85-240 VAC-110-270 VDC VAC; NUMBER OF OUTPUTS: 8 X FORM A DIGITAL; 4 X FORM C DIGITAL; STANDARD: ESKOM: 240-52840736; 19" RACK MOUNTED; FEATURE SET A (ENERGY METER + QUALITY OF SUPPLY MONITORING); 5MB MEMORY; 3 X DIGITAL INPUTS; ESKOM DRAWING No. D-DT-9420 *							
SAP MATERIAL No.:	0635960						
SHORT DESCRIPTION:	METER,kWh:ION8800-A2-E0-B5-E0-B1A; ETHHT						
TECH. DESCRIPTION:							
METER, KILOWATT HOUR: TYPE: ION8800-A2-E0-B5-E0-B1A; ETHHT; CURRENT: 1 A; PORT TYPE: 1 X RS232/RS485;1 X RS485; VOLTAGE: 63.5 V; PHASE QUANTITY: 3PH; CLASS: 0.2 ACTIVE; 0.5 REACTIVE; AUXILIARY SUPPLY: 85-240 VAC-110-270 VDC VAC; NUMBER OF OUTPUTS: 8 X FORM A DIGITAL; 4 X FORM C DIGITAL; STANDARD: ESKOM: 240-52840736; 19" RACK MOUNTED; WITH 1 X 10 BASE-T-ETHERNET (RJ45); 3 X DIGITAL INPUTS; FEATURE SET A (ENERGY METER + QUALITY OF SUPPLY MONITORING); 5MB MEMORY; ESKOM DRAWING No. D-DT-9420 *							
6	ALL EXISTING ITEMS WENT THROUGH PILOG, SAP'S 0615212, 0615127,0615099,0615101,0615102,0615218,0615219,0615220, 0635958,0635959 ADDED	P.A.T. H.G.	HPD GROENEWALD	HPD GROENEWALD	21.06.2018		
5	ADDED GENERAL ITEM FOR A PROGRAMMABLE 400V 5A METER	H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	05.10.2010		
4	ADDED GENERAL ITEMS FOR PROGRAMMABLE METERS ADDED NEW NUMBERS FOR ADDITIONAL ELSTER METERS	H.G. P.A.T.	H.GROENEWALD	H.GROENEWALD	03.09.2009		
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE	REF. DWGS
AUTH:	H. GROENEWALD	DATE:	15/07/2004	 <b>D-DT-9420</b>		SAP No:	
CHKD:	H. GROENEWALD	DATE:	15/07/2004			0615220	0635959
DRAWN:	P TRUBLET de NERMONT	DATE:	19/05/2004			0635958	0635960
				SCALE NTS	SET	SHEET	REV
				CAD REF: SERIES 9400	14	14	6
				FILE No: 9420			


## SPEC SHEET

<b>SAP MATERIAL No.:</b>	0253383						
<b>SHORT DESCRIPTION:</b>	MODEM, METERING GSM/GPRS D9503						
<b>TECH. DESCRIPTION:</b>	<p>ESKOM APPROVED, LISTED GSM/GPRS METERING MODEM FOR REMOTE COMMUNICATION SPECIFICATION DSP 34-1967.  CONSISTS OF FOLLOWING:-  - GSM/GPRS MODEM  - 110V - 230V ± 15% POWER SUPPLY  ESKOM DRAWING No. D-DT-9503 *</p>						
<b>SAP MATERIAL No.:</b>	0223362						
<b>SHORT DESCRIPTION:</b>	MODEM, METERING KOCOS ME12.5 GPRS D9503						
<b>TECH. DESCRIPTION:</b>	<p>KOCOS ME12.5 QUAD BAND GSM/GPRS METERING MODEM FOR REMOTE COMMUNICATION  CONSISTS OF FOLLOWING :-  - KOCOS ME12.5 QUAD BAND (850/900/1800/1900MHz) GSM/GPRS MODEM  - 80V - 276VAC; 100-300VDC POWER SUPPLY  ESKOM DRAWING No. D-DT-9503 *</p>						
<b>SAP MATERIAL No.:</b>	0223363						
<b>SHORT DESCRIPTION:</b>	MODEM, METERING TRUCOM SMARTEE D9503						
<b>TECH. DESCRIPTION:</b>	<p>TRUCOM SMARTEE GSM/GPRS UNDERCOVER METERING MODEM FOR REMOTE COMMUNICATION  CONSISTS OF FOLLOWING:-  - TRUCOM SMARTEE GSM/GPRS UNDERCOVER MODEM  - 115V - 230V POWER SUPPLY  ESKOM DRAWING No. D-DT-9503 *</p>						
<b>ITEM</b>	:- METERING COMMUNICATION D9503						
<b>MATERIAL SPECIFICATION</b>	:- N/A						
<b>CORROSION SPECIFICATION</b>	:- N/A						
<b>STANDARD SPECIFICATION</b>	:- 34-1967 DST - GSM/GPRS MODEMS FOR REMOTE METERING						
<b>ESKOM SPECIFICATION</b>	:- N/A						
<b>TEST &amp; CERTIFICATION REQUIREMENTS</b>	:- N/A						
<b>INSPECTION</b>	Yes	No	<b>ESKOM RELEASE NOTE</b>			Yes	No
<b>IDENTIFICATION:- INDELIBLE MANUFACTURES TRADEMARK &amp; PART No. ON ALL ITEMS</b>							
5	ADDED ITEMS FOR A GENERAL DESCRIPTION AND THE METACOM MC402. DELETED SAP 0184057, 0207021, 0198202		HPD.G.	HPD GROENEWALD	HPD GROENEWALD	2011/03/07	
4	REMOVED ANTENNA FROM MODEM SAP NUMBERS. CREATED SEPARATE SAP NUMBERS FOR ANTENNAS		PA V	HPD GROENEWALD	HPD GROENEWALD	2009/07/16	
3	ADD TRUCOM SMARTEE AND SMARTOO MODEM, KOCOS ME12.5 MODEM, METACOM MC407 MODEM		VvZ	HPD GROENEWALD	HPD GROENEWALD	2007/02/02	
2	ADD TRUCOM GSM MODEM, VARIOUS CABLES		PA V	HPD GROENEWALD	HPD GROENEWALD	2003/07/14	
1	ADD VARIOUS GSM MODEMS, CABLES		PA V	HPD GROENEWALD	A BEKKER	2002/10/28	
<b>REV</b>	<b>REVISION DESCRIPTION</b>		<b>BY</b>	<b>CHKD</b>	<b>AUTH</b>	<b>DATE</b>	<b>REF. DWGS</b>
<b>AUTH:</b>	A. BEKKER	<b>DATE:</b>	30/11/2000	 <b>D-DT-9503</b>	<b>SAP No:</b>		0223363
<b>CHKD:</b>	HPD GROENEWALD	<b>DATE:</b>	30/11/2000		0253383	0223362	
<b>DRAWN:</b>	HPD GROENEWALD PA VERMAAK	<b>DATE:</b>	30/11/2000		SET	SHEET	REV
			9503		6	1	5

**SPEC SHEET**


SAP MATERIAL No.:		0223364						
SHORT DESCRIPTION:		MODEM, METERING TRUCOM SMARTOO D9503						
TECH. DESCRIPTION:								
TRUCOM SMARTOO GSM/GPRS DIN-RAIL MOUNT METERING MODEM FOR REMOTE COMMUNICATION CONSISTS OF FOLLOWING:-								
- TRUCOM SMARTOO GSM/GPRS MODEM								
- 85V - 265V POWER SUPPLY								
- DIN RAIL CLIP								
ESKOM DRAWING No. D-DT-9503 *								
SAP MATERIAL No.:		0223365						
SHORT DESCRIPTION:		MODEM, METERING METACOM MC407 D9503						
TECH. DESCRIPTION:								
METACOM MC407 GSM METERING MODEM FOR LPU POWER MONITORING, SCADA INTEGRATION AND REMOTE COMMUNICATION								
CONSISTS OF FOLLOWING:-								
- DUAL PORT GSM MODEM								
- THREE PHASE POWER MONITORING								
- 85V - 265VAC POWER SUPPLY								
- BATTERY POWER BACKUP								
- 2 X DIGITAL INPUTS								
ESKOM DRAWING No. D-DT-9503 *								
SAP MATERIAL No.:		0253384						
SHORT DESCRIPTION:		MODEM, METERING METACOM MC402 D9503						
TECH. DESCRIPTION:								
METACOM MC402 GSM REMOTE ROUTER, SCADA INTEGRATION AND REMOTE COMMUNICATION								
CONSISTS OF FOLLOWING:-								
- DUAL RS232 PORTS								
- DUAL SIM CARDS								
- 8 – 32V DC POWER SUPPLY								
- 2 X DIGITAL INPUTS								
- 1 X RELAY OUTPUT								
ESKOM DRAWING No. D-DT-9503 *								
SAP MATERIAL No.:		0198201						
SHORT DESCRIPTION:		MODEM, METERING LANDIS+GYR GSM/GPRS D9503						
TECH. DESCRIPTION:								
LANDIS+GYR GSM/GPRS METERING UNDERCOVER MODEM FOR REMOTE COMMUNICATION								
CONSISTS OF FOLLOWING :-								
- GSM/GPRS MODEM								
- 110V - 230V POWER SUPPLY								
ESKOM DRAWING No. D-DT-9503 *								
5	ADDED ITEMS FOR A GENERAL DESCRIPTION AND THE METACOM MC402. DELETED SAP 0184057, 0207021, 0198202	HPD.G.	HPD GROENEWALD	HPD GROENEWALD	2011/03/07			
4	REMOVED ANTENNA FROM MODEM SAP NUMBERS. CREATED SEPARATE SAP NUMBERS FOR ANTENNAS	PA V	HPD GROENEWALD	HPD GROENEWALD	2009/07/16			
3	ADD TRUCOM SMARTEE AND SMARTOO MODEM, KOCOS ME12.5 MODEM, METACOM MC407 MODEM	VvZ	HPD GROENEWALD	HPD GROENEWALD	2007/02/02			
2	ADD TRUCOM GSM MODEM, VARIOUS CABLES	PA V	HPD GROENEWALD	HPD GROENEWALD	2003/07/14			
1	ADD VARIOUS GSM MODEMS, CABLES	PA V	HPD GROENEWALD	A BEKKER	2002/10/28			
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS		
AUTH:	A. BEKKER	DATE:	30/11/2000			SAP No:		
CHKD:	HPD GROENEWALD	DATE:	30/11/2000			0223364	0253384	
						0223365	0198201	
				<b>D-DT-9503</b>		SET	SHEET	REV
DRAWN:	HPD GROENEWALD PA VERMAAK	DATE:	30/11/2000			FILE No:	6	2

## SPEC SHEET

SAP MATERIAL No.:	0198204								
SHORT DESCRIPTION:	CABLE, COMMS VISION METER D9503								
TECH. DESCRIPTION:	GSM MODEM COMMUNICATION CABLE FOR USE WITH VISION METER, SUPPLIED WITH 25 PIN D-SUB FEMALE CONNECTOR AS PER SPECIFICATION, COLOUR CODED GREEN. * ESKOM DRAWING No. D-DT-9503 *								
SAP MATERIAL No.:	0198205								
SHORT DESCRIPTION:	CABLE, COMMS ZMC METER D9503								
TECH. DESCRIPTION:	GSM MODEM COMMUNICATION CABLE FOR USE WITH ZMC METER, SUPPLIED WITH MOLEX PLUG CONNECTOR AS PER SPECIFICATION, COLOUR CODED RED. * ESKOM DRAWING No. D-DT-9503 *								
SAP MATERIAL No.:	0207022								
SHORT DESCRIPTION:	CABLE, COMMS INDIGO/ENERMAX METER D9503								
TECH. DESCRIPTION:	GSM MODEM COMMUNICATION CABLE FOR USE WITH INDIGO AND ENERMAX METER, SUPPLIED WITH WIRING CONNECTORS AS PER SPECIFICATION, COLOUR CODED WHITE. * ESKOM DRAWING No. D-DT-9503 *								
SAP MATERIAL No.:	0207023								
SHORT DESCRIPTION:	CABLE, COMMS ZMD METER D9503								
TECH. DESCRIPTION:	GSM MODEM COMMUNICATION CABLE FOR USE WITH ZMD METER, SUPPLIED WITH RJ12 PLUG CONNECTOR AS PER SPECIFICATION, COLOUR CODED BLUE. * ESKOM DRAWING No. D-DT-9503 *								
SAP MATERIAL No.:	0207024								
SHORT DESCRIPTION:	CABLE, COMMS FAF12 RECORDER D9503								
TECH. DESCRIPTION:	GSM MODEM COMMUNICATION CABLE FOR USE WITH FAF RECORDER, SUPPLIED WITH 25 PIN D-SUB FEMALE CONNECTOR AS PER SPECIFICATION, COLOUR CODED YELLOW. * ESKOM DRAWING No. D-DT-9503 *								
SAP MATERIAL No.:	0207025								
SHORT DESCRIPTION:	CABLE, COMMS FBC & FCM RECORDER D9503								
TECH. DESCRIPTION:	GSM MODEM COMMUNICATION CABLE FOR USE WITH FBC AND FCM RECORDER, SUPPLIED WITH 9 PIN D-SUB FEMALE CONNECTOR AS PER SPECIFICATION, COLOUR CODED BROWN. * ESKOM DRAWING No. D-DT-9503 *								
5	ADDED ITEMS FOR A GENERAL DESCRIPTION AND THE METACOM MC402. DELETED SAP 0184057, 0207021, 0198202		HPD.G.	HPD GROENEWALD	HPD GROENEWALD	2011/03/07			
4	REMOVED ANTENNA FROM MODEM SAP NUMBERS. CREATED SEPARATE SAP NUMBERS FOR ANTENNAS		PA V	HPD GROENEWALD	HPD GROENEWALD	2009/07/16			
3	ADD TRUCOM SMARTEE AND SMARTOO MODEM, KOCOS ME 12.5 MODEM, METACOM MC407 MODEM		VvZ	HPD GROENEWALD	HPD GROENEWALD	2007/02/02			
2	ADD TRUCOM GSM MODEM, VARIOUS CABLES		PA V	HPD GROENEWALD	HPD GROENEWALD	2003/07/14			
1	ADD VARIOUS GSM MODEMS, CABLES		PA V	HPD GROENEWALD	A BEKKER	2002/10/28			
REV	REVISION DESCRIPTION		BY	CHKD	AUTH	DATE			
AUTH:	A. BEKKER	DATE:	30/11/2000			SAP No:			
CHKD:	HPD GROENEWALD	DATE:	30/11/2000			0198204	0207023	0198205	0207024
DRAWN:	HPD GROENEWALD PA VERMAAK	DATE:	30/11/2000			0207022	0207025	SET	SHEET
				<b>D-DT-9503</b>		6	3	5	



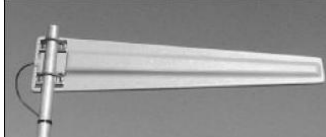

## SPEC SHEET

SAP MATERIAL No.:	0207026
SHORT DESCRIPTION:	CABLE, COMMS FCR RECORDER D9503
TECH. DESCRIPTION:	
GSM MODEM COMMUNICATION CABLE FOR USE WITH FCR RECORDER, SUPPLIED WITH 25 PIN D-SUB FEMALE CONNECTOR AS PER SPECIFICATION, COLOUR CODED BLACK. * ESKOM DRAWING No. D-DT-9503 *	
SAP MATERIAL No.:	0184060
SHORT DESCRIPTION:	METERING COMMS RS232/RS485 CONVERTER D9503
TECH. DESCRIPTION:	
METERING COMMUNICATION RS232/RS485 CONVERTER TYPE: POWER SYSTEMS PROJECT INCLUDING DB9 RS232 CABLE * ESKOM DRAWING No. D-DT-9503 *	
SAP MATERIAL No.:	0184058
SHORT DESCRIPTION:	METERING COMMS PORT SHARER FBC D9503
TECH. DESCRIPTION:	
METERING COMMUNICATION 4 WAY PORT SHARER FOR USE WITH FBC RECORDER * TYPE: SYSTEMS LOGIC 4 WAY INCLUDING TWO CABLES FROM PORT SHARER TO FBC RECORDERS.* ESKOM DRAWING No. D-DT-9503 *	
SAP MATERIAL No.:	0184059
SHORT DESCRIPTION:	METERING COMMS PORT SHARER FCM D9503
TECH. DESCRIPTION:	
METERING COMMUNICATION 4 WAY PORT SHARER FOR USE WITH FCM RECORDER * TYPE: SYSTEMS LOGIC 4 WAY INCLUDING TWO CABLES FROM PORT SHARER TO FCM RECORDERS. * ESKOM DRAWING No. D-DT-9503 *	

5	ADDED ITEMS FOR A GENERAL DESCRIPTION AND THE METACOM MC402. DELETED SAP 0184057, 0207021, 0198202	HPD.G.	HPD GROENEWALD	HPD GROENEWALD	2011/03/07		
4	REMOVED ANTENNA FROM MODEM SAP NUMBERS. CREATED SEPARATE SAP NUMBERS FOR ANTENNAS	PA V	HPD GROENEWALD	HPD GROENEWALD	2009/07/16		
3	ADD TRUCOM SMARTEE AND SMARTOO MODEM, KOCOS ME12.5 MODEM, METACOM MC407 MODEM	VvZ	HPD GROENEWALD	HPD GROENEWALD	2007/02/02		
2	ADD TRUCOM GSM MODEM, VARIOUS CABLES	PA V	HPD GROENEWALD	HPD GROENEWALD	2003/07/14		
1	ADD VARIOUS GSM MODEMS, CABLES	PA V	HPD GROENEWALD	A BEKKER	2002/10/28		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	A. BEKKER	DATE:	30/11/2000	 <b>D-DT-9503</b>		SAP No:	
CHKD:	HPD GROENEWALD	DATE:	30/11/2000			0207026	0184058
DRAWN:	HPD GROENEWALD PA VERMAAK	DATE:	30/11/2000			0184060	0184059
				SCALE	SET	SHEET	REV
				NTS	6	4	5
				CAD REF:			
				SERIES 9000			
				FILE No:			
				9503			



**SPEC SHEET**

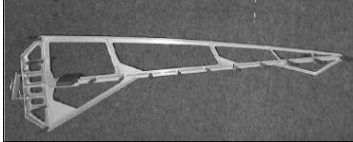
SAP MATERIAL No.:		0246196					
SHORT DESCRIPTION:		ANTENNA, WHIP GSM D9503					
TECH. DESCRIPTION:							
WHIP TYPE ANTENNA - DUAL BAND ANTENNA 3dB (1800MHz), 4dB (900MHz) * WITH 1.5m LOW LOSS RG174 COAX CABLE EXTENSION WITH MALE SMA CONNECTORS * ESKOM DRAWING No. D-DT-9503 *							
SAP MATERIAL No.:		0246197					
SHORT DESCRIPTION:		ANTENNA, WEBB ESKANT GSM D9503					
TECH. DESCRIPTION:							
WEBB ESKANT TYPE - DUAL BAND ANTENNA 3dB (1800MHz), 4dB (900MHz) * WITH 1.5m LOW LOSS LMR 195 COAX CABLE EXTENSION WITH MALE SMA CONNECTORS *							
							
ESKOM DRAWING No. D-DT-9503 *							
SAP MATERIAL No.:		0247012					
SHORT DESCRIPTION:		ANTENNA, WEBB DOORSTOP GSM D9503					
TECH. DESCRIPTION:							
WEBB DOORSTOP TYPE - DUAL BAND ANTENNA 3dB (1800MHz), 4dB (900MHz) * WITH 2m LOW LOSS LMR 195 COAX CABLE EXTENSION WITH MALE SMA CONNECTORS *							
							
ESKOM DRAWING No. D-DT-9503 *							
SAP MATERIAL No.:		0246198					
SHORT DESCRIPTION:		ANTENNA, WEBB LP1000 GSM D9503					
TECH. DESCRIPTION:							
WEBB LP1000 TYPE - DUAL BAND ANTENNA 10dBi WITH N-TYPE FEMALE CONNECTOR * WITH OPTION OF 3m / 4m / 5 m LOW LOSS LMR 195 COAX CABLE EXTENSION * WITH N-TYPE MALE AND MALE SMA CONNECTORS *							
							
ESKOM DRAWING No. D-DT-9503 *							
5	ADDED ITEMS FOR A GENERAL DESCRIPTION AND THE METACOM MC402. DELETED SAP 0184057, 0207021, 0198202	HPD.G.	HPD GROENEWALD	HPD GROENEWALD	2011/03/07		
4	REMOVED ANTENNA FROM MODEM SAP NUMBERS. CREATED SEPARATE SAP NUMBERS FOR ANTENNAS	PA V	HPD GROENEWALD	HPD GROENEWALD	2009/07/16		
3	ADD TRUCOM SMARTEE AND SMARTOO MODEM, KOCOS ME12.5 MODEM, METACOM MC407 MODEM	VvZ	HPD GROENEWALD	HPD GROENEWALD	2007/02/02		
2	ADD TRUCOM GSM MODEM, VARIOUS CABLES	PA V	HPD GROENEWALD	HPD GROENEWALD	2003/07/14		
1	ADD VARIOUS GSM MODEMS, CABLES	PA V	HPD GROENEWALD	A BEKKER	2002/10/28		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	A. BEKKER	DATE:	30/11/2000	 <b>D-DT-9503</b>		SAP No:	
CHKD:	HPD GROENEWALD	DATE:	30/11/2000			0246196	0247012
						0246197	0246198
DRAWN:	HPD GROENEWALD PA VERMAAK	DATE:	30/11/2000	FILE No:	SET	SHEET	REV
					6	5	5

## SPEC SHEET

SAP MATERIAL No.:	0246199
SHORT DESCRIPTION:	ANTENNA, GSM CELLPOYNT D9503

**TECH. DESCRIPTION:**

POYNTING YAGI-A0016 - YAGI GSM CELLPOYNT 14 dBi ANTENNA WITH 30 cm LOW LOSS LMR195 CABLE EXTENSION WITH N-TYPE FEMALE CONNECTOR\*  
 WITH THE OPTION OF 3m / 4m / 5m LMR195 CABLE EXTENSION \*  
 WITH N-TYPE MALE AND MALE SMA CONNECTORS \*



ESKOM DRAWING No. D-DT-9503 \*

SAP MATERIAL No.:	0246200
SHORT DESCRIPTION:	ANTENNA, CELLULAR PATCH GSM D9503

**TECH. DESCRIPTION:**

POYNTING PATCH A0026, 6-8 dBi WITH 30 cm LOW LOSS LMR195 CABLE EXTENSION WITH N-TYPE FEMALE CONNECTOR \*  
 WITH THE OPTION OF 3m / 4m / 5m LMR195 CABLE EXTENSION \*  
 WITH N-TYPE MALE AND MALE SMA CONNECTORS \*



ESKOM DRAWING No. D-DT-9503 \*

5	ADDED ITEMS FOR A GENERAL DESCRIPTION AND THE METACOM MC402. DELETED SAP 0184057, 0207021, 0198202	HPD.G.	HPD GROENEWALD	HPD GROENEWALD	2011/03/07		
4	REMOVED ANTENNA FROM MODEM SAP NUMBERS. CREATED SEPARATE SAP NUMBERS FOR ANTENNAS	PA V	HPD GROENEWALD	HPD GROENEWALD	2009/07/16		
3	ADD TRUCOM SMARTEE AND SMARTOO MODEM, KOCOS ME12.5 MODEM, METACOM MC407 MODEM	VvZ	HPD GROENEWALD	HPD GROENEWALD	2007/02/02		
2	ADD TRUCOM GSM MODEM, VARIOUS CABLES	PA V	HPD GROENEWALD	HPD GROENEWALD	2003/07/14		
1	ADD VARIOUS GSM MODEMS, CABLES	PA V	HPD GROENEWALD	A BEKKER	2002/10/28		
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REF. DWGS	
AUTH:	A. BEKKER	DATE:	30/11/2000	 <b>D-DT-9503</b>		SAP No:	
CHKD:	HPD GROENEWALD	DATE:	30/11/2000			0246199	
DRAWN:	HPD GROENEWALD PA VERMAAK	DATE:	30/11/2000	SCALE	SET	SHEET	REV
				NTS	6	6	5
				CAD REF:			
				SERIES 9000			
				FILE No:			
				9503			

SHEET NUMBER	TITLE	REVISION	DATE	DESIGN CHANGES
0	COVER SHEET	9	18/07/2018	COVER SHEET UPDATED
1	PANEL EQUIPMENT LAYOUT	9	18/07/2018	NOTE AA ADDED, BRACKET DETAILS UPDATED
2	CONTROL MODULE KEY DIAGRAM	8	06/03/2017	AS PER PREVIOUS REVISION
3	DISTRIBUTION MODULE KEY DIAGRAM	7	22/07/2015	AS PER PREVIOUS REVISION
4	CABLING DIAGRAM	8	06/03/2017	AS PER PREVIOUS REVISION

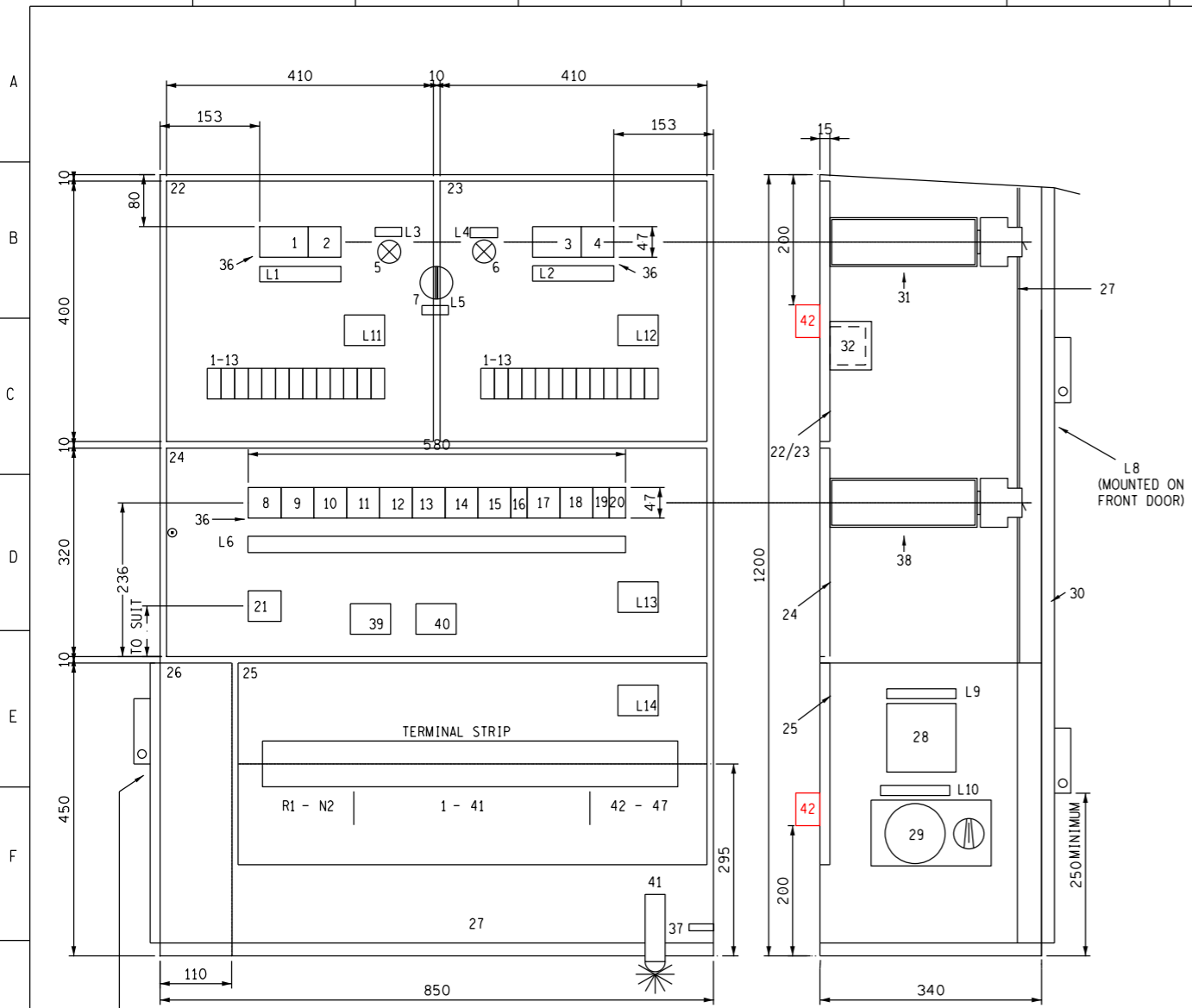
KEY COMPONENTS	
DESIGNATION	DESCRIPTION
21	3 PHASE CONTACTOR (40 AMPS)
33	PHASE FAIL RELAY
34	TIMER
41	DAY/NIGHT SWITCH

SHEET 4	CABLING DIAGRAM
SHEET 3	DISTR MODULE KEY DIAG
SHEET 2	CONTROL MODULE
SHEET 1	EQUIPMENT LAYOUT
SHEET 0	COVER SHEET

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
9	COVER SHEET UPDATED	RV	CvS	T. JACOBS	18/07/2018	
8	COVER SHEET UPDATED	RV	CvS	T. JACOBS	03/06/2017	
7	COVER SHEET UPDATED	RV	RV	T. JACOBS	22/07/2015	
6	COVER SHEET UPDATED	RV	RV	T. JACOBS	08/07/2014	
5	DRAWING WAS SHOWN ON D-DT-5603	P.A.T.		T. JACOBS	21/08/2013	
4	COVER SHEET UPDATED, DETAIL ADDED	RV	RV	TJ	27/03/2012	

		YARD AC DISTRIBUTION BOARD COVER SHEET		
AUTH: T. JACOBS				
DATE: 10/02/2010				
CHKD: T. JACOBS				
DATE: 10/02/2010		SET	SHEET	REVISION
DRAWN: A BOYES		5	0	9
DATE: 27/05/2009				

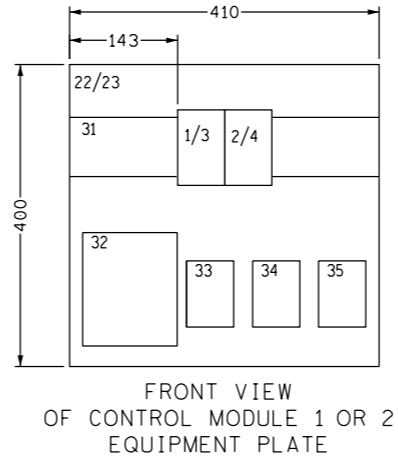
D-DT-11200



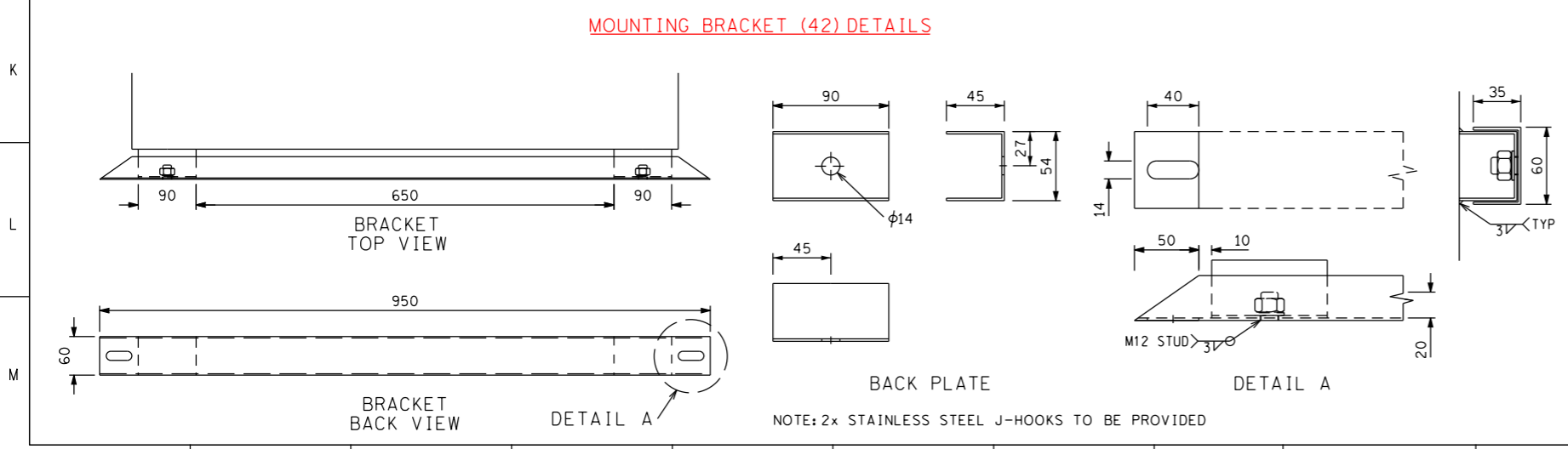
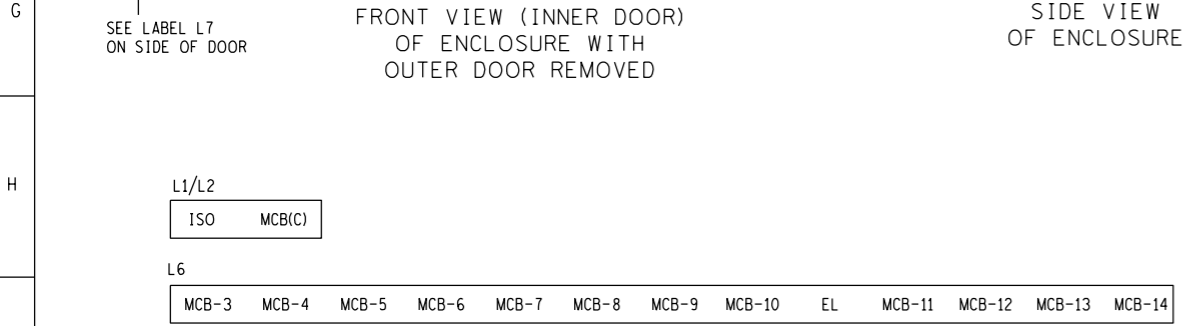
LABEL SCHEDULE		
NUMBER	DESCRIPTION	MINIMUM SIZE
L1	SEE L/H SIDE	20x125
L2	SEE L/H SIDE	20x125
L3	SUPPLY 1	10x50
L4	SUPPLY 2	10x50
L5	SELECTOR SWITCH	10x50
L6	SEE L/H SIDE	20x580
L7	PLUG BOX	30x250
L8	YARD AC DISTRIBUTION BOARD	50x450
L9	ENERGISED BY EL	20x200
L10	ENERGISED BY MCB(11)	20x200
L11	X1	25x25
L12	X2	25x25
L13	X3	25x25
L14	X4	25x25

DESCRIPTION	LABEL	AMPS	V	kA	TRIP CURVE
4 POLE INCOMING SUPPLY 1 MCB - BKR ISOLATOR	BKR/ISO	100	400		
3 POLE CONTROL CIRCUIT MCB	MCB(C1)	5	400	5kA	C
4 POLE INCOMING SUPPLY 2 MCB - BKR ISOLATOR	BKR/ISO	100	400		
3 POLE CONTROL CIRCUIT MCB	MCB(C2)	5	400	5kA	C
SUPPLY 1 SELECTED INDICATION LAMP - WHITE			230		
SUPPLY 2 SELECTED INDICATION LAMP - WHITE			230		
2 POSITION PREFERRED SUPPLY SELECTOR SWITCH	SSS		400		
3 PHASE AC SUPPLY MCB	MCB-3	63	400	5kA	C
3 PHASE AC SUPPLY MCB	MCB-4	32	400	5kA	C
3 PHASE AC SUPPLY MCB	MCB-5	10	400	5kA	C
3 PHASE AC SUPPLY MCB	MCB-6	10	400	5kA	C
3 PHASE AC SUPPLY MCB	MCB-7	10	400	5kA	C
3 PHASE AC SUPPLY MCB	MCB-8	10	400	5kA	C
3 PHASE AC SUPPLY MCB	MCB-9	32	400	5kA	C
3 PHASE AC SUPPLY MCB	MCB-10	32	400	5kA	C
1 PHASE AC OUTLET EARTH LEAKAGE UNIT WITH MCB	EL	20	230	5kA	
3 PHASE TEST SOCKET AC SUPPLY MCB	MCB-11	20	400	5kA	C
3 PHASE AC SUPPLY MCB	MCB-12	20	400	5kA	C
1 PHASE AC SUPPLY MCB	MCB-13	10	230	5kA	C
1 PHASE AC SUPPLY MCB	MCB-14	10	230	5kA	C
3 PHASE YARD FLOODLIGHTS CONTACTOR	FCR	40	400	5kA	
CONTROL MODULE 1 BACKPLATE					
CONTROL MODULE 2 BACKPLATE					
DISTRIBUTION MODULE BACKPLATE					
TERMINALS MODULE BACKPLATE					
PLUGBOX					
INNER DOOR					
1 PHASE SWITCHED SOCKET OUTLET WITH DOUBLE PLUG	SS	16	230		
3 PHASE SOCKET OUTLET WITH INTERLOCKED SWITCH	TS	16	400		
OUTER DOOR					
STAND-OFF BRACKET FOR MCBs WITH DIN RAIL					
CONTACTORS (COILS = 220V AC) (INCL. AUX. CONTACT)	COCA COCB	100 100	400 400	5kA 5kA	
AC FAIL RELAY	ACF		400		
AC FAIL TIMER - DELAY-ON-PICK-UP TIMER (0-60sec)	ACF-T		230		
AC FAIL REPEAT RELAY	ACFR		230		
MCB CUT OUTS IN INNER DOOR					
EARTH STUD					
STAND-OFF BRACKET (HANGER) FOR MCBs WITH DIN RAIL					
SURGE PROTECTION			400	40kA	
SURGE PROTECTION			400	40kA	
DAY/NIGHT SWITCH AS PER D-DT-9230	DAY/NIGHT SWITCH	10	230		
MOUNTING BRACKET					

DESCRIPTION	SAP NO.	D-DT-BUYERS GUIDE
CONTROL MODULE (SINGLE)	0175655	9200 sht 1
CONTROL MODULE (DUAL)	0175656	9200 sht 2
DISTRIBUTION MODULE	0175658	9200 sht 2
TERMINATION MODULE	0175659	9200 sht 2



- NOTES:**
- THIS DRAWING TO BE READ IN CONJUNCTION WITH DISTRIBUTION SPECIFICATION, 240-75658628, DISTRIBUTION GROUP'S SPECIFIC REQUIREMENTS FOR AC/DC DISTRIBUTION UNITS.
  - ENCLOSURE TO BE MANUFACTURED FROM 2mm 3CR12 STEEL PLATE AND EPOXY COATED IN COMPLIANCE WITH OF SANS 1091 CODE G29. COLOUR : POLE GREY HAMMER STRUCTURE
  - GLAND PLATES TO BE MANUFACTURED FROM 2mm 3CR12 STEEL PLATE AND BOLTED TO THE BOTTOM OF THE ENCLOSURE
  - BACK PLATES AND STAND-OFF BRACKETS TO BE MANUFACTURED FROM 1.6mm GALVANISED MILD STEEL PLATE AND SPRAY PAINTED WHITE.
  - ALL WIRING SHALL COMPLY WITH THE CODE OF PRACTISE FOR THE WIRING OF PREMISES; SANS 10142 AND ANY AMENDMENT THEREOF
  - PROVIDE THE OUTER DOOR WITH LOCKABLE DOOR HANDLES
  - PROVIDE THE INNER DOOR WITH ONE SQUARE KEY LOCK
  - PROVIDE A SLOT IN THE BOTTOM OF THE PLUG BOX ENABLING THE DOOR TO CLOSE WHEN AN EXTENSION LEAD IS USED
  - ALL OUTER AN INNER DOORS TO BE PROVIDED WITH DUST PROTECTION
  - PROVIDE THE OUTSIDE DOOR WITH A WARNING LABEL INDICATING THE DANGER OF ELECTRICAL SHOCK
  - PROVIDE AN EARTH STUD (ITEM 37) ON THE INSIDE OF THE ENCLOSURE (50mm M10 BRASS NUT)
  - ALL TERMINALS TO BE LABELLED AS INDICATED ON SHEET 4
  - ISOLATOR TERMINALS MUST BE SUITABLE FOR 25mm<sup>2</sup> CONDUCTOR
  - ALL UNSPECIFIED MCB'S & ISOLATORS TO BE RATED AT 220V  $\phi$ -N, 380V  $\phi$ - $\phi$  CONTINUOUSLY
  - ALL UNSPECIFIED MCB'S & ISOLATORS TO COMPLY WITH IEC 947-2; C-CURVE; 5kA
  - MCB'S TO PROTRUDE NOT MORE THAN 3mm THROUGH CUT-OUTS
  - SUITABLE LABEL POCKET TO BE PROVIDED INSIDE OF OUTER DOOR FOR DISTRIBUTION LEGEND
  - WHEN OPTIONAL TERMINAL MODULE (#25) NOT SELECTED (USED): SUPPLY A COPPER TINNED NEUTRAL BUSBAR (35x500x3) IN ACCESSIBLE LOCATION AT THE BACK OF CUBICLE (BOTTOM). PROVIDE A MINIMUM OF 15 6.5mm  $\phi$  TERMINATION POINTS FITTED WITH 25mm CHROME PLATED BOLTS, WITH FLAT- & SPRING WASHERS PLUS 2 NUTS PER BOLT. FIT A WASHING LINE (10mm ROUND BAR) BELOW MCB TERMINALS FOR EASE OF TERMINATING
  - STANDARD HOLE SIZES FOR ITEMS 5, 6 & 7
  - GROMETS TO BE FITTED IN HOLES OF ITEMS 5, 6 & 7 WHEN THE APPLICATION DOES NOT CALL FOR A CHANGE-OVER SYSTEM
  - A CLEAR PERSPEX COVER FLASH BARRIER MUST BE MOUNTED AT THE BACK OF THE CHOPOVER CONTACTORS TO PREVENT ACCIDENTAL CONTACT. SAFETY STICKER TO BE APPLIED ON PERSPEX COVER.
  - CERTIFICATE OF COMPLIANCE TO BE SUPPLIED FOR THIS PANEL.
  - SERIAL NUMBER TO BE ATTACHED ON INSIDE OF THE DOOR.
  - ALL LABELS TO BE ENGRAVED. TEXT TO BE BLACK ON WHITE.
  - TECH. DESCRIPTION: YARD BOX AS PER DRAWING COMPLETE WITH: EARTHING, TRUNKING & PRE PUNCHED GLAND PLATES
  - NO BOOTLACE FERRULES TO BE USED.
- AA) MOUNTING STRUCTURE FOR YARD AC DISTRIBUTION BOARD - REFER TO D-DT-5276 SHEET 1A, 2A**



REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
9	NOTE AA ADDED, BRACKET DETAILS UPDATED	RV	CvS	T. JACOBS	18/01/2018	
8	COC DETAILS UPDATED, NOTES UPDATED, BRACKET DETAIL ADDED	RV	CvS	T. JACOBS	06/03/2017	
7	3 $\phi$ E/L CHANGED TO 1 $\phi$ , MCB-12 CHANGED TO 3 $\phi$ , SS CHANGED TO DOUBLE PLUG	RV	RV	T. JACOBS	22/01/2015	
6	LEGEND AND NOTES UPDATED	RV	RV	T. JACOBS	08/01/2014	

**Eskom**

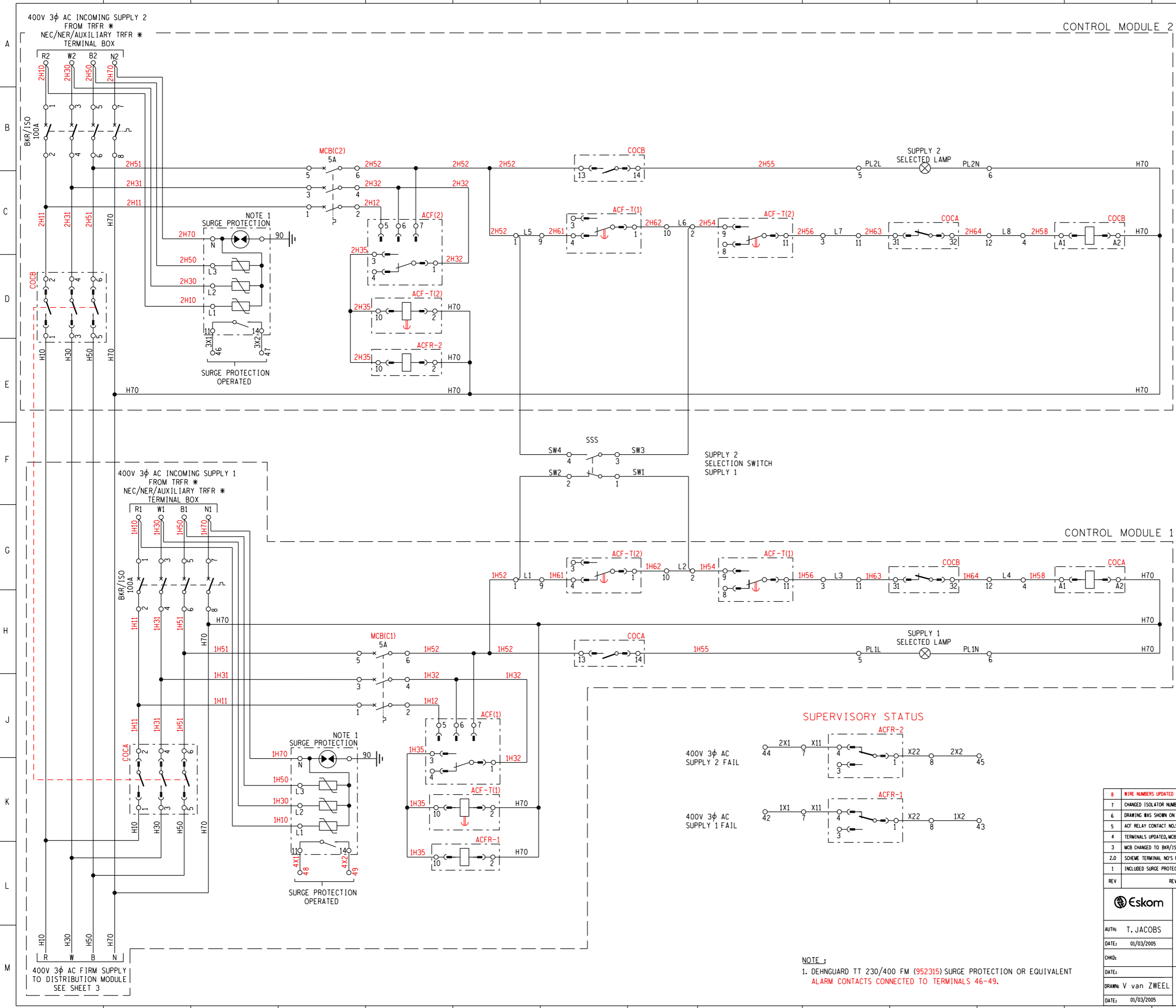
YARD AC DISTRIBUTION BOARD  
EQUIPMENT LAYOUT

DATE: 01/03/2005  
DRAWN: V van ZWEELE  
DATE: 01/03/2005

SET SHEET REVISION  
D-DT-11200 5 1 9

SCHEME DESIGNATION 2AC.302

MASTER RACING FIELD UNDER D-DT-11200 SHEET 1 OF 5 REVISION 9



ORIGIN	WIRE	X2	WIRE	DESTINATION
MCB(C2)-6/ACF(2)-7	2H52	1	SW4	SSS-4
X2-1	L5	--	L5	X1-10
ACF-T(2)-9	2H54	2	SW3	SSS-3
X2-2	L6	--	L6	X1-11
ACF-T(2)-11	2H56	3	L7	X1-12
COCB-A1	2H58	4	L8	X1-13
COCB-A2	2H55	5	PL2L	X2-PILOTLIGHT (LIVE)
ACFR-2-4	H70	6	PL2N	X2-PILOTLIGHT (NEUTRAL)
ACFR-2-1	X11	7	2X1	X4-42
ACF-T(1)-4	2H61	9	L1	X1-1
ACF-T(1)-1	2H62	10	L2	X1-2
COCA-31	2H63	11	L3	X1-3
COCA-32	2H64	12	L4	X1-4

ORIGIN	WIRE	X1	WIRE	DESTINATION
MCB(C1)-6/ACF(1)-7	1H52	1	SW2	SSS-2
X1-1	L1	--	L1	X2-10
ACF-T(1)-9	1H54	2	SW1	SSS-1
X1-2	L2	--	L2	X2-11
ACF-T(1)-11	1H56	3	L3	X2-12
COCA-A1	1H58	4	L4	X2-13
COCA-A2	1H55	5	PL1L	X1-PILOTLIGHT (LIVE)
ACFR-1-4	X22	8	1X2	X4-39
ACFR-1-1	X22	8	1X2	X4-40
ACF-T(2)-4	1H61	9	L5	X2-1
ACF-T(2)-1	1H62	10	L6	X2-2
COCB-31	1H63	11	L7	X2-3
COCB-32	1H64	12	L8	X2-4

SHEET NO.	REFERENCE DRAWINGS
8	WIRE NUMBERS UPDATED
7	CHANGED ISOLATOR NUMBERING
6	DRAWING WAS SHOWN ON D-DT-5603
5	ACF RELAY CONTACT NOS UPDATED
4	TERMINALS UPDATED, MCB CELLS CORRECTED
3	MCB CHANGED TO BAR/ISOLATOR
2.0	SCHEME TERMINAL NOS REVISED
1	INCLUDED SURGE PROTECTION & CONTROL MODULES MADE MODULAR

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
8	WIRE NUMBERS UPDATED	RV	CVS	T. JACOBS	06/03/2017	
7	CHANGED ISOLATOR NUMBERING	RV	RV	T. JACOBS	06/07/2014	
6	DRAWING WAS SHOWN ON D-DT-5603	P.A.T.	RV	T. JACOBS	21/08/2013	
5	ACF RELAY CONTACT NOS UPDATED	P.A.T.	RV	RV	13/06/2013	
4	TERMINALS UPDATED, MCB CELLS CORRECTED	RV	RV	T.J.	27/03/2013	
3	MCB CHANGED TO BAR/ISOLATOR	RV	RV	T.J.		
2.0	SCHEME TERMINAL NOS REVISED	AB	T.J.	T.J.	10/02/2010	
1	INCLUDED SURGE PROTECTION & CONTROL MODULES MADE MODULAR	VvZ	T.J.	T.J.	26/01/2006	

**Eskom**

YARD AC DISTRIBUTION BOARD  
CONTROL MODULE KEY DIAGRAM

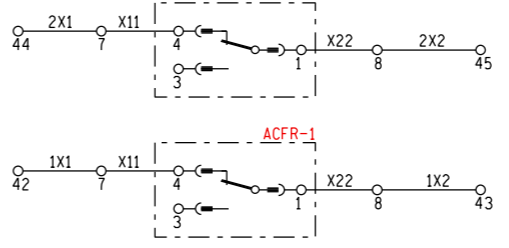
D-DT-11200

SET	SHEET	REVISION
5	2	8

DATE: 01/03/2005

DATE: 01/03/2005

**SUPERVISORY STATUS**



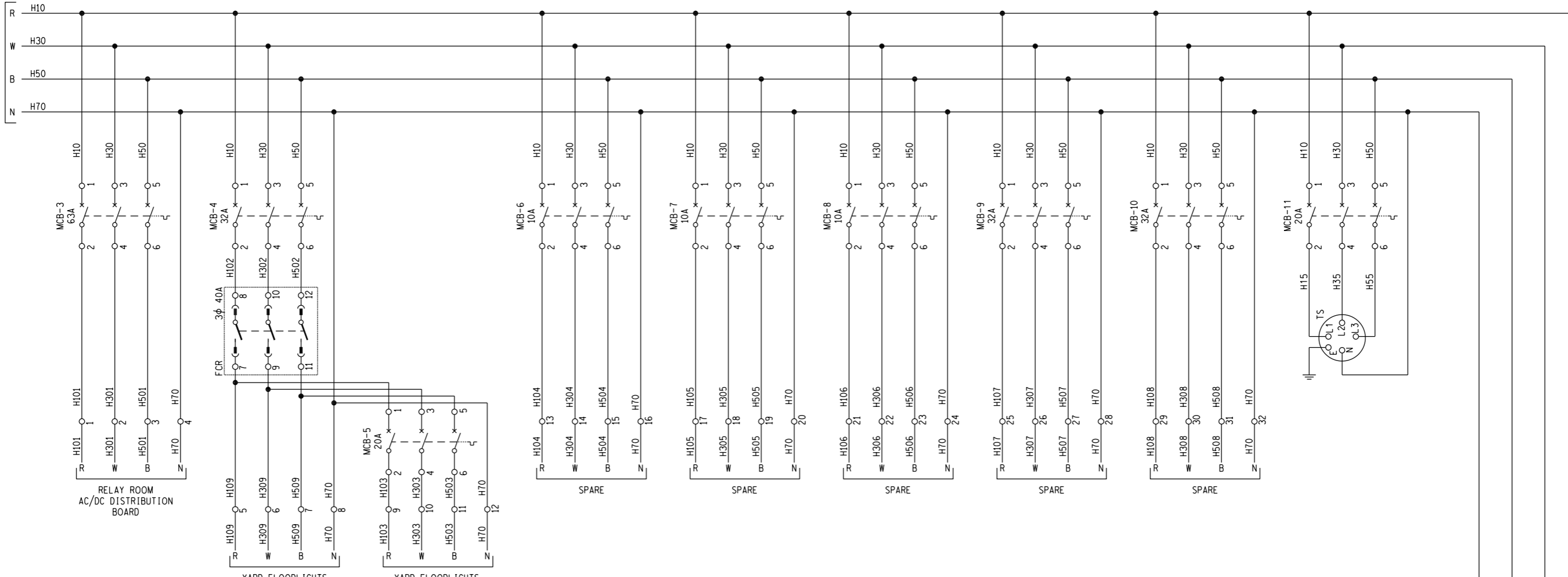
400V 3φ AC SUPPLY 2 FAIL

400V 3φ AC SUPPLY 1 FAIL

NOTE :  
1. DEHNGUARD TT 230/400 FM (952315) SURGE PROTECTION OR EQUIVALENT ALARM CONTACTS CONNECTED TO TERMINALS 46-49.

MASTER TRACING FILED UNDER D-DT-11200 SHEET 2 OF 5 REVISION 8

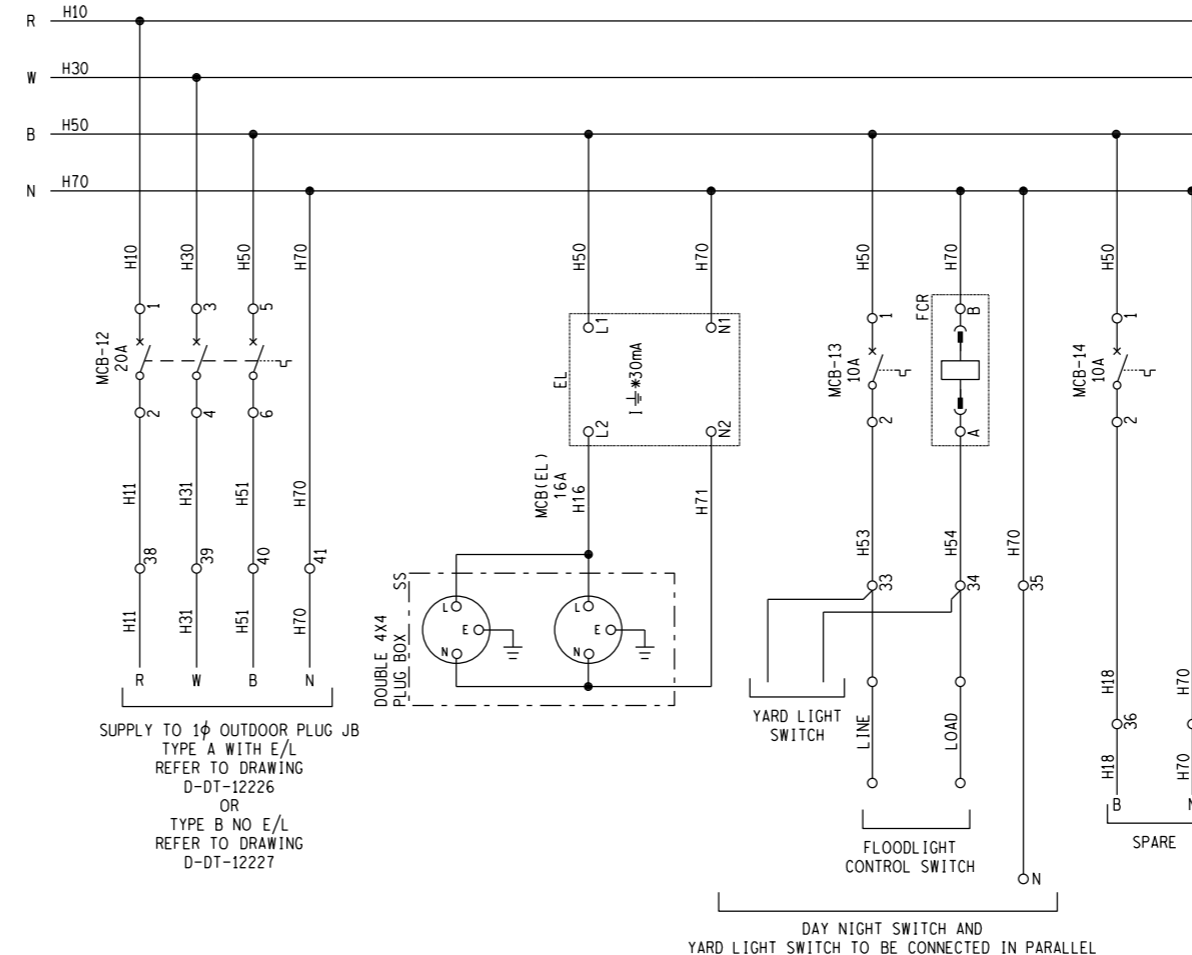
400V 3 $\phi$  AC  
FIRM SUPPLY  
FROM CONTROL  
MODULE 1  
SEE SHEET 2



AC YARD DISTRIBUTION  
LEGEND

CIRCUIT	DESTINATION
MCB-3	RELAY ROOM AC/DC DISTRIBUTION BOARD
MCB-4	YARD FLOODLIGHTS
MCB-5	YARD FLOODLIGHTS
MCB-6	
MCB-7	
MCB-8	
MCB-9	
MCB-10	
MCB-11	3 PHASE TEST SOCKET
MCB-12	1 PHASE OUTDOOR PLUG JB
MCB-13	YARD FLOODLIGHTS CONTROL
MCB-14	
MCB-EL	1 PHASE SOCKET OUTLET WITH DOUBLE PLUG
BKR/ISO 1	
BKR/ISO 2	

NOTE: COPY TO BE MADE & PLACED INSIDE DOOR



SUPPLY TO 1 $\phi$  OUTDOOR PLUG JB  
TYPE A WITH E/L  
REFER TO DRAWING  
D-DT-12226  
OR  
TYPE B NO E/L  
REFER TO DRAWING  
D-DT-12227

DAY NIGHT SWITCH AND  
YARD LIGHT SWITCH TO BE CONNECTED IN PARALLEL

X3

SHEET NO.	REFERENCE DRAWINGS
SHEET 4	CABLING DIAGRAM
SHEET 3	DISTR MODULE KEY DIAG
SHEET 2	CONTROL MODULE
SHEET 1	EQUIPMENT LAYOUT
SHEET 0	COVER SHEET

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
7	3 $\phi$ E/L CHANGED TO 1 $\phi$ MCB-12 CHANGED TO 3 $\phi$ SS CHANGED TO DOUBLE PLUG	RV	RV	T. JACOBS	22/01/2015	
6	MCB & E/L TERMINAL NUMBERS UPDATED	RV	RV	T. JACOBS	08/01/2014	
5	DRAWING WAS SHOWN ON D-DT-5603	P.A.T.		T. JACOBS	21/08/2013	
4	TERMINAL No.35 ADDED; LEGEND AND MCB CELLS UPDATED	RV	RV	T.J.	21/03/2013	
3	DAY NIGHT SWITCH & SUPPLY TO OUTDOOR PLUG JB ADDED	RV	RV	T.J.		
2.0	1 $\phi$ EARTH LEAKAGE REPLACED BY 4 $\phi$ EARTH LEAKAGE SWITCHED INTERLOCKED 3 $\phi$ SOCKET OUTLET 1 X 1 $\phi$ SPARE MCB REMOVED, MCB 3 CHANGED TO 3 $\phi$ AMPS	AB	T.J.	T.J.	10/02/2010	
0	DRAWING NO. CHANGED FROM D-DT-5603	VvZ	T.J.	T.J.	01/03/2005	

Escom  
AUTH: T. JACOBS  
DATE: 01/03/2005  
CHKD:  
DATE:  
DRAWN: V van ZWEELE  
DATE: 01/03/2005

YARD AC DISTRIBUTION BOARD  
DISTRIBUTION MODULE KEY DIAGRAM

SET	SHEET	REVISION
5	3	7


D-DT-11200

MASTER TRACING FILED UNDER D-DT-11200 SHEET 3 OF 5 REVISION 7



SHEET NUMBER	TITLE	REVISION	DATE	DESIGN CHANGES
0	COVER SHEET	5	06/03/2017	COVER SHEET UPDATED
1	PANEL EQUIPMENT LAYOUT	5	06/03/2017	TERMINALS ADDED, LAYOUTS AND MODULE SIZES UPDATED
2	PANEL LABEL SCHEDULE	6	06/03/2017	LABELS UPDATED
3A	TERMINAL PLATE ARRANGEMENT	5	06/03/2017	TERMINALS ADDED TO X12, X13 CHANGED TO X15
3B	TERMINAL PLATE ARRANGEMENT	5	06/03/2017	TERMINALS ADDED TO X12, X13 CHANGED TO X15
4	MAIN AC INCOMING MODULE EQUIP L/O	5	06/03/2017	LABELS UPDATED
5	MAIN AC INCOMING MODULE KEY DIAG.	5	06/03/2017	DELAY-ON-DROP-OFF TIMER CHANGED TO DELAY-ON-PICK-UP TIMER, X13 CHANGED TO X15
6	400V AC DISTR MODULE EQUIP L/O	5	06/03/2017	LABELS UPDATED, NOTE ADDED
7	400V AC DISTR MODULE KEY DIAG.	4	09/07/2014	AS PER PREVIOUS REVISION
8	230V AC DISTR MODULE 1 EQUIP L/O	5	06/03/2017	LABELS UPDATED, NOTE ADDED
9	230V AC DISTR MODULE 1 KEY DIAG.	4	09/07/2014	AS PER PREVIOUS REVISION
10	AC SUPPLY MODULE EQUIP L/O	6	06/03/2017	LABELS UPDATED
11	AC SUPPLY MODULE KEY DIAG.	5	09/07/2014	AS PER PREVIOUS REVISION
12	INTERFACE MODULE EQUIP L/O	5	06/03/2017	ADDED STANDBY TERMINALS AND AC/DC PANEL 2 MCB, LABELS UPDATED, BACKPLATE CHANGED FROM 4U TO 5U
13	INTERFACE MODULE KEY DIAG.	5	06/03/2017	ADDED STANDBY TERMINALS, AC/DC PANEL 2 MCB & NOTE 1, UPDATED PLUG LAYOUT, CHANGED BATT MCB TO ISOLATOR
14	110V DC DISTR MODULE 1 EQUIP L/O	5	06/03/2017	LABELS UPDATED, NOTE ADDED
15	110V DC DISTR MODULE 1 KEY DIAG.	4	09/07/2014	AS PER PREVIOUS REVISION
16A	AC/DC PANEL CABLING DIAGRAM	5	06/03/2017	TERMINALS ADDED ON X12, X13 CHANGED TO X15
16B	AC/DC PANEL CABLING DIAGRAM	5	06/03/2017	TERMINALS ADDED ON X12, X13 CHANGED TO X15

SHEET 16B	AC/DC PANEL CABLING DIAGRAM
SHEET 16A	AC/DC PANEL CABLING DIAGRAM
SHEET 15	110V DC DISTR MODULE 1 KEY DIAG.
SHEET 14	110V DC DISTR MODULE 1 EQUIP L/O
SHEET 13	INTERFACE MODULE KEY DIAG.
SHEET 12	INTERFACE MODULE EQUIP L/O
SHEET 11	AC SUPPLY MODULE KEY DIAG.
SHEET 10	AC SUPPLY MODULE EQUIP L/O
SHEET 9	230V AC DISTR MODULE 1 KEY DIAG.
SHEET 8	230V AC DISTR MODULE 1 EQUIP L/O
SHEET 7	400V AC DISTR MODULE KEY DIAG.
SHEET 6	400V AC DISTR MODULE EQUIP L/O
SHEET 5	MAIN AC INCOMING MODULE KEY DIAG.
SHEET 4	MAIN AC INCOMING MODULE EQUIP L/O
SHEET 3B	TERMINAL PLATE ARRANGEMENT
SHEET 3A	TERMINAL PLATE ARRANGEMENT
SHEET 2	PANEL LABEL SCHEDULE
SHEET 1	PANEL EQUIPMENT LAYOUT

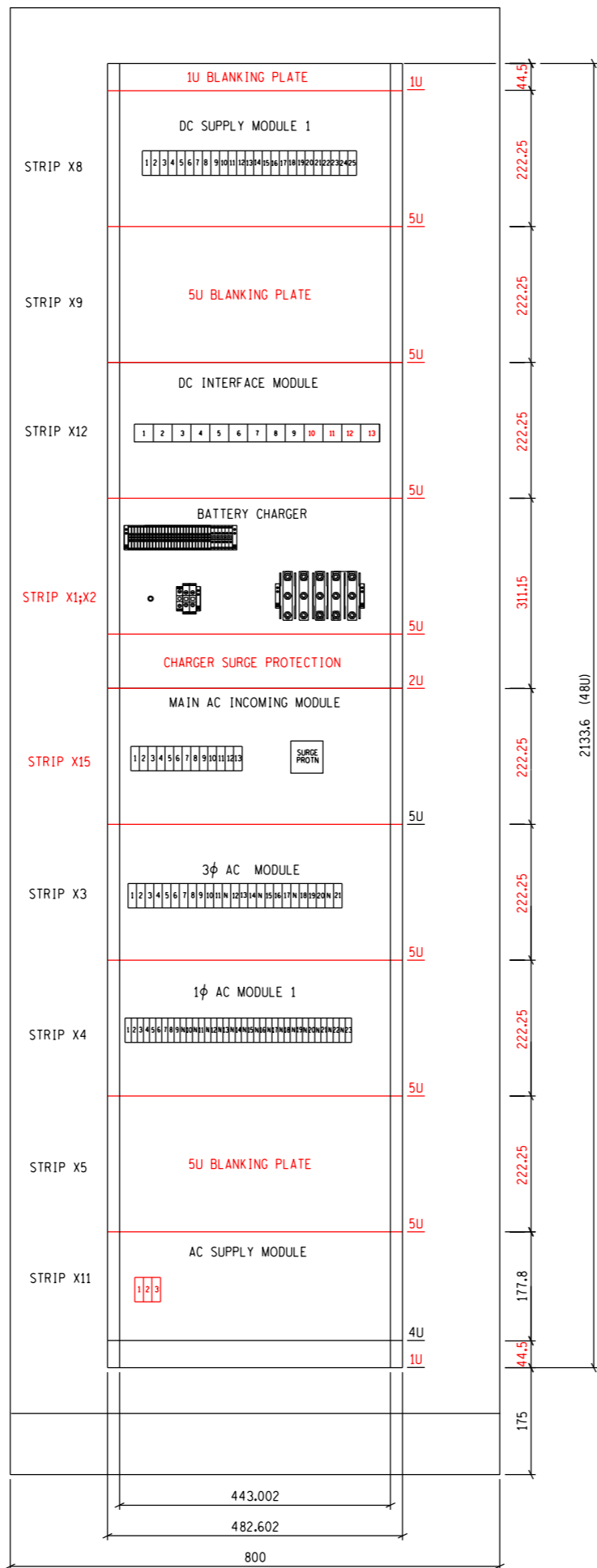
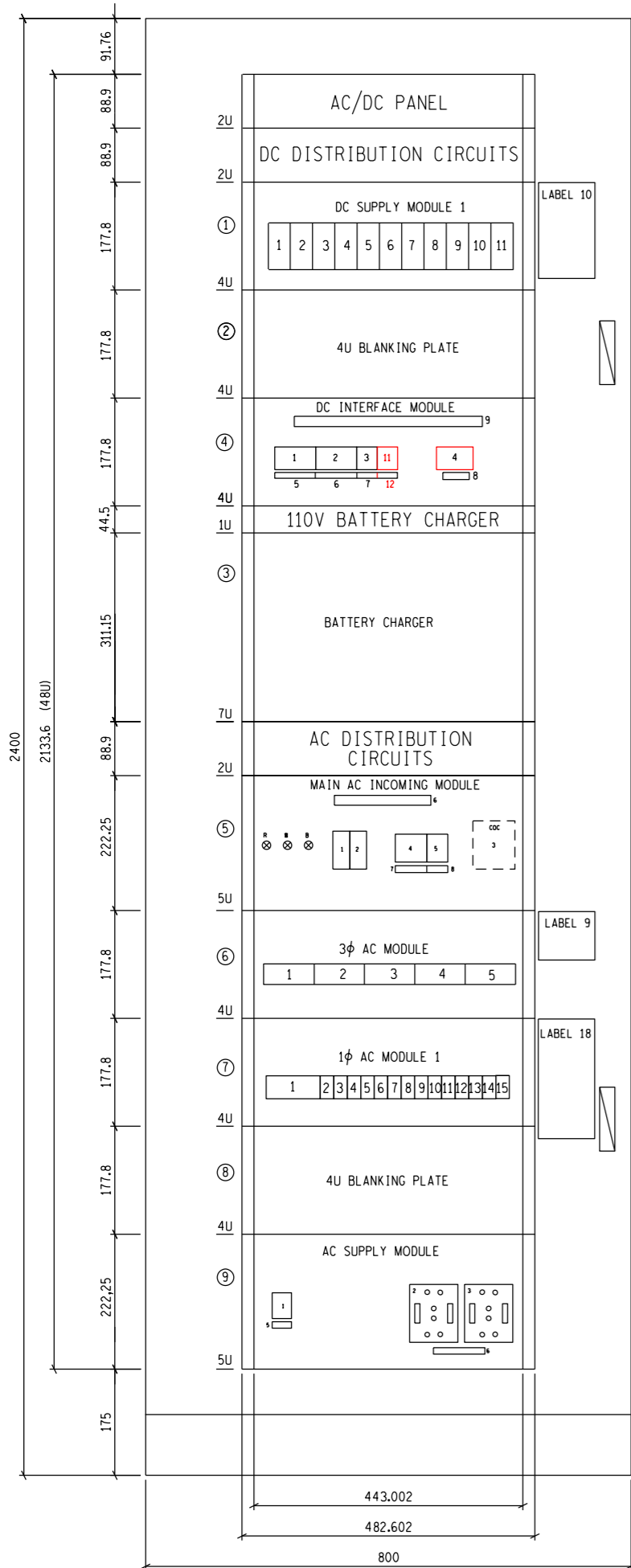
5	COVER SHEET UPDATED	CvS	RV	T.JACOBS	06/03/2017	
4	COVER SHEET UPDATED	CvS	RV	T.JACOBS	09/01/2014	
3.0	COVER SHEET ADDED	P.A.T.	T.JACOBS	T.JACOBS	11/12/2009	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		<b>14/10 WAY AC/DC PANEL PANEL EQUIPMENT LAYOUT COVER SHEET</b>				
AUTH: T. JACOBS		SET		SHEET		REVISION
DATE: /06/2002		19		00		5
CHKD: P. TRUBLET		D-DT-11216				
DATE: 23/01/2009						
DRAWN: P. TRUBLET						
DATE: 23/01/2009						

MASTER TRACING FILED UNDER D-01-11216 SET 19 SHEET 00 REVISION 5



PANEL LAYOUT (FRONT VIEW)

TERMINAL STRIP LAYOUT (REAR VIEW)



DESIGNATION	DESCRIPTION	SAP NO.	D-DT-BUYERS GUIDE
①	110V DC SUPPLY MODULE 1	0175668	9203
②	110V DC SUPPLY MODULE 2 (NOT INSTALLED)	0175668	9203
③	BATTERY CHARGER (SEE NOTE 5 & 6)		
④	110V DC INTERFACE MODULE	0185229	9203
⑤	MAIN AC INCOMING MODULE	0186797	9203
⑥	400V AC 3φ DISTRIBUTION MODULE	0175664	9203
⑦	230V AC 1φ DISTRIBUTION MODULE 1	0175665	9203
⑧	230V AC 1* DISTRIBUTION MODULE 2 (NOT INSTALLED)	0175665	9203
⑨	AC SUPPLY MODULE	0175669	9203
	CABINET SWING FRAME	0011357	9141
	1U BLANKING PLATE	0006327	9141
	2U BLANKING PLATE	0006328	9141
	4U BLANKING PLATE	0006492	9141

- NOTE:
- KEEP STANDARD LAYOUT INSERT BLANKING PLATE IF MODULE NOT USED.
  - SHOULD EXTRA INDICATION OUTPUTS BE REQUIRED ADD AN EXTRA CP STRIP TERMINAL & LOOP FROM EXISTING CP STRIP TERMINAL.
  - 1U = 44.5mm.
  - MAIN AC INCOMING MODULE NOT USED WHEN YARD AC DB IS USED.
  - REFER TO LATEST REVISION OF THE RELEVANT CHARGER AS PER THE DESIGN.
  - REFER TO D-DT-11352 (CORDEX BATTERY CHARGER).
  - THIS DRAWING TO BE READ IN CONJUNCTION WITH DISTRIBUTION SPECIFICATION, 240-75658628, DISTRIBUTION GROUP'S SPECIFIC REQUIREMENTS FOR AC/DC DISTRIBUTION UNITS.

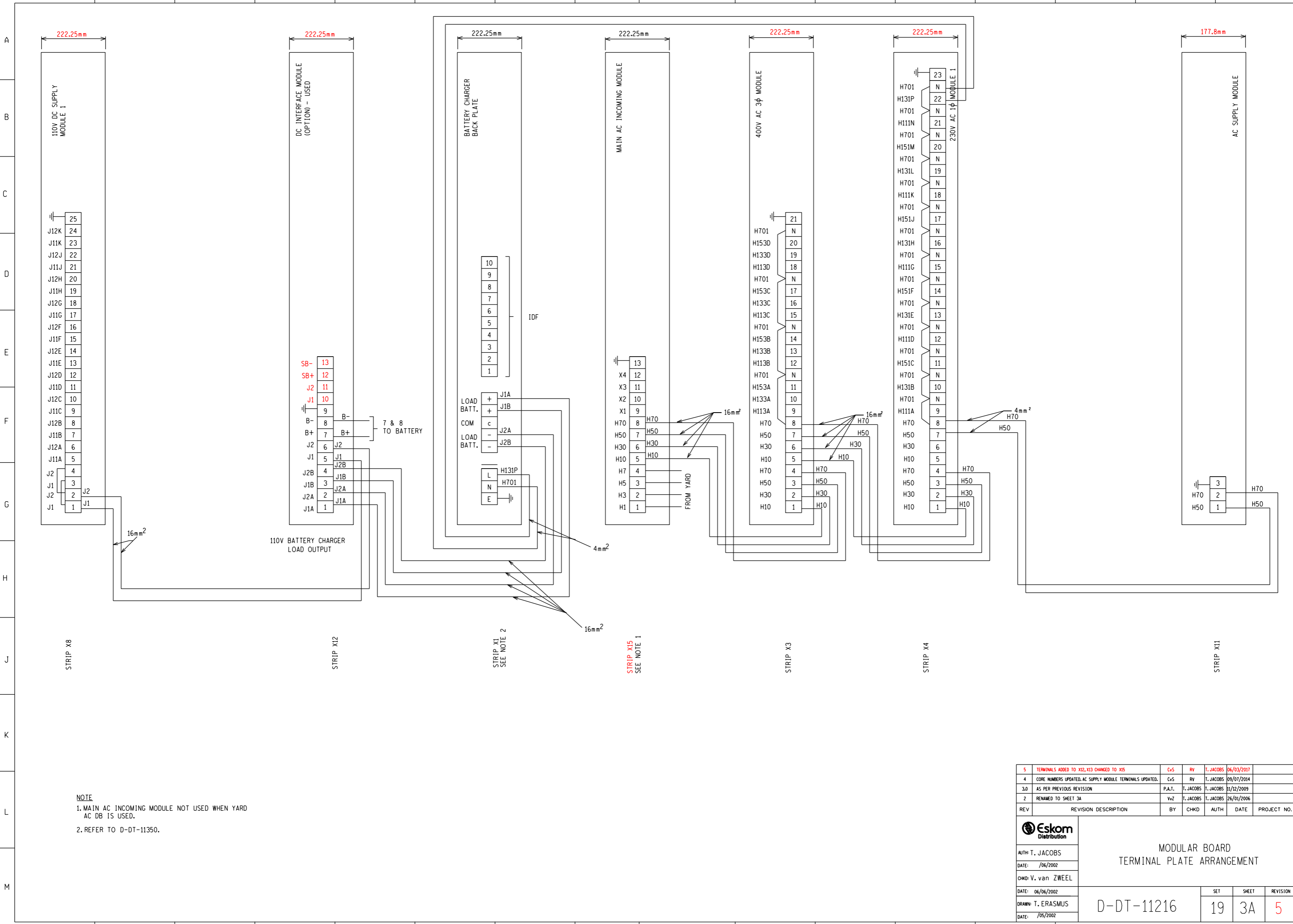
SHEET 18B	AC/DC PANEL CABLING DIAGRAM
SHEET 18A	AC/DC PANEL CABLING DIAGRAM
SHEET 15	110V DC DISTR MODULE 1 KEY DIAG.
SHEET 14	110V DC DISTR MODULE 1 EQUIP L/O
SHEET 13	INTERFACE MODULE KEY DIAG.
SHEET 12	INTERFACE MODULE EQUIP L/O
SHEET 11	AC SUPPLY MODULE KEY DIAG.
SHEET 10	AC SUPPLY MODULE EQUIP L/O
SHEET 9	230V AC DISTR MODULE 1 KEY DIAG.
SHEET 8	230V AC DISTR MODULE 1 EQUIP L/O
SHEET 7	400V AC DISTR MODULE KEY DIAG.
SHEET 6	400V AC DISTR MODULE EQUIP L/O
SHEET 5	MAIN AC INCOMING MODULE KEY DIAG.
SHEET 4	MAIN AC INCOMING MODULE EQUIP L/O
SHEET 3B	TERMINAL PLATE ARRANGEMENT
SHEET 3A	TERMINAL PLATE ARRANGEMENT
SHEET 2	PANEL LABEL SCHEDULE
SHEET 1	PANEL EQUIPMENT LAYOUT

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	TERMINALS ADDED, LAYOUTS & MODULE SIZES UPDATED	CvS	RV	T. JACOBS	06/03/2017	
4	UPDATED SUPPLY MODULE EQUIPMENT LAYOUT, HANDLES AND LEGENDS REPOSITIONED	CvS	RV	T. JACOBS	09/07/2014	
3.0	NOTE 7 ADDED, INTERLOCKING SWITCH ADDED TO AC SUPPLY MODULE	P.A.T.	T. JACOBS	T. JACOBS	11/12/2009	
2	FACE PLATE OF MAIN AC & AC SUPPLY MODULES WERE CHANGED TO 5U	VvZ	T. JACOBS	T. JACOBS	26/01/2006	
	INSERTED NOTE 6.					

	14/10 WAY AC/DC PANEL		
AUTH: T. JACOBS DATE: /06/2002 CHKD: V. van ZWEEL DATE: 06/06/2002 DRAWN: T. ERASMUS DATE: /05/2002	PANEL EQUIPMENT LAYOUT		
D-DT-11216	19	01	5
PANEL TYPE DESIGNATION 2AD.103			

MASTER TRACING FILED UNDER D-DT-11216 SET 19 SHEET 01 REVISION 5



NOTE  
 1. MAIN AC INCOMING MODULE NOT USED WHEN YARD AC DB IS USED.  
 2. REFER TO D-DT-11350.

5	TERMINALS ADDED TO X12, X13 CHANGED TO X15	CvS	RV	T. JACOBS	06/03/2017	
4	CORE NUMBERS UPDATED, AC SUPPLY MODULE TERMINALS UPDATED.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS REVISION	P.A.T.	T. JACOBS	T. JACOBS	11/12/2009	
2	RENAMED TO SHEET 3A	VvZ	T. JACOBS	T. JACOBS	26/01/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

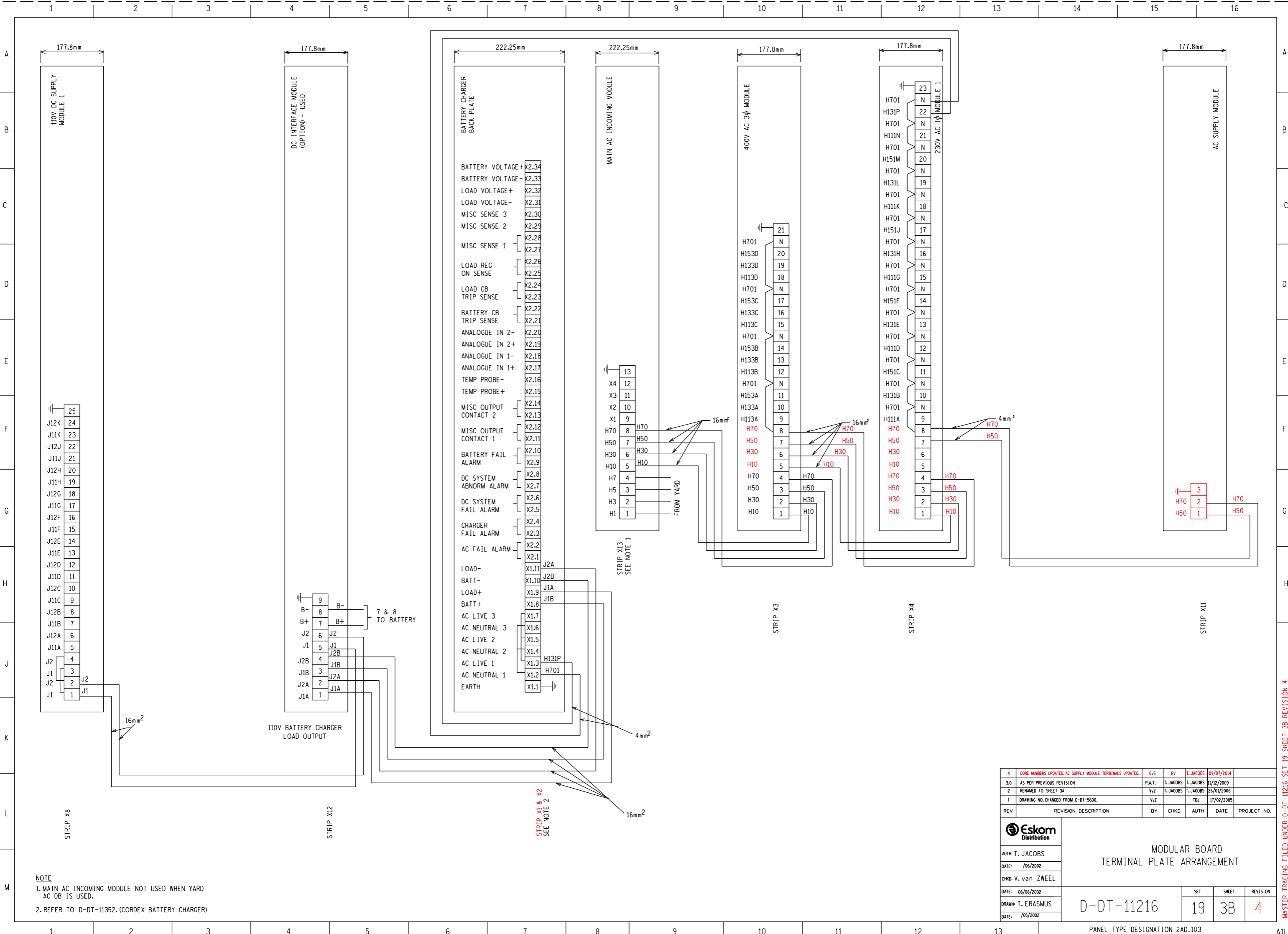
**Eskom**  
 Distribution

AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEL  
 DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

MODULAR BOARD  
 TERMINAL PLATE ARRANGEMENT

D-DT-11216

SET	SHEET	REVISION
19	3A	5



**NOTE**  
 1. MAIN AC INCOMING MODULE NOT USED WHEN YARD AC DB IS USED.  
 2. REFER TO D-DT-11352. (CORDEX BATTERY CHARGER)

4	CORE NUMBERS UPDATED, AC SUPPLY MODULE TERMINALS UPDATED.	CvS	RV	T. JACOBS	09/01/2014
3.0	AS PER PREVIOUS REVISION	P.A.T.	T. JACOBS	T. JACOBS	11/12/2009
2	RENAMED TO SHEET 3A	VvZ	T. JACOBS	T. JACOBS	26/01/2006
1	DRAWING NO. CHANGED FROM D-DT-5600.	VvZ	TDJ		17/02/2005
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE

**Eskom Distribution**  
 AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEEL  
 DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

**MODULAR BOARD  
 TERMINAL PLATE ARRANGEMENT**

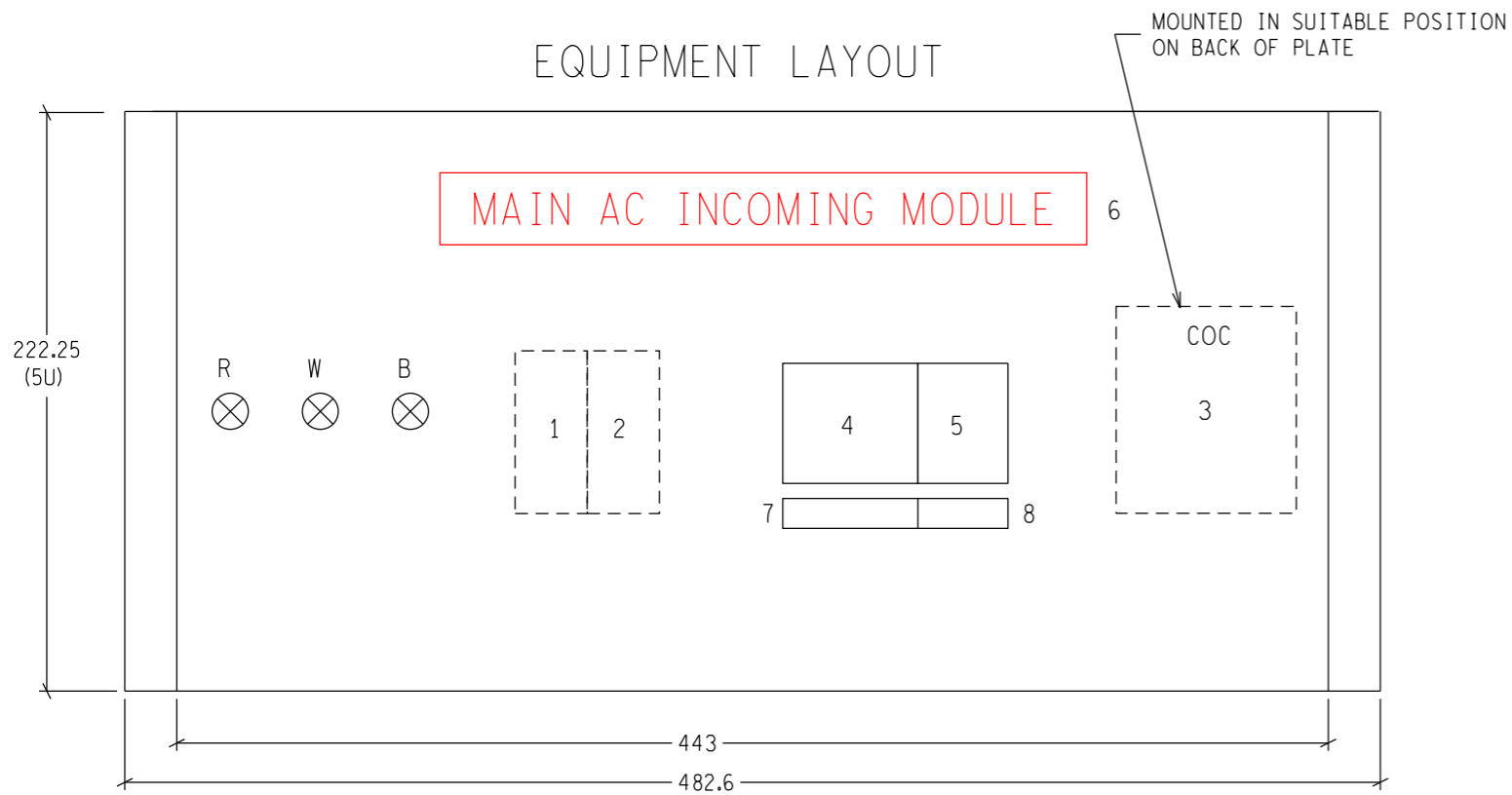
D-DT-11216

SET	SHEET	REVISION
19	3B	4

PANEL TYPE DESIGNATION 2AD.103

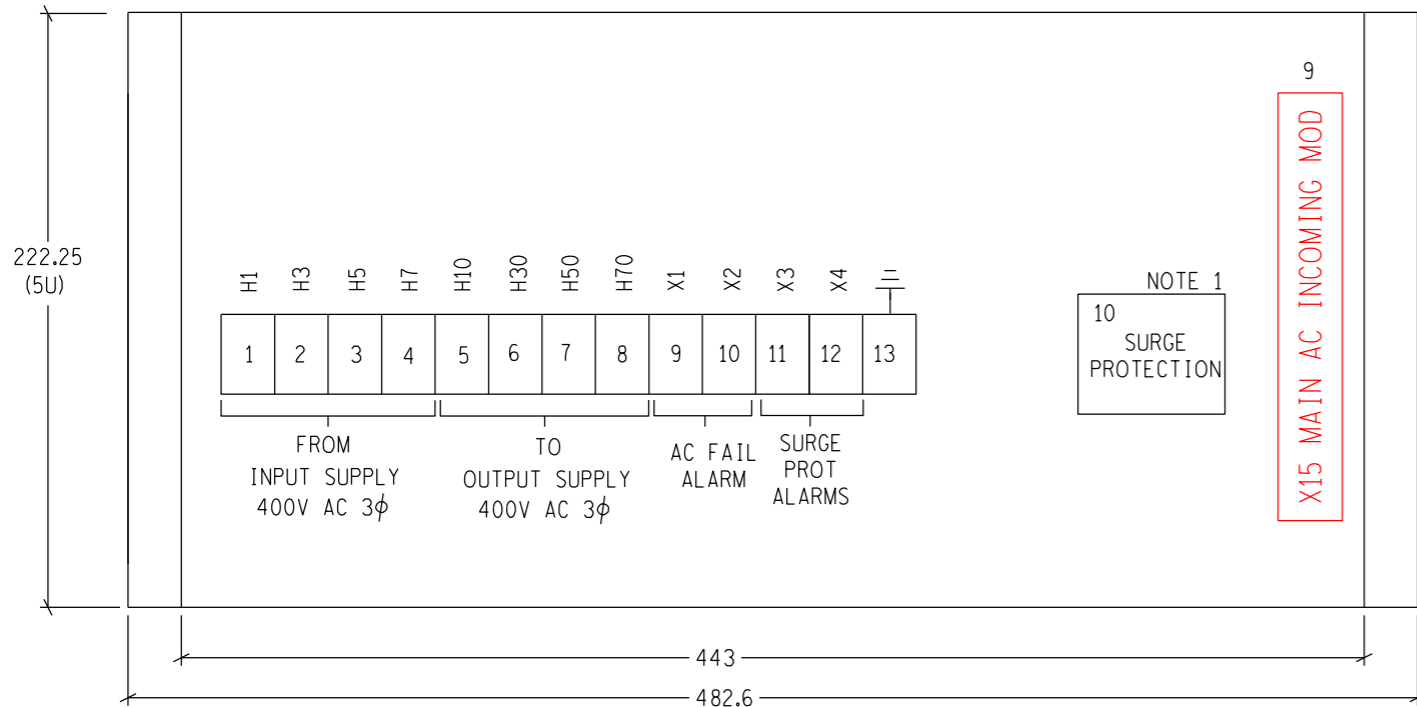
MASTER TRACING FILLED UNDER D-DT-11216 SET 19 SHEET 3B REVISION 4

### EQUIPMENT LAYOUT



NOTE: ITEMS 1, 2 & 3 AT BACK OF PLATE.

### TERMINAL PLATE TOP OF PLATE



	DESCRIPTION	LABEL	V	A	kA	TRIP CURVE
1	AC FAIL TIMER - DELAY-ON-PICK-UP (0-60sec)	ACF-T	230V AC			
2	AC FAIL RELAY	ACF	400V AC			
3	CONTACTOR	COC	400V AC	100		
4	INCOMING BREAKER/ISOLATOR (4-POLE)	BRK/ISOL (AC)	400V AC	100	5kA	
5	CONTROL CIRCUIT MCB (3-POLE)	MCB (C)	230V AC	6A	5kA	C
6	LABEL	MAIN AC INCOMING MODULE				
7	LABEL	MAIN ISOLATOR				
8	LABEL	CONTROL CIRCUITS				
9	LABEL	X15 MAIN AC INCOMING MOD				
10	SURGE PROTECTION	SURGE PROTECTION				

NOTE :

1. DEHNGUARD TT 230/400 FM (900 550) OR SIMILAR APPROVED BY ESKOM

TERMINALS	
NUMBER	TYPE
1-4	M35/26EE - STUD TYPE
5-8	M35/16 - STUD TYPE
9-12	M4/6 - SPRING LOADED
13	EARTH

OR EQUIVALENT

NOTE: ALL STUD TERMINALS TO HAVE COVERS.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	LABELS UPDATED	CvS	RV	T. JACOBS	06/03/2017	
4	PART NUMBERS AND TERMINAL SPECIFICATIONS UPDATED	CvS	RV	T. JACOBS	09/07/2014	
3.0	FACE PLATE SIZE CHANGED TO 5U	P.A.T.	T. JACOBS	T. JACOBS	11/12/2009	
2	SURGE PROTECTION ADDED.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	

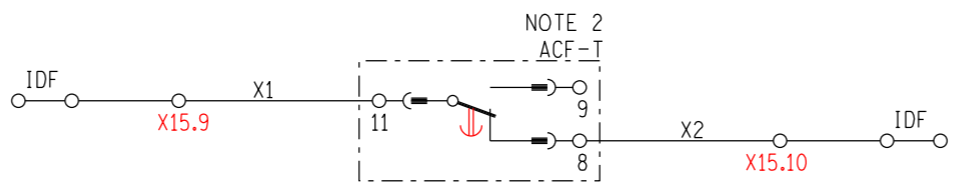
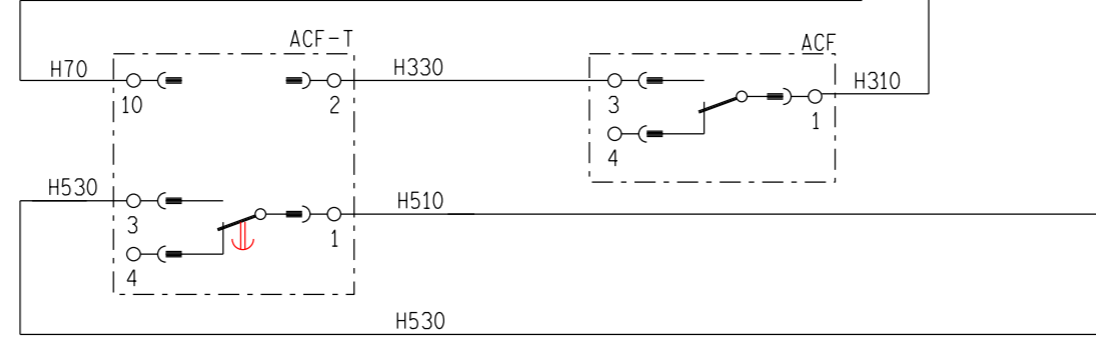
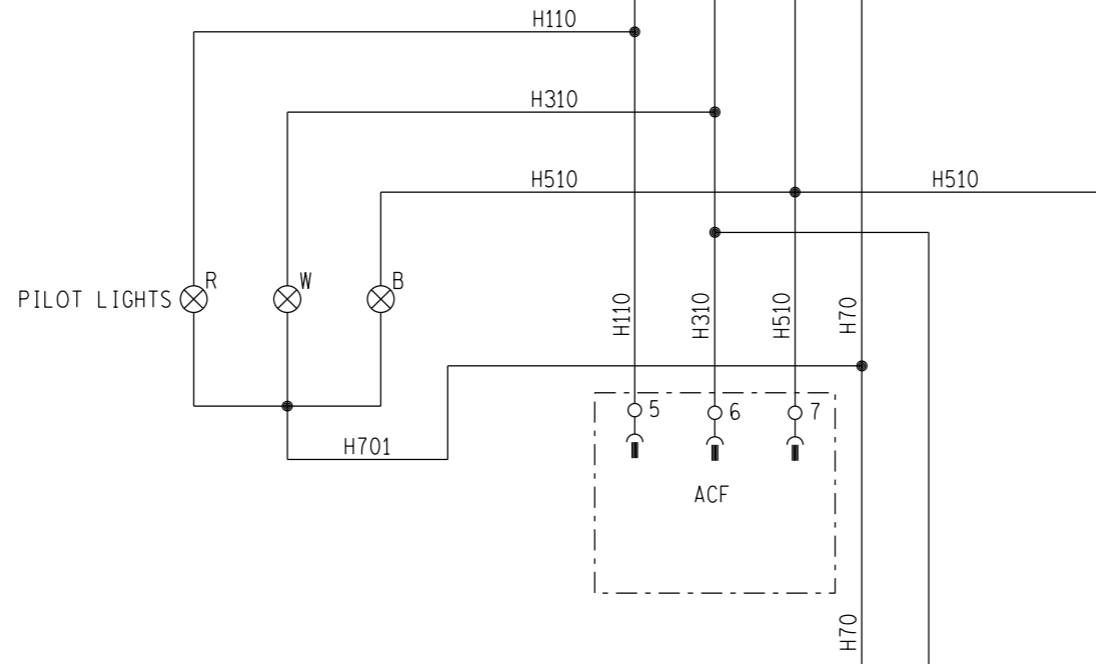
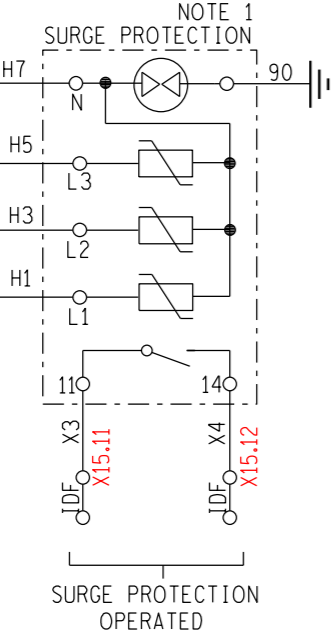
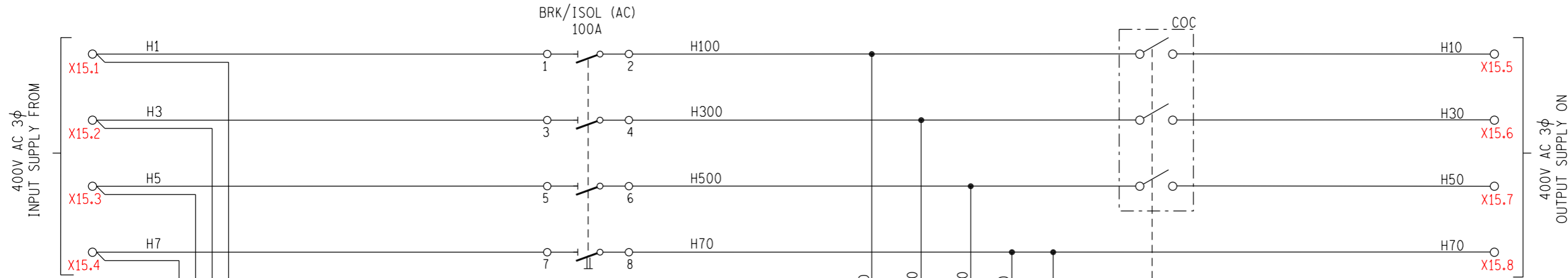


AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEL  
 DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

### MAIN AC INCOMING MODULE EQUIPMENT LAYOUT

D-DT-11216

SET	SHEET	REVISION
19	04	5



**NOTE:**  
 1. SURGE PROTECTION ALARM CONTACTS CONNECTED TO TERMINALS X15.11 - X15.12.  
 2. X15.9 & X15.10 ARE AC FAIL ALARM TERMINALS

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	DELAY-ON-DROP-OFF TIMER CHANGED TO DELAY-ON-PICK-UP TIMER, X13 CHANGED TO X15	CvS	RV	T. JACOBS	06/03/2017	
4	CHANGED ISOL TO BRK/ISOL. CORRECTED MCB SYMBOLS.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS REVISION.	P.A.T.	T. JACOBS	T. JACOBS	29/05/2009	
2	SURGE PROTECTION ADDED.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	

**Eskom Distribution**

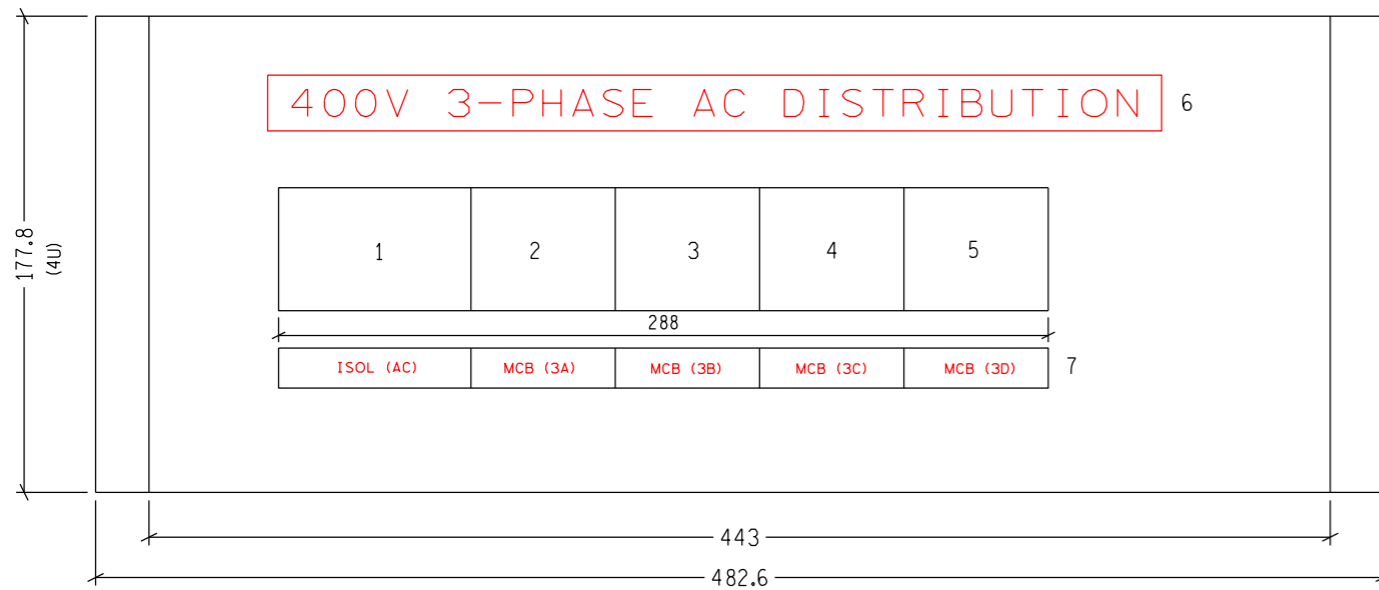
MAIN AC INCOMING MODULE  
AC KEY DIAGRAM

AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEL  
 DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

D-DT-11216

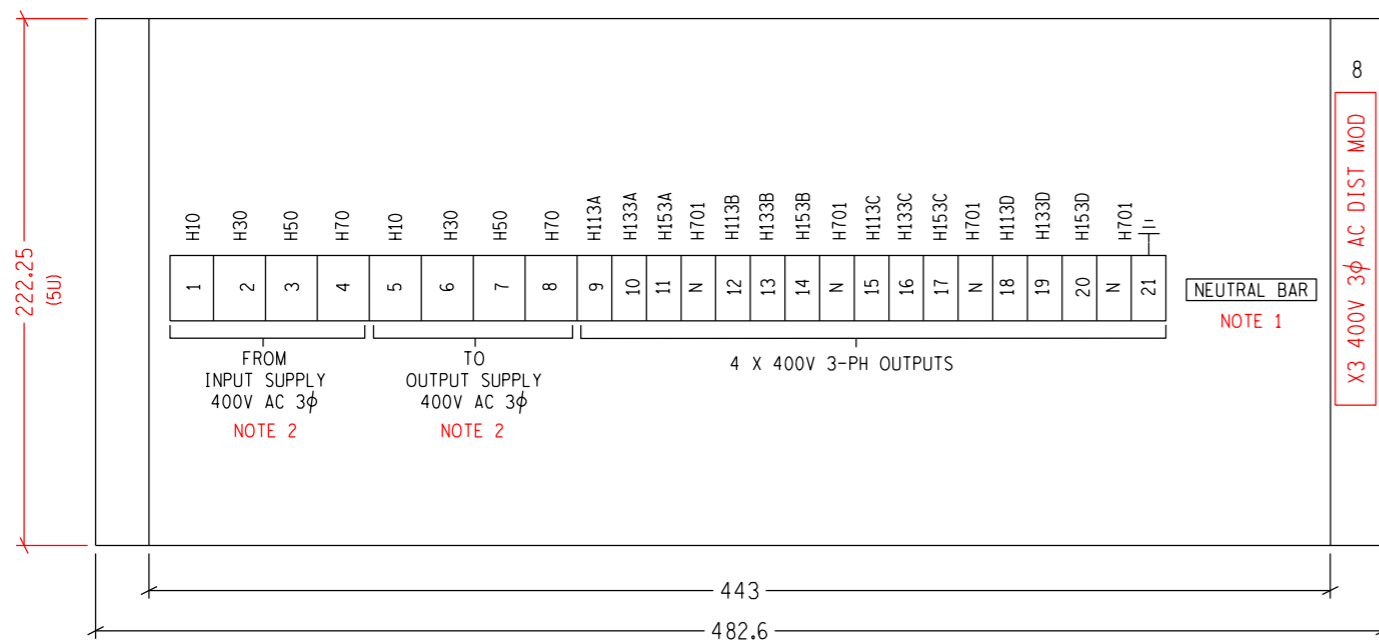
SET	SHEET	REVISION
19	05	5

# EQUIPMENT LAYOUT



	DESCRIPTION	LABEL	V	A	kA	TRIP CURVE
1	4 POLE ISOLATOR	ISOL (AC)	400V AC	63A	5kA	
2	MCB-CIRCUIT (A) (3-POLE)	MCB (3A)	400V AC	32A	5kA	C
3	MCB-CIRCUIT (B) (3-POLE)	MCB (3B)	400V AC	32A	5kA	C
4	MCB-CIRCUIT (C) (3-POLE)	MCB (3C)	400V AC	16A	5kA	C
5	MCB-CIRCUIT (D) (3-POLE)	MCB (3D)	400V AC	16A	5kA	C
6	LABEL	400V 3-PHASE AC DISTRIBUTION				
7	LABEL	SEE EQUIPMENT LAYOUT				
8	LABEL	X3 400V 3φ AC DIST MOD				

# TERMINAL PLATE TOP OF PLATE



- NOTE:
- NEUTRAL BAR ONLY TO BE INSERTED IF REQUIRED FOR WIRING PURPOSES.
  - STUD TYPE TERMINAL.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	LABELS UPDATED, NOTE ADDED	CvS	RV	T. JACOBS	06/03/2017	
4	CHANGED ISOLATOR RATING.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS REVISION	P.A.T.	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 20A & 20B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	

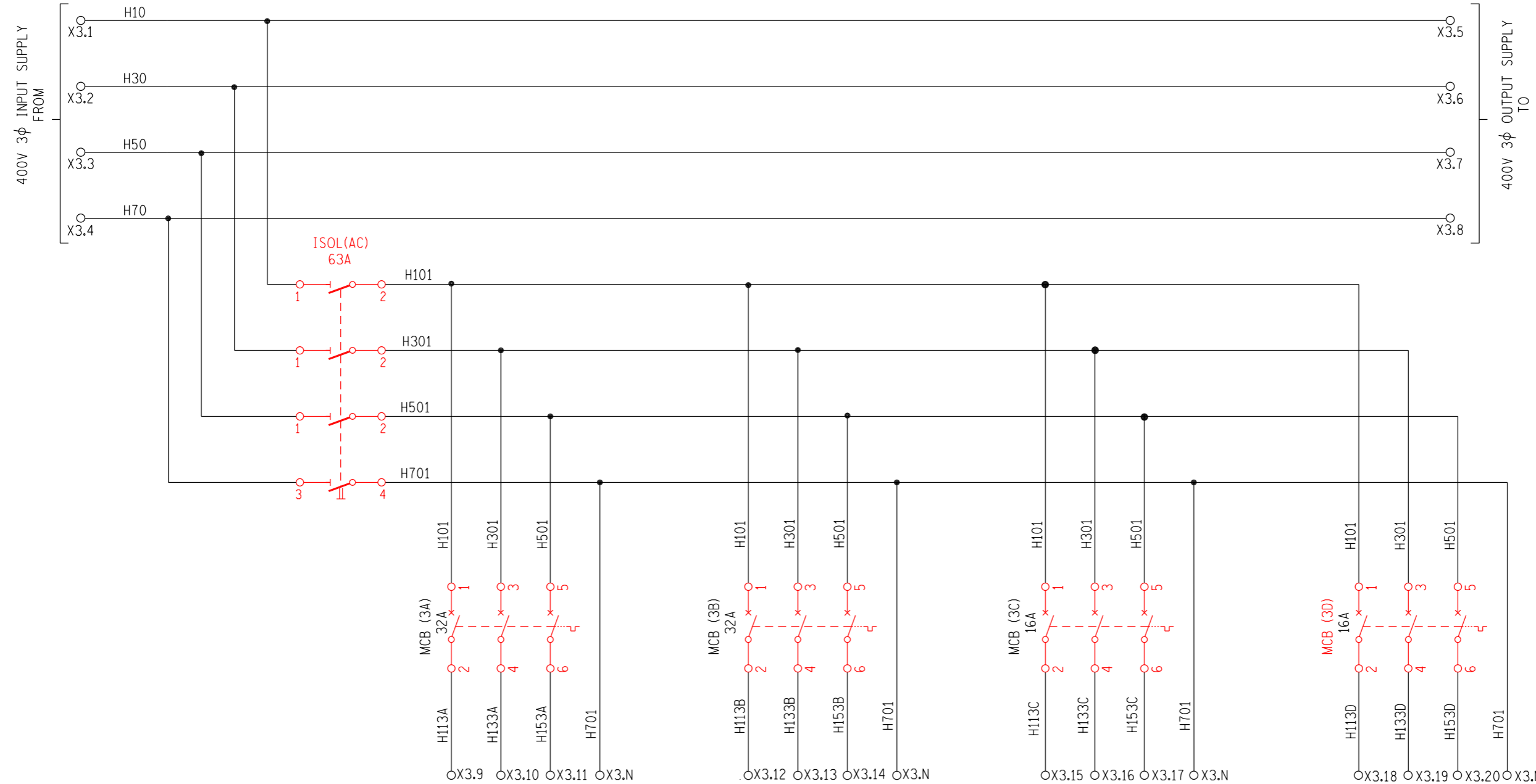


AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEL  
 DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

## 400V 3φ AC DISTRIBUTION MODULE PANEL EQUIPMENT LAYOUT

D-DT-11216

SET	SHEET	REVISION
19	06	5



NOTE  
NEUTRAL TERMINALS SHALL BE PROVIDED FOR EACH CIRCUIT WITH FERRULE NUMBER 'H701' AND TERMINAL NUMBER 'N'.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
4	CHANGED ISOL POSITION & RATING. CORRECTED MCB SYMBOLS.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS REVISION	P.A.T.	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 20A & 20B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	
1	DRAWING NO. CHANGED FROM D-DT-5600.	VvZ		TDJ	17/02/2005	



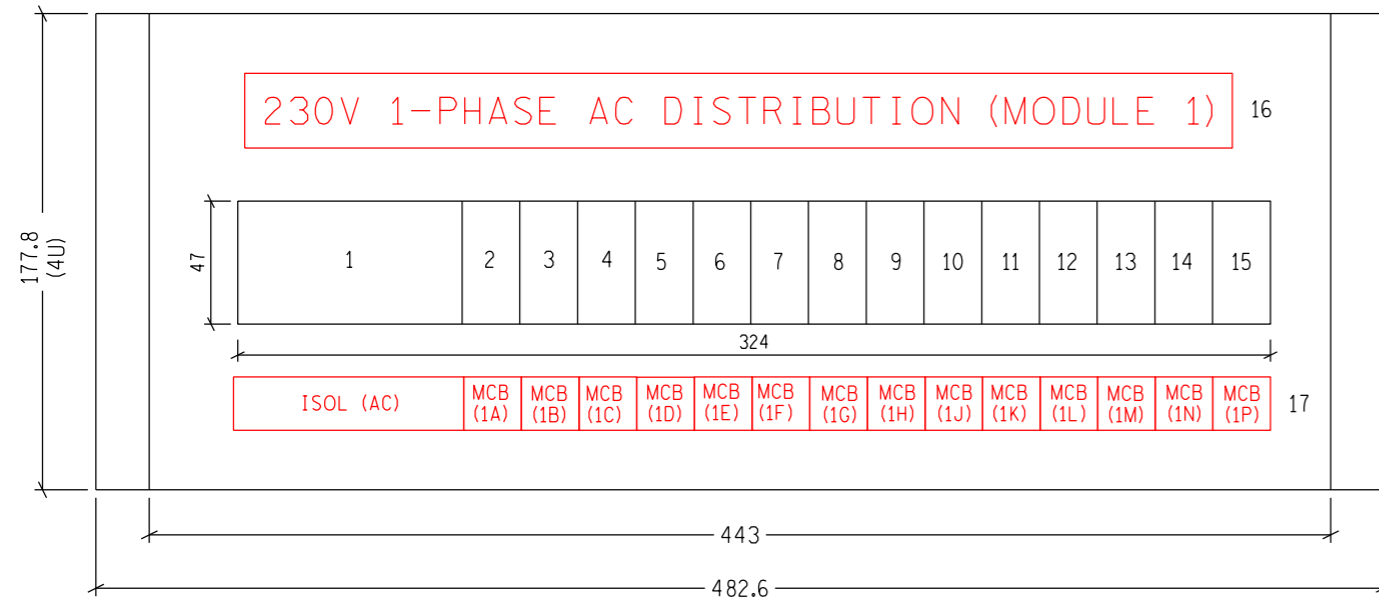
AUTH: T. JACOBS  
DATE: /06/2002  
CHKD: V. van ZWEEL  
DATE: 06/06/2002  
DRAWN: T. ERASMUS  
DATE: /05/2002

400V 3 $\phi$  DISTRIBUTION MODULE  
AC KEY DIAGRAM

D-DT-11216

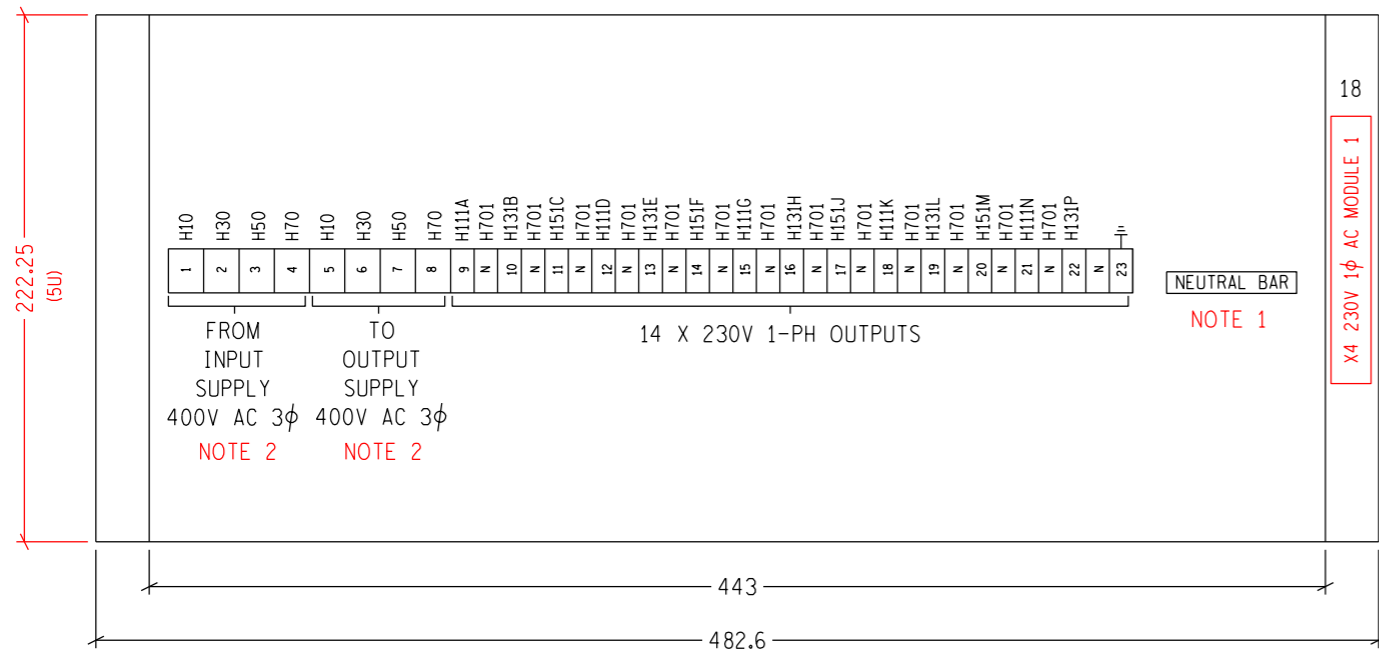
SET	SHEET	REVISION
19	07	4

# EQUIPMENT LAYOUT



	DESCRIPTION	LABEL	V	A	kA	TRIP CURVE
1	4-POLE ISOLATOR	ISOL (AC)	400V AC	63A	5kA	
2	MCB CIRCUIT A (1-Pole)	MCB (1A)	230V AC	20A	5kA	C
3	MCB CIRCUIT B (1-Pole)	MCB (1B)	230V AC	20A	5kA	C
4	MCB CIRCUIT C (1-Pole)	MCB (1C)	230V AC	20A	5kA	C
5	MCB CIRCUIT D (1-Pole)	MCB (1D)	230V AC	20A	5kA	C
6	MCB CIRCUIT E (1-Pole)	MCB (1E)	230V AC	20A	5kA	C
7	MCB CIRCUIT F (1-Pole)	MCB (1F)	230V AC	20A	5kA	C
8	MCB CIRCUIT G (1-Pole)	MCB (1G)	230V AC	20A	5kA	C
9	MCB CIRCUIT H (1-Pole)	MCB (1H)	230V AC	20A	5kA	C
10	MCB CIRCUIT J (1-Pole)	MCB (1J)	230V AC	20A	5kA	C
11	MCB CIRCUIT K (1-Pole)	MCB (1K)	230V AC	20A	5kA	C
12	MCB CIRCUIT L (1-Pole)	MCB (1L)	230V AC	20A	5kA	C
13	MCB CIRCUIT M (1-Pole)	MCB (1M)	230V AC	20A	5kA	C
14	MCB CIRCUIT N (1-Pole)	MCB (1N)	230V AC	20A	5kA	C
15	MCB CIRCUIT P (1-Pole)	MCB (1P)	230V AC	20A	5kA	C
16	LABEL	230V 1-PHASE AC DISTRIBUTION (MODULE 1)				
17	LABEL	SEE EQUIPMENT LAYOUT				
18	LABEL	X4 230V 1φ AC MODULE 1				

# TERMINAL PLATE TOP OF PLATE



NOTE:  
 1. NEUTRAL BAR ONLY TO BE INSERTED IF REQUIRED FOR WIRING PURPOSES.  
 2. STUD TYPE TERMINAL.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	LABELS UPDATED, NOTE ADDED	CvS	RV	T. JACOBS	06/03/2017	
4	CORRECTED ISOLATOR RATING AND CORE NUMBERS	CvS	RV	T. JACOBS	09/07/2014	
3.0	40A 4 POLE AC ISOLATOR ADDED.	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 16A & 16B ADDED.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	



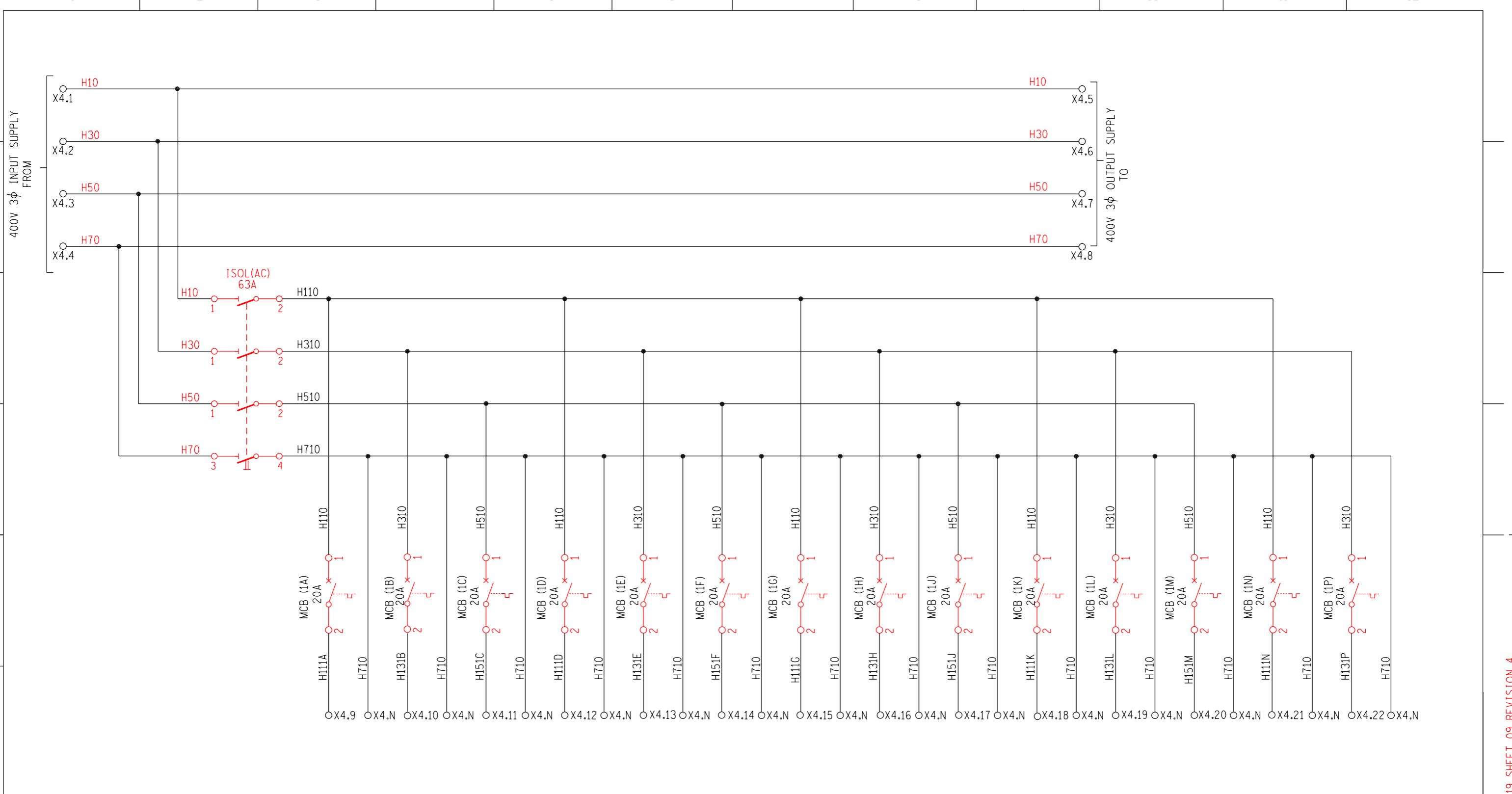
AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEL  
 DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

230V 1φ AC DISTRIBUTION MODULE 1  
 EQUIPMENT LAYOUT

D-DT-11216

SET	SHEET	REVISION
19	08	5





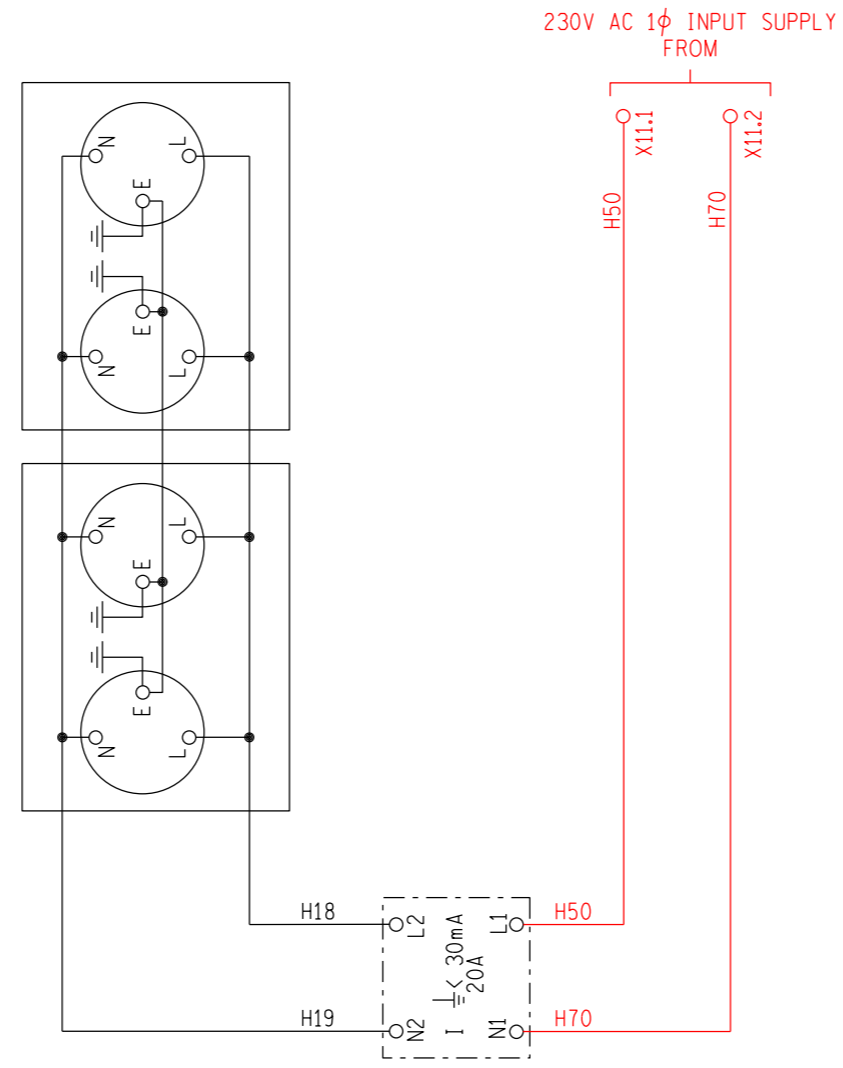
NOTE  
 NEUTRAL TERMINALS SHALL BE PROVIDED FOR EACH CIRCUIT WITH FERRULE NUMBER 'H710' AND TERMINAL NUMBER 'N'.

4	CHANGED ISOL RATING, CORRECTED MCB SYMBOLS, CORE NUMBERS CORRECTED.	CvS	RV	T. JACOBS	09/07/2014	
3.0	40A 4 POLE AC ISOLATOR ADDED.	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 16A & 16B ADDED.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	
1	LOGO CHANGED AS PER NEW CORPORE ID.	PBM		TDJ	17/02/2005	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

		230V 1φ AC DISTRIBUTION MODULE 1 KEY DIAGRAM		
D-DT-11216		SET	SHEET	REVISION
		19	09	4

PANEL TYPE DESIGNATION 2AC.503

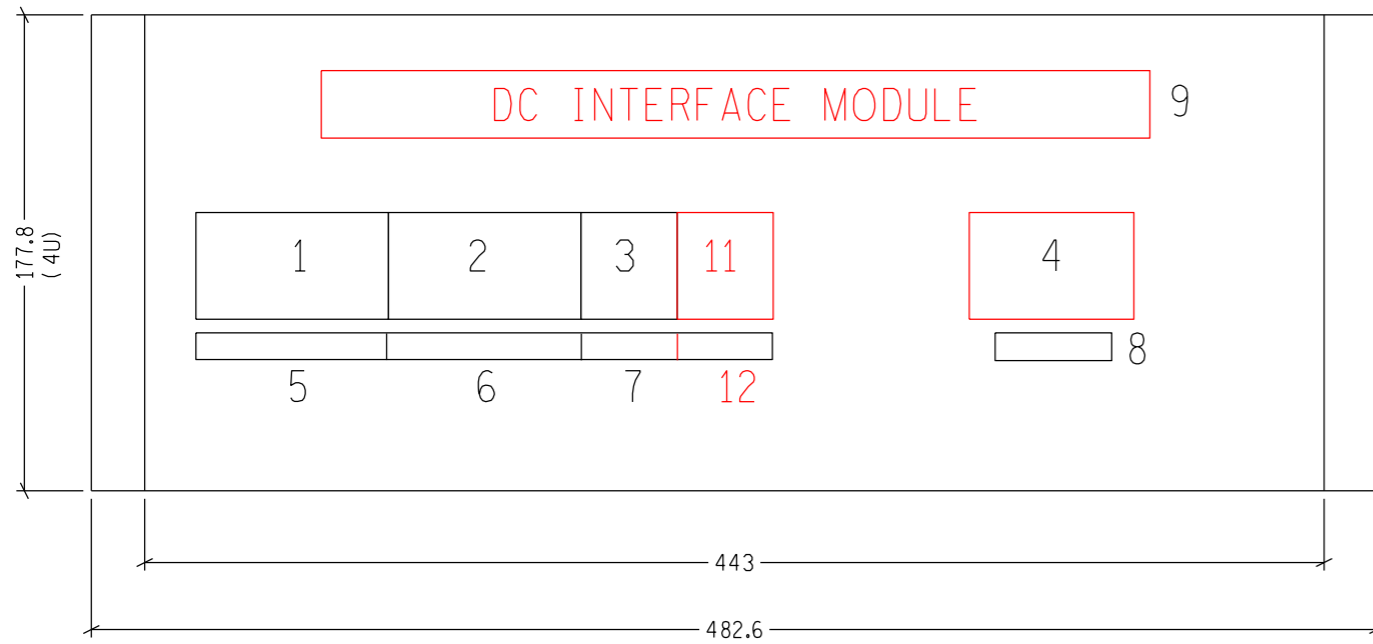
MASTER TRACING FILED UNDER D-DT-11216 SET 19 SHEET 09 REVISION 4



REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	CORE NUMBERS UPDATED. TERMINALS REMOVED.	CvS	RV	T.JACOBS	09/07/2014	
4	REMOVE 3φ SOCKET & 3φ E/L, ADD DOUBLE PLUGS & 1φ E/L	RV	RV	T.JACOBS	27/03/2013	
3.0	4 POLE EARTH LEAKAGE UNIT AND MCB (SS) ADDED	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 16A & 16B ADDED.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	
1	LOGO CHANGED AS PER NEW CORPORE ID.	PBM		TDJ	17/02/2005	

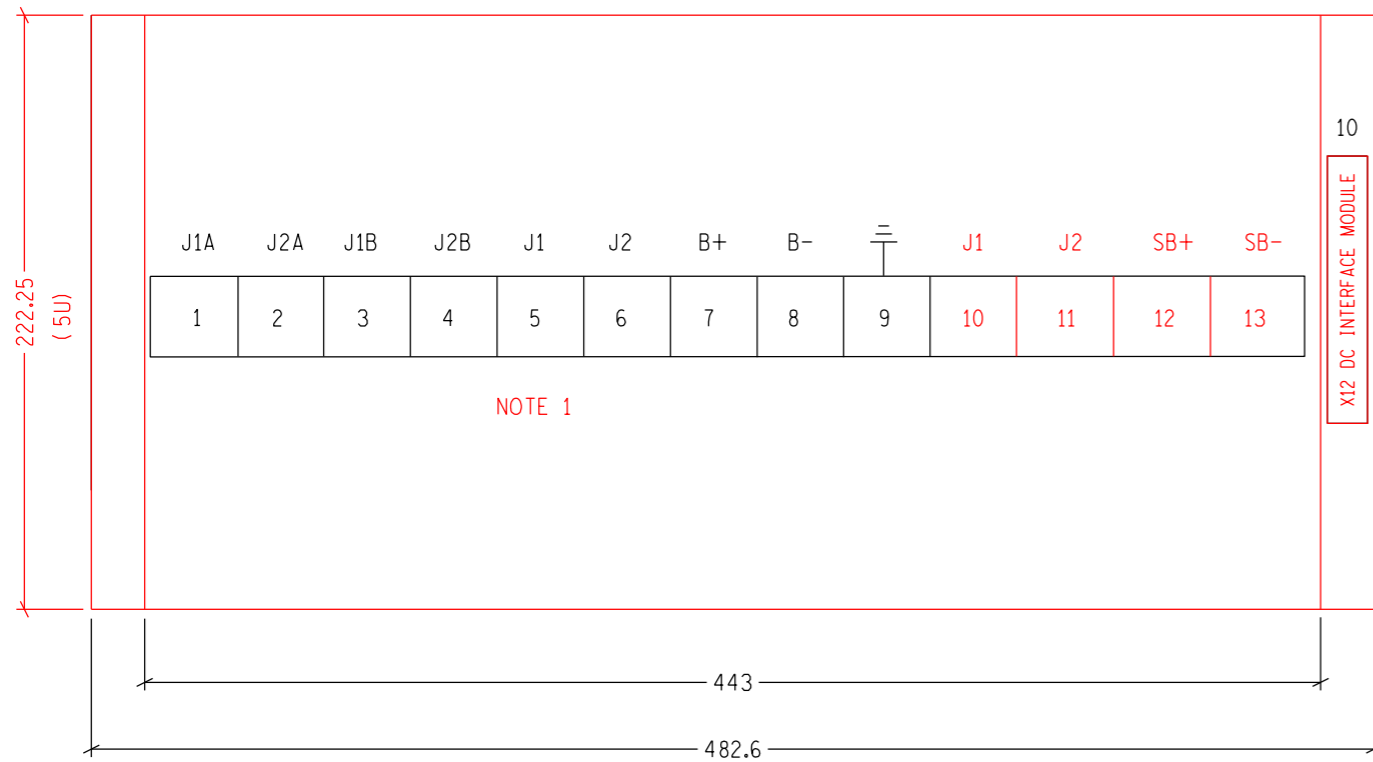
		AC SUPPLY MODULE KEY DIAGRAM			
					AUTH: T. JACOBS DATE: /06/2002 CHKD: V. van ZWEEL
DATE: 06/06/2002 DRAWN: T. ERASMUS DATE: /05/2002	D-DT-11216		SET 19	SHEET 11	REVISION 5

# EQUIPMENT LAYOUT



ITEM	DESCRIPTION	LABEL	V	A	kA
1	MAIN DC SUPPLY ISOLATOR	ISO (CHGR)	140V DC	63A	5kA
2	STANDBY DC SUPPLY ISOLATOR	STANDBY DC ISOLATOR	140V DC	63A	5kA
3	BATTERY ISOLATOR	ISO (BATT)	140V DC	63A	5kA
4	STANDBY DC SUPPLY FLAT PLATE ANDERSON PLUG	STANDBY CHGR SOCKET	140V DC	50A	
5	LABEL	MAIN DC SUPPLY ISOLATOR			
6	LABEL	STANDBY DC SUPPLY ISOLATOR			
7	LABEL	ISO (BATT)			
8	LABEL	STANDBY CHGR SOCKET			
9	LABEL	DC INTERFACE MODULE			
10	LABEL	X12 DC INTERFACE MODULE			
11	BATTERY MCB, C-CURVE	MCB (AC/DC PANEL 2)	140V DC	63A	5kA
12	LABEL	MCB AC/DC PNL2			

# TERMINAL PLATE TOP OF PLATE



NOTE 1

NOTE:  
1. STUD TYPE TERMINAL.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	ADDED STANDBY TERMINALS AND AC/DC PANEL 2 MCB, LABELS UPDATED, BACKPLATE CHANGED FROM 4U TO 5U	CvS	RV	T. JACOBS	06/03/2017	
4	UPDATED ISOL & MCB SPECIFICATIONS.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS REVISION	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 16A & 16B ADDED.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	

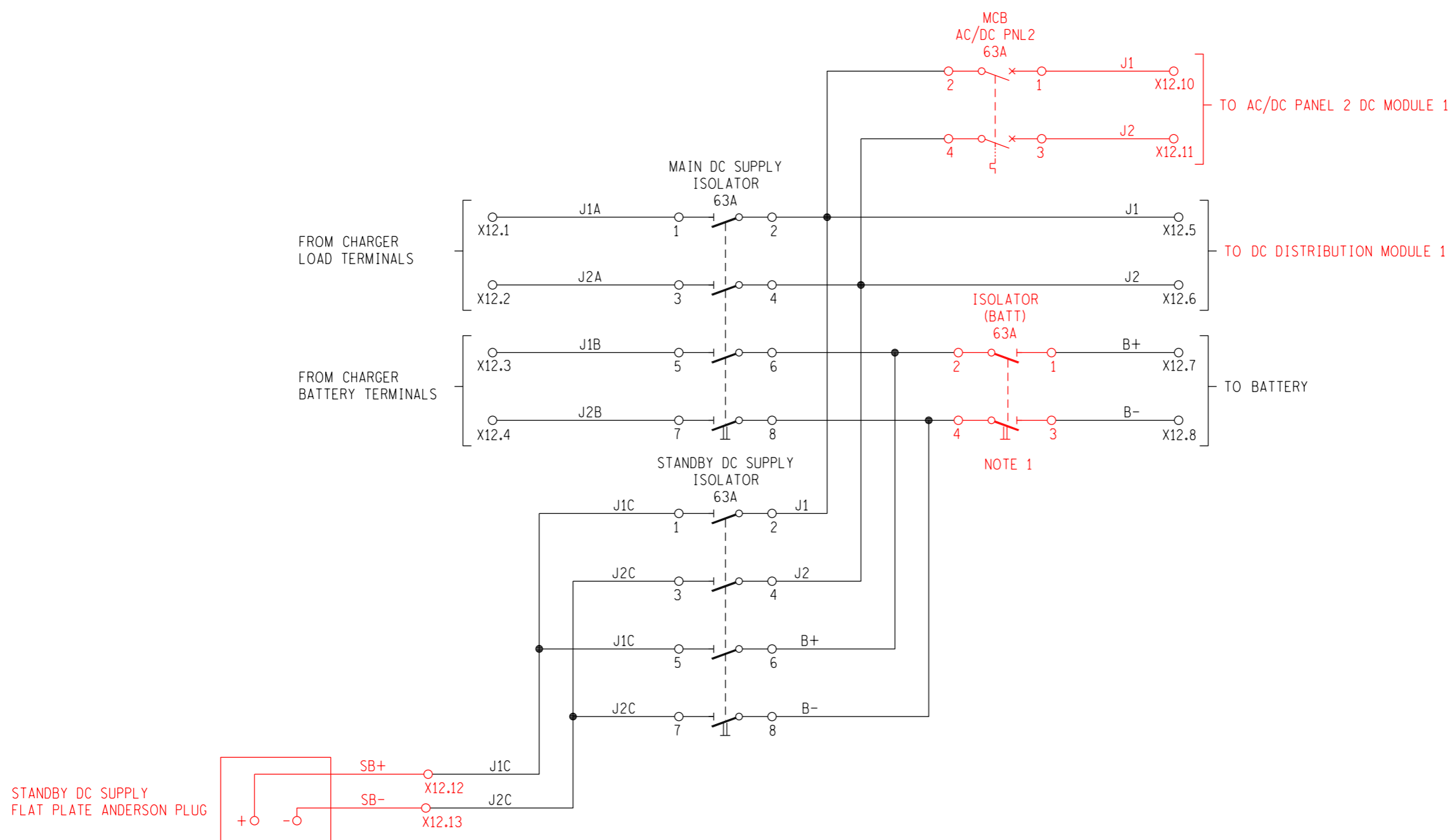


AUTH: T. JACOBS  
DATE: /06/2002  
CHKD: V. van ZWEEL  
DATE: 06/06/2002  
DRAWN: T. ERASMUS  
DATE: /05/2002

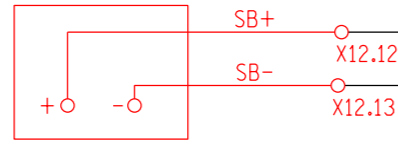
## DC INTERFACE MODULE EQUIPMENT LAYOUT

D-DT-11216

SET	SHEET	REVISION
19	12	5



STANDBY DC SUPPLY  
FLAT PLATE ANDERSON PLUG



NOTE:  
1. THE SHORT CIRCUIT CURRENT FOR THE MCB MUST BE FOR THE MAXIMUM SHORT CIRCUIT CURRENT OF THE BATTERY.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	ADDED STANDBY TERMINALS, AC/DC PANEL 2 MCB & NOTE 1, UPDATED PLUG LAYOUT, CHANGED BATT MCB TO ISOLATOR	CvS	RV	T. JACOBS	/03/2017	
4	UPDATED ISOL AND MCB SYMBOLS AND ADDED RATINGS.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS REVISION	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 16A & 16B ADDED.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	

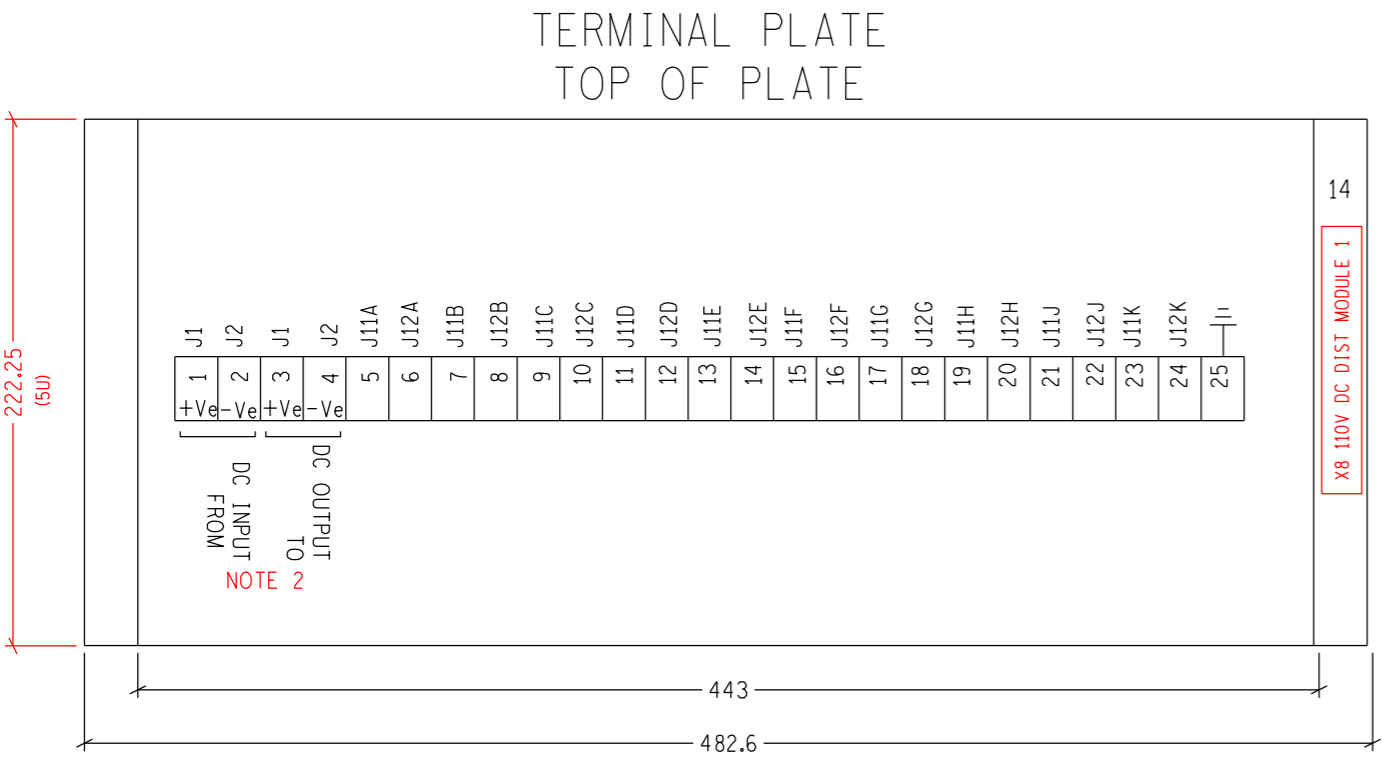
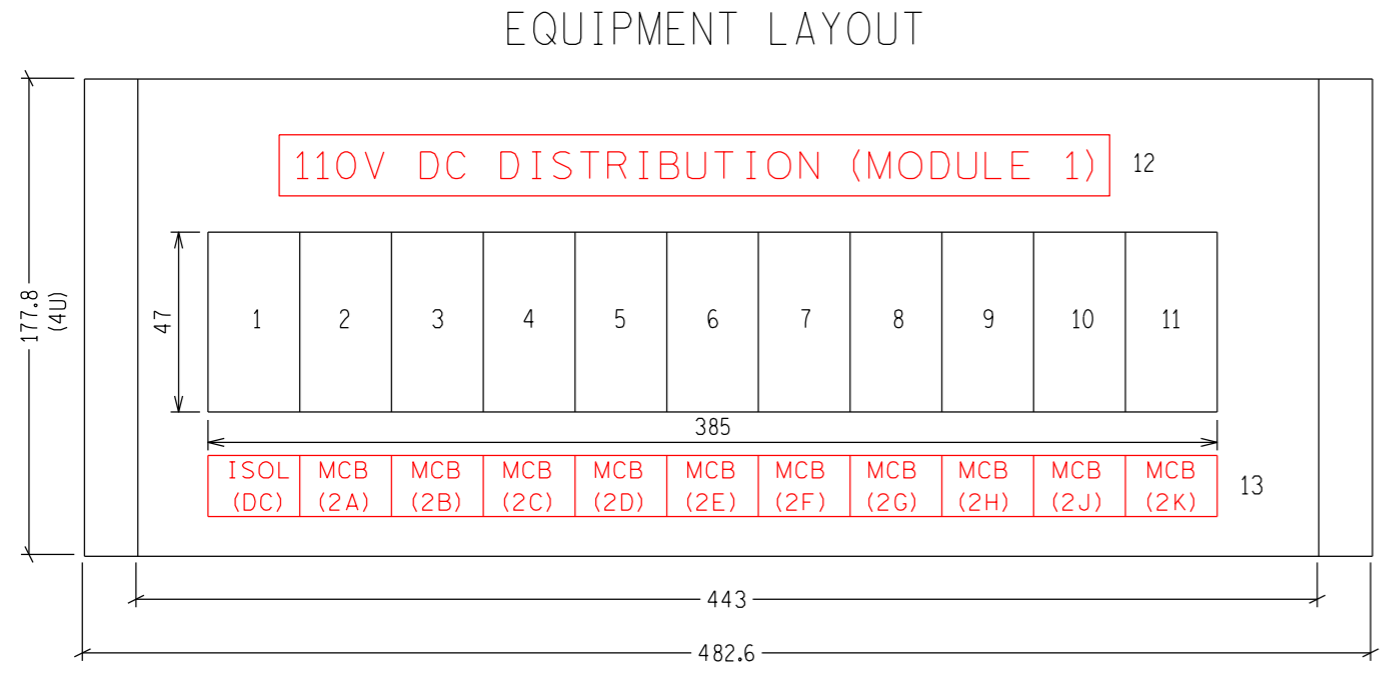


AUTH: T. JACOBS  
DATE: /06/2002  
CHKD: V. van ZWEEL  
DATE: 06/06/2002  
DRAWN: T. ERASMUS  
DATE: /05/2002

DC INTERFACE MODULE  
KEY DIAGRAM

D-DT-11216

SET	SHEET	REVISION
19	13	5



NOTE:  
 1. 1U=44.45mm  
 2. STUD TYPE TERMINAL.

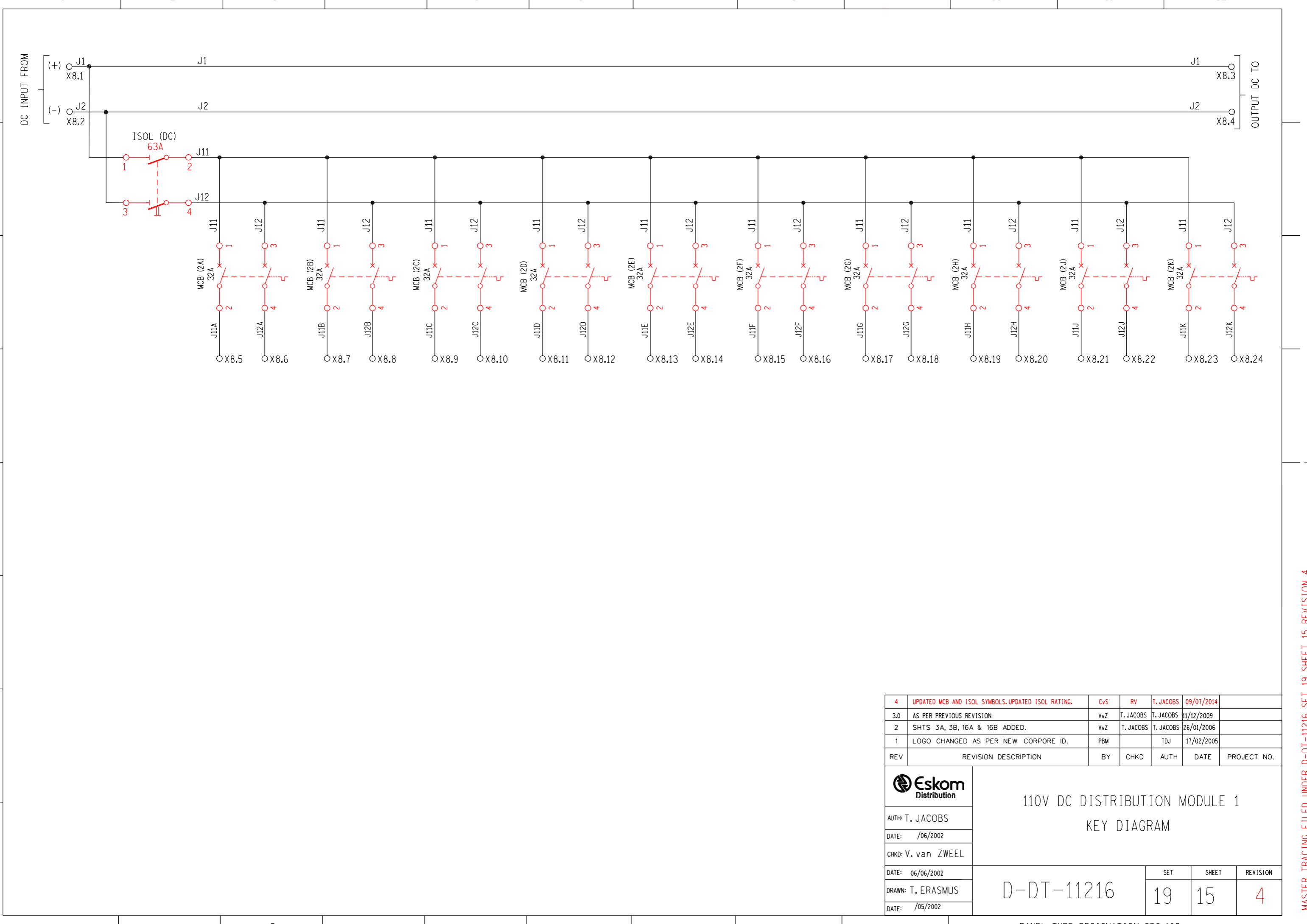
	DESCRIPTION	LABEL	V	A	kA	TRIP CURVE
1	DC SUPPLY ISOLATOR	ISOL (DC)	140V DC	63A	5kA	
2	DC SUPPLY MCB CIRCUIT (A) (2-Pole)	MCB (2A)	140V DC	32A	5kA	C
3	DC SUPPLY MCB CIRCUIT (B) (2-Pole)	MCB (2B)	140V DC	32A	5kA	C
4	DC SUPPLY MCB CIRCUIT (C) (2-Pole)	MCB (2C)	140V DC	32A	5kA	C
5	DC SUPPLY MCB CIRCUIT (D) (2-Pole)	MCB (2D)	140V DC	32A	5kA	C
6	DC SUPPLY MCB CIRCUIT (E) (2-Pole)	MCB (2E)	140V DC	32A	5kA	C
7	DC SUPPLY MCB CIRCUIT (F) (2-Pole)	MCB (2F)	140V DC	32A	5kA	C
8	DC SUPPLY MCB CIRCUIT (G) (2-Pole)	MCB (2G)	140V DC	32A	5kA	C
9	DC SUPPLY MCB CIRCUIT (H) (2-Pole)	MCB (2H)	140V DC	32A	5kA	C
10	DC SUPPLY MCB CIRCUIT (J) (2-Pole)	MCB (2J)	140V DC	32A	5kA	C
11	DC SUPPLY MCB CIRCUIT (K) (2-Pole)	MCB (2K)	140V DC	32A	5kA	C
12	LABEL	110V DC DISTRIBUTION (MODULE 1)				
13	LABEL	SEE EQUIPMENT LAYOUT				
14	LABEL	X8 110V DC DIST MODULE 1				

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	LABELS UPDATED, NOTE ADDED	CvS	RV	T. JACOBS	06/03/2017	
4	MCB AND ISOL RATINGS UPDATED	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS REVISION	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 16A & 16B ADDED.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	

 AUTH: T. JACOBS DATE: /06/2002 CHKD: V. van ZWEEL DATE: 06/06/2002 DRAWN: T. ERASMUS DATE: /05/2002	110V DC DISTRIBUTION MODULE 1 EQUIPMENT LAYOUT				
	D-DT-11216		SET 19	SHEET 14	REVISION 5
	PANEL TYPE DESIGNATION 2DC_103				

MASTER TRACING FILED UNDER D-DT-11216 SET 19 SHEET 14 REVISION 5



REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
4	UPDATED MCB AND ISOL SYMBOLS. UPDATED ISOL RATING.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS REVISION	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 16A & 16B ADDED.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	
1	LOGO CHANGED AS PER NEW CORPORE ID.	PBM		TDJ	17/02/2005	

		<b>110V DC DISTRIBUTION MODULE 1</b> <b>KEY DIAGRAM</b>				
AUTH: T. JACOBS DATE: /06/2002 CHKD: V. van ZWEEL						
DATE: 06/06/2002 DRAWN: T. ERASMUS DATE: /05/2002		<b>D-DT-11216</b>		SET <b>19</b>	SHEET <b>15</b>	REVISION <b>4</b>

PANEL TYPE DESIGNATION 2DC.103

MASTER TRACING FILED UNDER D-DT-11216 SET 19 SHEET 15 REVISION 4

MAIN AC INCOMING MODULE

IDF	DESCRIPTION	
4Pr	NUMBER OF SPARE	
10Pr	CABLE SIZE	
*	CABLE NUMBER	
<b>X15</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	13	
	X4	12
	X3	11
	X2	10
	X1	9
	X3.4	H70
	X3.3	H50
	X3.2	H30
	X3.1	H10
	H7	4
	H5	3
	H3	2
	H1	1

400V AC 3φ DISTRIBUTION MODULE

DESCRIPTION		
NUMBER OF SPARES		
CABLE SIZE		
CABLE NUMBER		
<b>X3</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	21	
	H701	N
	H153D	20
	H133D	19
	H113D	18
	H701	N
	H153C	17
	H133C	16
	H113C	15
	H701	N
	H153B	14
	H133B	13
	H113B	12
	H701	N
	H153A	11
	H133A	10
	H113A	9
X4.4	H70	H70
X4.3	H50	H50
X4.2	H30	H30
X4.1	H10	H10
X15.8	H70	H70
X15.7	H50	H50
X15.6	H30	H30
X15.5	H10	H10

230V AC 1φ DISTRIBUTION MODULE 1

DESCRIPTION		
NUMBER OF SPARE		
CABLE SIZE		
CABLE NUMBER		
<b>X4</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	23	
	H701	N
	H131P	22
	H701	N
	H111N	21
	H701	N
	H151W	20
	H701	N
	H131L	19
	H701	N
	H111K	18
	H701	N
	H151J	17
	H701	N
	H131H	16
	H701	N
	H111G	15
	H701	N
	H151F	14
	H701	N
	H131E	13
	H701	N
	H111D	12
	H701	N
	H151C	11
	H701	N
	H131B	10
	H701	N
	H111A	9
X11.4	H70	H70
X11.3	H50	H50
X11.2	H30	H30
X11.1	H10	H10
X3.8	H70	H70
X3.7	H50	H50
X3.6	H30	H30
X3.5	H10	H10
<b>110V DC DISTRIBUTION MODULE 1</b>		
<b>X8</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	25	
	J12K	24
	J11K	23
	J12J	22
	J11J	21
	J12H	20
	J11H	19
	J12G	18
	J11G	17
	J12F	16
	J11F	15
	J12E	14
	J11E	13
	J12D	12
	J11D	11
	J12C	10
	J11C	9
	J12B	8
	J11B	7
	J12A	6
	J11A	5
	J2	4
	J1	3
X12.6	J2	J2
X12.5	J1	J1

AC SUPPLY MODULE

DESCRIPTION		
NUMBER OF SPARE		
CABLE SIZE		
CABLE NUMBER		
<b>X11</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	3	
X4.8	H70	H70
X4.7	H50	H50

NOTES :  
1. BATTERY CHARGER ALARMS TO BE BROUGHT OUT IN THE SAME CABLE AS THE AC ALARMS (CABLE 23).

BATTERY CHARGER (REFER TO D-DT-11350)

IDF	DESCRIPTION	
23	NUMBER OF SPARE	
	CABLE SIZE	
*	CABLE NUMBER	
<b>X1</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	10	
	9	
	X16	8
	X15	7
	X14	6
	X13	5
	X12	4
	X11	3
	X10	2
	X9	1
X12.1	LOAD	J1A
X12.3	BATT	J1B
	COMM	C
X12.2	LOAD	J2A
X12.4	BATT	J2B
X4.22	L	H131P
X4.N	N	H701

FOR ALARMS DESCRIPTIONS SEE SHEET 12

DC INTERFACE MODULE

DESCRIPTION		
NUMBER OF SPARE		
CABLE SIZE		
CABLE NUMBER		
<b>X12</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	13	J2C
	12	J1C
	11	J2
	10	J1
	9	
	8	B-
	7	B+
	6	J2
	5	J1
	4	J2B
	3	J1B
	2	J2A
	1	J1A

5	TERMINALS ADDED ON X12, X13 CHANGED TO X15	C+S	RV	T. JACOBS	04/03/2017
4	CORE NUMBERS UPDATED, LAYOUT REVISED.	C+S	RV	T. JACOBS	09/17/2014
3.0	ALARM FERRULE NOS CHANGED ON BATTERY CHARGER AND MAIN AC INCOMING MODULE.	V+Z	T. JACOBS	T. JACOBS	11/12/2009
2	SURGE PROTECTION TERMINALS ADDED.	V+Z	T. JACOBS	T. JACOBS	26/02/2006
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE

**Eskom Distribution**

AUTH: T. JACOBS  
DATE: /04/2002  
CHKD: V. van ZWEELE  
DATE: 04/06/2002  
DRAWN: T. ERASMUS  
DATE: /09/2002

**AC/DC PANEL  
PANEL CABLING DIAGRAM**

SET	SHEET	REVISION
	19	16A
		5

D-DT-11216

PANEL TYPE DESIGNATION 24D.103

MASTER TRACING FILED UNDER D-DT-11216 SET 19 SHEET 16A REVISION 5

### MAIN AC INCOMING MODULE

LOOPS TO TERMINAL STRIP X3 (SEE SHT 3)	DESCRIPTION
4Pr	NUMBER OF SPARE
10Pr	CABLE SIZE
*	CABLE NUMBER

X15		SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
			13	
			X4	12
			X3	11
			X2	10
			X1	9
			X3.4	H70
			X3.3	H50
			X3.2	H30
			X3.1	H10
			H7	4
			H5	3
			H3	2
			H1	1

NOTES :  
1. BATTERY CHARGER ALARMS TO BE BROUGHT OUT IN THE SAME CABLE AS THE AC ALARMS (CABLE 23).

### CORDEX BATTERY CHARGER (REFER TO D-DT-11352)

LOOPS TO TERMINAL STRIP X12 (SEE SHT 3)	DESCRIPTION
10F	NUMBER OF SPARE
-	CABLE SIZE
#23	CABLE NUMBER

X1, X2		SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
			X2.34	
			X2.33	
			X2.32	
			X2.31	
			X2.30	
			X2.29	
			X2.28	
			X2.27	
			X2.26	
			X2.25	
			X2.24	
			X2.23	
			X2.22	
			X2.21	
			X2.20	
			X2.19	
			X2.18	
			X2.17	
			X2.16	
			X2.15	
			X2.14	
			X2.13	
			X2.12	
			X2.11	
			X2.10	5b
			X2.9	5a
			X2.8	4b
			X2.7	4a
			X2.6	3b
			X2.5	3a
			X2.4	2b
			X2.3	2a
			X2.2	1b
			X2.1	1a
	X12.2	X1.11	J2A	
	X12.4	X1.10	J2B	
	X12.1	X1.9	J1A	
	X12.3	X1.8	J1B	
		X1.7		
		X1.6		
		X1.5		
		X1.4		
	X4.22	X1.3	H13IP	
	X4.N	X1.2	H701	
		X1.1		

ALARM TERMINALS

### 400V AC 3φ DISTRIBUTION MODULE

LOOPS TO TERMINAL STRIP X4 (SEE SHT 3)	DESCRIPTION
-	NUMBER OF SPARES
-	CABLE SIZE
-	CABLE NUMBER

X3		SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
			21	
			H701	N
			H153D	20
			H133D	19
			H113D	18
			H701	N
			H153C	17
			H133C	16
			H113C	15
			H701	N
			H153B	14
			H133B	13
			H113B	12
			H701	N
			H153A	11
			H133A	10
			H113A	9
	X4.4	H70	8	H70
	X4.3	H50	7	H50
	X4.2	H30	6	H30
	X4.1	H10	5	H10
	X15.8	H70	4	H70
	X15.7	H50	3	H50
	X15.6	H30	2	H30
	X15.5	H10	1	H10

### DC INTERFACE MODULE

LOOPS TO TERMINAL STRIP X8 (SEE SHT 3)	DESCRIPTION
-	NUMBER OF SPARE
-	CABLE SIZE
-	CABLE NUMBER

X12		SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
			SB-	13
			SB+	12
			J2	11
			J1	10
			9	
			B-	8
			B+	7
	X8.2	J2	6	J2
	X8.1	J1	5	J1
	X1.10	J2B	4	J2B
	X1.8	J1B	3	J1B
	X1.11	J2A	2	J2A
	X1.9	J1A	1	J1A

### 230V AC 1φ DISTRIBUTION MODULE 1

LOOPS TO TERMINAL STRIP X2 (SEE SHT 3)	DESCRIPTION
-	NUMBER OF SPARE
-	CABLE SIZE
-	CABLE NUMBER

X4		SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
			23	
			H701	N
			H131P	22
			H701	N
			H111N	21
			H701	N
			H151M	20
			H701	N
			H131L	19
			H701	N
			H111K	18
			H701	N
			H151J	17
			H701	N
			H131H	16
			H701	N
			H111G	15
			H701	N
			H151F	14
			H701	N
			H131E	13
			H701	N
			H111D	12
			H701	N
			H151C	11
			H701	N
			H131B	10
			H701	N
			H111A	9
			X11.4	H70
			X11.3	H50
			X11.2	H30
			X11.1	H10
			X3.8	H70
			X3.7	H50
			X3.6	H30
			X3.5	H10

### 110V DC DISTRIBUTION MODULE 1

X8		SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
			25	
			J12K	24
			J11K	23
			J12J	22
			J11J	21
			J12H	20
			J11H	19
			J12G	18
			J11G	17
			J12F	16
			J11F	15
			J12E	14
			J11E	13
			J12D	12
			J11D	11
			J12C	10
			J11C	9
			J12B	8
			J11B	7
			J12A	6
			J11A	5
			J2	4
			J1	3
	X12.6	J2	2	J2
	X12.5	J1	1	J1

### AC SUPPLY MODULE

LOOPS TO TERMINAL STRIP X4 (SEE SHT 3)	DESCRIPTION
-	NUMBER OF SPARE
-	CABLE SIZE
-	CABLE NUMBER

X11		SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
			3	
X4.8	H70	2	H70	
X4.7	H50	1	H50	

5	TERMINALS ADDED ON X12, X13 CHANGED TO X15	C+S	RV	T. JACOBS	04/03/2017
4	CORE NUMBERS UPDATED, LAYOUT REVISED.	C+S	RV	T. JACOBS	09/17/2014
3.0	ALARM TERMINALS NOT CHANGED ON BATTERY CHARGER AND BULK AC INCOMING MODULE	V+Z	T. JACOBS	T. JACOBS	01/12/2009
2	SURGE PROTECTION TERMINALS ADDED.	V+Z	T. JACOBS	T. JACOBS	26/02/2006
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE

		AC/DC PANEL PANEL CABLING DIAGRAM		
AUTH: T. JACOBS DATE: /04/2002 CHKD: V. van ZWEELE DATE: 04/06/2002 DRAM: T. ERASMUS DATE: /09/2002	D-DT-11216	SET 19	SHEET 16B	REVISION 5

PANEL TYPE DESIGNATION 240.103




SHEET NUMBER	TITLE	REVISION	DATE	DESIGN CHANGES
0	COVER SHEET	5	06/03/2017	COVER SHEET UPDATED
1	PANEL EQUIPMENT LAYOUT	5	06/03/2017	TERMINALS ADDED, LAYOUTS AND MODULE SIZES UPDATED
2	PANEL LABEL SCHEDULE	5	06/03/2017	LABELS UPDATED
3A	TERMINAL PLATE ARRANGEMENT	5	06/03/2017	TERMINALS ADDED TO X12, X13 CHANGED TO X15
3B	TERMINAL PLATE ARRANGEMENT	5	06/03/2017	TERMINALS ADDED TO X12, X13 CHANGED TO X15
4	MAIN AC INCOMING MODULE EQUIP L/O	5	06/03/2017	LABELS UPDATED
5	MAIN AC INCOMING MODULE KEY DIAG.	5	06/03/2017	DELAY-ON-DROP-OFF TIMER CHANGED TO DELAY-ON-PICK-UP TIMER, X13 CHANGED TO X15
6	400V AC DISTR MODULE EQUIP L/O	5	06/03/2017	LABELS UPDATED, NOTE ADDED
7	400V AC DISTR MODULE KEY DIAG.	4	09/07/2014	AS PER PREVIOUS REVISION
8	230V AC DISTR MODULE 1 EQUIP L/O	5	06/03/2017	LABELS UPDATED, NOTE ADDED
9	230V AC DISTR MODULE 1 KEY DIAG.	4	09/07/2014	AS PER PREVIOUS REVISION
10	AC SUPPLY MODULE EQUIP L/O	6	06/03/2017	LABELS UPDATED
11	AC SUPPLY MODULE KEY DIAG.	5	09/07/2014	AS PER PREVIOUS REVISION
12	INTERFACE MODULE EQUIP L/O	5	06/03/2017	ADDED STANDBY TERMINALS AND AC/DC PANEL 2 MCB, LABELS UPDATED, BACKPLATE CHANGED FROM 4U TO 5U
13	INTERFACE MODULE KEY DIAG.	5	06/03/2017	ADDED STANDBY TERMINALS, AC/DC PANEL 2 MCB & NOTE 1, UPDATED PLUG LAYOUT, CHANGED BATT MCB TO ISOLATOR
14	110V DC DISTR MODULE 1 EQUIP L/O	5	06/03/2017	LABELS UPDATED, NOTE ADDED
15	110V DC DISTR MODULE 1 KEY DIAG.	4	09/07/2014	AS PER PREVIOUS REVISION
16	110V DC DISTR MODULE 2 EQUIP L/O	5	06/03/2017	LABELS UPDATED, NOTE ADDED
17	110V DC DISTR MODULE 2 KEY DIAG.	4	09/07/2014	AS PER PREVIOUS REVISION
18A	AC/DC PANEL CABLING DIAGRAM	5	06/03/2017	TERMINALS ADDED ON X12, X13 CHANGED TO X15
18B	AC/DC PANEL CABLING DIAGRAM	5	06/03/2017	TERMINALS ADDED ON X12, X13 CHANGED TO X15

SHEET 18B	AC/DC PANEL CABLING DIAGRAM
SHEET 18A	AC/DC PANEL CABLING DIAGRAM
SHEET 17	110V DC DISTR MODULE 2 KEY DIAG.
SHEET 16	110V DC DISTR MODULE 2 EQUIP L/O
SHEET 15	110V DC DISTR MODULE 1 KEY DIAG.
SHEET 14	110V DC DISTR MODULE 1 EQUIP L/O
SHEET 13	INTERFACE MODULE KEY DIAG.
SHEET 12	INTERFACE MODULE EQUIP L/O
SHEET 11	AC SUPPLY MODULE KEY DIAG.
SHEET 10	AC SUPPLY MODULE EQUIP L/O
SHEET 9	230V AC DISTR MODULE 1 KEY DIAG.
SHEET 8	230V AC DISTR MODULE 1 EQUIP L/O
SHEET 7	400V AC DISTR MODULE KEY DIAG.
SHEET 6	400V AC DISTR MODULE EQUIP L/O
SHEET 5	MAIN AC INCOMING MODULE KEY DIAG.
SHEET 4	MAIN AC INCOMING MODULE EQUIP L/O
SHEET 3B	TERMINAL PLATE ARRANGEMENT
SHEET 3A	TERMINAL PLATE ARRANGEMENT
SHEET 2	PANEL LABEL SCHEDULE
SHEET 1	PANEL EQUIPMENT LAYOUT
SHEET 0	COVER SHEET

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	COVER SHEET UPDATED	CvS	RV	T.JACOBS	06/03/2017	
4	COVER SHEET UPDATED	CvS	RV	T.JACOBS	09/07/2014	
3.0	COVER SHEET ADDED	VvZ	CHKD	T.JACOBS	11/12/2009	

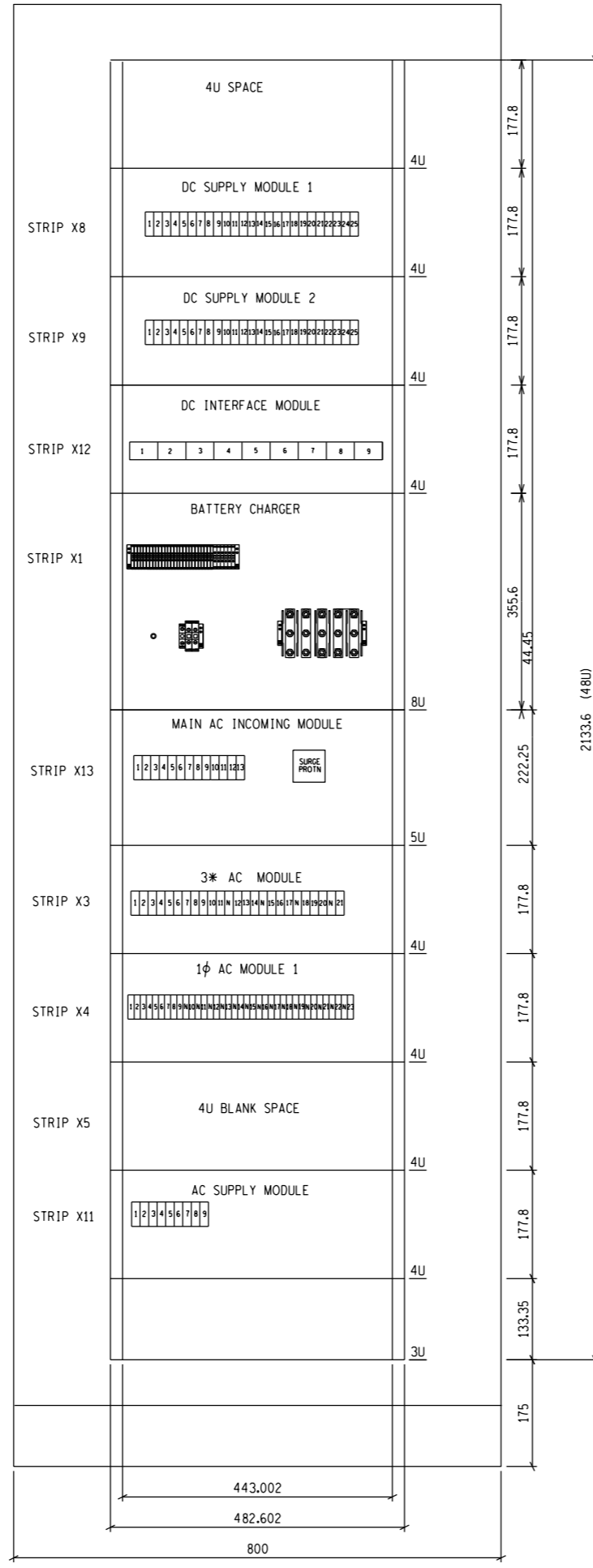
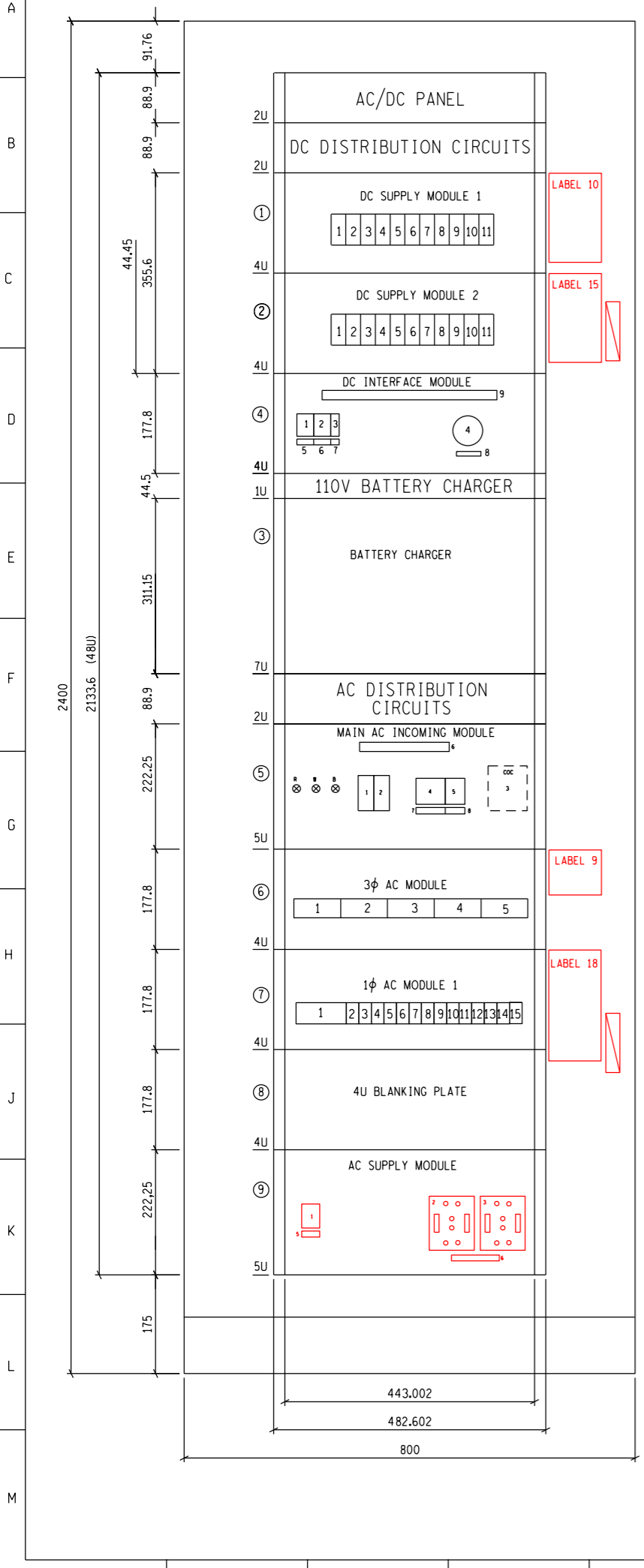
	14/20 WAY AC/DC PANEL PANEL EQUIPMENT LAYOUT COVER SHEET			
	AUTH: T. JACOBS		DATE: /06/2002	
	DATE: 24/01/2009		DRAWNV. van ZWEEL	
	DATE: 24/01/2009		DATE: 24/01/2009	

D-DT-11217		SET	SHEET	REVISION
		21	00	5

PANEL LAYOUT (FRONT VIEW)

TERMINAL STRIP LAYOUT (REAR VIEW)



DESIGNATION	DESCRIPTION	SAP NO.	D-DT-BUYERS GUIDE
①	110V DC SUPPLY MODULE 1	0175668	9203
②	110V DC SUPPLY MODULE 2	0175668	9203
③	BATTERY CHARGER (SEE NOTE 5 & 6)		
④	110V DC INTERFACE MODULE	0185229	9203
⑤	MAIN AC INCOMING MODULE	0186797	9203
⑥	400V AC 3φ DISTRIBUTION MODULE	0175664	9203
⑦	230V AC 1φ DISTRIBUTION MODULE 1	0175665	9203
⑧	230V AC 1* DISTRIBUTION MODULE 2 (NOT INSTALLED)	0175665	9203
⑨	AC SUPPLY MODULE	0175669	9203
	CABINET SWING FRAME	0011357	9141
	1U BLANKING PLATE	0006327	9141
	2U BLANKING PLATE	0006328	9141
	4U BLANKING PLATE	0006492	9141

**NOTE:**

- KEEP STANDARD LAYOUT INSERT BLANKING PLATE IF MODULE NOT USED.
- SHOULD EXTRA INDICATION OUTPUTS BE REQUIRED ADD AN EXTRA CP STRIP TERMINAL & LOOP FROM EXISTING CP STRIP TERMINAL.
- 1U = 44.5mm.
- MAIN AC INCOMING MODULE NOT USED WHEN YARD AC DB IS USED.
- REFER TO LATEST REVISION OF THE RELEVANT CHARGER AS PER THE DESIGN.
- REFER TO D-DT-11352 (CORDEX BATTERY CHARGER).
- THIS DRAWING TO BE READ IN CONJUNCTION WITH DISTRIBUTION SPECIFICATION, DSP-34-1301, DISTRIBUTION GROUP'S SPECIFIC REQUIREMENTS FOR AC/DC DISTRIBUTION BOARDS

SHEET NO.	DESCRIPTION
SHEET 188	AC/DC PANEL CABLING DIAGRAM
SHEET 18A	AC/DC PANEL CABLING DIAGRAM
SHEET 17	110V DC DISTR MODULE 2 KEY DIAG.
SHEET 16	110V DC DISTR MODULE 2 EQUIP L/O
SHEET 15	110V DC DISTR MODULE 1 KEY DIAG.
SHEET 14	110V DC DISTR MODULE 1 EQUIP L/O
SHEET 13	INTERFACE MODULE KEY DIAG.
SHEET 12	INTERFACE MODULE EQUIP L/O
SHEET 11	AC SUPPLY MODULE KEY DIAG.
SHEET 10	AC SUPPLY MODULE EQUIP L/O
SHEET 9	230V AC DISTR MODULE 1 KEY DIAG.
SHEET 8	230V AC DISTR MODULE 1 EQUIP L/O
SHEET 7	400V AC DISTR MODULE KEY DIAG.
SHEET 6	400V AC DISTR MODULE EQUIP L/O
SHEET 5	MAIN AC INCOMING MODULE KEY DIAG.
SHEET 4	MAIN AC INCOMING MODULE EQUIP L/O
SHEET 3B	TERMINAL PLATE ARRANGEMENT
SHEET 3A	TERMINAL PLATE ARRANGEMENT
SHEET 2	PANEL LABEL SCHEDULE
SHEET 1	PANEL EQUIPMENT LAYOUT

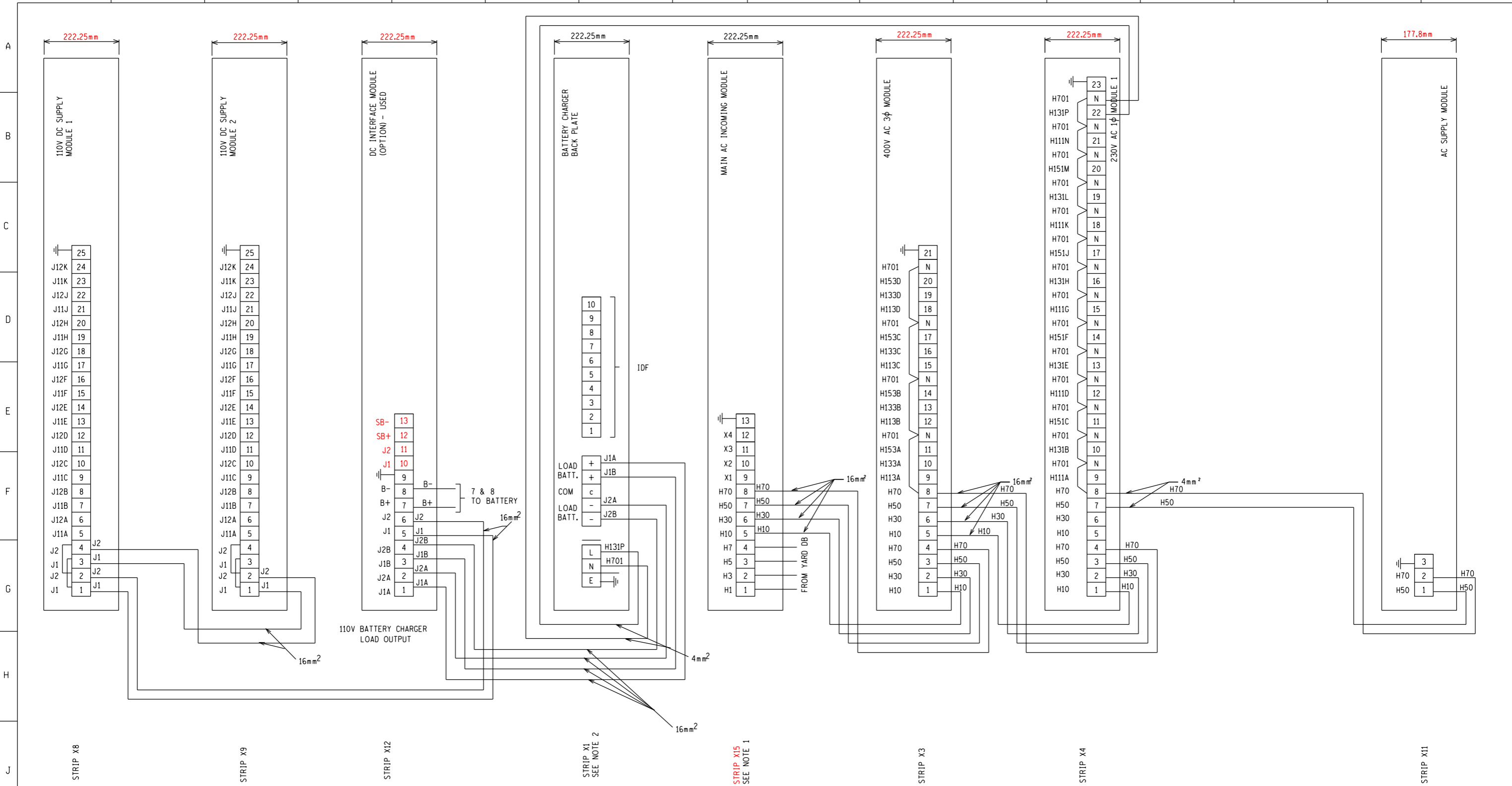
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
4	UPDATED SUPPLY MODULE EQUIPMENT LAYOUT, HANDLES AND LEGENDS DEPOSITION	CvS	RV	T. JACOBS	09/01/2014	
3.0	NOTE 7 ADDED, INTERLOCKING SWITCH ADDED TO AC SUPPLY MODULE FACE PLATE OF MAIN AC & AC SUPPLY MODULES WERE CHANGED TO SU	P.A.T.		T. JACOBS	11/12/2009	
2	INSERTED NOTE 6.	VvZ		T. JACOBS	26/01/2006	
1	DRAWING No. CHANGED FROM D-01-5600	VvZ		TJ	17/02/2005	

		<b>14/20WAY AC/DC PANEL</b> <b>PANEL EQUIPMENT LAYOUT</b>			
AUTH: T. JACOBS DATE: /06/2002 CHKD: V. van ZWEELE DATE: 06/06/2002 DRAWN: T. ERASMUS DATE: /05/2002	D-DT-11217		SET 21	SHEET 01	REVISION 4

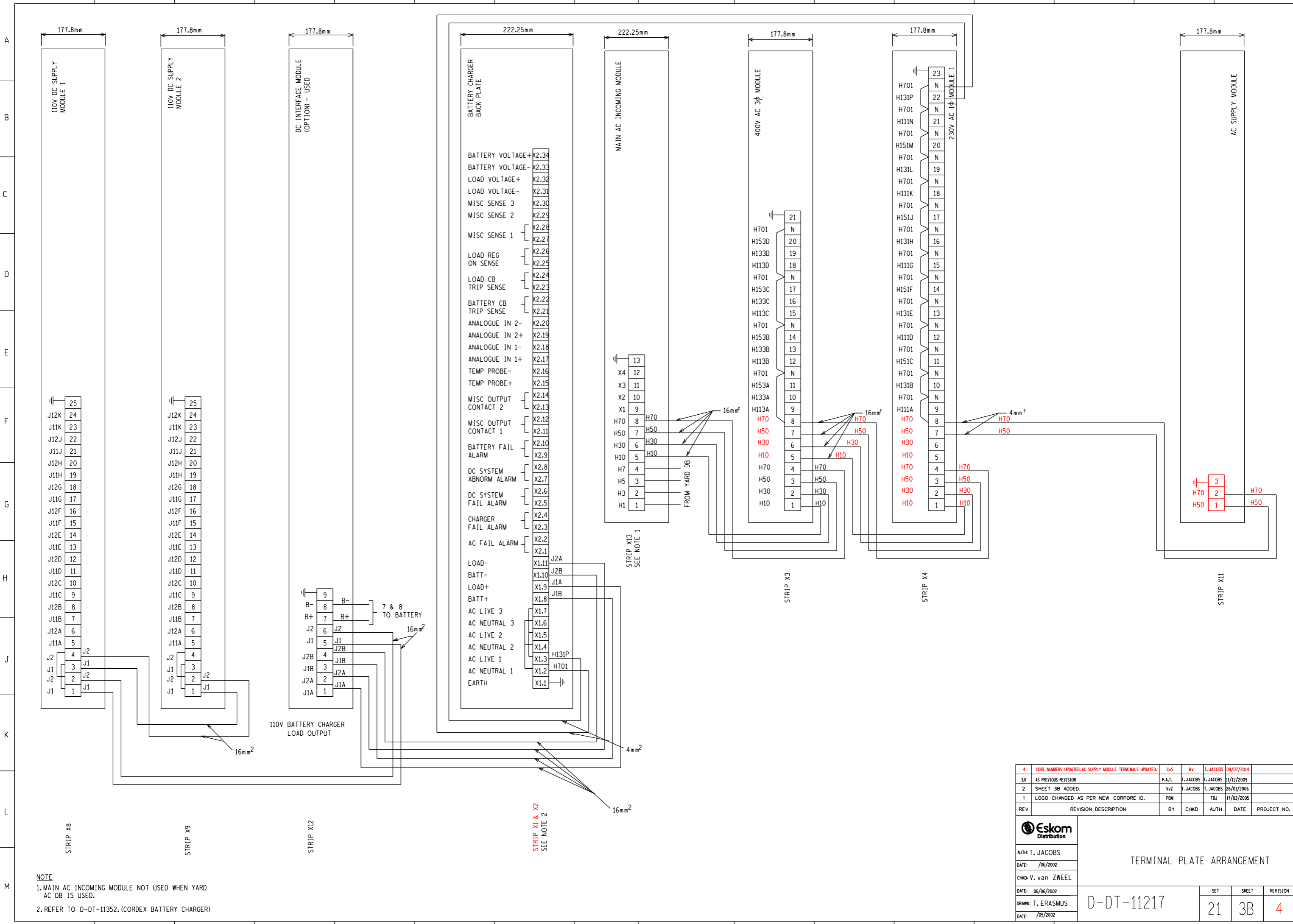
PANEL TYPE DESIGNATION 2AD.203

MASTER TRACING FILED UNDER D-DT-11217 SET 21 SHEET 01 REVISION 4



NOTE  
 1. MAIN AC INCOMING MODULE NOT USED WHEN YARD AC DB IS USED.  
 2. REFER TO D-DT-11350.

5	TERMINALS ADDED TO X12, X13 CHANGED TO X15	CvS	RV	T. JACOBS	06/03/2017	
4	CORE NUMBERS UPDATED, AC SUPPLY MODULE TERMINALS UPDATED.	CvS	RY	T. JACOBS	09/07/2014	
30	AS PREVIOUS REVISION	P.A.T.	T. JACOBS	T. JACOBS	11/12/2009	
2	INSERTED NOTE 6.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
		<b>TERMINAL PLATE ARRANGEMENT</b>  D-DT-11217				
AUTH: T. JACOBS						
DATE: /06/2002						
CHKD: V. van ZWEEL						
DATE: 06/06/2002		SET	SHEET	REVISION		
DRAWN: T. ERASMUS		21	3A	5		
DATE: /05/2002						



**NOTE**  
 1. MAIN AC INCOMING MODULE NOT USED WHEN YARD AC DB IS USED.  
 2. REFER TO D-DT-11352. (CORDEX BATTERY CHARGER)

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
4	CORE NUMBERS UPDATED, AC SUPPLY MODULE TERMINALS UPDATED.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PREVIOUS REVISION	P.A.T.	T. JACOBS	T. JACOBS	11/12/2009	
2	SHEET 3B ADDED.	VzZ	T. JACOBS	T. JACOBS	26/01/2006	
1	LOGO CHANGED AS PER NEW CORPORA ID.	PBM		TDJ	17/02/2005	

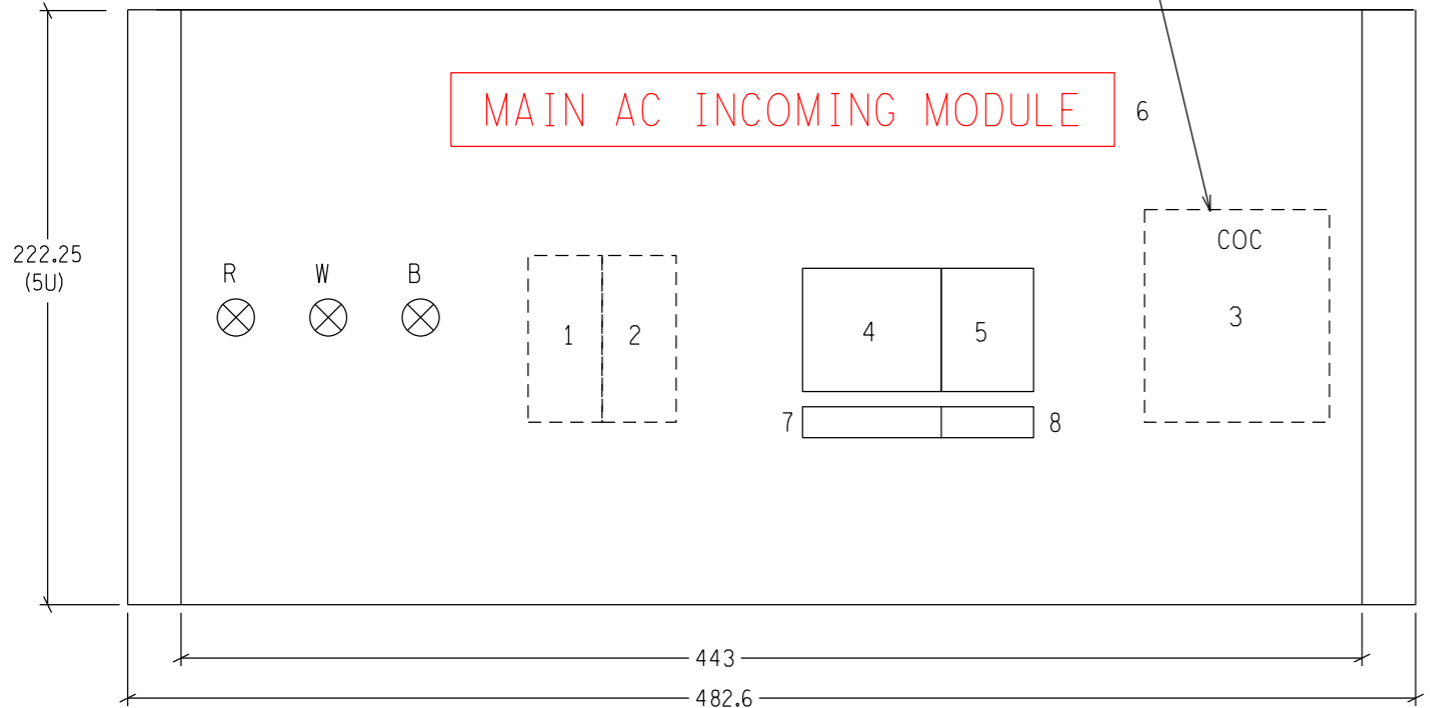
  

		<b>TERMINAL PLATE ARRANGEMENT</b>  <b>D-DT-11217</b>		
AUTH: T. JACOBS				
DATE: /06/2002				
CHKD: V. van ZWEEL				
DATE: 06/06/2002	SET	SHEET	REVISION	
DRAWN: T. ERASMUS	D-DT-11217	21	3B	4
DATE: /05/2002				

MASTER TRACING FILLED UNDER D-DT-11217 SET 21 SHEET 3B REVISION 4

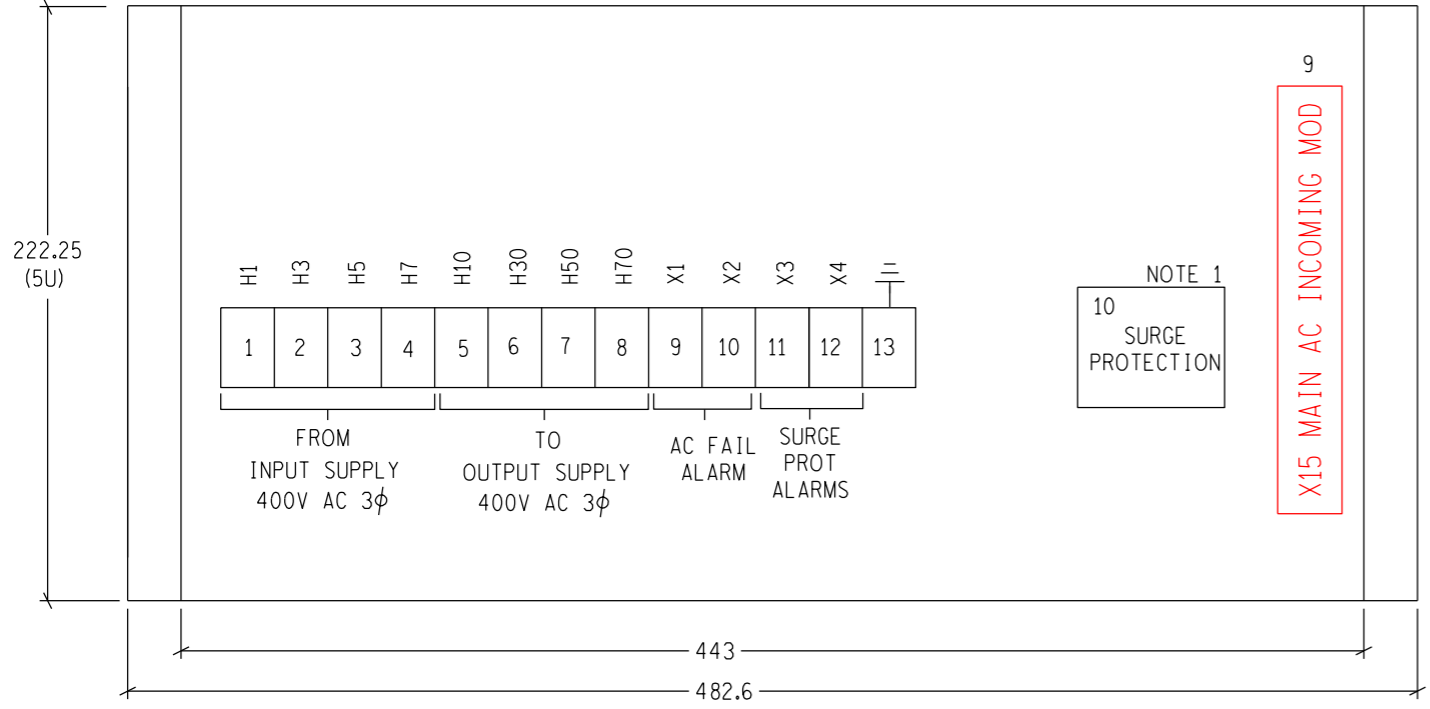
# EQUIPMENT LAYOUT

MOUNTED IN SUITABLE POSITION ON BACK OF PLATE



NOTE: ITEMS 1, 2 & 3 AT BACK OF PLATE.

# TERMINAL PLATE TOP OF PLATE



NOTE 1  
10 SURGE PROTECTION

X15 MAIN AC INCOMING MOD

	DESCRIPTION	LABEL	V	A	kA	TRIP CURVE
1	AC FAIL TIMER - DELAY-ON-PICK-UP (0-60sec)	ACF-T	230V AC			
2	AC FAIL RELAY	ACF	400V AC			
3	CONTACTOR	COC	400V AC	100		
4	INCOMING BREAKER/ISOLATOR (4-POLE)	BRK/ISOL (AC)	400V AC	100	5kA	
5	CONTROL CIRCUIT MCB (3-POLE)	MCB (C)	230V AC	6A	5kA	C
6	LABEL	MAIN AC INCOMING MODULE				
7	LABEL	MAIN ISOLATOR				
8	LABEL	CONTROL CIRCUITS				
9	LABEL	X15 MAIN AC INCOMING MOD				
10	SURGE PROTECTION	SURGE PROTECTION				

NOTE :  
1. DEHNGUARD TT 230/400 FM (900 550) OR SIMILAR APPROVED BY ESKOM

TERMINALS	
NUMBER	TYPE
1-4	M35/26EE - STUD TYPE
5-8	M35/16 - STUD TYPE
9-12	M4/6 - SPRING LOADED
13	EARTH

OR EQUIVALENT

NOTE: ALL STUD TERMINALS TO HAVE COVERS.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	LABELS UPDATED	CvS	RV	T. JACOBS	06/03/2017	
4	PART NUMBERS AND TERMINAL SPECIFICATIONS UPDATED	CvS	RV	T. JACOBS	09/01/2014	
3.0	FACE PLATE SIZE CHANGED TO 5U	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SURGE PROTECTION ADDED.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	

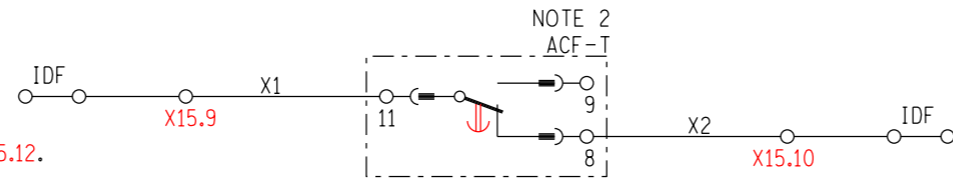
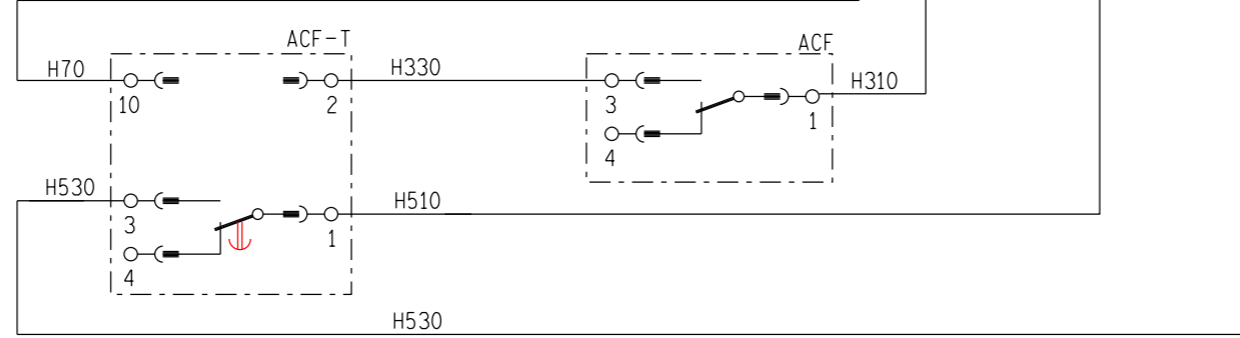
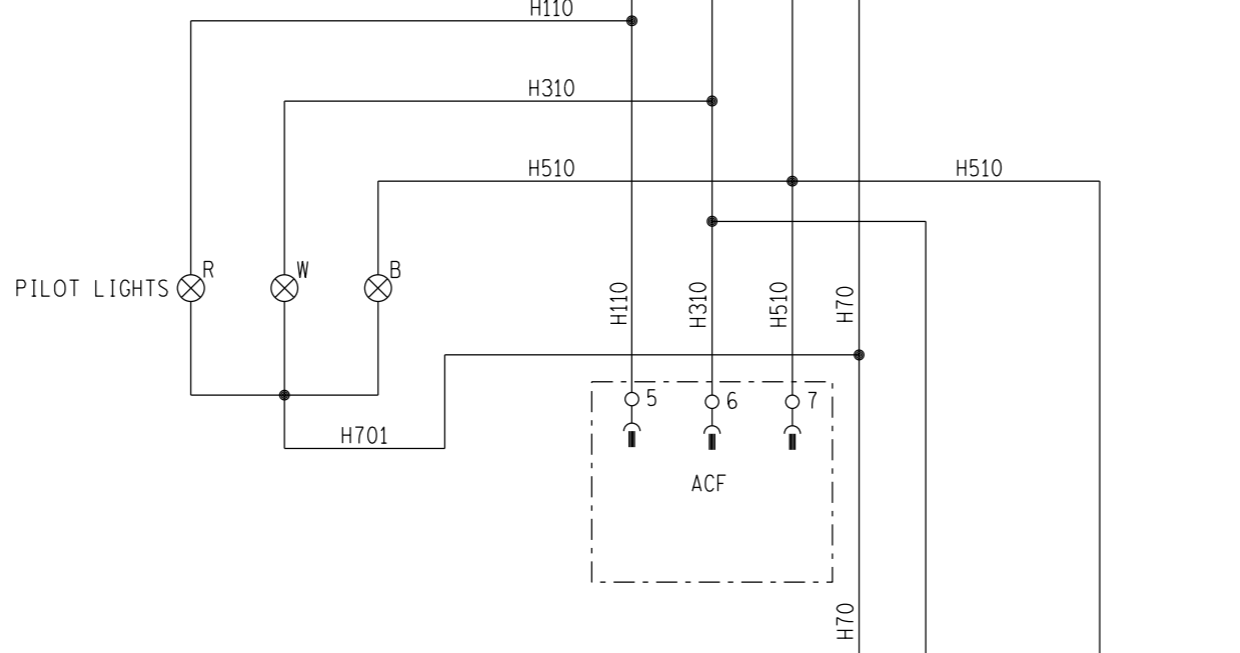
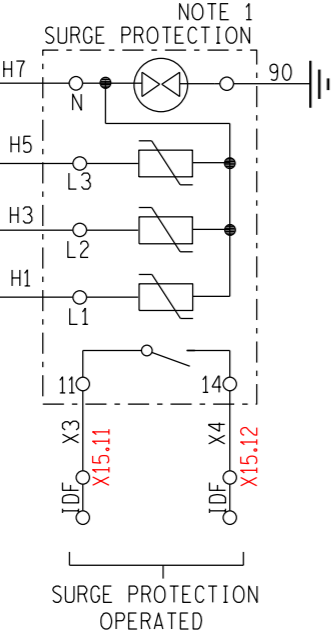
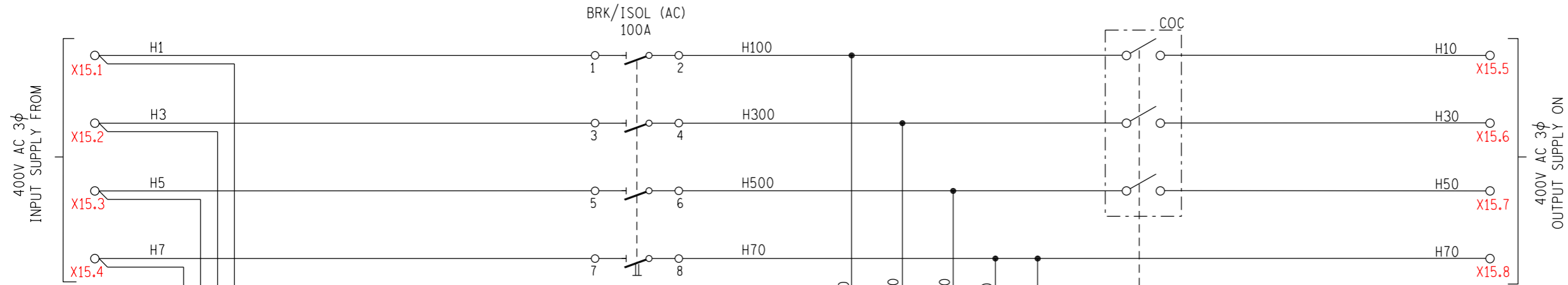


AUTH: T. JACOBS  
DATE: /06/2002  
CHKD: V. van ZWEEL  
DATE: 06/06/2002  
DRAWN: T. ERASMUS  
DATE: /05/2002

MAIN AC INCOMING MODULE  
EQUIPMENT LAYOUT

D-DT-11217

SET	SHEET	REVISION
21	04	5



NOTE:  
 1. SURGE PROTECTION ALARM CONTACTS CONNECTED TO TERMINALS X15.11 - X15.12.  
 2. X15.9 & X15.10 ARE AC FAIL ALARM TERMINALS

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	DELAY-ON-DROP-OFF TIMER CHANGED TO DELAY-ON-PICK-UP TIMER, X13 CHANGED TO X15	CvS	RV	T. JACOBS	06/03/2017	
4	CHANGED ISOL TO BRK/ISOL. CORRECTED MCB SYMBOLS.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS REVISION.	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SURGE PROTECTION ADDED.	VvZ	T. JACOBS	T. JACOBS	26/01/2006	

**Eskom**  
Distribution

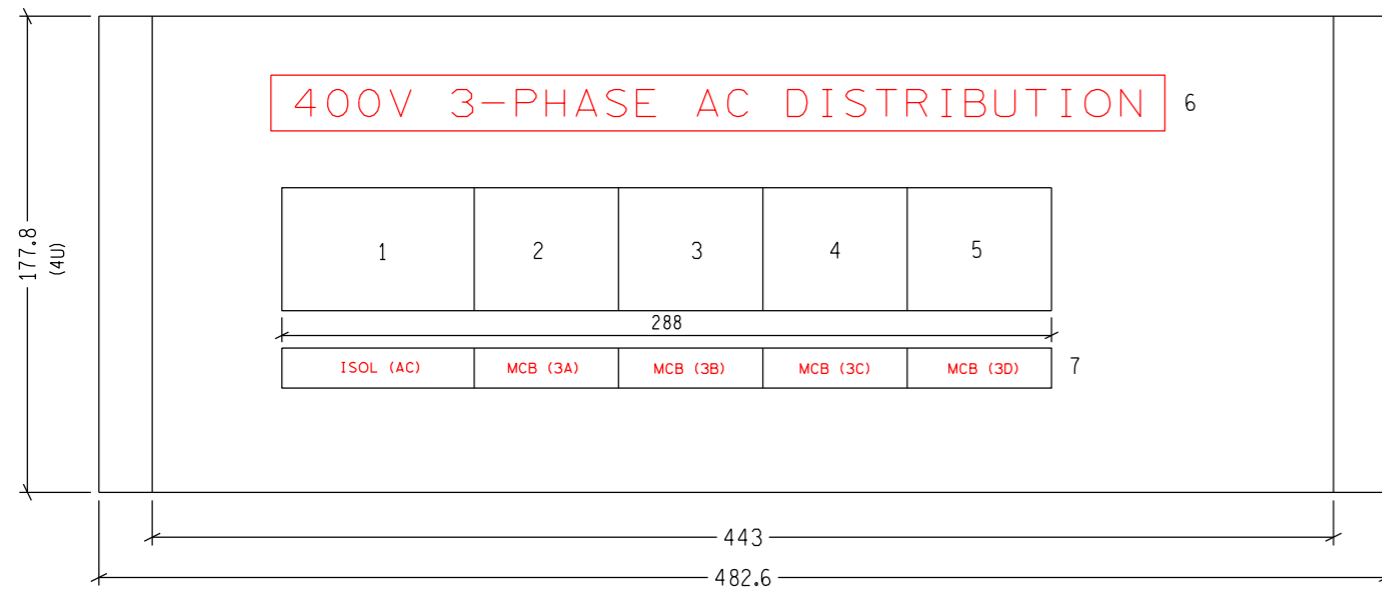
AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEL  
 DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

**MAIN AC INCOMING MODULE  
AC KEY DIAGRAM**

D-DT-11217

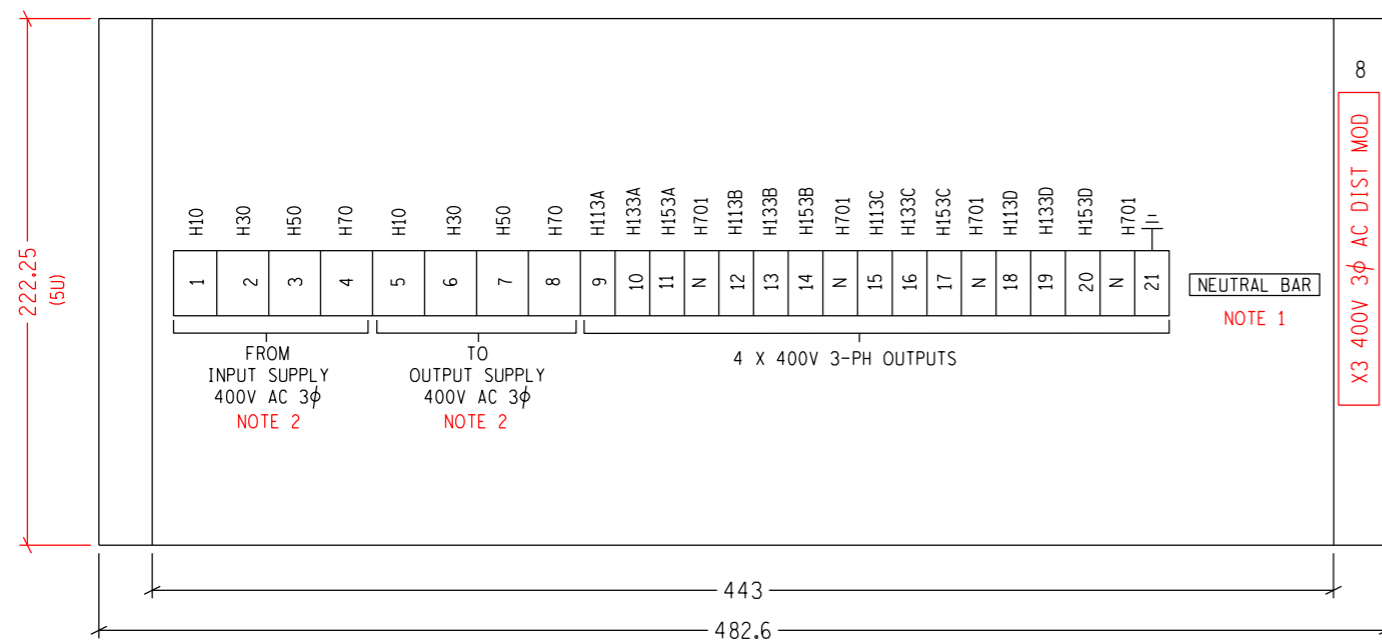
SET	SHEET	REVISION
21	05	5

# EQUIPMENT LAYOUT



	DESCRIPTION	LABEL	V	A	kA	TRIP CURVE
1	4 POLE ISOLATOR	ISOL (AC)	400V AC	63A	5kA	
2	MCB-CIRCUIT (A) (3-POLE)	MCB (3A)	400V AC	32A	5kA	C
3	MCB-CIRCUIT (B) (3-POLE)	MCB (3B)	400V AC	32A	5kA	C
4	MCB-CIRCUIT (C) (3-POLE)	MCB (3C)	400V AC	16A	5kA	C
5	MCB-CIRCUIT (D) (3-POLE)	MCB (3D)	400V AC	16A	5kA	C
6	LABEL	400V 3-PHASE AC DISTRIBUTION				
7	LABEL	SEE EQUIPMENT LAYOUT				
8	LABEL	X3 400V 3φ AC DIST MOD				

# TERMINAL PLATE TOP OF PLATE



NOTE:  
 1. NEUTRAL BAR ONLY TO BE INSERTED IF REQUIRED FOR WIRING PURPOSES.  
 2. STUD TYPE TERMINAL.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	LABELS UPDATED, NOTE ADDED	CvS	RV	T. JACOBS	06/03/2017	
4	CHANGED ISOLATOR RATING.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS REVISION	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 18A & 18B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	

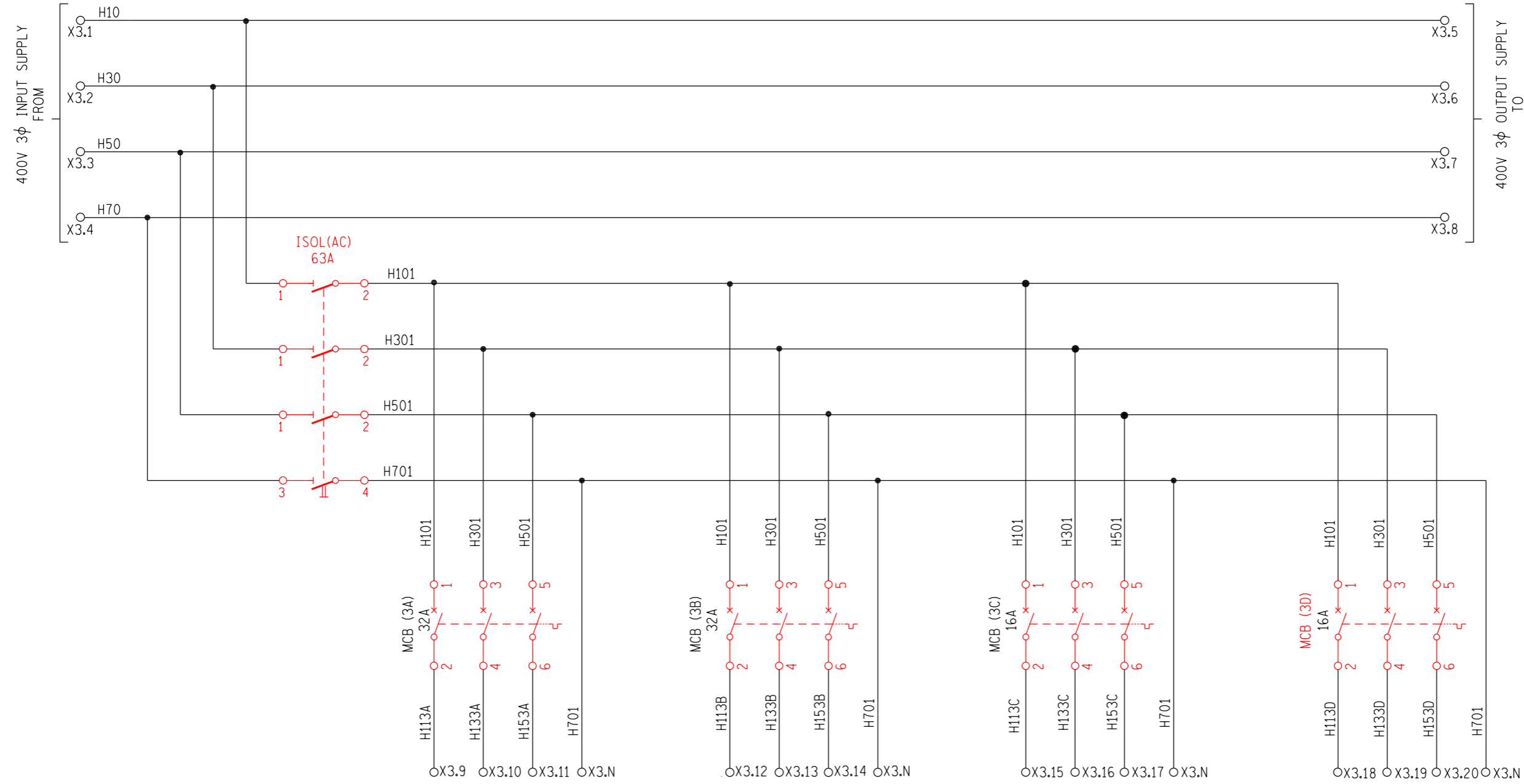


AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEL  
 DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

400V 3φ AC DISTRIBUTION MODULE  
 PANEL EQUIPMENT LAYOUT

D-DT-11217

SET	SHEET	REVISION
21	06	5



NOTE  
NEUTRAL TERMINALS SHALL BE PROVIDED FOR EACH CIRCUIT WITH FERRULE NUMBER 'H701' AND TERMINAL NUMBER 'N'.

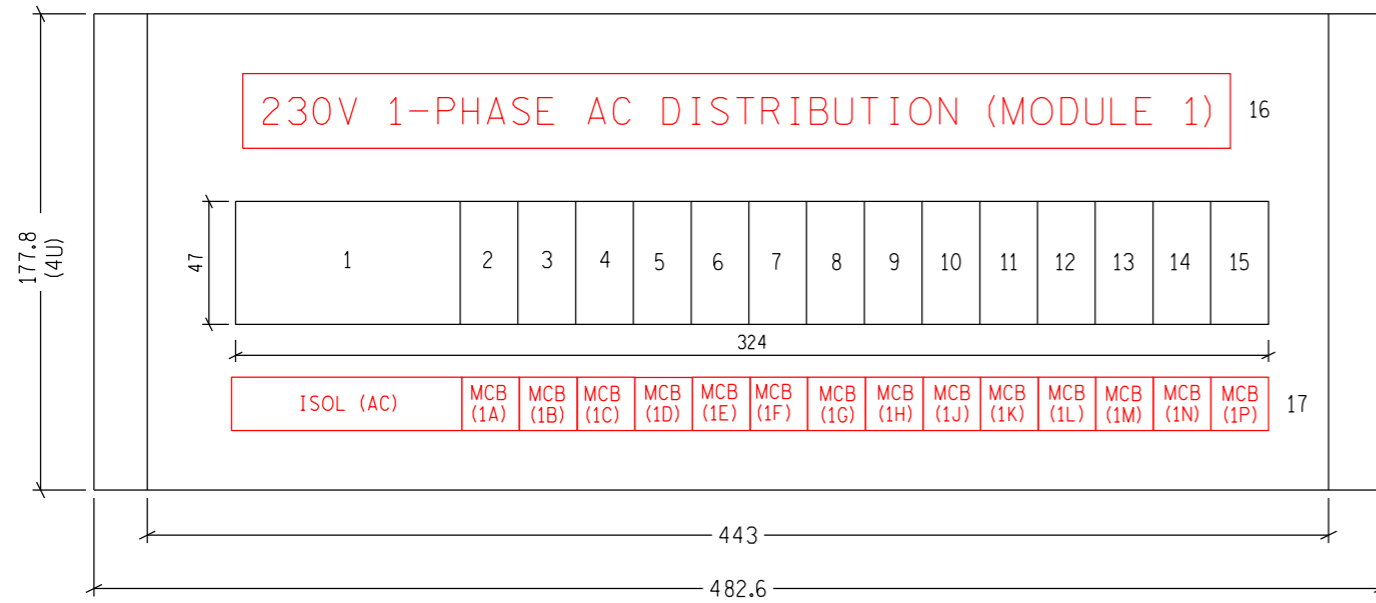
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
4	CHANGED ISOL POSITION & RATING. CORRECTED MCB SYMBOLS.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS REVISION	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 18A & 18B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	
1	LOGO CHANGED AS PER NEW CORPORA ID.	PBM		TDJ	17/02/2005	

		<b>400V 3<math>\phi</math> DISTRIBUTION MODULE AC KEY DIAGRAM</b>				
AUTH: T. JACOBS DATE: /06/2002 CHKD: V. van ZWEEL						
DATE: 06/06/2002 DRAWN: T. ERASMUS DATE: /05/2002		<b>D-DT-11217</b>		SET <b>21</b>	SHEET <b>07</b>	REVISION <b>4</b>

MASTER TRACING FILED UNDER D-DT-11217 SET 21 SHEET 07 REVISION 4

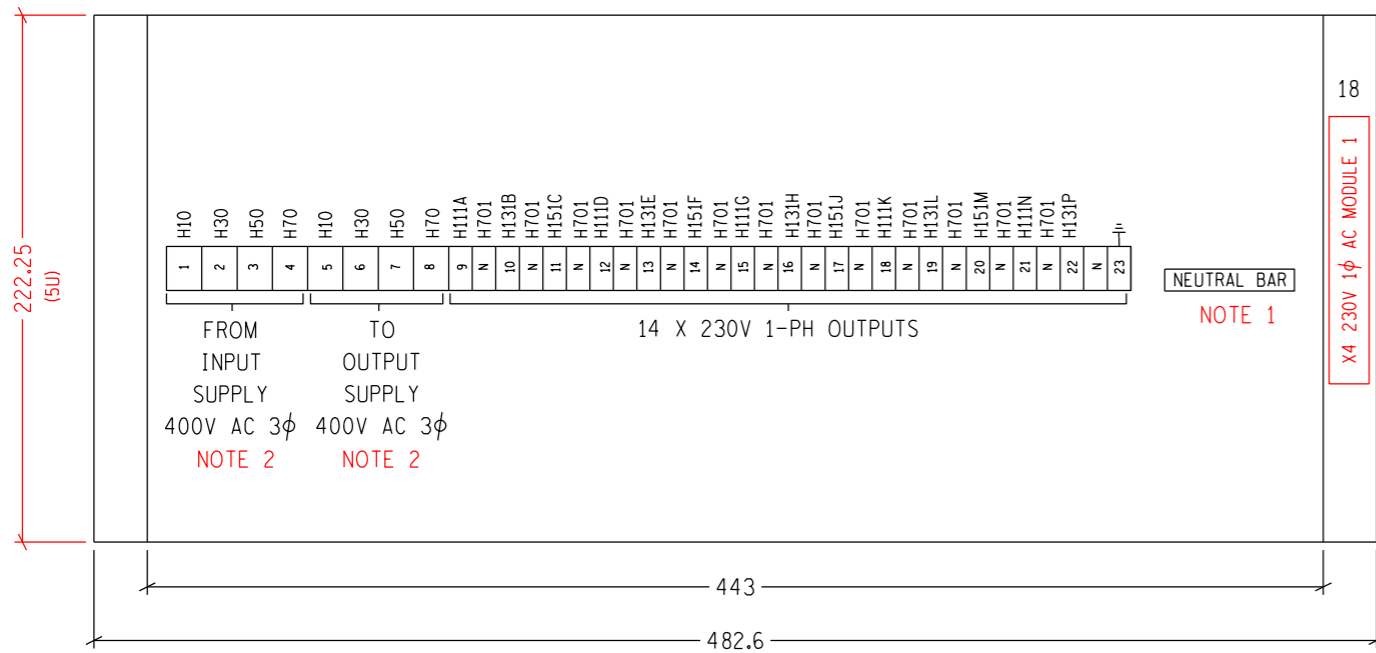


# EQUIPMENT LAYOUT



	DESCRIPTION	LABEL	V	A	kA	TRIP CURVE
1	4-POLE ISOLATOR	ISOL (AC)	400V AC	63A	5kA	
2	MCB CIRCUIT A (1-Pole)	MCB (1A)	230V AC	20A	5kA	C
3	MCB CIRCUIT B (1-Pole)	MCB (1B)	230V AC	20A	5kA	C
4	MCB CIRCUIT C (1-Pole)	MCB (1C)	230V AC	20A	5kA	C
5	MCB CIRCUIT D (1-Pole)	MCB (1D)	230V AC	20A	5kA	C
6	MCB CIRCUIT E (1-Pole)	MCB (1E)	230V AC	20A	5kA	C
7	MCB CIRCUIT F (1-Pole)	MCB (1F)	230V AC	20A	5kA	C
8	MCB CIRCUIT G (1-Pole)	MCB (1G)	230V AC	20A	5kA	C
9	MCB CIRCUIT H (1-Pole)	MCB (1H)	230V AC	20A	5kA	C
10	MCB CIRCUIT J (1-Pole)	MCB (1J)	230V AC	20A	5kA	C
11	MCB CIRCUIT K (1-Pole)	MCB (1K)	230V AC	20A	5kA	C
12	MCB CIRCUIT L (1-Pole)	MCB (1L)	230V AC	20A	5kA	C
13	MCB CIRCUIT M (1-Pole)	MCB (1M)	230V AC	20A	5kA	C
14	MCB CIRCUIT N (1-Pole)	MCB (1N)	230V AC	20A	5kA	C
15	MCB CIRCUIT P (1-Pole)	MCB (1P)	230V AC	20A	5kA	C
16	LABEL	230V 1-PHASE AC DISTRIBUTION (MODULE 1)				
17	LABEL	SEE EQUIPMENT LAYOUT				
18	LABEL	X4 230V 1φ AC MODULE 1				

# TERMINAL PLATE TOP OF PLATE



NOTE:  
 1. NEUTRAL BAR ONLY TO BE INSERTED IF REQUIRED FOR WIRING PURPOSES.  
 2. STUD TYPE TERMINAL.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	LABELS UPDATED, NOTE ADDED	CvS	RV	T. JACOBS	06/03/2017	
4	CORRECTED ISOLATOR RATING AND CORE NUMBERS	CvS	RV	T. JACOBS	09/07/2014	
3.0	40A 4 POLE AC ISOLATOR ADDED.	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 18A & 18B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	

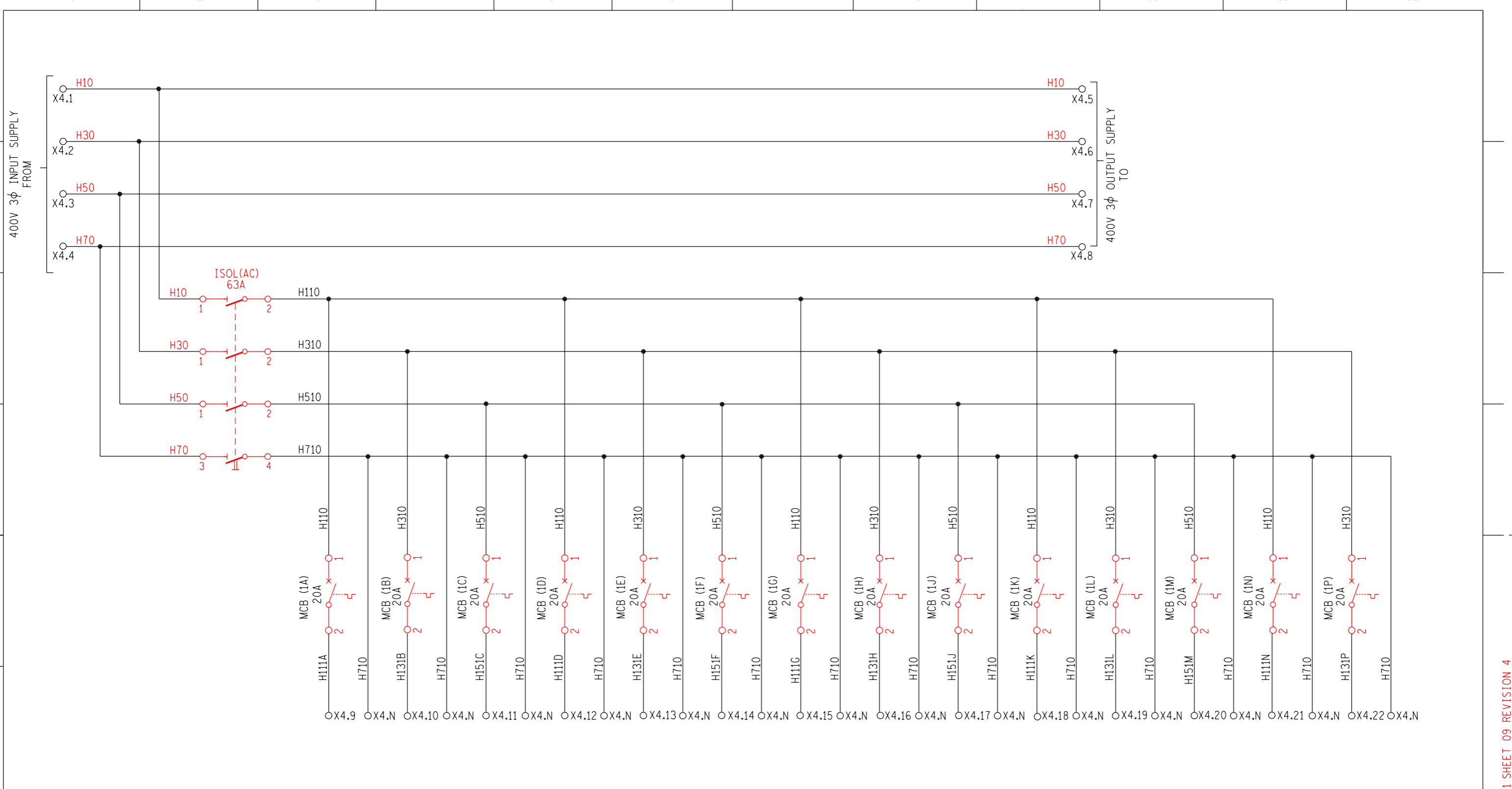


AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEL  
 DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

230V 1φ AC DISTRIBUTION MODULE 1  
 EQUIPMENT LAYOUT

D-DT-11217

SET	SHEET	REVISION
21	08	5



NOTE  
 NEUTRAL TERMINALS SHALL BE PROVIDED  
 FOR EACH CIRCUIT WITH FERRULE NUMBER  
 'H710' AND TERMINAL NUMBER 'N'.

4	CHANGED ISOL RATING, CORRECTED MCB SYMBOLS, CORE NUMBERS CORRECTED.	CvS	RV	T. JACOBS	09/07/2014	
3.0	40A 4 POLE AC ISOLATOR ADDED.	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 18A & 18B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	
1	LOGO CHANGED AS PER NEW CORPORE ID.	PBM		TDJ	17/02/2005	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.



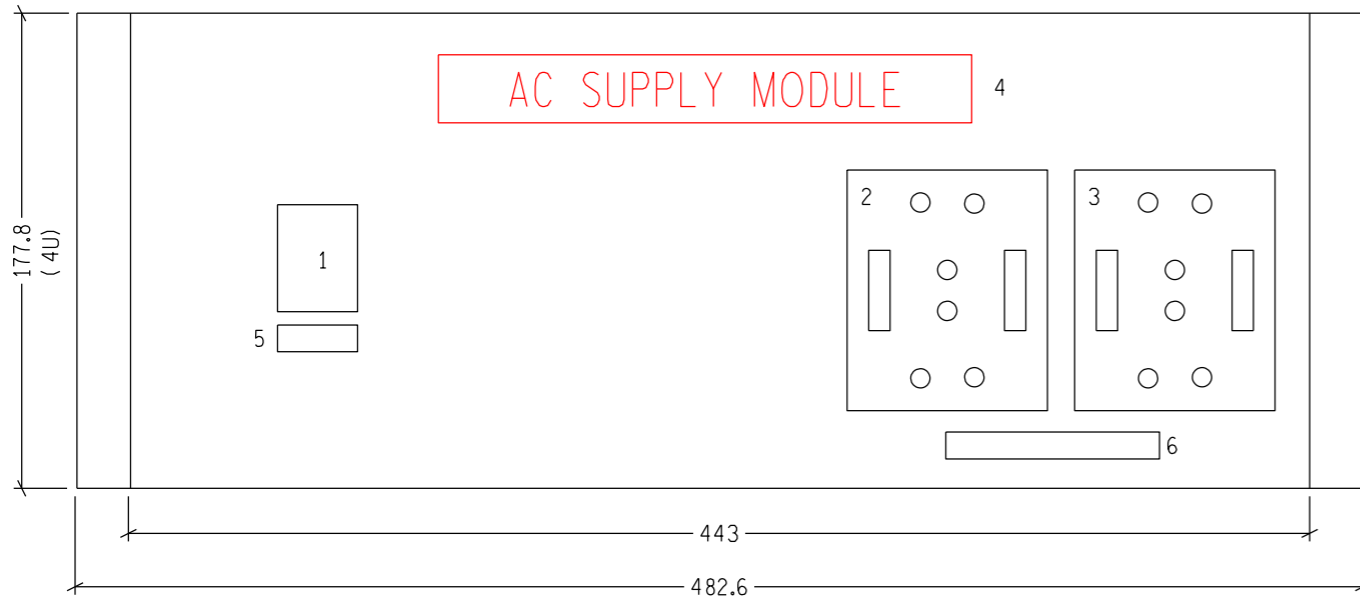
AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEL  
 DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

230V 1φ AC DISTRIBUTION MODULE 1  
 KEY DIAGRAM

D-DT-11217	SET	SHEET	REVISION
	21	09	4

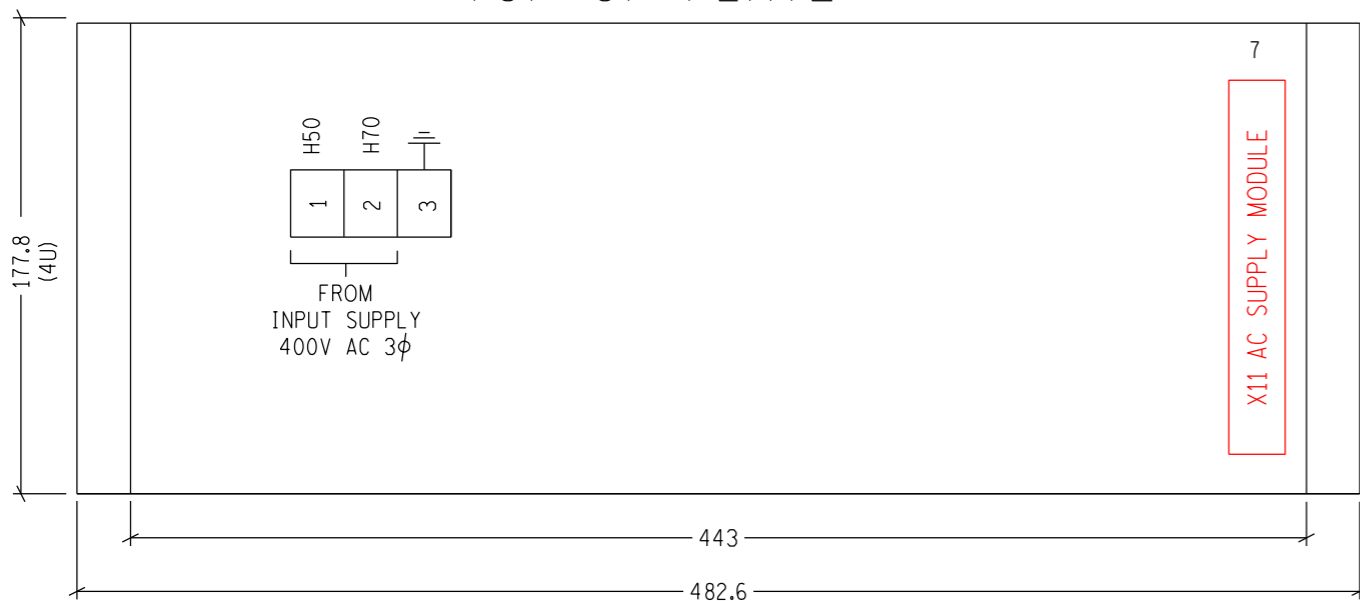
MASTER TRACING FILED UNDER D-DT-11217 SET 21 SHEET 09 REVISION 4

# EQUIPMENT LAYOUT



	DESCRIPTION	LABEL	V	A	kA	TRIP CURVE
1	EARTH LEAKAGE UNIT (30mA)	EL	230V AC	20A	5kA	C
2	1 $\phi$ DOUBLE SWITCHED SOCKET OUTLET 1	SS1	230V AC	16A		
3	1 $\phi$ DOUBLE SWITCHED SOCKET OUTLET 2	SS2	230V AC	16A		
4	LABEL	AC SUPPLY MODULE				
5	LABEL	SWITCHED SOCKETS				
6	LABEL	SWITCHED SOCKETS (SS1) (SS2)				
7	LABEL	X11 AC SUPPLY MODULE				

# TERMINAL PLATE TOP OF PLATE

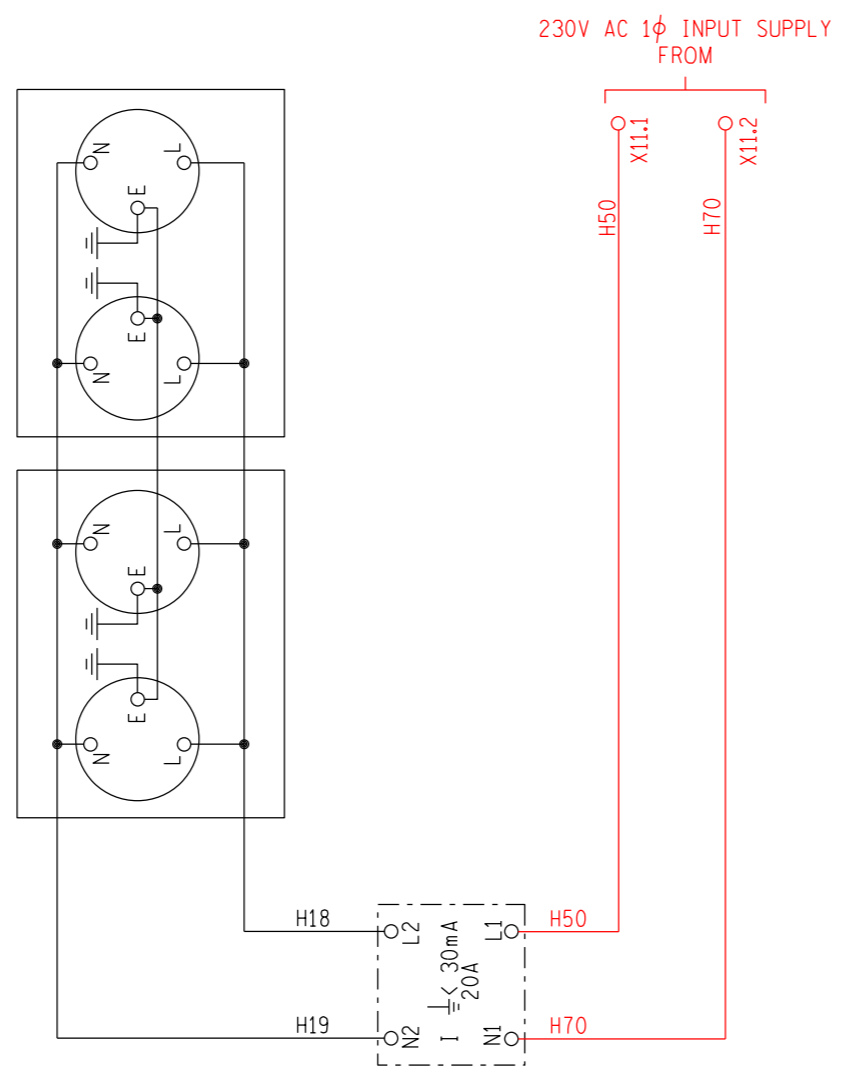


REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
6	LABELS UPDATED	CvS	RV	T. JACOBS	06/03/2017	
5	CORE NUMBERS UPDATED. TERMINALS REMOVED.	CvS	RV	T. JACOBS	09/07/2014	
4	REMOVE 3 $\phi$ SOCKET & 3 $\phi$ E/L, ADD DOUBLE PLUGS & 1 $\phi$ E/L	RV	RV	T. JACOBS	27/03/2013	
3.0	FACEPLATE SIZE CHANGED TO 5U. ITEMS 1, 4, 5, REVED, 3 ADDED	VvZ	T. JACOBS	T. JACOBS	11/12/2009	

	AC SUPPLY MODULE EQUIPMENT LAYOUT			
	AUTH: T. JACOBS			
	DATE: /06/2002			
	CHKD: V. van ZWEEL			
	DATE: 06/06/2002			
DRAWN: T. ERASMUS		DATE: /05/2002		
D-DT-11217		SET	SHEET	REVISION
		21	10	6

PANEL TYPE DESIGNATION 2AC\_603

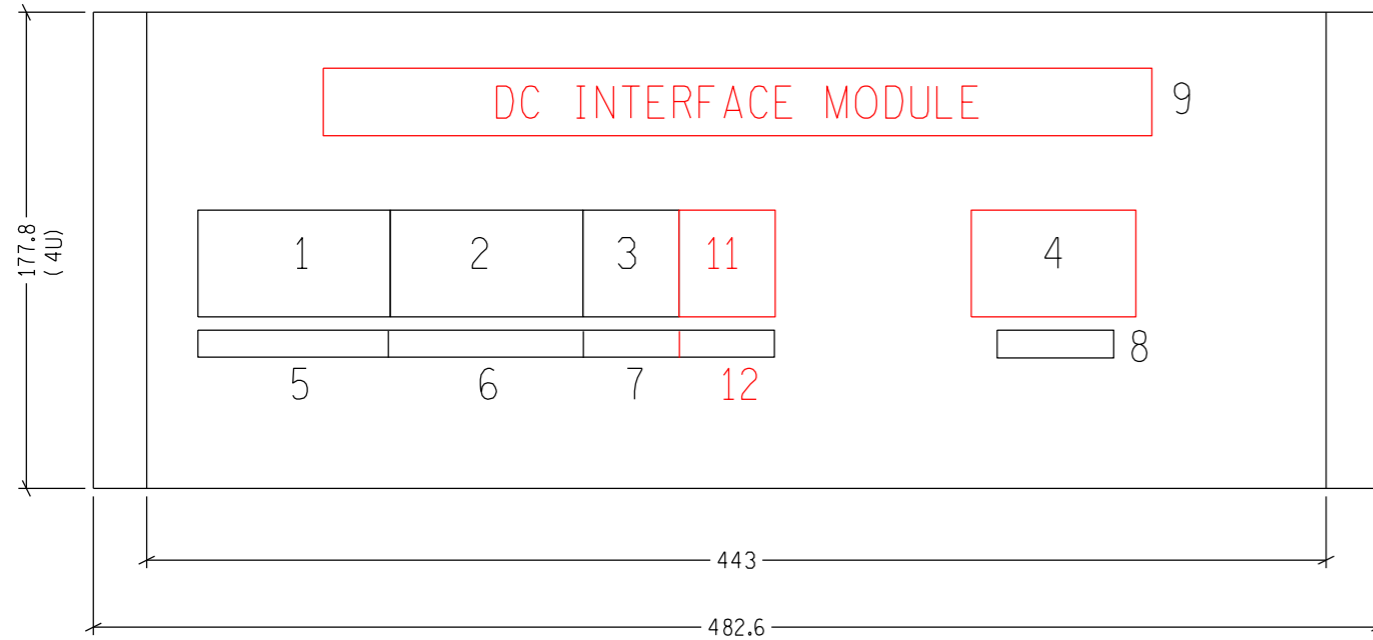
A2L



REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	CORE NUMBERS UPDATED. TERMINALS REMOVED.	CvS	RV	T.JACOBS	09/07/2014	
4	REMOVE 3 $\phi$ SOCKET & 3 $\phi$ E/L, ADD DOUBLE PLUGS & 1 $\phi$ E/L	RV	RV	T.JACOBS	27/03/2013	
3.0	4 POLE EARTH LEAKAGE UNIT AND MCB (SS) ADDED	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 18A & 18B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	
1	LOGO CHANGED AS PER NEW CORPORE ID.	PBM		TDJ	17/02/2005	

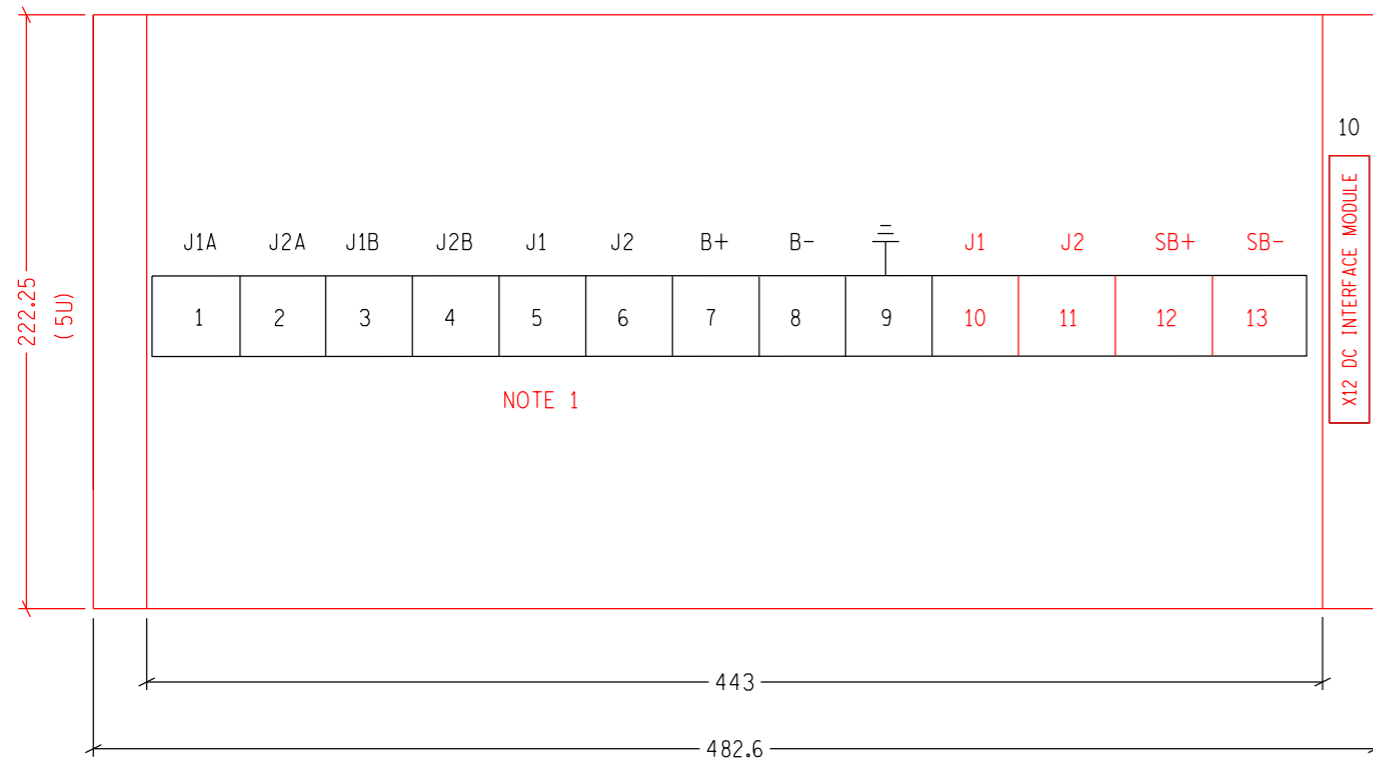
		AC SUPPLY MODULE KEY DIAGRAM		
AUTH: T. JACOBS DATE: /06/2002 CHKD: V. van ZWEEL				
DATE: 06/06/2002	D-DT-11217	SET	SHEET	REVISION
DRAWN: T. ERASMUS		21	11	5
DATE: /05/2002				

# EQUIPMENT LAYOUT



ITEM	DESCRIPTION	LABEL	V	A	kA
1	MAIN DC SUPPLY ISOLATOR	ISO (CHGR)	140V DC	63A	5kA
2	STANDBY DC SUPPLY ISOLATOR	STANDBY DC ISOLATOR	140V DC	63A	5kA
3	BATTERY ISOLATOR	ISO (BATT)	140V DC	63A	5kA
4	STANDBY DC SUPPLY FLAT PLATE ANDERSON PLUG	STANDBY CHGR SOCKET	140V DC	50A	
5	LABEL	MAIN DC SUPPLY ISOLATOR			
6	LABEL	STANDBY DC SUPPLY ISOLATOR			
7	LABEL	ISO (BATT)			
8	LABEL	STANDBY CHGR SOCKET			
9	LABEL	DC INTERFACE MODULE			
10	LABEL	X12 DC INTERFACE MODULE			
11	BATTERY MCB, C-CURVE	MCB (AC/DC PANEL 2)	140V DC	63A	5kA
12	LABEL	MCB AC/DC PNL2			

# TERMINAL PLATE TOP OF PLATE

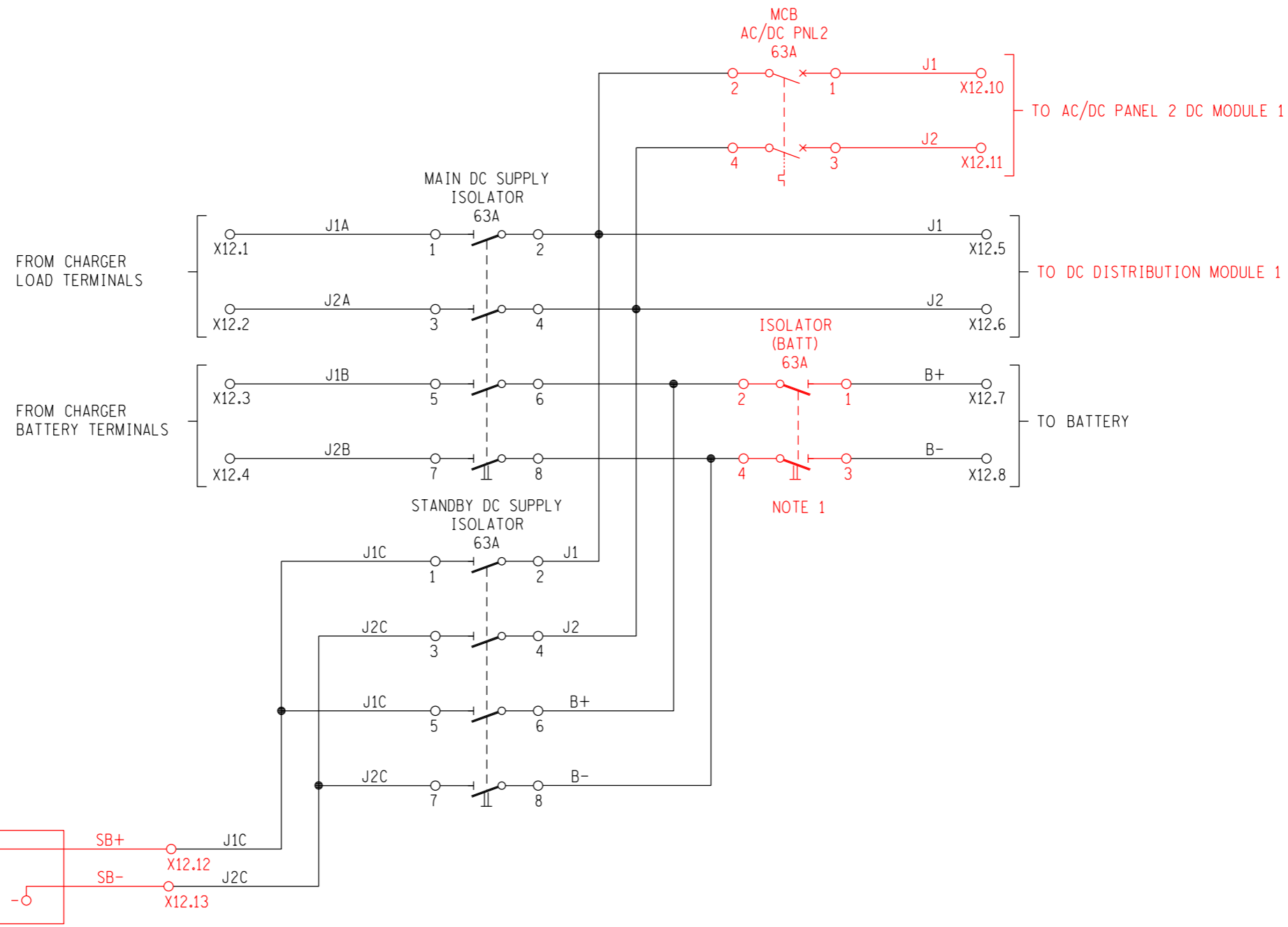


NOTE 1

NOTE:  
1. STUD TYPE TERMINAL.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	ADDED STANDBY TERMINALS AND AC/DC PANEL 2 MCB, LABELS UPDATED, BACKPLATE CHANGED FROM 4U TO 5U	CvS	RV	T. JACOBS	06/03/2017	
4	UPDATED ISOL & MCB SPECIFICATIONS.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS ISSUE	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 18A & 18B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	

	DC INTERFACE MODULE EQUIPMENT LAYOUT			
	AUTH: T. JACOBS			
	DATE: /06/2002			
	CHKD: V. van ZWEEL			
DATE: 06/06/2002	SET	SHEET	REVISION	
DRAWN: T. ERASMUS	D-DT-11217	21	12	5
DATE: /05/2002				



STANDBY DC SUPPLY  
FLAT PLATE ANDERSON PLUG

NOTE:  
1. THE SHORT CIRCUIT CURRENT FOR THE MCB MUST BE FOR THE MAXIMUM SHORT CIRCUIT CURRENT OF THE BATTERY.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	ADDED STANDBY TERMINALS, AC/DC PANEL 2 MCB & NOTE 1, UPDATED PLUG LAYOUT, CHANGED BATT MCB TO ISOLATOR	CvS	RV	T. JACOBS	06/03/2017	
4	UPDATED ISOL AND MCB SYMBOLS AND ADDED RATINGS.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS ISSUE	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 18A & 18B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	



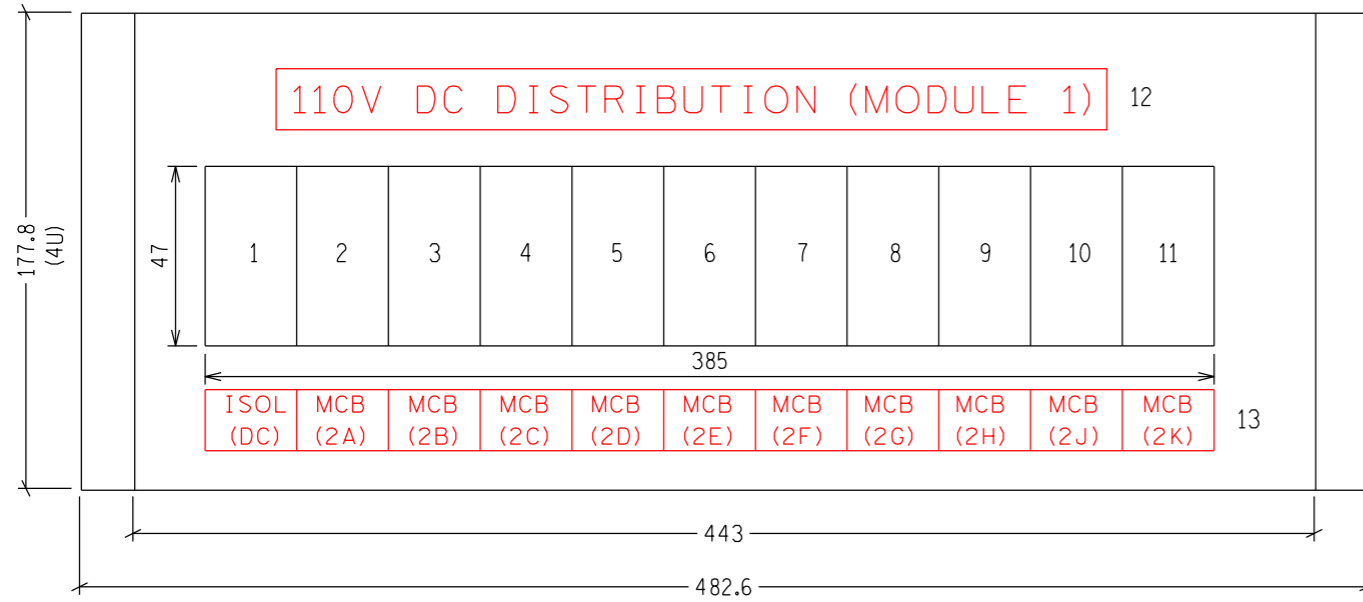
AUTH: T. JACOBS  
DATE: /06/2002  
CHKD: V. van ZWEEL  
DATE: 06/06/2002  
DRAWN: T. ERASMUS  
DATE: /05/2002

DC INTERFACE MODULE  
KEY DIAGRAM

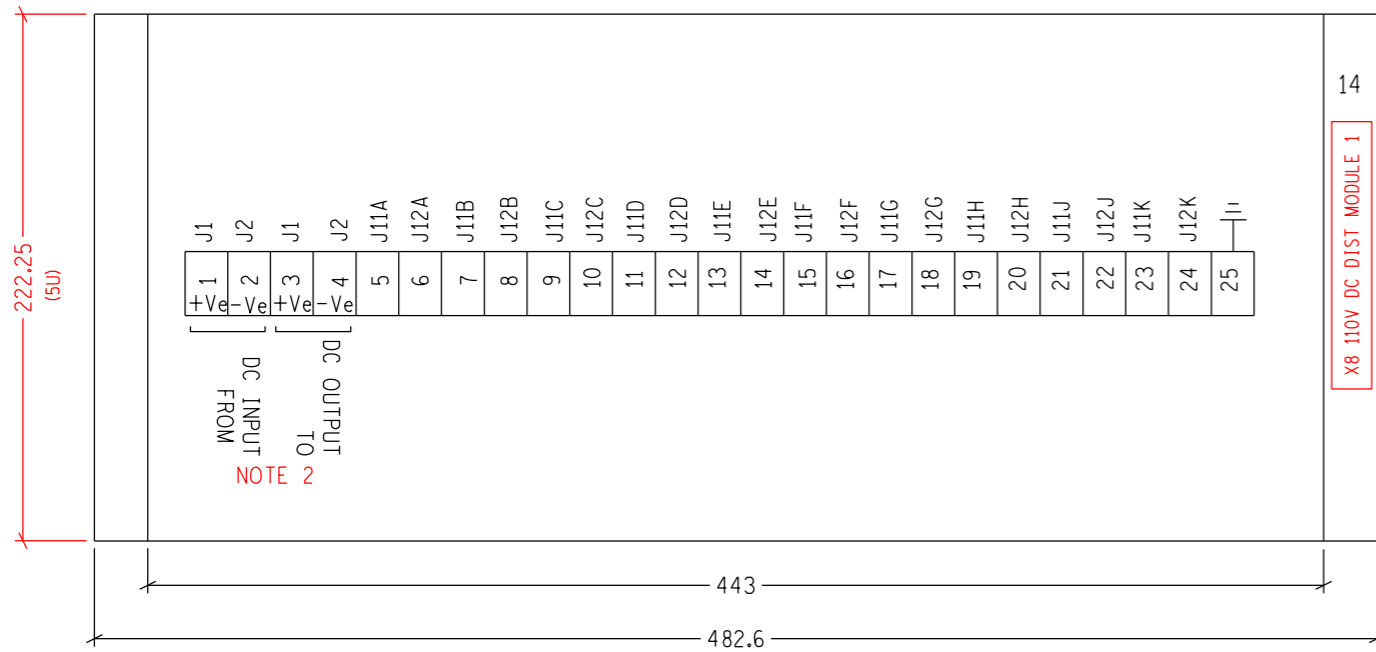
D-DT-11217

SET	SHEET	REVISION
21	13	5

# EQUIPMENT LAYOUT



# TERMINAL PLATE TOP OF PLATE



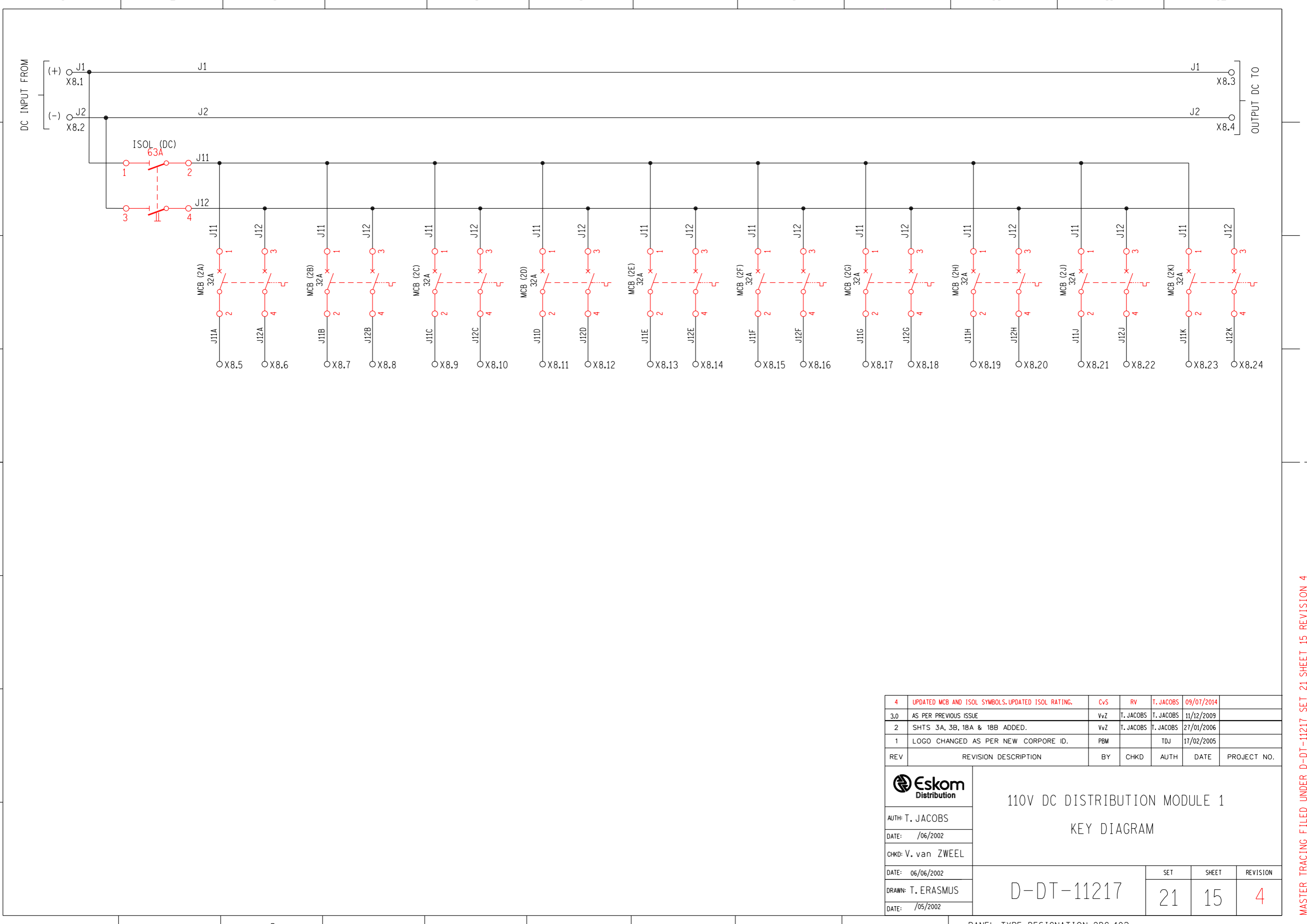
NOTE:  
 1. 1U=44.45mm  
 2. STUD TYPE TERMINAL.

	DESCRIPTION	LABEL	V	A	kA	TRIP CURVE
1	DC SUPPLY ISOLATOR	ISOL (DC)	140V DC	63A	5kA	
2	DC SUPPLY MCB CIRCUIT (A) (2-Pole)	MCB (2A)	140V DC	32A	5kA	C
3	DC SUPPLY MCB CIRCUIT (B) (2-Pole)	MCB (2B)	140V DC	32A	5kA	C
4	DC SUPPLY MCB CIRCUIT (C) (2-Pole)	MCB (2C)	140V DC	32A	5kA	C
5	DC SUPPLY MCB CIRCUIT (D) (2-Pole)	MCB (2D)	140V DC	32A	5kA	C
6	DC SUPPLY MCB CIRCUIT (E) (2-Pole)	MCB (2E)	140V DC	32A	5kA	C
7	DC SUPPLY MCB CIRCUIT (F) (2-Pole)	MCB (2F)	140V DC	32A	5kA	C
8	DC SUPPLY MCB CIRCUIT (G) (2-Pole)	MCB (2G)	140V DC	32A	5kA	C
9	DC SUPPLY MCB CIRCUIT (H) (2-Pole)	MCB (2H)	140V DC	32A	5kA	C
10	DC SUPPLY MCB CIRCUIT (J) (2-Pole)	MCB (2J)	140V DC	32A	5kA	C
11	DC SUPPLY MCB CIRCUIT (K) (2-Pole)	MCB (2K)	140V DC	32A	5kA	C
12	LABEL	110V DC DISTRIBUTION (MODULE 1)				
13	LABEL	SEE EQUIPMENT LAYOUT				
14	LABEL	X8 110V DC DIST MODULE 1				

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	LABELS UPDATED, NOTE ADDED	CvS	RV	T. JACOBS	06/03/2017	
4	MCB AND ISOL RATINGS UPDATED	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS ISSUE	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 18A & 18B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	

<p>AUTH: T. JACOBS                  DATE: /06/2002                  CHKD: V. van ZWEEL                  DATE: 06/06/2002                  DRAWN: T. ERASMUS                  DATE: /05/2002</p>	110V DC DISTRIBUTION MODULE 1 EQUIPMENT LAYOUT				
	D-DT-11217		SET 21	SHEET 14	REVISION 5
	PANEL TYPE DESIGNATION 2DC_103			A2L	



REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
4	UPDATED MCB AND ISOL SYMBOLS. UPDATED ISOL RATING.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS ISSUE	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 18A & 18B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	
1	LOGO CHANGED AS PER NEW CORP. ID.	PBM		TDJ	17/02/2005	

	110V DC DISTRIBUTION MODULE 1		
	KEY DIAGRAM		
	AUTH: T. JACOBS		
	DATE: /06/2002		
CHKD: V. van ZWEELE			
DATE: 06/06/2002			
DRAWN: T. ERASMUS			
DATE: /05/2002			
D-DT-11217		21	15
		4	

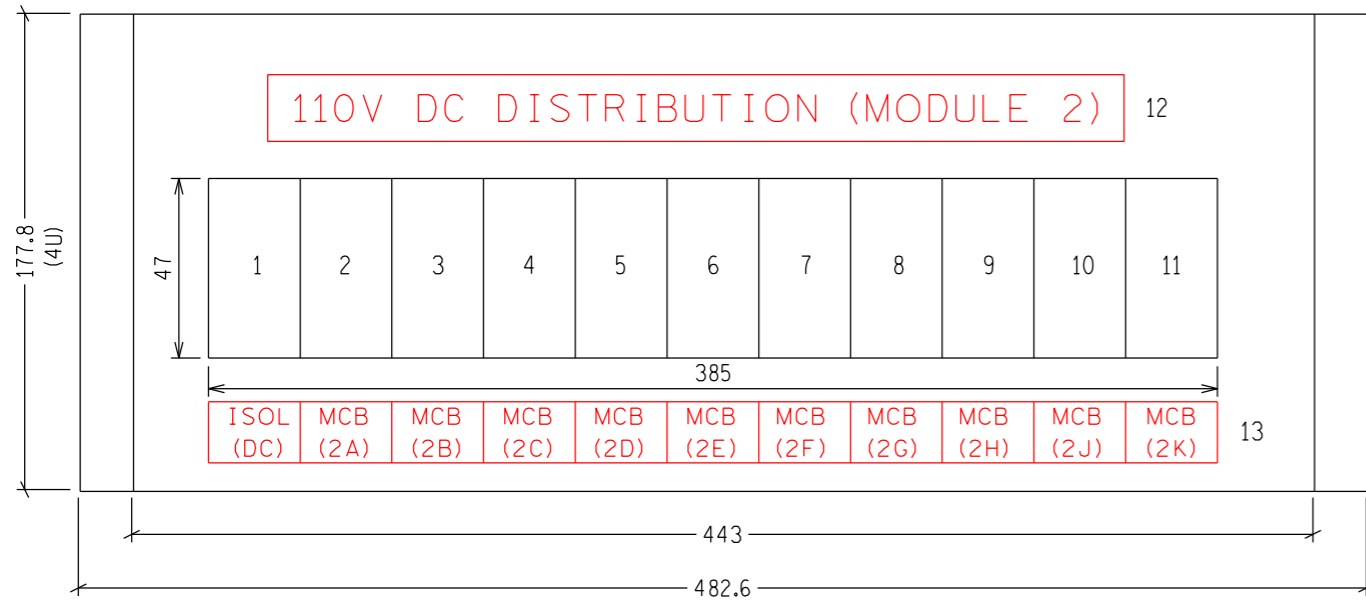
PANEL TYPE DESIGNATION 2DC\_103

A2L

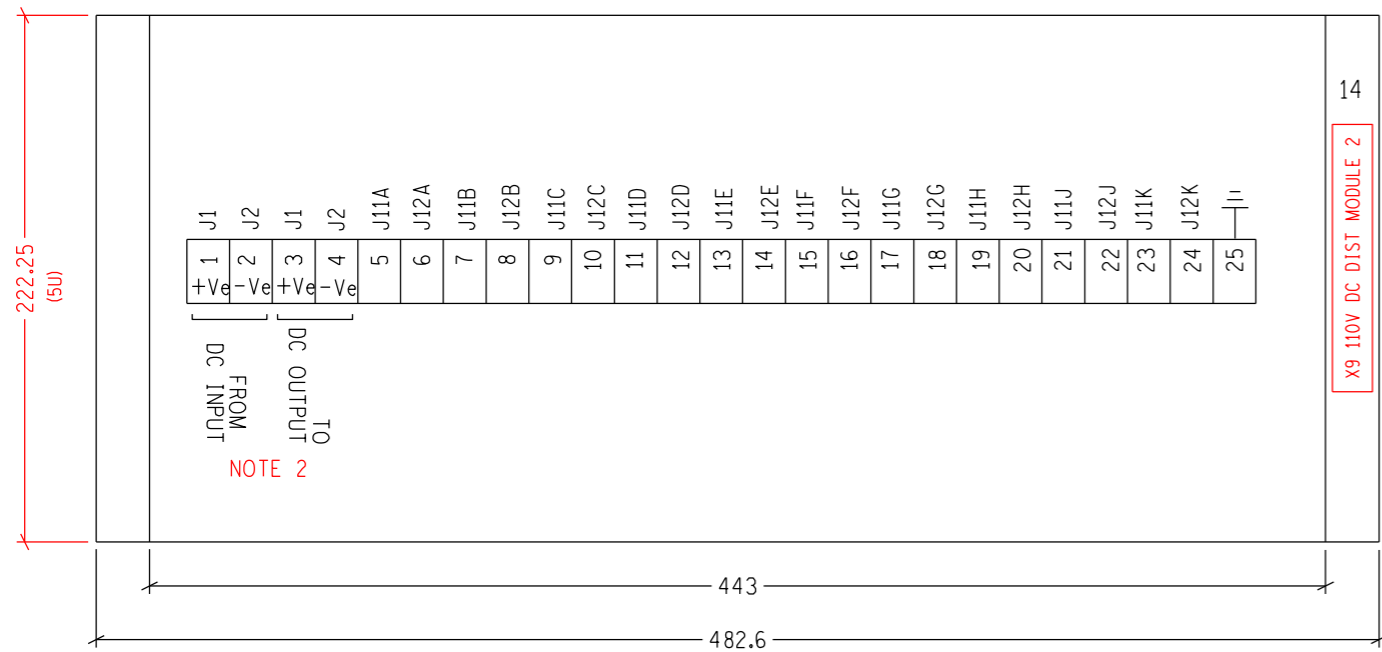
MASTER TRACING FILED UNDER D-DT-11217 SET 21 SHEET 15 REVISION 4



# EQUIPMENT LAYOUT



# TERMINAL PLATE TOP OF PLATE



NOTE:  
 1. 1U=44.45mm  
 2. STUD TYPE TERMINAL.

	DESCRIPTION	LABEL	V	A	kA	TRIP CURVE
1	DC SUPPLY ISOLATOR	ISOL (DC)	140V DC	63A	5kA	
2	DC SUPPLY MCB CIRCUIT (A) (2-Pole)	MCB (2A)	140V DC	32A	5kA	C
3	DC SUPPLY MCB CIRCUIT (B) (2-Pole)	MCB (2B)	140V DC	32A	5kA	C
4	DC SUPPLY MCB CIRCUIT (C) (2-Pole)	MCB (2C)	140V DC	32A	5kA	C
5	DC SUPPLY MCB CIRCUIT (D) (2-Pole)	MCB (2D)	140V DC	32A	5kA	C
6	DC SUPPLY MCB CIRCUIT (E) (2-Pole)	MCB (2E)	140V DC	32A	5kA	C
7	DC SUPPLY MCB CIRCUIT (F) (2-Pole)	MCB (2F)	140V DC	32A	5kA	C
8	DC SUPPLY MCB CIRCUIT (G) (2-Pole)	MCB (2G)	140V DC	32A	5kA	C
9	DC SUPPLY MCB CIRCUIT (H) (2-Pole)	MCB (2H)	140V DC	32A	5kA	C
10	DC SUPPLY MCB CIRCUIT (J) (2-Pole)	MCB (2J)	140V DC	32A	5kA	C
11	DC SUPPLY MCB CIRCUIT (K) (2-Pole)	MCB (2K)	140V DC	32A	5kA	C
12	LABEL	110V DC DISTRIBUTION (MODULE 2)				
13	LABEL	SEE EQUIPMENT LAYOUT				
14	LABEL	X9 110V DC DIST MODULE 2				

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
5	LABELS UPDATED, NOTE ADDED	CvS	RV	T. JACOBS	06/03/2017	
4	MCB AND ISOL RATINGS UPDATED	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS ISSUE	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 18A & 18B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	

**Eskom Distribution**

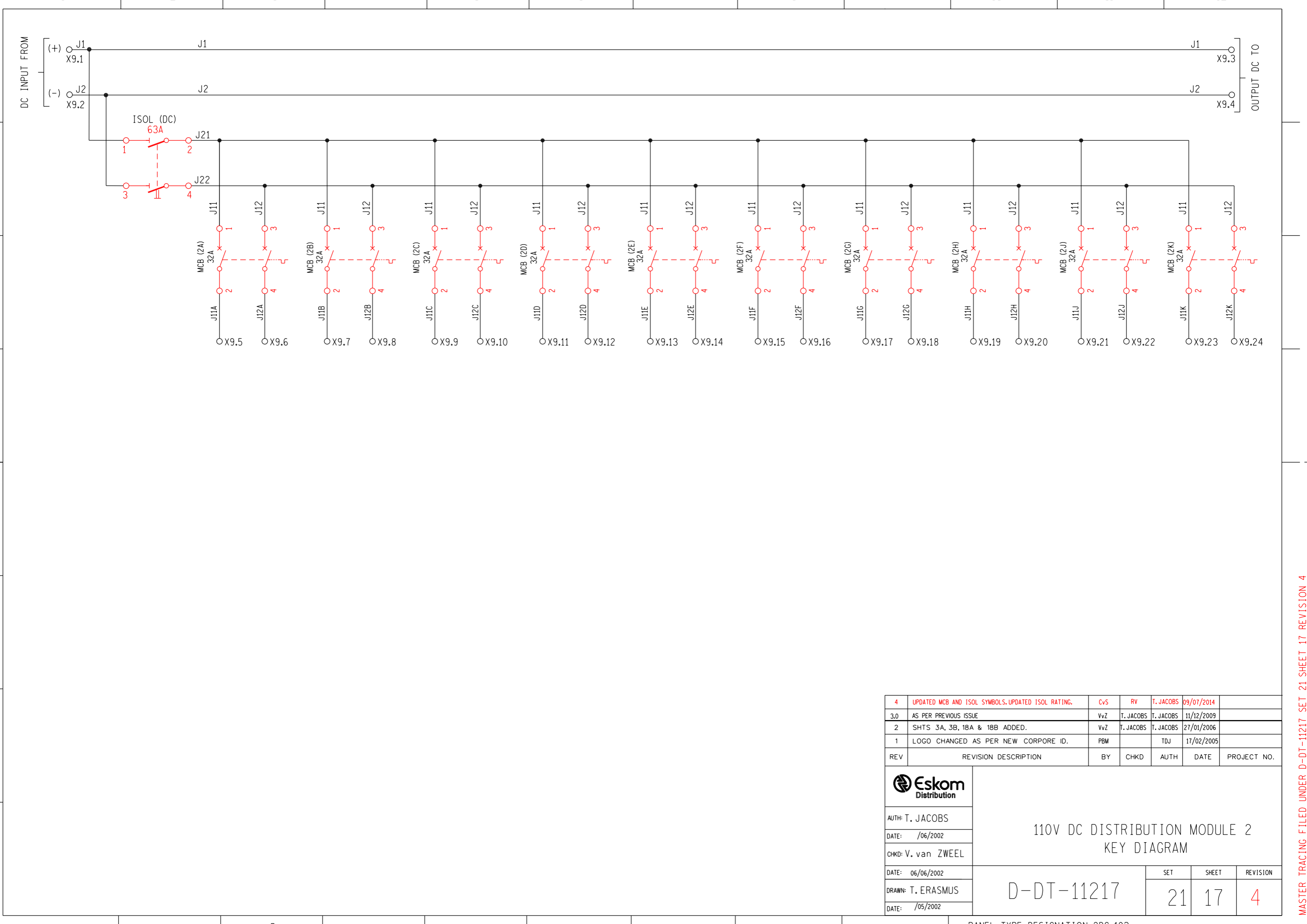
AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEL

110V DC DISTRIBUTION MODULE 2  
 EQUIPMENT LAYOUT


DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

D-DT-11217

SET	SHEET	REVISION
21	16	5



4	UPDATED MCB AND ISOL SYMBOLS. UPDATED ISOL RATING.	CvS	RV	T. JACOBS	09/07/2014	
3.0	AS PER PREVIOUS ISSUE	VvZ	T. JACOBS	T. JACOBS	11/12/2009	
2	SHTS 3A, 3B, 18A & 18B ADDED.	VvZ	T. JACOBS	T. JACOBS	27/01/2006	
1	LOGO CHANGED AS PER NEW CORPORE ID.	PBM		TDJ	17/02/2005	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

  
 AUTH: T. JACOBS  
 DATE: /06/2002  
 CHKD: V. van ZWEEL  
 DATE: 06/06/2002  
 DRAWN: T. ERASMUS  
 DATE: /05/2002

110V DC DISTRIBUTION MODULE 2  
KEY DIAGRAM

D-DT-11217	SET	SHEET	REVISION
	21	17	4

PANEL TYPE DESIGNATION 2DC\_103

A2L

MASTER TRACING FILED UNDER D-DT-11217 SET 21 SHEET 17 REVISION 4

MAIN AC INCOMING MODULE

10F	DESCRIPTION	
4Pr	NUMBER OF SPARE	
10Pr	CABLE SIZE	
*	CABLE NUMBER	
<b>X15</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
X4	13	H1
X3	11	H1
X2	10	5b
X1	9	5a
X3.4	H70	H70
X3.3	H50	H50
X3.2	H30	H30
X3.1	H10	H10
H7	4	
H5	3	
H3	2	
H1	1	

400V AC 3 $\phi$  DISTRIBUTION MODULE

DESCRIPTION		
NUMBER OF SPARES		
CABLE SIZE		
CABLE NUMBER		
<b>X3</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
H701	21	H1
H153D	20	
H133D	19	
H113D	18	
H701	N	
H153C	17	
H133C	16	
H113C	15	
H701	N	
H153B	14	
H133B	13	
H113B	12	
H701	N	
H153A	11	
H133A	10	
H113A	9	
X4.4	H70	H70
X4.3	H50	H50
X4.2	H30	H30
X4.1	H10	H10
X15.8	H70	H70
X15.7	H50	H50
X15.6	H30	H30
X15.5	H10	H10

230V AC 1 $\phi$  DISTRIBUTION MODULE 1

DESCRIPTION		
NUMBER OF SPARE		
CABLE SIZE		
CABLE NUMBER		
<b>X4</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
H701	23	H1
H131P	22	
H701	N	
H111N	21	
H701	N	
H151M	20	
H701	N	
H131L	19	
H701	N	
H111K	18	
H701	N	
H151J	17	
H701	N	
H131H	16	
H701	N	
H111G	15	
H701	N	
H151F	14	
H701	N	
H131E	13	
H701	N	
H111D	12	
H701	N	
H151C	11	
H701	N	
H131B	10	
H701	N	
H111A	9	
X11.4	H70	H70
X11.3	H50	H50
X11.2	H30	H30
X11.1	H10	H10
X3.8	H70	H70
X3.7	H50	H50
X3.6	H30	H30
X3.5	H10	H10
<b>110V DC DISTRIBUTION MODULE 1</b>		
DESCRIPTION		
NUMBER OF SPARE		
CABLE SIZE		
CABLE NUMBER		
<b>X8</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
J12K	24	
J11K	23	
J12J	22	
J11J	21	
J12H	20	
J11H	19	
J12G	18	
J11G	17	
J12F	16	
J11F	15	
J12E	14	
J11E	13	
J12D	12	
J11D	11	
J12C	10	
J11C	9	
J12B	8	
J11B	7	
J12A	6	
J11A	5	
X9.2	J2	4 J2
X9.1	J1	3 J1
X12.6	J2	2 J2
X12.5	J1	1 J1

110V DC DISTRIBUTION MODULE 2

DESCRIPTION		
NUMBER OF SPARE		
CABLE SIZE		
CABLE NUMBER		
<b>X9</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
J12K	25	H1
J11K	24	
J12J	23	
J11J	22	
J12H	20	
J11H	19	
J12G	18	
J11G	17	
J12F	16	
J11F	15	
J12E	14	
J11E	13	
J12D	12	
J11D	11	
J12C	10	
J11C	9	
J12B	8	
J11B	7	
J12A	6	
J11A	5	
J2	4	
J1	3	
X8.4	J2	2 J2
X8.3	J1	1 J1

AC SUPPLY MODULE

DESCRIPTION		
NUMBER OF SPARE		
CABLE SIZE		
CABLE NUMBER		
<b>X11</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
X4.8	H70	2 H70
X4.7	H50	1 H50

NOTES:  
1. BATTERY CHARGER ALARMS TO BE BROUGHT OUT IN THE SAME CABLE AS THE AC ALARMS (CABLE 23).

BATTERY CHARGER (REFER TO D-DT-11350)

DESCRIPTION		
NUMBER OF SPARE		
CABLE SIZE		
CABLE NUMBER		
<b>X1</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
X16	8	4b
X15	7	4a
X14	6	3b
X13	5	3a
X12	4	2b
X11	3	2a
X10	2	1b
X9	1	1a
X12.1	LOAD	+ J1A
X12.3	BATT	+ J1B
	COMM	C
X12.2	LOAD	- J2A
X12.4	BATT	- J2B
X4.22	L	H131P
X4.N	N	H701

FOR ALARMS DESCRIPTIONS SEE SHEET 12

DC INTERFACE MODULE

DESCRIPTION		
NUMBER OF SPARE		
CABLE SIZE		
CABLE NUMBER		
<b>X12</b>		
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
SB-	13	J2C
SB+	12	J1C
J2	11	J2
J1	10	J1
	9	
B-	8	B-
B+	7	B+
J2	6	J2
J1	5	J1
X8.1	J2B	4 J2B
X1.10	J1B	3 J1B
X1.8	J2A	2 J2A
X1.11	J1A	1 J1A
X1.9	J1A	1 J1A

5	TERMINALS ADDED ON X12, X13 CHANGED TO X15	C+S	RV	T. JACOBS	04/03/2017	
4	CORE NUMBERS UPDATED, LAYOUT REVISED.	C+S	RV	T. JACOBS	09/17/2014	
3.0	ALARM FERRULE NOS CHANGED ON BATTERY CHARGER AND MAIN DC TERMINAL BLOCK.	V+Z			27/04/2009	
2	SURGE PROTECTION TERMINALS ADDED.	V+Z	T. JACOBS	T. JACOBS	26/01/2006	
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.

**Eskom Distribution**

AUTH: T. JACOBS  
DATE: /04/2002  
CHKD: V. van ZWEL  
DATE: 04/06/2002  
DRAWN: T. ERASMUS  
DATE: /04/2002

AC/DC PANEL  
PANEL CABLING DIAGRAM

SET: 21 SHEET: 18A REVISION: 5

D-DT-11217

MAIN AC INCOMING MODULE

LOOPS TO TERMINAL STRIP X3 (SEE SHT 3)		DESCRIPTION
4Pr	-	NUMBER OF SPARE
10Pr	-	CABLE SIZE
*	-	CABLE NUMBER
		<b>X15</b>
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	13	
	X4 12	
	X3 11	
	X2 10	6b
	X1 9	6a
X3.4	H70 8	H70
X3.3	H50 7	H50
X3.2	H30 6	H30
X3.1	H10 5	H10
	H7 4	
	H5 3	
	H3 2	
	H1 1	

CORDEX BATTERY CHARGER (REFER TO D-DT-11352)

LOOPS TO TERMINAL STRIP X12 (SEE SHT 3)		DESCRIPTION
10F	-	NUMBER OF SPARE
-	-	CABLE SIZE
# 23	-	CABLE NUMBER
		<b>X1, X2</b>
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	X2.34	
	X2.33	
	X2.32	
	X2.31	
	X2.30	
	X2.29	
	X2.28	
	X2.27	
	X2.26	
	X2.25	
	X2.24	
	X2.23	
	X2.22	
	X2.21	
	X2.20	
	X2.19	
	X2.18	
	X2.17	
	X2.16	
	X2.15	
	X2.14	
	X2.13	
	X2.12	
	X2.11	
	X2.10	5b
	X2.9	5a
	X2.8	4b
	X2.7	4a
	X2.6	3b
	X2.5	3a
	X2.4	2b
	X2.3	2a
	X2.2	1b
	X2.1	1a
	X1.11	J2A
	X1.10	J2B
	X1.9	J1A
	X1.8	J1B
	X1.7	
	X1.6	
	X1.5	
	X1.4	
X4.22	X1.3	H31P
X4.N	X1.2	H701
	X1.1	

230V AC 1φ DISTRIBUTION MODULE 1

LOOPS TO TERMINAL STRIP X9 (SEE SHT 3)		DESCRIPTION
-	-	NUMBER OF SPARE
-	-	CABLE SIZE
-	-	CABLE NUMBER
		<b>X4</b>
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	23	
	H701 N	
	H31P 22	
	H701 N	
	H11N 21	
	H701 N	
	H15M 20	
	H701 N	
	H13L 19	
	H701 N	
	H11K 18	
	H701 N	
	H15J 17	
	H701 N	
	H13H 16	
	H701 N	
	H11G 15	
	H701 N	
	H15F 14	
	H701 N	
	H13E 13	
	H701 N	
	H11D 12	
	H701 N	
	H15C 11	
	H701 N	
	H13B 10	
	H701 N	
	H11A 9	
	X11.4	H70 8 H70
	X11.3	H50 7 H50
	X11.2	H30 6 H30
	X11.1	H10 5 H10
	X3.8	H70 4 H70
	X3.7	H50 3 H50
	X3.6	H30 2 H30
	X3.5	H10 1 H10
		<b>X8</b>
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	25	
	J12K 24	
	J11K 23	
	J12J 22	
	J11J 21	
	J12H 20	
	J11H 19	
	J12G 18	
	J11G 17	
	J12F 16	
	J11F 15	
	J12E 14	
	J11E 13	
	J12D 12	
	J11D 11	
	J12C 10	
	J11C 9	
	J12B 8	
	J11B 7	
	J12A 6	
	J11A 5	
	J2 4	J2
	J1 3	J1
	J2 2	J2
	J1 1	J1

110V DC DISTRIBUTION MODULE 2

LOOPS TO TERMINAL STRIP X8 (SEE SHT 3)		DESCRIPTION
-	-	NUMBER OF SPARE
-	-	CABLE SIZE
-	-	CABLE NUMBER
		<b>X9</b>
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	25	
	J12K 24	
	J11K 23	
	J12J 22	
	J11J 21	
	J12H 20	
	J11H 19	
	J12G 18	
	J11G 17	
	J12F 16	
	J11F 15	
	J12E 14	
	J11E 13	
	J12D 12	
	J11D 11	
	J12C 10	
	J11C 9	
	J12B 8	
	J11B 7	
	J12A 6	
	J11A 5	
	J2 4	
	J1 3	
	J2 2	J2
	J1 1	J1

AC SUPPLY MODULE

LOOPS TO TERMINAL STRIP X4 (SEE SHT 3)		DESCRIPTION
-	-	NUMBER OF SPARE
-	-	CABLE SIZE
-	-	CABLE NUMBER
		<b>X11</b>
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	3	
X4.8	H70 2	H70
X4.7	H50 1	H50

NOTES:  
1. BATTERY CHARGER ALARMS TO BE BROUGHT OUT IN THE SAME CABLE AS THE AC ALARMS (CABLE 23).

400V AC 3φ DISTRIBUTION MODULE

LOOPS TO TERMINAL STRIP X4 (SEE SHT 3)		DESCRIPTION
-	-	NUMBER OF SPARES
-	-	CABLE SIZE
-	-	CABLE NUMBER
		<b>X3</b>
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	21	
	H701 N	
	H1530 20	
	H1330 19	
	H1330 18	
	H701 N	
	H153C 17	
	H133C 16	
	H113C 15	
	H701 N	
	H153B 14	
	H133B 13	
	H113B 12	
	H701 N	
	H153A 11	
	H133A 10	
	H113A 9	
X4.4	H70 8	H70
X4.3	H50 7	H50
X4.2	H30 6	H30
X4.1	H10 5	H10
	X15.8	H70 4 H70
	X15.7	H50 3 H50
	X15.6	H30 2 H30
	X15.5	H10 1 H10

110V DC DISTRIBUTION MODULE 1

LOOPS TO TERMINAL STRIP X1 (SEE SHT 3)		DESCRIPTION
-	-	NUMBER OF SPARE
-	-	CABLE SIZE
-	-	CABLE NUMBER
		<b>X8</b>
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	25	
	J12K 24	
	J11K 23	
	J12J 22	
	J11J 21	
	J12H 20	
	J11H 19	
	J12G 18	
	J11G 17	
	J12F 16	
	J11F 15	
	J12E 14	
	J11E 13	
	J12D 12	
	J11D 11	
	J12C 10	
	J11C 9	
	J12B 8	
	J11B 7	
	J12A 6	
	J11A 5	
	J2 4	J2
	J1 3	J1
	J2 2	J2
	J1 1	J1

DC INTERFACE MODULE

LOOPS TO TERMINAL STRIP X8 (SEE SHT 3)		DESCRIPTION
-	-	NUMBER OF SPARE
-	-	CABLE SIZE
-	-	CABLE NUMBER
		<b>X12</b>
SCHEME FERRULE NUMBER	TERMINAL NUMBER	CABLE FERRULE NUMBER
	13	J2C
	12	J1C
	11	J2
	10	J1
	9	
	8	B-
	7	B+
	6	J2
	5	J1
	4	J2B
	3	J1B
	2	J2A
	1	J1A

5	TERMINALS ADDED ON X12, X13 CHANGED TO X15	C+S	RV	T. JACOBS	06/03/2007
4	CABLE NUMBERS UPDATED, LAYOUT REVISED.	C+S	RV	T. JACOBS	09/17/2004
3.0	ALARM FERRULE NOS CHANGED ON BATTERY CHARGER AND MAIN AC INCOMING MODULE.	Y+Z			21/04/2009
2	SURGE PROTECTION TERMINALS ADDED.	Y+Z	T. JACOBS	T. JACOBS	26/01/2006
REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE

**Escom Distribution**

AUTH: T. JACOBS  
DATE: /04/2002  
CHKD: V. van ZWEELE  
DATE: 06/06/2002  
DRAWN: T. ERASMUS  
DATE: /09/2002

AC/DC PANEL  
PANEL CABLING DIAGRAM

D-DT-11217

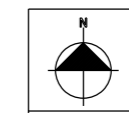
SET	SHEET	REVISION
	21	18B
		5

PANEL TYPE DESIGNATION Z40.203

SHEET NUMBER	TITLE	REVISION	DATE	BY	DESIGN CHANGE DESCRIPTION
0	COVER SHEET	1	06/03/2017	RV	COVER SHEET UPDATED
1	EQUIPMENT LAYOUT	1	06/03/2017	RV	NOTES ADDED
2	KEY DIAGRAM	0	19/10/2010	RV	AS PER PREVIOUS REVISION
3	CABLING DIAGRAM	0	19/10/2010	RV	AS PER PREVIOUS REVISION

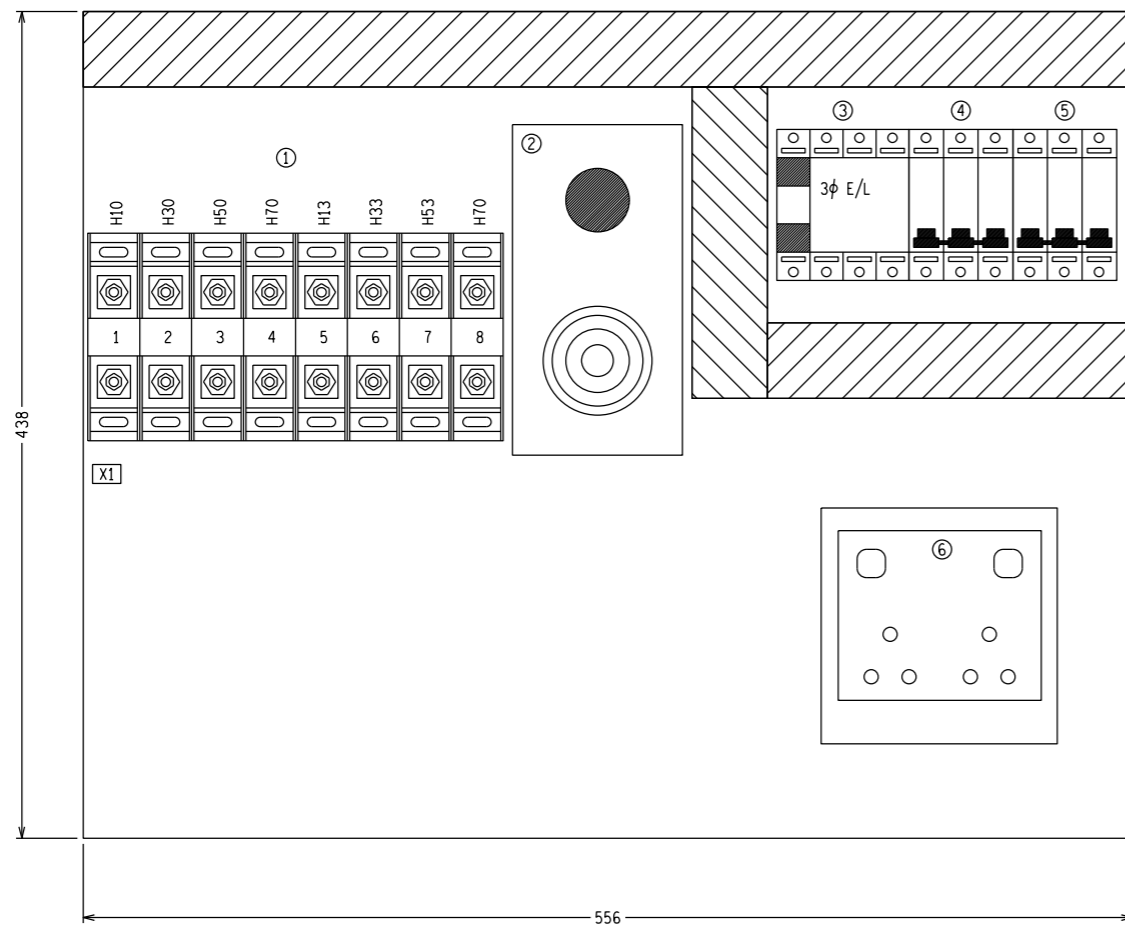
DRG NO.	REFERENCE DRAWINGS
SHEET 3	CABLING DIAGRAM
SHEET 2	KEY DIAGRAM
SHEET 1	EQUIPMENT LAYOUT
SHEET 0	COVER SHEET

REV	REVISION DESCRIPTION	BY	CHD	AUTH	DATE
1	COVER SHEET UPDATED	RV	RV	T.JACOBS	06/03/2017
0	DRAWING NO. WAS D-DT-12226 SHD REV.0	P.A.T.	P.A.T.	P.A.T.	30.05.2013



SCALE :  
THIS DRAWING IS THE PROPERTY OF ESKOM

	<b>OUTDOOR PLUG JB TYPE A (WITH ELU) COVER SHEET</b>		
	AUTH: P.GROENEWALD DATE: 12/03/2013	<b>D-DT-11226</b>	SET SHEET REVISION 00 1
	CHRD: T.JACOBS DATE: 27/13/2013		
	DRAWN: C.CANNON DATE: 19/10/2010		



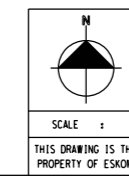
DESCRIPTION	LABEL	V	A	kA	TRIP CURVE
1 8x STUD MOUNT TERMINALS	X1				
2 5-PIN 3 $\phi$ SOCKET OUTLET	5-PIN 3 $\phi$ SOCKET	400V AC	16A		
3 3 $\phi$ EARTH LEAKAGE UNIT ISOLATOR	EARTH LEAKAGE UNIT (30mA)	400V AC	40A	5kA	C
4 3 $\phi$ MCB	MCB (A)	400V AC	20A	5kA	C
5 3 $\phi$ ISOLATOR	ISOLATOR	400V AC	32A	5kA	
6 DOUBLE 4x4 SWITCHED PLUG BOX	PLUG BOX				

NOTE:  
 1. ALL LABELS WILL BE DONE BY SUPPLIER.  
 2. EQUIPMENT TO BE HOUSED IN BLANK VT JB BOX SUPPLIED WITH J HOOKS FOR MOUNTING.  
 3. LABEL TO BE PLACED ON FRONT DOOR = OUTDOOR PLUG JB  
 WARNING LABEL TO BE PLACED ON FRONT DOOR = 3 $\phi$  PLUG NOT ON E/L SUPPLY  
 4. THIS DRAWING TO BE READ IN CONJUNCTION WITH DISTRIBUTION SPECIFICATION, 240-75658628,  
 DISTRIBUTION GROUP'S SPECIFIC REQUIREMENTS FOR AC/DC DISTRIBUTION UNITS.

NOTE:  
 1. ALL LABELS WILL BE DONE BY SUPPLIER.  
 2. EQUIPMENT TO BE HOUSED IN BLANK VT JB BOX SUPPLIED WITH J HOOKS FOR MOUNTING.

SHEET NO.	REFERENCE DRAWINGS
SHEET 3	CABLING DIAGRAM
SHEET 2	KEY DIAGRAM
SHEET 1	EQUIPMENT LAYOUT
SHEET 0	COVER SHEET

REV	NOTES ADDED	BY	CHKD	DATE
1	NOTES ADDED	RV	RV	06/03/2017
0	DRAWING NO. WAS D-DT-12226 SH1 REV.0	P.A.T.	P.A.T.	30.05.2013

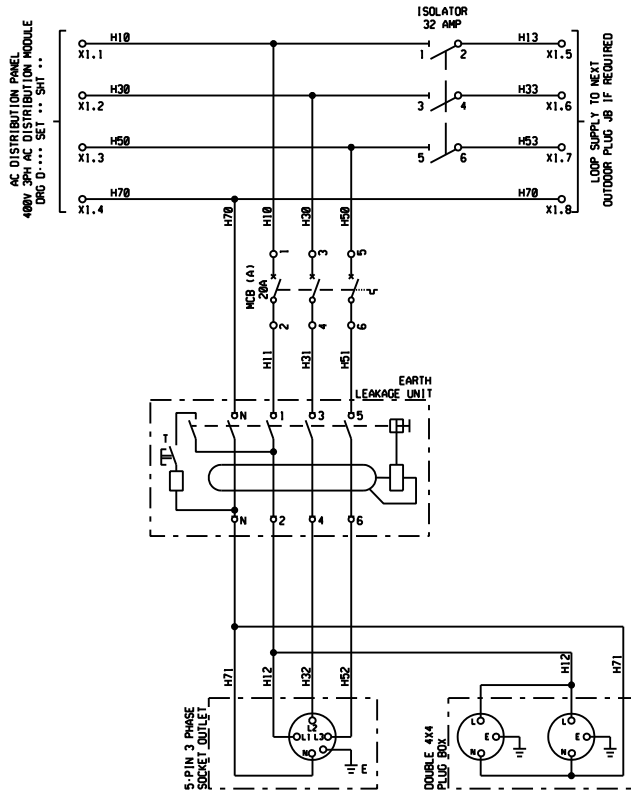


**Eskom**  
 AUTH: P.GROENEWALD  
 DATE: 12/04/2012  
 CHRD: T.JACOBS  
 DATE: 27/03/2013  
 DRAWN: C.CANNON  
 DATE: 19/10/2010

OUTDOOR PLUG JB  
 TYPE A (WITH ELU)  
 EQUIPMENT LAYOUT

D-DT-11226

SET	SHEET	REVISION
	01	1



SHEET 3	CABLEING DIAGRAM
SHEET 2	KEY DIAGRAM
SHEET 1	EQUIPMENT LAYOUT
SHEET 0	COVER SHEET

0	DRAWING NO. AND 0-01-12226 SH.2 REV. 0	P.A.T.	P.A.T.	30-09-2013
REV	REVISION DESCRIPTION	BY	CHKD	DATE

**Eskom**  
 Authn: P. GROENEWALD  
 DATE: 12/04/2013  
 Desig: T. JACOBS  
 DATE: 27/04/2013  
 SCALE: 1:1  
 THIS DRAWING IS THE PROPERTY OF Eskom  
 DATE: 14/10/2010

**OUTDOOR PLUG JB  
 TYPE A (WITH ELU)  
 KEY DIAGRAM**

**D-DT-11226**

SET	SHEET	REVISION
	02	0

LEVELS	1	5	10																	
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