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Title: **TECHNICAL EVALUATION CRITERIA FOR MEDIUM VOLTAGE CABLE ACCESSORIES**

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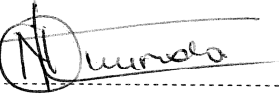


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Content

	Page
1. Introduction.....	4
2. Supporting clauses.....	4
2.1 Scope.....	4
2.1.1 Purpose.....	4
2.1.2 Applicability.....	4
2.2 Normative/informative references.....	4
2.2.1 Normative.....	4
2.2.2 Informative.....	5
2.3 Definitions.....	5
2.3.1 General.....	5
2.3.2 Disclosure classification.....	6
2.4 Abbreviations.....	6
2.5 Roles and responsibilities.....	6
2.6 Process for monitoring.....	6
2.7 Related/supporting documents.....	6
3. Requirements.....	6
3.1 Documentation Evaluation.....	7
3.2 Factory Evaluation.....	7
3.3 Factory Sample Evaluation.....	8
3.3.1 MV Cable Joints Product Range.....	8
3.3.2 MV Cable Termination Product Range.....	8
3.4 Technical Evaluation Gate Keepers for MV Cable Joints.....	9
3.4.1 Technical Evaluation Criteria for MV Cable Joints: Mandatory Technical Evaluation Requirements.....	9
3.4.2 Technical evaluation criteria for MV Cable Joints – Level 2 score.....	10
3.5 Technical Evaluation Gate Keepers for MV Cable Terminations.....	11
3.5.1 Technical Evaluation Criteria MV Outdoor Cable Terminations: Mandatory Technical Evaluation Requirements.....	11
3.5.2 Technical evaluation criteria for MV Outdoor Cable Termination – Level 2 score.....	12
3.5.3 Technical Evaluation Criteria MV Indoor Cable Terminations: Mandatory Technical Evaluation Requirements.....	14
3.5.4 Technical evaluation criteria for MV Indoor Cable Termination – Level 2 score.....	15
3.6 Technical Evaluation Criteria MV Separable Connectors.....	16
3.6.1 Technical Evaluation Criteria MV Separable Connectors: Mandatory Technical Evaluation Requirements.....	16
3.6.2 Technical evaluation criteria for MV Separable Connectors – Level 2 score.....	17
3.7 Technical Evaluation Criteria for MV Plug-in Type Connectors and Surge Arrestors.....	18
3.7.1 Technical Evaluation Criteria for MV Plug-in Type Connectors and Surge Arrestors: Mandatory Technical Evaluation Requirements.....	19
3.7.2 Technical evaluation criteria for MV Plug-in Type Connectors and Surge Arrestors.....	20
3.8 Technical Evaluation Criteria for MV End Caps and Repair Sleeves.....	21
3.8.1 Technical Evaluation for MV End Caps and Repair Sleeves: Mandatory Technical Evaluation Requirements.....	21
3.8.2 Level 2: Technical evaluation criteria for MV End Caps and Repair Sleeves.....	22
3.9 Conclusion.....	24

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**TECHNICAL EVALUATION
CRITERIA FOR MEDIUM VOLTAGE CABLE
ACCESSORIES**

Unique Identifier: **240-129903077**

Revision: **1**

Page: **3 of 24**

4. Authorization.....	24
5. Revisions	24
6. Development team	24
7. Acknowledgements	24

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1. Introduction

This document has been developed to set the standard technical evaluation criteria to be used when performing Eskom National Contracts and Adhoc Technical evaluation for Medium Voltage Cable accessories. This Technical Evaluation Criteria covers MV cable accessories for XLPE, PILC and rubber insulated flexible cables. The voltages covered in this document are 11kV, 22kV and 33kV.

This document contains the technical evaluation criteria used for the documentation evaluation, factory evaluation and sample evaluation.

2. Supporting clauses

2.1 Scope

The document covers the criteria for the evaluation of MV cable accessories (for both XLPE and PILC cables) within Eskom Holdings SOC (Ltd).

2.1.1 Purpose

The document provides the standard documented technical evaluation criteria to be used when evaluating the tender submissions for the MV cable accessories in line with the Eskom Holdings SOC (Ltd) requirements and it is applicable to all the technical evaluations for the related tender and or pre-qualification submissions.

2.1.2 Applicability

This document shall apply for Eskom Holdings Limited, Distribution, Transmission and Generation division wherein Eskom has a controlling interest. This document shall also be applicable to any nominated subcontractors as possible contract award or pre-qualification.

2.2 Normative/informative references

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

- [1] SANS 60099-1: Surge arresters Part 1: Non-linear resistor type gapped surge arresters for a.c systems
- [2] SANS 60099-4, Surge arresters Part 4: Metal-oxide surge arresters without gaps for a.c. systems
- [3] SANS 876, Cable terminations and live conductors within air-filled enclosures (insulation co-ordination) for rated a.c. voltages from 7,2 kV and up to and including 36 kV
- [4] SANS 1332, Accessories for medium-voltage power cables (3,8/6,6 kV to 19/33 kV)
- [5] SANS 60815, Selection and dimensioning of high-voltage insulators intended for use in polluted conditions
- [6] SANS 62217, Polymeric HV insulators for indoor and outdoor use — General definitions, test methods and acceptance criteria
- [7] SANS 10198-10, The selection, handling and installation of electric power cables of rating not exceeding 33 kV Part 10: Jointing and termination of paper-insulated cables
- [8] SANS 10198-11, The selection, handling and installation of electric power cables of rating not exceeding 33 kV Part 11: Jointing and termination of screened polymeric-insulated cables
- [9] IEC / TR 62730, HV polymeric insulators for indoor and outdoor use tracking and erosion testing by wheel test and 5000 h test

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- [10] 240-56030619, Accessories for medium-voltage power cables for systems with nominal voltages of 11 kV to 33 kV standard
- [11] 240- 82789539 (34-211), KIPTS natural ageing and pollution performance test procedure for outdoor insulator products Section 5 - Particular requirements for outdoor MV cable terminations
- [12] 240-56063792 (ESP 32-1272), Specification for 11 kV and 22 kV impregnated paper and XLPE insulated cables
- [13] 240 – 56030403 (DSP 34- 1936), Specification for 11 kV, 22 kV, and 33 kV rubber insulated flexible cables for use with mobile equipment
- [14] D-DT-8005, MV cable terminations – Impregnated paper insulated cable
- [15] D-DT-8006, MV cable terminations – XLPE insulated cable
- [16] D-DT-8007, MV cable joints – impregnated paper insulated cable
- [17] D-DT-8008, MV cable joints – XLPE insulated cable
- [18] D-DT-8011, MV straight shrouds
- [19] D-DT-8015, Cable end caps
- [20] D-DT-8016, MV unscreened separable connectors
- [21] D-DT-8017, MV screened separable connectors and tri-furcating kits
- [22] D-DT-8021, MV transition cable joints (PILC to XLPE)
- [23] D-DT-8077, Cable repair sleeve
- [24] TBA, Buyer’s guide for Type 5 MV XLPE cable terminations (inner cone)

2.2.2 Informative

- [25] 32-9: Definition of Eskom documents.
- [26] 32-644: Eskom documentation management standard.
- [27] 474-65: Operating manual of the Steering Committee of Technologies (SCOT).

2.3 Definitions

2.3.1 General

Definition	Description
Cold applied/ push on technologies	Joints, terminations and any part thereof that is constructed with components not pre-expanded and that can be pushed to fit into position without applying any heat or factory fitted pre-expansion.
Cold shrink	Joints, terminations and any part thereof that is constructed with pre-expanded components that require mechanical plastic pull tab tubes to be removed to fit and shrink into position. No heat required for the components to shrink into position. Additional fillers may also be required.
Eskom Evaluating Representative(s)	The person(s) appointed by Eskom to perform the evaluation of tender submission(s) in line with the Eskom requirements.
Heat shrink	Joints, terminations and any part thereof that is constructed with pre-expanded components that require heat to fit and shrink into position. Excluding cold shrink components.
Indoor terminations	Terminations that is intended for use where it is not exposed to either solar radiation or weathering.

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Definition	Description
Mixed cold and heat applied technologies	Joints, terminations and any part thereof that is constructed with both cold and heat applied components. i.e. cold applied insulation and screen materials, heat shrink outer-sheath, or if applicable resin fillers.

2.3.2 Disclosure classification

Confidential: the classification given to information that may be used by malicious/opposing/hostile elements to **harm** the objectives and functions of Eskom Holdings Limited.

2.4 Abbreviations

Abbreviation	Description
Cu	Copper
AL	Aluminium
LCC	Leakage current collector
MV	Medium Voltage
PILC	Paper Insulated Lead Covered
SSC	Screened separable connectors
XLPE	Cross-Linked Polyethylene

2.5 Roles and responsibilities

All Eskom employees and/or appointed bodies involved in the procurement of the MV cable accessories shall ensure that the product deliverable meets the requirements of these technical evaluation criteria. Any deviation from these requirements shall constitute non-conformance, unless it was in advance agreed to by a delegated Cable Systems Specialist and is based on sound engineering judgement.

All suppliers must be conversant with the requirements of this standard, and shall comply with the requirements. No deviations will be accepted and suppliers shall ensure that they obtain clarity where required and obtain all supporting information or documents necessary to comply with this document.

2.6 Process for monitoring

The MV cable accessories acceptance shall be based on fully compliant documentation submissions, the compliant factory testing of the MV cable accessories, and proving manufacturing capability and capacity during factory evaluations. Any non-disqualifying deviations shall be corrected as part of possible contract award or pre-qualification listing.

2.7 Related/supporting documents

Refer to clause/ section 2.2.

3. Requirements

This document contains the technical evaluation criteria for MV cable accessories for XLPE, PILC and flexible cables for the following voltages: 11 kV, 22 kV and 33 kV cables. The three phases of the technical evaluation criteria are specific to cable equipment type evaluated. The evaluation methodology will include three main parts, namely the documentation evaluation, the factory evaluation and sample evaluation.

3.1 Documentation Evaluation

The documentation evaluation exercise is performed by the Eskom evaluating representatives. This initial part of the evaluation starts when technical submissions are opened and assessed for the first time after the Commercial and SHEQ evaluations were concluded, unless otherwise agreed. Only Commercial and SHEQ compliant submissions shall be considered for technical evaluations to conclude the tender process. Any evaluation of noncompliant tenderers to the Commercial and SHEQ requirements will be at the discretion of Eskom. The submitted documents will be evaluated against the evaluation criteria as stated in clause 3.2 to 3.8 of this document.

Failure to submit all documents required and failure to comply with the documentation formats required for submission will lead to immediate disqualification.

During the documentation evaluation; fully compliant type tested MV cable accessories in accordance with SANS 1332 will be required. Failure to submit and comply with the type test requirements specified in these documents will lead to immediate disqualification.

The documentation evaluations are meant for establishing if all the key tender deliverables are met with regard to the product offered. The documentation evaluation will be performed in two levels: 1) the mandatory technical evaluation requirements and deliverables (Level 1: mandatory gate-keeper), and 2) the scoring phase (level 2: submission requirements). The Level 1 mandatory gate-keeper constitute a total of 80% of the technical evaluation documentation score, while the level 2 submission requirements constitute 20% of the technical evaluation documentation score. If all stages of the complete technical evaluation (i.e. documentation, factory evaluations and sample evaluation) are successfully completed and found compliant per product range offered, the technical evaluation documentation score achieved will by default be the final technical evaluation score outcome.

The documentation tender submission must meet all the level 1 gate-keeper mandatory technical evaluation requirements. Failure to meet all the mandatory requirements will result to a score of 0% achieved for the 80% scoring weight allowed. Thus a tenderer can only obtain 0% or 100% of the 80% scoring weight allowed, and nothing in between for level 1 mandatory gate-keeper requirements. Only a 100% compliant score achieved at level 1 mandatory gate-keeper requirements equates to full compliance; thus will proceed to level 2 evaluation. Any score below 100% of level 1 mandatory gatekeeper requirements will result to immediate disqualification.

Equation 1 below shows how the technical evaluation score will be calculated.

Technical evaluation score = 80% (level 1 mandatory gate-keeper requirements) + 20% (level 2 submission requirements) (1)

Only a 100% combined score achieved for the level 1 mandatory gate-keeper requirements and the level 2 scoring phase will proof 100% product compliance. 100% product compliance shall be mandated during any possible contract negotiations or pre-qualification listing.

Any possible

3.2 Factory Evaluation

The factory evaluations are only performed on the submissions that have met all the level 1 mandatory technical evaluation gate-keeper requirements as stated in this document. Eskom Commercial shall make the arrangements for factory visits and ensure the technical representatives are invited on time.

At the factory, the Eskom evaluating representative(s) conducts the evaluation through the use of checklists. The checklists are used to verify factory capability and manufacturing method compliance to the type tested MV cable accessories offered.

The factory evaluation will consists of the MV cable accessories OEM manufacturing plant evaluation (i.e design capability, type tested compounds, extrusion lines, manufacturing plant, processes, sample and routine testing, etc), and the South African Factory/ Site where the packaging of the MV cable accessories will be performed.

The following areas shall be assessed during the manufacturing evaluation:

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- a) The product and manufacturing design and design software capability.
- b) The manufacturing plant setup.
- c) Manufacturing of the following components: lug and ferrules, heat shrink tubes, cold applied, mastic tapes, stress control tubes, copper tapes, constant force springs, and e.t.c.
- d) The machinery capability.
- e) Raw material and compounds type tested.
- f) Extrusion lines type tested.
- g) Production process and critical check points.
- h) Material handling and storage.
- i) Testing facilities including certification and calibration of testing equipment.
- j) Sample testing and procedures.
- k) Routine testing and procedures.
- l) Packaging of materials and cable accessories.

At the end of the factory evaluation, the Eskom evaluating representative(s) list all the deviations and identified risks if any. The representatives will conduct a formal discussion of the deviations and risks in line with Eskom's requirements. If major discrepancies and risks are identified the supplier may be disqualified. For minor discrepancies and risks the Tenderer and their OEM are given an opportunity during possible contract negotiations to confirm that they will meet the Eskom requirements as part of possible contract award. The action plans for resolving the discrepancies and risks will be agreed between Eskom representative(s) and the supplier during possible contract negotiations, and will include any documentation and factory technical evaluation shortcomings.

3.3 Factory Sample Evaluation

The factory sample evaluations will be the evaluation of the exact replica product that is offered to Eskom during tender. A product range sample quantity allowance will be made by Eskom whereby each tenderer is required to prepare only one exact replica sample per product range type offered for factory sample evaluations. The factory sample evaluation shall be performed at the respective supplier's facilities in RSA.

3.3.1 MV Cable Joints Product Range

The following are the different MV cable joints product range used by Eskom. The exact replica of the joints listed below will be required for sample evaluation.

- Single core cable joints,
- Three core cable joints,
- Trifurcating cable joints, and
- Transition joints (PILC to XLPE and vice versa).

3.3.2 MV Cable Termination Product Range

The following are the different MV cable termination product range used by Eskom. The exact replica of the joints listed below will be required for sample evaluation.

- Type 1 termination: lugs connected onto bushings or post insulators, un-insulated (bare) at the terminal fixing point (outdoor terminations),
- Type 2 termination: lugs connected onto bushings or post insulators with a shrouded (unscreened) insulation termination (indoor terminations);
- Trifurcating termination kit,

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- Type 3 termination: unscreened separable connector terminations(USCs),
- Type 4 termination: screened separable connector terminations – outside cone (SSCs),
- Type 5 termination: screened separable connector terminations – inside cone,
- Surge arrestors for Type4 and Type 5 cable terminations,
- Cable repair sleeves, and
- Cable sealing end caps (dead end).

3.4 Technical Evaluation Gate Keepers for MV Cable Joints

3.4.1 Technical Evaluation Criteria for MV Cable Joints: Mandatory Technical Evaluation Requirements

This evaluation section will cover all MV cable joints for XLPE and PILC cables for all application i.e.: single core, three core, transition joints and trifurcating.

Level 1 Gatekeeper: MV Cable Joints technical evaluation criteria		
Criteria	Clause	Acceptance: Yes/ No
Is a detailed covering letter containing a list of items offered submitted?	Buyer’s guides	
Is a full list, as well as the complete English copies of all type test reports as per all the Eskom and normative referenced specification requirements submitted for the MV cables joints offered?	240-129903077	
Are the tests schedule summaries submitted electronically in the provided excel format?	240-129903077	
Are the tests schedule summaries submitted in a signed printed pdf format?	Schedule A&B	
Are the completed technical schedules B electronically submitted in the provided excel format?	Schedule A&B	
Are the completed technical schedules B submitted in a signed printed pdf format?	Schedule A&B	
Are the MV cable accessories construction manufactured in accordance with SANS 1332?	SANS 1332 and 240-129903077	
Are drawings or a catalogue showing the different ranges of accessories submitted? Drawings/ catalogue to be printed in colour.	240-129903077 clause 3.2.2	
Has type testing been performed at an accredited Test facility?	SANS 1332 clause 6.3.4.2	
Are Type testing requirements met in accordance with Eskom requirements?	240-129903077 clause 3.2.1	
Are the type tested raw material and extrusion line information submitted?	Test schedule	
Does the MV cable joint range taking comply with the requirements of SANS 1332?	SANS 1332 Table 1	
Do the marking of the MV cable joint comply with SANS 1332?	SANS 1332 Clause 6.1.1 & 6.1.2	

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Level 1 Gatekeeper: MV Cable Joints technical evaluation criteria		
Criteria	Clause	Acceptance: Yes/ No
Is at least one bill of material per product range submitted?	SANS 1332 Clause 6.1.1	
Any one "NO" on the above scores the supplier will be disqualified. The Type testing should fully comply with the requirements of SANS 1332 in order to obtain YES under testing requirements.		

3.4.2 Technical evaluation criteria for MV Cable Joints – Level 2 score

Level 2 scoring/rating: MV Cable technical evaluation for the documentation exercise- (only submission that passes Level 1 gatekeepers)			
Criteria	Clause	Weight	Score
Were type tests performed in the last 10 years?	240-56030619 Clause 3.2.1	1	
Generic routine test certificate & reports submitted?	240-56030619 Clause 3.2.1	1	
Is the installation instruction printed in colour?		1	
Factory routine tests failure rate (Number of MV cable joints tested and failed per annum/ total number tested). Figures must be auditable for the last 2 years.	Ratio	1	
Is the instruction of how to remove water blocking material (XLPE cable) for jointing or termination purposes included in the installation instruction?	240-56030619 Clause 3.2.2	1	
<ul style="list-style-type: none"> For Type testing performed within the last 10 Years supplier gets 100% and loses 20 % for each additional year. For the routine test certificate or report supplier gets 100 % if all requirements are met as per SANS 1332, and loses 20% for each missing requirement. A factory routine test failure rate < 5% the supplier gets 100%, and loses 100% for a factory failure rate > than 5%. If water blocking removal instruction is included the supplier gets 100 %, and if not 0%. 		Total	/5
Technical schedules Weight: 4 Total			
Criteria	Clause	Weight	Score
Correctness of completion i.e. no "TBA, Comply, Noted, supplied later, noted, acceptable only when Eskom informs"	Technical schedules A & B	2.0	
No technical deviations on technical schedules.	Technical schedules A & B	2.0	
NB: The technical schedules A & B are provided in a separate excel sheets as part of the Tender Technical Documents. <ul style="list-style-type: none"> Negative marking is done and a penalty of 2 % is applicable for each incorrect completion or deviation. Negative marking is done and a penalty of 10 % is applicable for each deviation from meeting Eskom specification and deviations. 		Total	/4

**TECHNICAL EVALUATION
CRITERIA FOR MEDIUM VOLTAGE CABLE
ACCESSORIES**

Drawings Weight: 8			
Criteria	Clause	Weight	Score
Drawing number shown on drawing?		1.0	
Revision number shown on drawing?		1.0	
Dimensions shown on drawing?		1.0	
Detailed description provided in "Title"?		1.0	
Approval date shown on drawing?		1.0	
Completed legend?		1.0	
All cable accessory layers indicated on drawing?		1.0	
Complete labelling of cable accessory layers?		1.0	
Negative marking and supplier loses the applicable weighting per deviation.		Total	/8
Packaging Weight: 3			
Criteria	Clause	Weight	Score
Is at least one bill of material submitted (per product range)?	240-56030619	2	
Is Marking of the cable joint submitted and compliant to SANS 1332?	SANS 1332 Clause 6.1	1	
Negative marking is applied, and supplier loses 10% for each deviation from Eskom specification.		Total	/3

3.5 Technical Evaluation Gate Keepers for MV Cable Terminations

This evaluation section will cover all MV out door cable termination for all application i.e.: single core, three core, and trifurcating terminations.

3.5.1 Technical Evaluation Criteria MV Outdoor Cable Terminations: Mandatory Technical Evaluation Requirements

Level 1 Gatekeeper: MV Outdoor Cable Terminations technical evaluation criteria		
Criteria	Clause	Acceptance: Yes/ No
Is a detailed covering letter containing a list of items offered submitted?	Buyer's guides	
Is a full list, as well as the complete English copies of all type test reports as per all the Eskom and normative referenced specification requirements submitted for the MV outdoor cable terminations offered?	240-129903077	
Are the tests schedule summaries submitted electronically in the provided excel format?	240-129903077	
Are the tests schedule summaries submitted in a signed printed pdf format?	Schedule A&B	
Are the completed technical schedules B electronically submitted in the provided excel format?	Schedule A&B	
Are the completed technical schedules B submitted in a signed printed pdf format?	Schedule A&B	
Are the MV cable accessories construction manufactured in accordance with SANS 1332?	SANS 1332 and 240-129903077	

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Level 1 Gatekeeper: MV Outdoor Cable Terminations technical evaluation criteria		
Criteria	Clause	Acceptance: Yes/ No
Are drawings or a catalogue showing the different ranges of accessories submitted? Drawings/ catalogue to be printed in colour.	240-129903077 clause 3.2.2	
Is the installation instruction for outdoor MV cable termination submitted?	SANS 1332 clause 6.3.2	
Has type testing been performed at an accredited Test facility?	SANS 1332 clause 6.3.4.2	
Are Type testing requirements met in accordance with Eskom requirements?	240-129903077 clause 3.2.1	
Are the type tested raw material and extrusion line information submitted?	Test schedule	
Does the MV cable termination range taking comply with the requirements of SANS 1332?	SANS 1332 Table 1	
Does the marking of the MV cable termination comply with SANS 1332?	SANS 1332 Clause 6.1.1 & 6.1.2	
Is at least one bill of material per product range submitted?	SANS 1332 Clause 6.1.1	
Has the outdoor termination been subjected to a natural ageing test? Type test report to be submitted. Any of the following options shall be accepted: a) Koeberg Insulator Pollution Test Site (KIPTS), or b) 5000 hour salt fog test, or c) 1000 hour salt fog test to be pre-qualified as minimum, where after a 5000 hour salt fog test shall be mandatory to be performed prior to awarding of Eskom contract.	240-129903077 Clause 3.2.1 b)	
Any one "NO" on the above scores the supplier will be disqualified. The Type testing should fully comply with the requirements of SANS 1332 in order to obtain YES under testing requirements.		

3.5.2 Technical evaluation criteria for MV Outdoor Cable Termination – Level 2 score

Level 2 scoring/rating: MV Outdoor Cable Termination technical evaluation for the documentation exercise- (only submission that passes Level 1 gatekeepers)			
Routine testing and type testing Weight: 5			
Criteria	Clause	Weight	Score
Were type tests performed in the last 10 years?	240-56030619 Clause 3.2.1	1	
Generic routine test certificate & reports submitted?	240-56030619 Clause 3.2.1	1	
Is the installation instruction printed in colour?		1	

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**TECHNICAL EVALUATION
CRITERIA FOR MEDIUM VOLTAGE CABLE
ACCESSORIES**

Factory routine tests failure rate (Number of MV cable terminations tested and failed per annum/ total number tested). Figures must be auditable for the last 2 years.	Ratio	1	
Is the instruction of how to remove water blocking material (XLPE cable) for jointing or termination purposes included in the installation instruction?	240-56030619 Clause 3.2.2	1	
<ul style="list-style-type: none"> For Type testing performed within the last 10 Years supplier gets 100% and loses 20 % for each additional year. For the routine test certificate or report supplier gets 100 % if all requirements are met as per SANS 1332, and loses 20% for each missing requirement. A factory routine test failure rate < 5% the supplier gets 100%, and loses 100% for a factory failure rate > than 5%. If water blocking removal instruction is included (for XLPE cable) the supplier gets 100 %, if not the supplier gets 0%. 		Total	/5
Technical schedules Weight: 4 Total			
Criteria	Clause	Weight	Score
Correctness of completion i.e. no "TBA, Comply, Noted, supplied later, noted, acceptable only when Eskom informs"	Technical schedules A & B	2.0	
No technical deviations on technical schedules.	Technical schedules A & B	2.0	
NB: The technical schedules B are provided on separate excel sheets as part of the Tender Technical Documents. <ul style="list-style-type: none"> Negative marking is done and a penalty of 2 % is applicable for each incorrect completion or deviation. Negative marking is done and a penalty of 10 % is applicable for each deviation from meeting Eskom specification and deviations. 		Total	/4
Drawings Weight: 8			
Criteria	Clause	Weight	Score
Drawing number shown on drawing?		1.0	
Revision number shown on drawing?		1.0	
Dimensions shown on drawing?		1.0	
Detailed description provided in "Title"?		1.0	
Approval date shown on drawing?		1.0	
Completed legend?		1.0	
All cable accessory layers indicated on drawing?		1.0	
Complete labelling of cable accessory layers?		1.0	
Negative marking and supplier loses the applicable weighting per deviation.		Total	/8
Packaging Weight: 3			
Criteria	Clause	Weight	Score
Is at least one bill of material submitted (per product range)?	240-56030619	2	
Is Marking of the cable termination submitted and compliant to SANS 1332?	SANS 1332 Clause 6.1	1	
Negative marking is applied, and supplier loses 10% for each deviation from Eskom specification.		Total	/3

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3.5.3 Technical Evaluation Criteria MV Indoor Cable Terminations: Mandatory Technical Evaluation Requirements

This evaluation section will cover all MV Indoor cable termination for all application i.e.: single core, three core, and trifurcating terminations.

Level 1 Gatekeeper: MV Indoor Cable Termination technical evaluation criteria		
Criteria	Clause	Acceptance: Yes/ No
Is a detailed covering letter containing a list of items offered submitted?	Buyer's guides	
Is a full list, as well as the complete English copies of all type test reports as per all the Eskom and normative referenced specification requirements submitted for the MV indoor cable terminations offered?	240-129903077	
Are the tests schedule summaries submitted electronically in the provided excel format?	240-129903077	
Are the tests schedule summaries submitted in a signed printed pdf format?	Schedule A&B	
Are the completed technical schedules B electronically submitted in the provided excel format?	Schedule A&B	
Are the completed technical schedules B submitted in a signed printed pdf format?	Schedule A&B	
Are the MV cable accessories construction manufactured in accordance with SANS 1332?	SANS 1332 and 240-129903077	
Are drawings or a catalogue showing the different ranges of accessories submitted? Drawings/ catalogue to be printed in colour.	240-129903077 clause 3.2.2	
Is the installation instruction for outdoor MV cable termination submitted?	SANS 1332 clause 6.3.2	
Has type testing been performed at an accredited Test facility?	SANS 1332 clause 6.3.4.2	
Are Type testing requirements met in accordance with Eskom requirements?	240-129903077 clause 3.2.1	
Are the type tested raw material and extrusion line information submitted?	Test schedule	
Does the MV cable termination range taking comply with the requirements of SANS 1332?	SANS 1332 Table 1	
Does the marking of the MV cable termination comply SANS 1332?	SANS 1332 Clause 6.1.1 & 6.1.2	
Is at least one bill of material per product range submitted?	SANS 1332 Clause 6.1.1	
Any one "NO" on the above scores the supplier will be disqualified. The Type testing should fully comply with the requirements of SANS 1332 in order to obtain YES under testing requirements.		

3.5.4 Technical evaluation criteria for MV Indoor Cable Termination – Level 2 score

Level 2 scoring/rating: MV Indoor Cable Termination technical evaluation for the documentation exercise- (only submission that passes Level 1 gatekeepers)			
Routine testing and type testing Weight: 5			
Criteria	Clause	Weight	Score
Were type tests performed in the last 10 years?	240-56030619 Clause 3.2.1	1	
Generic routine test certificate & reports submitted?	240-56030619 Clause 3.2.1	1	
Is the installation instruction printed in colour?		1	
Factory routine tests failure rate (Number of MV cable accessories tested and failed per annum/ total number tested). Figures must be auditable for the last 2 years.	Ratio	1	
Is the instruction of how to remove water blocking material (XLPE cable) for jointing or termination purposes included in the installation instruction?	240-56030619 Clause 3.2.2	1	
<ul style="list-style-type: none"> For Type testing performed within the last 10 Years supplier gets 100% and loses 20 % for each additional year. For the routine test certificate or report supplier gets 100 % if all requirements are met as per SANS 1332, and loses 20% for each missing requirement. A factory routine test failure rate < 5% the supplier gets 100%, and loses 100% for a factory failure rate > than 5%. If water blocking removal instruction is included the supplier gets 100 %, and if not 0%. 		Total	/5
Technical schedules Weight: 4 Total			
Criteria	Clause	Weight	Score
Correctness of completion i.e. no "TBA, Comply, Noted, supplied later, noted, acceptable only when Eskom informs"	Technical schedules A & B	2.0	
No technical deviations on technical schedules.	Technical schedules A & B	2.0	
NB: The technical schedules B are provided separate excel sheets as part of the Tender Technical Documents. <ul style="list-style-type: none"> Negative marking is done and a penalty of 2 % is applicable for each incorrect completion or deviation. Negative marking is done and a penalty of 10 % is applicable for each deviation from meeting Eskom specification and deviations. 		Total	/4
Drawings Weight: 8			
Criteria	Clause	Weight	Score
Drawing number shown on drawing?		1.0	
Revision number shown on drawing?		1.0	
Dimensions shown on drawing?		1.0	
Detailed description provided in "Title"?		1.0	

**TECHNICAL EVALUATION
CRITERIA FOR MEDIUM VOLTAGE CABLE
ACCESSORIES**

Approval date shown on drawing?		1.0	
Completed legend?		1.0	
All cable accessory layers indicated on drawing?		1.0	
Complete labelling of cable accessory layers?		1.0	
Negative marking and supplier loses the applicable weighting per deviation.		Total	/8
Packaging Weight: 3			
Criteria	Clause	Weight	Score
Is at least one bill of material submitted (per product range)?	240-56030619	2	
Is Marking of the cable joint submitted and compliant to SANS 1332?	SANS 1332 Clause 6.1	1	
Negative marking is applied, and supplier loses 10% for each deviation from Eskom specification.		Total	/3

3.6 Technical Evaluation Criteria MV Separable Connectors

This evaluation section will cover all MV separable connectors for all application i.e.: screened separable connectors, and un-screened separable connectors.

3.6.1 Technical Evaluation Criteria MV Separable Connectors: Mandatory Technical Evaluation Requirements

Level 1 Gatekeeper: MV Separable Connectors technical evaluation criteria		
Criteria	Clause	Acceptance: Yes/ No
Is a detailed covering letter containing a list of items offered submitted?	Buyer's guides	
Is a full list, as well as the complete English copies of all type test reports as per all the Eskom and normative referenced specification requirements submitted for the USCs and SSCs?	240-129903077	
Are the tests schedule summaries submitted electronically in the provided excel format?	240-129903077	
Are the tests schedule summaries submitted in a signed printed pdf format?	Schedule A&B	
Are the completed technical schedules B electronically submitted in the provided excel format?	Schedule A&B	
Are the completed technical schedules B submitted in a signed printed pdf format?	Schedule A&B	
Are the MV cable accessories construction manufactured in accordance with SANS 1332?	SANS 1332 and 240-129903077	
Are drawings or a catalogue showing the different ranges of accessories submitted? Drawings/ catalogue to be printed in colour.	240-129903077 clause 3.2.2	
Is the installation instruction for MV separable connectors submitted?	SANS 1332 clause 6.3.2	

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Level 1 Gatekeeper: MV Separable Connectors technical evaluation criteria		
Criteria	Clause	Acceptance: Yes/ No
Has type testing been performed at an accredited Test facility?	SANS 1332 clause 6.3.4.2	
Are Type testing requirements met in accordance with Eskom requirements?	240-129903077 clause 3.2.1	
Are the type tested raw material and extrusion line information submitted?	Test schedule	
Does the MV cable termination range taking comply with the requirements of SANS 1332?	SANS 1332 Table 1	
Does the marking of the MV cable termination comply SANS 1332?	SANS 1332 Clause 6.1.1 & 6.1.2	
Is at least one bill of material per product range submitted?	SANS 1332 Clause 6.1.1	
Any one "NO" on the above scores the supplier will be disqualified. The Type testing should fully comply with the requirements of SANS 1332 in order to obtain YES under testing requirements.		

3.6.2 Technical evaluation criteria for MV Separable Connectors – Level 2 score

Level 2 scoring/rating: MV Separable Connectors: Technical evaluation for the documentation exercise- (only submission that passes Level 1 gatekeepers)			
Routine testing and type testing Weight: 5			
Criteria	Clause	Weight	Score
Were type tests performed in the last 10 years?	240-56030619 Clause 3.2.1	1	
Generic routine test certificate & reports submitted?	240-56030619 Clause 3.2.1	1	
Is the installation instruction printed in colour?		1	
Factory routine tests failure rate (Number of MV cable accessories tested and failed per annum/ total number tested). Figures must be auditable for the last 2 years.	Ratio	1	
Is the instruction of how to remove water blocking material (for XLPE cables) for jointing or termination purposes included in the installation instruction?	240-56030619 Clause 3.2.2	1	
<ul style="list-style-type: none"> For Type testing performed within the last 10 Years supplier gets 100% and loses 20 % for each additional year. For the routine test certificate or report supplier gets 100 % if all requirements are met as per SANS 1332, and loses 20% for each missing requirement. A factory routine test failure rate < 5% the supplier gets 100%, and loses 100% for a factory failure rate > than 5%. If water blocking removal instruction is included the supplier gets 100 %, and if not 0%. 		Total	/5

Technical schedules Weight: 4 Total			
Criteria	Clause	Weight	Score
Correctness of completion i.e. no "TBA, Comply, Noted, supplied later, noted, acceptable only when Eskom informs"	Technical schedules A & B	2.0	
No technical deviations on technical schedules.	Technical schedules A & B	2.0	
NB: The technical schedules B are provided on a separate excel sheets as part of the Tender Technical Documents. <ul style="list-style-type: none"> Negative marking is done and a penalty of 2 % is applicable for each incorrect completion or deviation. Negative marking is done and a penalty of 10 % is applicable for each deviation from meeting Eskom specification and deviations. 		Total	/4
Drawings Weight: 8			
Criteria	Clause	Weight	Score
Drawing number shown on drawing?		1.0	
Revision number shown on drawing?		1.0	
Dimensions shown on drawing?		1.0	
Detailed description provided in "Title"?		1.0	
Approval date shown on drawing?		1.0	
Completed legend?		1.0	
All cable accessory layers indicated on drawing?		1.0	
Complete labelling of cable accessory layers?		1.0	
Negative marking and supplier loses the applicable weighting per deviation.		Total	/8
Packaging Weight: 3			
Criteria	Clause	Weight	Score
Is at least one bill of material submitted (per product range)?	240-56030619	2	
Is Marking of the cable termination submitted and compliant to SANS 1332?	SANS 1332 Clause 6.1	1	
Negative marking is applied, and supplier loses 10% for each deviation from Eskom specification.		Total	/3

3.7 Technical Evaluation Criteria for MV Plug-in Type Connectors and Surge Arrestors

This evaluation section will cover the Type 5 connectors and surge arrestors for the Type 5 connectors.

3.7.1 Technical Evaluation Criteria for MV Plug-in Type Connectors and Surge Arrestors: Mandatory Technical Evaluation Requirements

Level 1 Gatekeeper: MV Plug-in Type Connectors and Surge Arrestors technical evaluation criteria		
Criteria	Clause	Acceptance: Yes/ No
Is a detailed covering letter containing a list of items offered submitted?	Buyer's guides	
Is a full list, as well as the complete English copies of all type test reports as per all the Eskom and normative referenced specification requirements submitted for the MV plug-in type connectors offered?	240-129903077	
Is a full list, as well as the complete English copies of all type test reports as per all the Eskom and normative referenced specification requirements submitted for the surge arrestors offered?	SANS 60099-1 Clause 8	
Are the tests schedule summaries submitted electronically in the provided excel format?	240-129903077	
Are the tests schedule summaries submitted in a signed printed pdf format?	Schedule A&B	
Are the completed technical schedules B electronically submitted in the provided excel format?	Schedule A&B	
Are the completed technical schedules B submitted in a signed printed pdf format?	Schedule A&B	
Are the MV cable accessories construction manufactured in accordance with SANS 1332?	SANS 1332 and 240-129903077	
Are drawings or a catalogue showing the different ranges of accessories submitted? Drawings/ catalogue to be printed in colour.	240-129903077 clause 3.2.2	
Is the installation instruction for MV plug-in cable connectors submitted?	SANS 1332 clause 6.3.2	
Has type testing been performed at an accredited Test facility?	SANS 1332 clause 6.3.4.2	
Are Type testing requirements met in accordance with Eskom requirements?	240-129903077 clause 3.2.1	
Are the type tested raw material and extrusion line information submitted?	Test schedule	
Does the MV cable termination range taking comply with the requirements of SANS 1332?	SANS 1332 Table 1	
Does the marking of the MV cable termination comply with SANS 1332?	SANS 1332 Clause 6.1.1 & 6.1.2	
Is at least one bill of material per product range submitted?	SANS 1332 Clause 6.1.1	
Do the dimensions of the type 5 inside-cone plug-in surge arrester comply with EN 50180 and EN 50181?	SANS 1332 Clause 4.1.13	

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Level 1 Gatekeeper: MV Plug-in Type Connectors and Surge Arrestors technical evaluation criteria		
Criteria	Clause	Acceptance: Yes/ No
Any one "NO" on the above scores the supplier will be disqualified. The Type testing should fully comply with the requirements of SANS 1332 in order to obtain YES under testing requirements.		

3.7.2 Technical evaluation criteria for MV Plug-in Type Connectors and Surge Arrestors

Level 2 scoring/rating: MV Plug-in Type Connectors and Surge Arrestors: Technical evaluation for the documentation exercise- (only submission that passes Level 1 gatekeepers)			
Routine testing and type testing Weight: 5			
Criteria	Clause	Weight	Score
Were type tests performed in the last 10 years?	240-56030619 Clause 3.2.1	1	
Generic routine test certificate & reports submitted?	240-56030619 Clause 3.2.1	1	
Is the installation instruction printed in colour?		1	
Factory routine tests failure rate (Number of MV plug-in type connectors tested and failed per annum/ total number tested). Figures must be auditable for the last 2 years.	Ratio	2	
<ul style="list-style-type: none"> For Type testing performed within the last 10 Years supplier gets 100% and loses 20 % for each additional year. For the routine test certificate or report supplier gets 100 % if all requirements are met as per SANS 1332, and loses 20% for each missing requirement. A factory routine test failure rate < 5% the supplier gets 100%, and loses 100% for a factory failure rate > than 5%. If water blocking removal instruction is included the supplier gets 100 %, and if not 0%. 		Total	/5
Technical schedules Weight: 4 Total			
Criteria	Clause	Weight	Score
Correctness of completion i.e. no "TBA, Comply, Noted, supplied later, noted, acceptable only when Eskom informs"	Technical schedules A & B	2.0	
No technical deviations on technical schedules.	Technical schedules A & B	2.0	
NB: The technical schedules B are provided in a separate excel sheets as part of the Tender Technical Documents. <ul style="list-style-type: none"> Negative marking is done and a penalty of 2 % is applicable for each incorrect completion or deviation. Negative marking is done and a penalty of 10 % is applicable for each deviation from meeting Eskom specification and deviations. 		Total	/4
Drawings Weight: 8			
Criteria	Clause	Weight	Score
Drawing number shown on drawing?		1.0	

**TECHNICAL EVALUATION
CRITERIA FOR MEDIUM VOLTAGE CABLE
ACCESSORIES**

Revision number shown on drawing?		1.0	
Dimensions shown on drawing?		1.0	
Detailed description provided in "Title"?		1.0	
Approval date shown on drawing?		1.0	
Completed legend?		1.0	
All cable accessory layers indicated on drawing?		1.0	
Complete labelling of cable accessory layers?		1.0	
Negative marking and supplier loses the applicable weighting per deviation.		Total	/8
Packaging Weight: 3			
Criteria	Clause	Weight	Score
Is at least one bill of material submitted (per product range)?	240-56030619	2	
Is Marking of the cable termination submitted and compliant to SANS 1332?	SANS 1332 Clause 6.1	1	
Negative marking is applied, and supplier loses 10% for each deviation from Eskom specification.		Total	/3

3.8 Technical Evaluation Criteria for MV End Caps and Repair Sleeves

This evaluation section will cover the Type 5 connectors and surge arrestors for the Type 5 connectors.

3.8.1 Technical Evaluation for MV End Caps and Repair Sleeves: Mandatory Technical Evaluation Requirements

Level 1 Gatekeeper: Technical Evaluation for MV End Caps and Repair Sleeves: Mandatory Technical Evaluation Requirements		
Criteria	Clause	Acceptance: Yes/ No
Is a detailed covering letter containing a list of items offered submitted?	Buyer's guides	
Is a full list, as well as the complete English copies of all routine test reports as per all the Eskom and normative referenced specification requirements submitted for the MV cable end caps and repair sleeves offered?	240-129903077	
Are the tests schedule summaries submitted electronically in the provided excel format?	240-129903077	
Are the tests schedule summaries submitted in a signed printed pdf format?	Schedule A&B	
Are the completed technical schedules B electronically submitted in the provided excel format?	Schedule A&B	
Are the completed technical schedules B submitted in a signed printed pdf format?	Schedule A&B	
Are the MV cable accessories construction manufactured in accordance with SANS 1332?	SANS 1332 and 240-129903077	

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Level 1 Gatekeeper: Technical Evaluation for MV End Caps and Repair Sleeves: Mandatory Technical Evaluation Requirements		
Criteria	Clause	Acceptance: Yes/ No
Are drawings or a catalogue showing the different ranges of accessories submitted? Drawings/ catalogue to be printed in colour.	240-129903077 clause 3.2.2	
Is the installation instruction for MV cable end caps and repair sleeves submitted?	SANS 1332 clause 6.3.2	
Has type testing been performed at an accredited Test facility?	SANS 1332 clause 6.3.4.2	
Are Type testing requirements met in accordance with Eskom requirements?	240-129903077 clause 3.2.1	
Are the type tested raw material and extrusion line information submitted?	Test schedule	
Does the MV cable repair sleeves or cable sealing end caps comply with the dimension requirements of SANS 1332?	SANS 1332 clause 4.1.14.1 and 4.1.15.1	
Does the marking of the MV cable termination comply with SANS 1332?	SANS 1332 Clause 6.1.1 & 6.1.2	
Is at least one bill of material per product range submitted?	SANS 1332 Clause 6.1.1	
Any one "NO" on the above scores the supplier will be disqualified. The Type testing should fully comply with the requirements of SANS 1332 in order to obtain YES under testing requirements.		

3.8.2 Level 2: Technical evaluation criteria for MV End Caps and Repair Sleeves

Level 2 scoring/rating: Technical evaluation criteria for MV End Caps and Repair Sleeves - (only submission that passes Level 1 gatekeepers)			
Routine testing and type testing Weight: 5			
Criteria	Clause	Weight	Score
Were type tests performed in the last 10 years?	240-56030619 Clause 3.2.1	1	
Generic routine test certificate & reports submitted?	240-56030619 Clause 3.2.1	1	
Is the installation instruction printed in colour?		1	
Factory routine tests failure rate (Number of MV cable accessories tested and failed per annum/ total number tested). Figures must be auditable for the last 2 years.	Ratio	2	

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**TECHNICAL EVALUATION
CRITERIA FOR MEDIUM VOLTAGE CABLE
ACCESSORIES**

<ul style="list-style-type: none"> For Type testing performed within the last 10 Years supplier gets 100% and loses 20 % for each additional year. For the routine test certificate or report supplier gets 100 % if all requirements are met as per SANS 1332, and loses 20% for each missing requirement. A factory routine test failure rate < 5% the supplier gets 100%, and loses 100% for a factory failure rate > than 5%. If water blocking removal instruction is included the supplier gets 100 %, and if not 0%. 		Total	/5
Technical schedules Weight: 4 Total			
Criteria	Clause	Weight	Score
Correctness of completion i.e. no "TBA, Comply, Noted, supplied later, noted, acceptable only when Eskom informs"	Technical schedules A & B	2.0	
No technical deviations on technical schedules.	Technical schedules A & B	2.0	
NB: The technical schedules B are provided separate excel sheets as part of the Tender Technical Documents.			
<ul style="list-style-type: none"> Negative marking is done and a penalty of 2 % is applicable for each incorrect completion or deviation. Negative marking is done and a penalty of 10 % is applicable for each deviation from meeting Eskom specification and deviations. 		Total	/4
Drawings Weight: 8			
Criteria	Clause	Weight	Score
Drawing number shown on drawing?		1.0	
Revision number shown on drawing?		1.0	
Dimensions shown on drawing?		1.0	
Detailed description provided in "Title"?		1.0	
Approval date shown on drawing?		1.0	
Completed legend?		1.0	
All cable accessory layers indicated on drawing?		1.0	
Complete labelling of cable accessory layers?		1.0	
Negative marking and supplier loses the applicable weighting per deviation.		Total	/8
Packaging Weight: 3			
Criteria	Clause	Weight	Score
Is at least one bill of material submitted (per product range)?	240-56030619	2	
Is Marking of the cable termination submitted and compliant to SANS 1332?	SANS 1332 Clause 6.1	1	
Negative marking is applied, and supplier loses 10% for each deviation from Eskom specification.		Total	/3

3.9 Conclusion

This report is effective to specify the technical evaluation criteria for MV cable accessories to be used in Eskom. The MV cable accessories suppliers are to complete technical schedule B, drawings and test schedules aligned with 240-56030619 as part of the tender deliverables.

4. Authorization

This document has been seen and accepted by:

Name and surname	Designation
Bheki Ntshangase	Senior Manager: HV Plant Group Technology

5. Revisions

Date	Rev	Compiler	Remarks
Dec 2017	1	Q. Khumalo	New document.

6. Development team

The following people were involved in the development of this document:

- Thinus du Plessis: Chief Engineer HV Plant, Group Technology
- Queeneth Khumalo: Senior Engineer HV Plant, Group Technology

7. Acknowledgements

Not applicable.