



**Eskom**

**Report**

**Technology**

Title: **TECHNICAL EVALUATION  
CRITERIA FOR 6 SQ MM  
(TINNED CU AND COATED  
STEEL) CONCENTRIC CABLE**

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## **1. Introduction**

This document has been developed to set the standard technical evaluation criteria to be used when evaluating the tender submissions. This covers the technical evaluation of the concentric cable with tinned copper and coated steel without communication cores for Eskom. It has clauses developed to address various aspects required to perform the technical evaluation. It has been developed based on the Eskom standards (.240-61704085)

This document contains both the evaluation criteria used for the documentation evaluation and factory evaluation. In addition, it contains the questions which answers are required for technical evaluation purposes.

## **2. Supporting clauses**

### **2.1 Scope**

The document covers the criteria for the evaluation of the concentric cable with tinned copper and coated steel for Eskom Holdings SOC (Ltd).

#### **2.1.1 Purpose**

The document addresses the standard documented technical evaluation criteria to be used when evaluating the tender submissions for the Concentric cable in line with the Eskom Holdings SOC (Ltd) requirements and it is applicable to all the technical evaluations for the related tender submissions.

#### **2.1.2 Applicability**

This document shall apply for Eskom Holdings Limited and Distribution division wherein Eskom has a controlling interest.

### **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 National document(s)**

- [1] SANS 1507-1, Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 300 V) Part 1: General
- [2] SANS 1507-6, Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 300 V) Part 6: Service cables
- [3] SANS 1411-1, Materials of insulated electric cables and flexible cords Part 2: Polyvinyl chloride (PVC)
- [4] SANS 1411-4, Materials of insulated electric cables and flexible cords Part 4: Cross-linked polyethylene (XLPE)

#### **2.2.2 Eskom document(s)**

- [5] 240-61704085: Concentric cable with tinned copper and coated steel.
- [6] D-DT: 3140: CABLE 1kV 2C 4SQ CU CONC

### 2.2.3 Informative

- [7] 32-9: Definition of Eskom documents.
- [8] 32-644: Eskom documentation management standard.
- [9] 474-65: Operating manual of the Steering Committee of Technologies (SCOT).

## 2.3 Definitions

### 2.3.1 General

Definition	Description
<b>Eskom Evaluating Representative(s)</b>	The person(s) appointed by Eskom to perform the evaluation of tender submission(s) in line with the Eskom requirements.

### 2.3.2 Disclosure classification

**Controlled disclosure:** controlled disclosure to external parties (either enforced by law, or discretionary).

## 2.4 Abbreviations

Abbreviation	Description
<b>SANS</b>	South African National Standard
<b>LV</b>	Low Voltage
<b>XLPE</b>	Cross-Linked Polyethylene

## 2.5 Roles and responsibilities

All Eskom employees and/or appointed bodies involved in the procurement of concentric cable shall ensure that the project 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 Specialist and is based on sound engineering judgement.

All suppliers of the concentric cable to Eskom must be conversant with the requirements of this standard and shall comply with the requirements. Deviations shall be assessed by the technical team for acceptance and manufacturers 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 concentric cable acceptance shall be based on fully compliant submission of documents, the factory assessment and proving manufacturing capability and capacity during factory evaluations.

## 2.7 Related/supporting documents

Refer to clause/ section 2.2.

## 3. Requirements

The evaluation methodology will include two main parts, namely the documentation evaluation and the factory evaluation.

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### **3.1 Documentation Evaluation**

The documentation evaluation exercise is performed by the Eskom evaluating representatives. This initial part of the evaluation starts when submissions are opened and assessed for the first time. The submitted documents will be evaluated against the evaluation criteria as stated below.

The documentation evaluations are meant for establishing if all the key tender deliverables are met. The documentation evaluation will consist of two sections: Technical evaluation requirements Level 1 (basic compliance) and scoring phase (level 2). The Level 2 constitutes a total of 100% of the total technical evaluation score and the threshold is 90%. Manufactures/supplier shall have to achieve 90% to be considered for factory and sample verification.

The tender submission must meet all the level 1 (basic compliance) requirements. Failure to meet all the basic compliance will result to disqualification.

Once a tenderer gets a "No" at Level 1 it becomes an automatically disqualification and when it is all "Yes" then proceed to a Level 2 scoring.

### **3.2 Evaluation at factory and Sample verification**

The factory evaluations are only performed on the submissions that have met all the basic compliance requirements at level 1. Eskom Commercial shall make the arrangements for factory visits and ensure the technical representatives are invited on time.

The sample verification exercise is performed by Eskom technical representatives. Verification of a sample shall be performed using sample verification scoring method in Annexure A. A score of 80% shall be achieved during factory sample evaluation for a product to be considered compliant.

The factory evaluation will consist of the cable manufacturing plant evaluation (i.e. Design capability, type tested compounds, extrusion lines, manufacturing plant, processes, sample, and routine testing, etc.).

The following areas shall be during evaluation at the factory:

- a) Design capability
- b) Raw material and compounds type tested.
- c) Extrusion lines type tested.
- d) Production process and critical check points.
- e) Design and software design capability.
- f) Material handling and storage.
- g) Testing facilities including certification and calibration of testing equipment.
- h) Sample testing and procedures.
- i) Routine testing procedures.
- j) Packaging of materials and drums

At the end of this exercise, the Eskom evaluating representative(s) list all the deviations and identified risks if any. The representative conducts a formal discussion of the deviations and risks in line with Eskom's requirements.

**3.3 Technical Evaluation for concentric cable (6 sq mm-tinned Cu and coated steel: level 1 Technical Evaluation Requirements**

Concentric cable technical evaluation criteria for the documentation exercise		
Level 1		
TASK / MEASURE		
Criteria	Standard/clause	Acceptance: Yes/ No
Copies of test reports	240-61704085	
Copy of a permit to apply submitted	SABS	
Completed technical schedules B submitted	Technical Schedules A and B 240-61704085	
Cable dimensional data drawings submitted	240-61704085	
Testing of the cable performed and passed at an accredited Testing facility. Provide proof	_____	
<b>Note: Should the manufacturer fail to meet ONE of the above requirements they will be automatically disqualified</b>		

3.3.1 Technical evaluation criteria for concentric cable (6mm sq tinned Cu and coated steel – Level 2 score

Concentric cable technical evaluation for the documentation exercise			
Level 2 scoring/rating - (only submission that passes Level 1)			
Routine testing and type testing Weight: 40%			
Criteria	Clause	Weight (%)	Score
Were tests performed in the last 10 years? Test reports submitted and are in English.	240-61704085	20	
Are all tests compliant to Eskom standard?	240-61704085	20	
<ul style="list-style-type: none"> <li>For testing performed within the last 10 Years supplier gets 100% and loses 20 % for each additional year.</li> </ul>		<b>Total</b>	<b>/40</b>
Technical schedules for concentric cable (6 sq mm-tinned Cu and coated steel without communication wires): Weight: 5			
Criteria	Clause	Weight	Score
Correctness of completion i.e. no "TBA", "Comply", "Noted", "supplied later" ("Noted" acceptable only when Eskom informs), completed technical schedule	Technical schedules A & B 240-61704085	30	
TNB: The technical schedules B are provided on the Annexures of the Concentric cable specifications. <ul style="list-style-type: none"> <li>Negative marking is done and a penalty of 2 % is applicable for each incorrect completion deviation.</li> <li>Negative marking is done and a penalty of 3 % is applicable for each deviation from meeting Eskom specification.</li> </ul>		<b>Total</b>	<b>/30</b>
Drawings Weight for concentric cable (6mm sq-tinned Cu and coated steel without communication wires): Weight 6			
Criteria	Clause	Weight	Score
Drawing number		2.0	
Revision number		2.0	
Dimension of the cable		2.0	
Detailed description provided in "Title".		2.0	
Approved & date drawings		2.0	
Marking of cable sheath drawing		2.0	
		<b>Total</b>	<b>/12</b>
Packaging Weight: 5			
Criteria	Clause	Weight	Score
Are cable drums made in accordance with Eskom specification	240-61704085	10	
Is marking drum done in accordance with Eskom specification	240-61704085	8	
<b>Note: full mark for Eskom compliance.</b>		<b>Total</b>	<b>/18</b>

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## Annexure A: Sample verification (scoring) at the factory

Concentric cable technical sample verification exercise			
Technical Evaluation			
Construction Weight: 100%			
Criteria	Standard	Weight	Score
Marking of the concentric cable in accordance with Eskom standard	240-61704085	20%	
Concentric cable made of Tinned copper and coated steel	240-61704085	25%	
Dimensions of copper and steel strands in accordance with Eskom standard	240-61704085	20%	
Stripping cord available	240-61704085	5%	
Inner core (RED) complies with UV stability requirements. Proof produced	240-61704085	20%	
Cable drum made in accordance with Eskom standard	240-61704085	5%	
Marking of cable drum as per Eskom standard	240-61704085	5%	
<ul style="list-style-type: none"> <li>Complete failure to comply with the above sub-clauses the manufacturer gets score of 0%, otherwise the score is decided by the evaluation team.</li> </ul>			



### 3.4 Conclusion

The cable manufacturers are to complete technical schedule B aligned with 240-61704085 as part of the tender deliverables.

## 4. Authorization

This document has been seen and accepted by:

Name and surname	Designation
Mfundu Songo	Senior Manager (Technology and Engineering)
Kebone Mogase	Commercial

## 5. Revisions

Date	Rev.	Compiler	Remarks
March 2017	0	Jutas Maudu	First issued
August 2017	1	Jutas Maudu	4 and 10sq mm removed
January 2023	2A	Jutas Maudu	Communication cores removed
October 2023	2	Jutas Maudu	Basic compliance score removed

## 6. Development team

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

- Jutas Maudu: Senior Engineer HV Plant, Group Technology
- Masithembe Ngcwama Gauteng Cluster SI

## 7. Acknowledgements

None