 Eskom	Report	Technology
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Title: TECHNICAL EVALUATION  
CRITERIA CABLE FOR 6 SQ MM  
(TINNED CU AND COATED  
STEEL) CONCENTRIC CABLES  
WITH COMMUNICATION WIRES

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Area of Applicability: Engineering



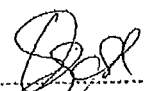
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## **1. Introduction**

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 with communication wires and concentric cable tinned copper, coated steel and communication wires for Eskom. It has clauses developed to address various aspects required to perform the technical evaluation. It has been developed based on the Eskom specifications or standards.

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, coated steel and communication wires 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 communication cores, tinned copper and coated steel.
- [6] 240-75659670: Concentric cable with communication cores
- [7] D-DT: 3140: CABLE 1kV 2C 4SQ CU CONC

### 2.2.3 Informative

- [8] 32-9: Definition of Eskom documents.
- [9] 32-644: Eskom documentation management standard.
- [10] 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. 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 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 in clause 3.3 below.

During the documentation evaluation, fully compliant type, routine, and sample tested concentric cables in accordance with 240-61704085 will be required. Failure to submit and comply with the tests 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. The documentation evaluation will consist of two sections: mandatory technical evaluation requirements deliverables (Level 1: mandatory requirement) and scoring phase (level 2: submission requirements). The Level 1 constitute a total of 80% of the total technical evaluation score, while the level 2 submission requirements constitute 20% of the technical evaluation score.

The tender submission must meet all the level 1 (mandatory technical evaluation requirements). Failure to meet all the mandatory requirements will result to a score of 0% of the 80% (listed above); thus, a tenderer can only obtain 0% or 80%, and nothing in between for level 1 mandatory requirements.

Technical evaluation score = 80% (level 1 mandatory requirements) + 20% (level 2 submission requirement).

Once a tenderer gets a "No" at Level 1 it becomes an automatically disqualification and when it is all "Yes" then a full 80% is achieved and then proceed to a Level 2 scoring.

**Note:** Only a 100% compliant score achieved at level 1 mandatory requirements equates to full compliance. Any score below 100% of level 1 mandatory requirements will result to immediate disqualification.

### 3.2 Evaluation at factory

The factory evaluations are only performed on the submissions that have met all the mandatory technical evaluation requirements in level 1: mandatory requirements as stated 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 using checklists. The checklists are used to verify factory capability and manufacturing method compliance to the type tested conductors offered.

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 assessed during the manufacturing evaluation:

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

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- j) Routine testing procedures.
- k) 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. If major discrepancies and risks are identified the supplier may be disqualified. For minor discrepancies and risks the Tenderer and their OEM are given opportunity to decide whether they agree or disagree to meet Eskom requirements within one month after factory assessment. The action plans for resolving the discrepancies and risks will be agreed between Eskom representative(s) and the supplier.

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

Concentric cable technical evaluation criteria for the documentation exercise		
Level 1		
TASK / MEASURE		
Criteria	Standard/clause	Acceptance: Yes/ No
Copies of type test reports & permit to apply certificate submitted.	SANS 1507	
Are completed technical schedules B submitted in the provided excel format and submitted and complied?	Technical Schedules A and B 240-61704085	
Are conductor construction drawings and product codes submitted and complied?	6mm sq concentric cables	
Are conductor dimensional data drawings submitted? Include thickness of the dielectric	240-61704085	
Has type testing been performed and passed at an accredited Test facility? Provide proof	N/A	
Any one "NO" on the above scores the supplier will be disqualified. The Type testing should fully comply with the requirements of 240-61704085 in order to obtain YES under testing requirements.		

#### 3.3.1 Technical evaluation criteria for concentric cable (6mm sq-tinned Cu and coated steel with communication wires – 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: 4			
Criteria	Clause	Weight	Score
Were type tests performed in the last 10 years? Test reports submitted	SANS 1507-6	2	
Are all tests reports/certificate in table 1 submitted?	Technical Criteria	2	

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<ul style="list-style-type: none"> <li>For Type testing performed within the last 10 Years supplier gets 100% and loses 20 % for each additional year.</li> <li>For the routine test certificate or report supplier gets 100 % if all requirements as per SANS included, and loses 20% for each missing requirement</li> </ul>		Total	/4
<b>Technical schedules for concentric cable (6 sq mm-tinned Cu and coated steel with communication wire): Weight: 5 Total</b>			
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 & B240-61704085	5	
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 and deviations.</li> </ul>		Total	/5
<b>Drawings Weight for concentric cable (6mm sq-tinned Cu and coated steel with communication wires: Weight 6</b>			
Criteria	Clause	Weight	Score
Drawing number		1.0	
Revision number		1.0	
Dimensions		1.0	
Detailed description provided in "Title".		1.0	
Approved & date drawings		1.0	
Marking of cable sheath drawing		1.0	
		Total	/6
<b>Packaging Weight: 5</b>			
Criteria	Clause	Weight	Score
Are drums manufactured in accordance with Eskom specification	240-61704085	3	
Is Marking drum done in accordance with Eskom specification	240-61704085	2	
		Total	/5

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### 3.4 Conclusion

This report is effective to specify the technical evaluation criteria for concentric cable to be used in Eskom. The conductor suppliers are to complete technical schedule B aligned with 240-61704085 as part of the tender deliverables.

The technical evaluation criteria for this project are specified in clause 3.3 of this document.

## 4. Authorization

This document has been seen and accepted by:

Name and surname	Designation
Bheki Ntshangase	Senior Manager HV Plant

## 5. Revisions

Date	Rev.	Compiler	Remarks
March 2017	0	Jutas Maudu	First issued
August 2017	1	Jutas Maudu	4 and 10sq mm removed

## 6. Development team

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

- Jutas Maudu: Senior Engineer HV Plant, Group Technology

## 7. Acknowledgements