	Report	Technology
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Title: Technical Criteria For Procurement of Insulation Piercing connectors and PG Clamps

Unique Identifier:

SILOU-486

Alternative Reference Number: **N/A**

Area of Applicability:

Engineering

Documentation Type:

Report

Revision:

1

Total Pages:

14


Next Review Date:

N/A

Disclosure Classification:

**CONTROLLED
DISCLOSURE**

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Date: 06 September 2023

Date: 05 September 2023

Date: 06 September 2023

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1. INTRODUCTION

This document provides an overview of Eskom's LIMLANGA Operating Unit technical evaluation criteria to be used when evaluating the tender submissions for the supply of insulation Piercing connectors (IPCs) and PG Clamps.

2. SUPPORTING CLAUSES

2.1.1 Scope

The document contains the technical requirements and returnable for tenderers of the following product (s) which currently are not on a National or Provincial Contract.

Eskom Standard	SAP No.	Description	Eskom Drawing Number
Buyers Guide	0165494	CLAMP,IPC BIMET 35-95I/6-25I D3039	D-DT- 3039
Buyers Guide	0165496	CLAMP,IPC BIMET 35-95I/35-95I D3039	D-DT- 3039
Buyers Guide	0175104	CLAMP,IPC BIMET 16-95I/1.5-10I D3039	D-DT- 3039
Buyers Guide	0578664	CONNECTOR,TEE:RUN 25MM2 TO 95MM2 AL/CU	D-DT- 3039
Buyers Guide	0578665	CONNECTOR,TEE:RUN 25MM2 TO 95MM2 AL/CU	D-DT- 3039
Buyers Guide	0165498	CLAMP,IPC BIMET 35-95B/6-25I D3039	D-DT- 3039
Buyers Guide	0165521	CLAMP,IPC BIMET 35-95B/35-95I D3039	D-DT- 3039
Buyers Guide	0165495	CLAMP:P/G ;4-15 M; 4-15 T ;AL-AL	D-DT-3158
Buyers Guide	0198221	CLAMP:P/G ;8-17.5 M 7.5-17.5 T ;AL-CU	D-DT-3058
Buyers Guide	0604742	CLAMP:P/G ;6-15 M 4-12 T ;AL-CU	D-DT-3058

2.1.2 Purpose

The aim of the document is to formalize the requirements that should be met by the supplier / manufacturer for the product (s) requested. Eskom specification 240-75883122 and buyer's D-DT- 3039 currently refer NRS 018 for type testing; this document has since been withdrawn and replaced SANS 50483-4.

2.1.3 Applicability

This document shall apply throughout Eskom LIMLANGA Operating Unit.

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] ISO 9001, Quality Management Systems.
- [2] Eskom Drawing No. D-DT- 3039, D-DT-3158 and D-DT-3058
- [3] IEC 61284
- [4] NRS 018
- [5] 240-75883122: Fittings for Bare Neutral Aerial Bundled Conductor
- [6] SANS 50483-4: Test requirements for low voltage aerial bundled cable accessories - Part 4: Connectors

2.2.2 Informative

N/A

2.3 DEFINITIONS

2.3.1 General

Definition	Description
Tender	A tender refers to an open or closed competitive request for quotations / prices against a clearly defined scope / specification.

2.3.2 Disclosure classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
ISO	International Standard Organisation
LAP	List of Accepted Products
LIMLANGA	Limpopo & Mpumalanga
SI	Standards Implementation Department

Abbreviation	Description
ISO	International Standard Organisation
IPC	Insulation Piercing Connector
PG	Parallel Groove

3. TENDER REQUIREMENTS

3.1 IMPORTANT INFORMATION

The following shall be submitted by the tenderer. Please note that if any of the requested documentation is omitted (i.e. not submitted); the tender application may be discarded / disqualified without requesting tenderer to submit outstanding documentation. Eskom will treat all documents submitted by the tender as **confidential**. Eskom shall request to conduct sample inspection, witnessing and or submission of samples. Eskom reserves the right to witness any or all of these tests.

3.2 List of Returnable

3.2.1 Type test reports (for IPCs as SANS 50483-4 & DDT 3039, and PG as per DDTs)

3.2.2 Manufactures Drawings with critical dimensions

3.2.3 Annexure A: Completed A & B technical schedules

3.2.4 Annexure B: Completed Deviation schedule

4. TECHNICAL EVALUATION CRITERIA

4.1 TECHNICAL EVALUATION STAGES

This will be a desktop evaluation of the mandatory requirements. Products will be evaluated individually. Each tender needs to meet the entire mandatory technical requirements to proceed to evaluation stage 2, a "NO" to any of the mandatory requirements as listed below will lead to immediate disqualification.

Table1: The table below shows the scoring that will be applied:

Item	Description	Weight	Compliant(Yes/No)
------	-------------	--------	-------------------

Mandatory Criteria (Evaluation Stage 1)			
1	Annexure A: technical A&B Schedule(s)	60%	
2	Manufacture drawing(s)	10%	
3	Type test report(s)	20%	
4	Annexure B: Deviation Schedule	10%	
Note: Failure to meet any of the mandatory criteria will immediately lead to disqualification.			

4.2 Scoring functional Criteria(Annex A)

The tenderer needs to obtain a weighted score of **95%** in order to pass this Evaluation phase.

Requirements shall be scored as shown on table below:

Criteria	Score
Fully compliant	5
Partially compliant - minor deviation	2
Non-compliant	0

Note: a score of 100% (5) shall be obtained if e.g. type tests are fully compliant (all test reports submitted) and 40% (2) of a total score shall be obtained when submission is partially or not fully compliant.

5. TABLE 2: TESTS FOR PG CLAMPS (AL/CU)

PG CLAMPS (AL/CU)			
No.	Test	Type Test	Sample Test
1.	Visual examination	x	x
2.	Dimensional and material verification	x	x
3.	Clamp bolt tightening test	x	
4.	Slip test	x	
5.	Heat cycle test	x	
6.	Corrosion test	x	

6. TABLE 3: TESTS FOR IPC CONNECTORS

IPC connectors

No.	TEST	Type Test	Sample Test
1	Visual examination	X	X
2	Dimensional and material verification	X	X
3	Test for mechanical damage to the main conductor.	X	
4	Branch cable pull-out test	X	
5	Connector bolt tightening test	X	
6	Shear head function test	X	
7	Low temperature impact test	X	
8	Electrical ageing test	X	
9	Dielectrical voltage test	X	
10	Tensile test at high temperature / Thermal test	X	
11	Endurance test under mechanical and thermal stresses	X	
12	Corrosion ageing test	X	
13	Climatic ageing test	X	
14	Test for permanent marking	X	
15	Bolt tightening test	X	
16	Low temperature assembly test	X	

6.1 VISUAL EXAMINATION

Tests shall include visual examination to ascertain conformity of the fittings, in all essential respects, with the product drawings. Deviations from the drawings shall be subject to agreement between supplier and purchaser and shall be appropriately documented as an agreement concession. Visual examination shall ensure conformity of manufacturing process, shape, coating and surface finish of the clamp with the contract drawings. Particular attention shall be given to markings required and to the finish of surfaces which come into contact with the conductor.

NOTE: Verification of marking may include marking required by the purchaser in order to verify inspection or testing (e.g. hardness tests, indent marks, inspectors' stamps, etc.).

6.2 DIMENSIONAL AND MATERIAL VERIFICATION

Tests shall include verification of dimensions to ensure that clamps are within the dimensional tolerances stated on contract drawings. The purchaser may choose to witness the measurements of selected dimensions or may inspect the supplier's documentation when this is available. Measuring devices / gauges shall be selected with regard to the required precision and accuracy. Documentary evidence of calibration of such devices shall be provided on request. Type and sample tests shall also include verification of materials to ensure that they are in accordance with contract documents. This verification shall normally be carried out by the purchaser inspecting the supplier's documentation relative to material purchasing specifications, certificates of conformity, or other quality documentation. When agreed between purchaser and supplier, material verification shall include tests appropriate to the material specification.

NOTE: Particular attention should be given to those dimensions potentially affecting mechanical and/or electrical performance.

7. REVISION HISTORY

Date	Revision	Compiler	Remarks
November 2019	0	Sello Lekalakala	First Issue
September 2023	1	Sello Lekalakala and Jutas Maudu	Document reviewed

ANNEX A: TECHNICAL SCHEDULE

Enquiry number:

Spec.ref no D-DT- 3039

Supplier Name:.....

Date:.....

Eskom SAP number:.....

Technical Schedules A and B

Schedule 1 – Procurement of Insulation Piercing Connector

Schedule A: Purchaser's specific requirements(Eskom)

Schedule B: Guarantees and Particulars of equipment offered (Supplier)

No.	DESCRIPTION	SCHEDULE A	SCHEDULE B
1	General Product Information		
	Eskom drawing number and Revision	XXXXXXXXXXXXXX	
	Manufacturer	XXXXXXXXXXXXXX	
	Country of origin	XXXXXXXXXXXXXX	
	Manufacturer's Product Code	XXXXXXXXXXXXXX	
2	Catalogue reference number	XXXXXXXXXXXXXX	
	Type testing	SANS 50483-5	
4	Test Facility; note! Provide proof of accreditation of test facility if not SABS	SABS/NETFA	
	Tests		
	a) Test for mechanical damage to the main conductor.	Yes	
	b) Branch cable pull-out test	Yes	
	c) Connector bolt tightening test	Yes	
	d) Shear head function test	Yes	
	e) Low temperature impact test	Yes	
	g) Electrical ageing test	Yes	
	h) Dielectrical voltage test	Yes	
	i)Tensile test at high temperature / Thermal test	Yes	
	j) Endurance test under mechanical and thermal stresses	Yes	
	k)Visual examination	Yes	
	l) Dimensional and material verification	Yes	
	m) Corrosion ageing test	Yes	
	n) Climatic ageing test	Yes	
	o)Test for permanent marking	Yes	
	p)Bolt tightening test	Yes	
	q)Low temperature assembly test	Yes	
5	Is the IPC colour code correct	See D-DT-3039	

6	Manufacture drawing submitted?	YES	
7	Conductor range(Min/Max)	See D-DT-3039	
8	Marking/packing/documentation		
	a) Method of packing offered	Individually/collective	
	b)Number of fittings per package	xxxxxxxxxxxxxx	
	c)Corrosion and damage protection method	xxxxxxxxxxxxxx	
	d)Packing suitable for storage	YES	
	e)Gross mass of bulk packs kg	30kg Max	
	f)Details of installation instructions provided	Comply	
9	Is a deviation schedule (Annex B) completed and submitted?	Comply	

Declaration that the scheduled has been completed by us **(Sign or insert company Stamp).**

Signed by : _____

(Full Name)

Signature : _____

ANEXXURE B: DEVIATION SCHEDULE

Any deviations from this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost-effective than that specified by Eskom.
The deviation schedule is to be completed and signed by all tenderers

Item	Proposed deviation
------	--------------------

Declaration that the scheduled has been completed by us (signs or insert company stamp). signed by : _____ (full name) signature : _____	

Annex C – Technical Schedules

Technical Schedules A and B for PG CLAMPS (Al/Cu) D3058

Schedule A: Purchasers specific requirements

Schedule B: Guarantees and technical particulars of equipment offered

1	2	3	4
Item	Description	Schedule A	Schedule B
1	Product Information		
1.1	<input type="checkbox"/> Purchasing details		
1.1.1	SAP No		xxxxxxxxxx
1.1.2	Manufacturer	xxxxxxxxxx	
1.1.3	Country of origin	xxxxxxxxxx	
1.1.4	Manufacturer's Product Code	xxxxxxxxxx	
1.1.5	Drawing number & Revision number	xxxxxxxxxx	
1.1.6	Physical identification mark on product	xxxxxxxxxx	
1.1.7	Compliance to critical dimensions on Buyer's Guide	3058	
1.1.8	Item sample required	YES	
1.2	<input type="checkbox"/> Mechanical and electrical properties		
1.2.1	Material Grade/Material used:	xxxxxxxxxx	
1.2.2	PG Bolts	xxxxxxxxxx	

1.2.3	PG Body	xxxxxxxxxx	
1.2.4	Tensile strength MPa	xxxxxxxxxx	
1.2.5	Washer dimensions (Diameter and thickness)	xxxxxxxxxx	
1.2.6	Conductor range	xxxxxxxxxx	
1.2.7	Elongation mm	xxxxxxxxxx	
1.2.8	Anti galling measures taken?	xxxxxxxxxx	
1.2.9	Thread size	M8 bolt	xxxxxxxxxx
1.2.10	Filler content	xxxxxxxxxx	
1.2.11	Dielectric strength	xxxxxxxxxx	
1.2.12	Fabrication method		
	a) Extrusion	xxxxxxxxxx	
	b) Forging	xxxxxxxxxx	
1.2.13	Electrical jointing compound used/type	xxxxxxxxxx	
1.3	<input type="checkbox"/> PG Clamps (Al/Cu) are required for the following conductor types		
1.3.1	Cross-sectional area of the smallest conductor mm ²		xxxxxxxxxx
1.3.2	Breaking force of the smallest conductor kN		xxxxxxxxxx

1.3.3	Current rating @ 75 degrees Celsius of the		xxxxxxxxxx
1.3.4	A smallest conductor		
1.3.5	Cross-sectional area of the largest conductor		xxxxxxxxxx
1.3.6	mm ²		
	Breaking force of the largest conductor kN		xxxxxxxxxx
	Current rating @ 75 degrees Celsius of the		xxxxxxxxxx
	A largest conductor		
2	Test Authority	SABS/NEF	
2.1	<input type="checkbox"/> Preferred person/organisation	T A	xxxxxxxxxx
3	Electrical Jointing Compound		
3.1	<input type="checkbox"/> General		
3.1.1	Trade name	xxxxxxxxxx	
3.1.2	Type of compound	xxxxxxxxxx	
3.1.3	Recommended quantity per fitting	xxxxxxxxxx	
3.1.4	Are grooves pre-treated and individually packed?	YES	
3.1.5	Source of supply	xxxxxxxxxx	
3.1.6	Temperature rating:		
	a) Continuous	xxxxxxxxxx	
	b) Maximum under short-circuit conditions	xxxxxxxxxx	
4	Documentation (to be submitted with tender)		
4.1	Note: All documentation to be provided in electronic format.		
4.1.1	<input type="checkbox"/> General		
4.1.2	Outline drawings of item Sets	1	
	Material grade certification	YES	
4.2			Report Number
4.2.1	<input type="checkbox"/> Test reports	Required	
4.2.2	Verification of general dimensions	YES	
	Verification of material type	YES	
	Mechanical Tests	YES	
4.2.3	- Mechanical bolt tightening test (SANS 61284)	YES	
4.2.4	- Slip test (SANS 61284)	YES	
4.2.5	- Heat cycle test (SANS 61284)	YES	
4.2.6	- Corrosion test (SANS 61284)	YES	

NOTE: The deviation schedule is to be completed and signed by all tenderers

ANNEX D: Deviation schedule

Any deviations from this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost-effective than that specified by Eskom.			
Item	Clause	Proposed deviation	
SIGNATURES			
Supplier:			
	_____ Name (Print)	_____ Sign	_____ Date
Manufacturer:			
	_____ Name (Print)	_____ Sign	_____ Date
Eskom:			
	_____ Name (Print)	_____ Sign	_____ Date