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TITLE	SPECIFICATION FOR FITTINGS FOR USE WITH LV ABC	REFERENCE CP_TSSPEC_024	REV 3
		DATE:	AUGUST 2018
		PAGE:	1 OF 11

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FOREWORD

This specification was prepared by the following work group members:

Vijay Rampersad

Technology Services

The work group was appointed by the Distribution Study Committee which, at the time of approval, comprised of the following members:

- | | | |
|----|-------------------|-------------------------|
| 1. | Andrew Duncan | Building and Works |
| 2. | Lucky May | PCM |
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| 4. | Tiro Mokgosi | MAOS |
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INTRODUCTION

Suspension and strain fittings are widely used on City Power's LV overhead network. The fittings should meet technical requirements to sustain life expectancy.

1 SCOPE

The purpose of this specification is to detail the technical requirements to be met when acquiring fittings for use with low voltage aerial bundle conductor (LV ABC) on City Power Johannesburg's networks.

2 NORMATIVE REFERENCES

The following documents contain provisions that, through reference in the text, constitute requirements of this specification. At the time of publication, the editions indicated were valid. All standards and specifications are subject to revision, and parties to agreements based on this specification are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

SANS 50483-3: Test requirements for low voltage aerial bundled cable accessories – Part 3: Tension and suspension clamps for neutral messenger system

CP_TSSPEC_010: LV ABC with Insulated Supporting Neutral Conductor

SANS 1418: Aerial Bundled Conductor Systems

3 DEFINITIONS AND ABBREVIATIONS

The definitions and abbreviations in the above documents shall apply to this specification.

4 REQUIREMENTS

4.1. General

Specific requirements for fittings shall comply with the requirements of SANS 50483-3.

4.2. STRAIN FITTINGS

Strain fittings shall comply with the requirements of SANS 50483-3.

4.3. SUSPENSION FITTINGS

4.3.1. Suspension fittings shall secure an ABC by clamping around the supporting conductor only.

4.3.2. The suspension fittings shall be designed to release the supporting conductor by failure at a vertical load of approximately 8 kN.

4.3.3. Suspension fittings shall comply with the requirements of SANS 50483-3.

4.4 CONDUCTOR SIZE

The strain and suspension fittings are intended for use on ABC with insulated neutral/earth supporting conductor sizes as per CP_TSSPEC_010.

5 TESTS

Tests on strain and suspension fittings shall comply with the requirements of SANS 50483-3.

6 MARKING, LABELLING AND PACKAGING

Marking, labelling and packaging shall comply with the requirements of SANS 50483-3.

7 DOCUMENTATION

Documentation that complies with the requirements of SANS 50483-3 shall be submitted in a catalogue format. In addition, relevant test certificates confirming compliance with the requirements of SANS 50483-3 shall be submitted.

8 TRAINING

- 8.1. A necessary certified training course shall be offered to relevant City Power staff. The training shall include handling, storage and installation of strain and suspension fittings.
- 8.2. The associated costs for the certified training course in 8.1 shall be given per person and shall be fixed for the period of the contract.

9 QUALITY ASSURANCE

A quality management plan shall be set up in order to assure the proper quality management of the fittings during design, development, production and installation. Guidance on the requirements for a quality management plan may be found in the ISO 9001. The details shall be subject to agreement between City Power and supplier.

10 ENVIRONMENTAL MANAGEMENT

An environmental management plan shall be set up in order to assure the proper environmental management of the fittings throughout its entire life cycle (i.e. during design, development, production, and installation). Guidance on the requirements for an environmental management system may be found in ISO 14001 standards. The details shall be subject to agreement between City Power and supplier. This is to ensure that the asset created conforms to environmental standards and City Power SHERQ Policy.

Annex A – Bibliography

None

Annex B – Revision information

DATE	REV. NO.	NOTES
Jan 2003	0	First issue
Dec 2008	1	Updating committee members Inclusion of clause 4.2 and 4.3 Inclusion of clause 10 : Environmental Management General editing
Aug 2018	2	General editing NRS 018 – 2 changed to SABS 50483 – 3 Updating committee members

Annex C – ITEM 1: STRAIN FITTING LV ABC – SAP 541

Schedule A: Purchaser's specific requirements

Schedule B: Guarantees and technical particulars of equipment offered

Item	Sub-clause of SANS 50483-3	Description	Schedule A	Schedule B
1		Quantity of strain fittings required		XXXX
2		Strain fitting manufacturing standard	SANS 50483-3	
3	4	ABC manufacturing standard	SANS 1418	
4		Cross-sectional area of supporting conductor (insulated neutral/earth) mm ²	54,6 and 70	XXXX
5	4.1.6	Colour of fitting insulating materials	Black	
6		Type of UV stabilized material	XXXX	
7	4.3	Designated range of strain fittings mm ²	XXXX	
8		Designated range suitable for use with both supporting conductors sizes above? Yes/No	Yes	
9	5.3.1	Type tests certificates required for:	XXXX	XXXX
	5.3.2	a) Dielectric test of fitting alone? Yes/No	Yes	
	5.3.3	b) Dielectric test of fitting mounted on the supporting conductor?		
	5.3.4	c) Tensile test? Yes/No	Yes	
	5.3.5	d) Accelerated weathering test? Yes/No	Yes	
	5.3.6	e) Combined mechanical and thermal endurance test? Yes/No	Yes	
	5.3.7	f) Corrosion test? Yes/No	Yes	
10	6	Strain fittings marked and packed as per NRS 018-2? Yes/No	Yes	
11		Corrosion and damage protection method	XXXX	
12		Packing suitable for storage Yes/No	Yes	
13	6.3	Maximum gross mass of bulk packs kg	30	
		Details of installation instructions required Yes/No	Yes	
14		Quality assurance? Yes/No	Yes	
15		Environmental management? Yes/No	Yes	

NOTE: TICKS [✓✗], ASTERISK [*], WORD [NOTED], OR TBA [TO BE ADVISED] WILL NOT BE ACCEPTED.

Tender Number: _____

Tenderer's Authorised Signatory: _____

Name in block letters

Signature

Full name of company: _____

ITEM 1: STRAIN FITTING LV ABC – SAP 541

Deviation schedule

Any deviations offered to 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 City Power.

Item	Subclause of SANS 50483-3	Proposed deviation

Tender Number: _____

Tenderer's Authorised Signatory: _____
Name in block letters Signature

Full name of company: _____

Annex C – ITEM 2: SUSPENSION FITTING LV ABC – SAP 544

Schedule A: Purchaser's specific requirements

Schedule B: Guarantees and technical particulars of equipment offered

Item	Sub-clause of SANS 50483-3	Description	Schedule A	Schedule B
1		Quantity of suspension fittings required		XXXX
2		Suspension fitting manufacturing standard	SANS 50483-3	
3	4	ABC manufacturing standard	SANS 1418	
4		Cross-sectional area of supporting conductors (insulated neutral/earth) mm ²	54,6 and 70	XXXX
5	4.1.6	Colour of fitting insulating materials	Black	
6		Type of UV stabilized material	XXXX	
7		Designated range of suspension fitting mm ²	XXXX	
8		Designated range suitable for use with both supporting conductors sizes above? Yes/No	Yes	
9		Type tests certificates required for:	XXXX	XXXX
	5.4.2	a) Dielectric test of fitting alone? Yes/No	Yes	
	5.4.3	b) Dielectric test of fitting mounted on the supporting conductor? Yes/No	Yes	
	5.4.4	c) Tensile test? Yes/No	Yes	
	5.4.5	d) Slippage test? Yes/No	Yes	
	5.4.6	e) Accelerated weathering test? Yes/No	Yes	
	5.4.7	f) Endurance test with oscillations? Yes/No	Yes	
	5.4.8	g) Corrosion test? Yes/No	Yes	
10	6	Suspension fittings marked and packed as per NRS 018-2? Yes/No	Yes	
11		Corrosion and damage protection method	XXXX	
12		Packing suitable for storage Yes/No	Yes	
13	6.3	Maximum gross mass of bulk packs kg	30	
14		Details of installation instructions required? Yes/No	Yes	
15		Quality assurance? Yes/No	Yes	
16		Environmental management? Yes/No	Yes	

NOTE: TICKS [✓✗], ASTERISK [*], WORD [NOTED], OR TBA [TO BE ADVISED] WILL NOT BE ACCEPTED.

Tender Number: _____

Tenderer's Authorised Signatory: _____
Name in block letters Signature

Full name of company: _____

ITEM 2: SUSPENSION FITTING LV ABC – SAP 544

Deviation schedule

Any deviations offered to 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 City Power.

Item	Subclause of SANS 50483-3	Proposed deviation

Tender Number: _____

Tenderer's Authorised Signatory: _____
Name in block letters Signature

Full name of company: _____

Annex D – Stock Items

Material Group: NET-ACCS

Item	SAP No.	SAP Short Description	SAP Long Description
1	541	STRAIN FITTING LV ABC	STRAIN FITTING, BLACK, UV STABILIZED, FOR USE WITH LOW VOLTAGE AERIAL BUNDLED CONDUCTORS (LV ABC) HAVING A COVERED NEUTRAL/EARTH SUPPORTING CONDUCTOR. ITEM SPECIFICATION NO. CP_TSSPEC_024
2	544	SUSPENSION FITTING LV ABC	SUSPENSION FITTING, BLACK, UV STABILIZED, FOR USE WITH LOW VOLTAGE AERIAL BUNDLED CONDUCTORS (LV ABC) HAVING A COVERED NEUTRAL/EARTH SUPPORTING CONDUCTOR. ITEM SPECIFICATION NO. CP_TSSPEC_024