

 Eskom	Standard	Technology
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Title: **FITTINGS FOR BARE NEUTRAL AERIAL BUNDLED CONDUCTOR** Unique Identifier: **240-75883122**

Alternative Reference Number: **34-1643**

Area of Applicability: **Engineering**

Documentation Type: **Standard**

Revision: **3**

Total Pages: **17**

Next Review Date: **March 2025**

Disclosure Classification: **Controlled Disclosure**

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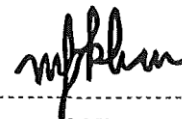
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1. Introduction

This specification has been produced to set out Distribution Group's specific requirements for standardized aerial bundled conductor (ABC) fittings. The specification includes the completed schedules from NRS 018 parts 3 and 5 and sets out further requirements particular to Distribution e.g. mandatory tests, conditional tests and excluded tests.

The specification does not detract from the objectives of National Rationalized Standards but does provide a mechanism for Distribution to optimize its requirements at short notice, whilst keeping the NRS group up to date at all times.

The tests of NRS 018 and the sequence in which they have to be performed is under review by Eskom. This is due to the high cost and difficulty in performing such tests in local laboratories.

In order to address the abovementioned point and open the international market, products which comply with the French NF C, ABC specifications (NF C 33-020, NF C 33-021, NF C 33-040, NF C 33-041 and NF C 33-042) shall be considered as an alternative to NRS in 240-75883122.

This specification provides an interim means by which products can be evaluated without the hurdle of testing in accordance with NRS018.

Note: The revision is an interim revision so as to keep this document up to date. NRS 018 is a significant normative reference included in this document and has been withdrawn. Eskom will retain the intentions of the withdrawn NRS 018 document until a new document is published. This document will be updated once this process has been completed.

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

This specification covers Distribution Group's particular requirements, for uninsulated (bare) neutral ABC fittings.

2.1.2 Applicability

This document shall apply throughout Eskom Holdings Limited Divisions.

2.2 Normative/Informative References

For the purpose of this specification, the references given in NRS 018 will apply.

2.2.1 Normative

- [1] NF C 33-020 Norme Française - Insulated cables and their accessories for power systems Insulation piercing branch-connectors for overhead distributions and services with bundle assembled cores of rated voltage 0,6/1 kV.
- [2] NF C 33-021 Norme Française - Insulated cables and their accessories for power systems Pre-insulated compression type connecting equipment for overhead distributions and services with bundle assembled cores, of rated voltage 0,6/1 kV
- [3] NF C 33-040 Norme Française - Insulated cables and their accessories for power systems Suspension equipments for overhead distribution with bundle assembled cores, of rated voltage 0,6/1 kV
- [4] NF C 33-041 Norme Française - Insulated cables and their accessories for power systems Anchoring devices for overhead distribution with bundle assembled cores, of rated voltage 0,6/1 kV.
- [5] NF C 33-042 Norme Française - Insulated cables and their accessories for power systems Anchoring devices for overhead and overhead-underground services with insulated cables, of rated voltage 0,6/1 kV.

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- [6] SANS 1507-1:1990, Electric cables with extruded solid dielectric insulation for fixed installations (300 V/500 V to 1900 V/3300 V).
- [7] NRS 018-3:1995, Fittings and connectors for low-voltage overhead power lines using aerial bundled conductors, Part 3 Strain and suspension fittings for bare supporting conductors
- [8] NRS 018-5:1995, Fittings and connectors for low-voltage overhead power lines using aerial bundled conductors, Part 5 Current carrying connectors and joints.
- [9] SANS 1507-1:1990, Electric cables with extruded solid dielectric insulation for fixed installations (300 V/500 V to 1900 V/3300 V).
- [10] 240-84758170, Rev. 2, Aerial bundled conductor with uninsulated (bare) neutral.
- [11] DSP 0035, Current carrying compression fittings for reticulation overhead systems

2.2.2 Informative

None

2.3 Definitions

2.3.1 General

For the purpose of this specification, the definitions used in NRS 018 Parts 1 to 5 shall apply to this specification.

2.3.2 Disclosure classification

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

2.4 Abbreviations

Abbreviation	Description
IPC	Insulated piercing connector
UV	Ultra violet
XLPE	Cross linked polyethylene.

2.5 Roles and Responsibilities

The relevant sections within Eskom Distribution are responsible to implement the new design according to the requirements as listed in this document.

2.6 Process for monitoring

Adherence to this document shall be monitored through routine inspections.

2.7 Related/Supporting Documents

Not applicable

3. Requirements

3.1 ABC fittings

3.1.1 List of fittings

Table 1 shows the list of standard fittings used by Distribution Group in the construction of bare neutral ABC systems using cables manufactured in accordance with SANS 1507-1 and 240-84758170. The list excludes auxiliary pole-mounted equipment e.g. pole-top distribution boxes, LV switches etc.

The list refers to the applicable Eskom standard drawing and NRS specification. Standard drawings can be found in the Eskom Distribution Standard, Part 9: Buyers Guide.

Table 1: List of fittings (bare neutral only)

	DESCRIPTION	SAP	STD DWG D-DT ---	SPEC
1	SUSPENSION CLAMP 35-50 MM ²	0168578	3061	NRS018-3
2	STRAIN CLAMP 35-50 MM ²	0168575	3060	NRS018-3
3	PIGTAIL BOLT ASSEMBLY	0163767	3003	NRS018-3
4	IPC 35-95/IPC 35-95 (BLACK) ABC INS PHASE/ABC INS PHASE	0165496	3039 SH2	NRS018-5
5	IPC 35-95/IPC 6-25 (BLACK) ABC INS PHASE/SERVICE INS PHASE	0165494	3039 SH1	NRS018-5
6	PG 35-50/IPC 6-25 (BLUE) BARE NEUT (PG)/SERV (IPC)	0165498	3039 SH3	NRS018-5
7	IPC 35-54.6/PG 35-50 (CREAM) INSUL NEUT (IPC)/BARE NEUT (PG)	0165521	3039 SH4	NRS018-5
8	PG 35-50/PG 35-50 (METALLIC) AL BARE NEUT/AL BARE NEUT	0165495	3058	NRS018-5
9	35 MM ² 1PH ABC TENSION JOINT SET 1 PHASE + 1 BARE NEUTRAL	0165767	3089 SH2	NRS018-5
10	35 MM ² 2PH ABC TENSION JOINT SET 2 PHASE + 1 BARE NEUTRAL	0165766	3089 SH2	NRS018-5
11	35 MM ² 3PH ABC TENSION JOINT SET 3 PHASES + 1 BARE NEUTRAL	0165720	3089 SH1	NRS018-5
12	70 MM ² 3PH ABC TENSION JOINT SET 3 PHASES + 1 BARE NEUTRAL	0165721	3089 SH1	NRS018-5
13	35 MM ² BI-METAL INSUL LUG	0165693	3116	NRS018-5
14	70 MM ² BI-METAL INSUL LUG	0165667	3116	NRS018-5
15	35 MM ² BI-METAL BARE LUG	0165722	3024	NRS018-5
16	50 MM ² BI-METAL BARE LUG	0165723	3024	NRS018-5
17	LINE TAP	0165566	3048	PER DWG
18	H-CRIMP: BARE NEUT/BARE NEUT/BARE NEUT/INS SERV N	0168675	3019	NRS018-5
19	LOOSE END CAP 35-95 MM ²	0168474	3079	NRS018-5
20	CABLE TIE 9 X 270	0168521	3075	NRS020

3.2 Purchasing schedules A and B

These can be found in annex A and a specimen schedule A has been completed to depict Distribution's typical requirements. These requirements shall be studied carefully and the schedule B in an enquiry document shall be completed in full. Any non-compliance with the stated requirements or any special points which need to be stated shall appear on the deviation sheet provided. Failure to complete the deviation sheet may result in a tender being rejected.

The Eskom requirements stated in schedule A of an enquiry document may change from one enquiry to another without revision of the specification hence these schedules shall be carefully studied and completed for every enquiry.

3.3 Testing

Products tested fully in accordance with NRS018 Parts 3 & 5 or NF C 33-020, NF C 33-021, NF C 33-040, NF C 33-041 and NF C 33-042 are preferred, however Distribution Group reserves the right to appraise and accept any product offered. Distribution Group's objective is to select the most economically advantageous solution and to provide an environment in which the optimization of products and the specification can occur.

Products, e.g. strain clamps or suspension clamps manufactured partly or totally from rigid polymers may not be required to pass through certain tests specified in NRS018 Parts 3 & 5. For strain clamps, suspension clamps and the body of the insulating piercing connector the recommended properties of the polymer are:

Tensile strength > 40 MPa

Elongation < 120 %

Non-Water Soluble Filler Content < 30 %

Dielectric strength V/m > 16×10^6

It will be easier and quicker to gain approval for a product if it complies fully with NRS 018, but taking the above into account the following tests may be waived:

Suspension clamps and strain clamps: endurance, accelerated weathering and corrosion tests.

Insulation piercing connectors and similar: accelerated weathering and corrosion tests.

Waiving of these tests shall depend on the material used by the manufacturer being made available to Eskom with an assessment of the material by an expert in this field of materials and manufacture. The costs of an assessment shall be for the manufacturer's account.

Certain tests shall be mandatory and will be specified in schedule A of an enquiry document.

3.3.1 Appraisal and approval

In appraising any product offered the process followed will include but will not necessarily be limited to, the following:

- 1) the availability of test certification;
- 2) the test authority used;
- 3) the product's service history in South Africa and abroad;
- 4) the material type used and the manufacturing procedures;
- 5) the quality control and assurance procedures and the practical application thereof;
- 6) the ability to meet demand.

Eskom may request an expert in the materials and manufacturing techniques used to assess any supplier's product. Such an assessment shall be for the account of the supplier. The costs will be transparent and negotiated with the supplier prior to any assessment taking place.

If a product has not previously been supplied to Eskom or if the product design has been changed or, if requested by Distribution Group, the supplier shall provide samples of the product.

3.3.2 Type of fitting

At present certain types of fittings are commonly used e.g. wedge clamps, however Eskom will consider alternative types of fittings which offer significant financial advantages.

3.3.3 Tensile testing of tension joints

Tensile testing of tension joints shall be in accordance with DSP 0035.

3.3.4 Protective sleeves for bare neutral crimped fittings

Tension joint fittings for a bare neutral shall be supplied with a UV stabilized sleeve to fit over the completed joint to prevent possible sharp edges from damaging the XLPE insulation of the phase cores.

H -crimps shall also be supplied with UV stabilized sleeves as described above.

4. Marking/packing/selection/documentation

Marking, packaging selection and documentation shall be in accordance with NRS 018.

5. Authorisation

This document has been seen and accepted by:

Name and surname	Designation
Jutas Maudu	Senior Engineer
Riaz Asmal	MV/LV SC Chairperson
Bheki Ntshangase	Senior manager HV Plant

6. Revisions

This revision cancels and replaces revision no 2 of document no. 240-75883122.

Date	Rev	Compiler	Remarks
March 2020	3		This standard will be updated in accordance with SANS 50483. A note is added to the introduction. Normative reference updated
June 2017	2		SCOT Template and no content changed
Feb 2012	1	-	DISSCAAL4 changed to DSP 34-1643 2. Normative reference updated 4.4 List of fittings updated Schedule A and B added including deviation schedule.

Date	Rev	Compiler	Remarks
March 2006	1		This document Ref is updated from SCSSCAAL4 to DISSCAAL4. NSN item identifications replaced by SAP item identification (see Table 1). Dielectric strength unit corrected to read V/m instead of Vm (see 4.3.1. "Testing"). The French specifications for ABC fittings (NF C 33-020, NF C 33-021, NF C 33-040, NF C 33-041 and NF C 33-042) references included in the document to open up for international markets.
May 2000	0		Original issue.

7. Development team

- Jutas Maudu
- Rhett Kelly
- Sylvester Mashaba

8. Acknowledgements

Not applicable.

Annex A – Guide to purchasers on preparing an enquiry

1) General

Annex C provides the purchaser with a convenient aid to purchasing. Use of this form is intended to obviate the need for preparing a detailed technical specification.

The purchaser's need only specify compliance with this specification, provide the tenderers with details of his particular requirements, and set out the information he requires the tenderer to provide, as indicated below.

2) Schedules

Annex C provides the purchaser with a model schedule A and a schedule B for use in the preparation of his enquiry.

2.1 Schedule A

Schedule A lists the requirements to be specified by the purchaser in enquiries and orders. These requirements include references to the relevant subclauses in the normative references and this specification, to assist in compiling the schedules.

Where the text of any referenced standard stipulates that the purchaser shall indicate his requirements, these requirements should also be specified in schedule A.

2.2 Schedule B

The purchaser should require the tenderer to fill in this schedule. By doing this, the tenderer will state compliance with this specification and will provide the information the purchaser has requested.

3) Commercial conditions

A purchaser will furthermore need to indicate the commercial conditions applicable and draw up a price schedule. Requirements for delivery, storage, packing and marking should be attended to in this part of the enquiry.

4) Quality assurance

SCSSCAAL4 does not cover the purchaser's requirements in respect of quality assurance, quality control, inspections etc., since each purchaser needs to consider the criticality of the application of each component, his own policy towards these matters, etc. Purchasers are referred to SABS ISO 9001, SABS ISO 9002 and SABS ISO 9003 for guidance.

5) Testing

Attention should be paid to the subject of testing, and the related costs. Tests should be carried out by a competent party and tenderers should be requested to provide assurances on this point. Price schedules should be so drawn up and covering letters so worded that the costs of all services such as tests, delivery and spares are declared and allowed for in the tender.

Before type tests and routine tests are carried out on samples, the number of samples used and the frequency of sampling should be agreed upon with the supplier.

6) Revision of standards used as normative references

This specification, as has been indicated, is based on a set of defined standards which may have been revised or amended. Most purchasers would, in principle, wish to employ the latest standards. The recommended approach to this question is to secure an undertaking from a supplier to review the latest versions and amendments and to incorporate these where possible and agreeable to both parties. A blanket commitment to work to the "latest" versions of standards creates legal difficulties of interpretation and risks for both parties and should be carefully assessed. This invariably cannot be done in the time available.

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Annex B – Impact assessment

(Normative)

Impact assessment form to be completed for all documents.

1) Guidelines

- All comments must be completed.
- Motivate why items are N/A (not applicable)
- Indicate actions to be taken, persons or organisations responsible for actions and deadline for action.
- Change control committees to discuss the impact assessment, and if necessary give feedback to the compiler of any omissions or errors.

2) Critical points

2.1 Importance of this document. E.g. is implementation required due to safety deficiencies, statutory requirements, technology changes, document revisions, improved service quality, improved service performance, optimised costs.

Comment:

2.2 If the document to be released impacts on statutory or legal compliance - this need to be very clearly stated and so highlighted.

Comment: No impacts

2.3 Impact on stock holding and depletion of existing stock prior to switch over.

Comment: No impact

2.4 When will new stock be available?

Comment: It is available already as per buyers guide

2.5 Has the interchangeability of the product or item been verified - i.e. when it fails is a straight swap possible with a competitor's product?

Comment: All suppliers uses this specification

2.6 Identify and provide details of other critical (items required for the successful implementation of this document) points to be considered in the implementation of this document.

Comment: None

2.7 Provide details of any comments made by the Regions regarding the implementation of this document.

Comment: (N/A during commenting phase)

3) Implementation timeframe

3.1 Time period for implementation of requirements.

Comment: ASAP

3.2 Deadline for changeover to new item and personnel to be informed of DX wide change-over.

Comment: Specification has already been used

4) Buyers Guide and Power Office

4.1 Does the Buyers Guide or Buyers List need updating?

Comment: No

4.2 What Buyer's Guides or items have been created?

Comment: None

4.3 List all assembly drawing changes that have been revised in conjunction with this document.

Comment: None

4.4 If the implementation of this document requires assessment by CAP, provide details under 5

4.5 Which Power Office packages have been created, modified or removed?

Comment: None

5) CAP / LAP Pre-Qualification Process related impacts

5.1 Is an ad-hoc re-evaluation of all currently accepted suppliers required as a result of implementation of this document?

Comment: No

5.2 If NO, provide motivation for issuing this specification before Acceptance Cycle Expiry date.

Comment: It was reviewed to check correctness

5.3 Are ALL suppliers (currently accepted per LAP), aware of the nature of changes contained in this document?

Comment: They commented

5.4 Is implementation of the provisions of this document required during the current supplier qualification period?

Comment: No

5.5 If Yes to 5.4, what date has been set for all currently accepted suppliers to comply fully?

Comment: N/A

5.6 If Yes to 5.4, have all currently accepted suppliers been sent a prior formal notification informing them of Eskom's expectations, including the implementation date deadline?

Comment: N/A

5.7 Can the changes made, potentially impact upon the purchase price of the material/equipment?

Comment: No

5.8 Material group(s) affected by specification: (Refer to Pre-Qualification invitation schedule for list of material groups)

Comment: None

6) Training or communication

6.1 Is training required?

Comment: (If NO then 6.2 – 6.6 will be N/A) No

6.2 State the level of training required to implement this document. (E.g. awareness training, practical / on job, module, etc.)

Comment: N/A

6.3 State designations of personnel that will require training.

Comment: N/A

6.4 Is the training material available? Identify person responsible for the development of training material.

Comment: N/A

6.5 If applicable, provide details of training that will take place. (E.G. sponsor, costs, trainer, schedule of training, course material availability, training in erection / use of new equipment, maintenance training, etc).

Comment: N/A

6.6 Was Technical Training Section consulted w.r.t module development process?

Comment: N/A

6.7 State communications channels to be used to inform target audience.

Comment: No

7) Special tools, equipment, software

7.1 What special tools, equipment, software, etc will need to be purchased by the Region to effectively implement?

Comment: None

7.2 Are there stock numbers available for the new equipment?

Comment: Yes

7.3 What will be the costs of these special tools, equipment, software? None

8) Finances

8.1 What total costs would the Regions be required to incur in implementing this document? Identify all cost activities associated with implementation, e.g. labour, training, tooling, stock, obsolescence

Comment: None

.....
.....
.....

Impact assessment completed by:

Name: Jutas Maudu

Designation: Senior Engineer

Annex C – Schedule A and Schedule B

FITTINGS FOR BARE NEUTRAL AERIAL BUNDLED CONDUCTOR

Schedule A: Purchasers specific requirements

Schedule B: Guarantees and technical particulars of equipment offered

1	2	3	4
Item	Description	Schedule A	Schedule B
A.1	General Product Information		
	<input type="checkbox"/> Purchasing details: ABC Fittings		
1.1.1	<input type="checkbox"/> Eskom drawing number and Revision	AS per table 1	xxxxxxxxxx
1.1.2	<input type="checkbox"/> Manufacturer	xxxxxxxxxx	
1.1.3	<input type="checkbox"/> Country of origin	xxxxxxxxxx	
1.1.4	<input type="checkbox"/> Manufacturer's Product Code	xxxxxxxxxx	
1.1.5	<input type="checkbox"/> Catalogue reference number	xxxxxxxxxx	
Subclause	<input type="checkbox"/> NRS 018-3		
	<input type="checkbox"/> Fittings are required for the following:		
4 (Note 3)	<input type="checkbox"/> a) standard of manufacture of ABC	240-84758170 Rev 2	
4 (Note 2)	<input type="checkbox"/> b) cross-sectional area of:		
	<input type="checkbox"/> phase conductors mm ²		xxxxxxxxxx
	<input type="checkbox"/> supporting conductor mm ²		xxxxxxxxxx
	<input type="checkbox"/> earth conductor (if applicable) mm ²		xxxxxxxxxx
	<input type="checkbox"/> auxiliary conductor (if applicable) mm ²		
4 (Note 3)	<input type="checkbox"/> c) breaking force of supporting conductor kN		
	<input type="checkbox"/>		
A.2	Types of fittings required and quantities		
Subclause	<input type="checkbox"/> NRS 018-3		
4 (Note 1)	<input type="checkbox"/> Strain fittings		xxxxxxxxxx
4 (Note 1)	<input type="checkbox"/> Suspension fittings		xxxxxxxxxx
4 (Note 1)	<input type="checkbox"/> Pole fittings		xxxxxxxxxx
	<input type="checkbox"/> - coach screw		
	<input type="checkbox"/> - pigtail bolt		
	<input type="checkbox"/> - eye nuts		
	<input type="checkbox"/>		

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A.3	Type of UV stabilized material		
Subclause	<input type="checkbox"/> NRS 018-3		
4.1.2	<input type="checkbox"/> Type of UV stabilized material	xxxxxxxxxxx	
	<input type="checkbox"/>		
A.4	Glow wire test		
Subclause	<input type="checkbox"/> NRS 018-3		
4.1.3	<input type="checkbox"/> Are all non-metallic components to satisfy the glow-wire test requirements of IEC 695-2-1/1?	Yes/No	xxxxxxxxxxx
4.1.6	<input type="checkbox"/> Colour of fitting insulating parts	Blue	xxxxxxxxxxx
	<input type="checkbox"/>		
A.5	Test Authority		
Subclause	<input type="checkbox"/> NRS 018-3		
5.1	<input type="checkbox"/> Approved person/organisation	SABS/NEFTA	xxxxxxxxxxx
	<input type="checkbox"/>		
A.6	Strain fittings		
Subclause	<input type="checkbox"/> NRS 018-3		
4.3	<input type="checkbox"/> Range of conductors cross-sectional areas for the fitting	from mm ² 35	
	<input type="checkbox"/>	to mm ² 50	
	<input type="checkbox"/> Other conductor sizes if required	mm ²	
5.2	<input type="checkbox"/> Type tests on strain fittings		
6.4	<input type="checkbox"/> Note - State test certificate No. on Schedule B		
5.2.2	<input type="checkbox"/> Dielectric test of fitting installed on supporting conductor	Yes	
5.2.3	<input type="checkbox"/> Tensile test	Yes	
5.2.4	<input type="checkbox"/> Accelerated weathering test performed	Yes	
5.2.5	<input type="checkbox"/> Combined mechanical and thermal endurance test	Yes	
5.2.5	<input type="checkbox"/> Corrosion test	Yes	
Subclause	<input type="checkbox"/> 240-84758170		
4.6.1	<input type="checkbox"/>	xxxxxxxxxxx	
	<input type="checkbox"/> Rigid polymer used	x	
4.6.1	<input type="checkbox"/> Minimum tensile strength	Mpa 40	
4.6.1	<input type="checkbox"/> Maximum elongation	% 120	
4.6.1	<input type="checkbox"/> Maximum filler content	% 30	
4.6.1	<input type="checkbox"/> Minimum dielectric strength	V/m 10 ⁶ 16	
4.6.1	<input type="checkbox"/> Assessment by polymer expert	Yes/No	
	<input type="checkbox"/>		

A.7	Suspension fittings		
Subclause	<input type="checkbox"/> NRS 018-3		
4.3	<input type="checkbox"/> Range of conductors cross-sectional areas for the fitting	from mm ²	35
	<input type="checkbox"/>	to mm ²	50
	<input type="checkbox"/> Other conductor sizes if required	mm ²	
5.3	<input type="checkbox"/> Type tests on suspension fittings		
6.4	<input type="checkbox"/> Note - State test certificate No. on Schedule B		
5.3.2	<input type="checkbox"/> Dielectric test of fitting installed on supporting conductor	Yes	
5.3.3	<input type="checkbox"/> Tensile test on fitting/fitting with movable link	Yes	
5.3.4	<input type="checkbox"/> Slippage test	Yes	
5.3.5	<input type="checkbox"/> Accelerated weathering test	Yes	
5.3.6	<input type="checkbox"/> Endurance test with oscillations	Yes	
5.3.7	<input type="checkbox"/> Corrosion test	Yes	
Subclause	<input type="checkbox"/> 240-84758170		
4.6.1	<input type="checkbox"/> Rigid polymer used	xxxxxxxxxx	
4.6.1	<input type="checkbox"/> Minimum tensile strength	Mpa	40
4.6.1	<input type="checkbox"/> Maximum elongation	%	120
4.6.1	<input type="checkbox"/> Maximum filler content	%	30
4.6.1	<input type="checkbox"/> Minimum dielectric strength	V/m 10 ⁶	16
4.6.1	<input type="checkbox"/> Assessment by polymer expert	Yes/No	
	<input type="checkbox"/>		
A.8	Pole fittings		
Subclause	<input type="checkbox"/> NRS 018-3		
4.7	<input type="checkbox"/> Pole fittings		
4.7.5	<input type="checkbox"/> Thread length of pigtail bolts if other than 300 mm		
5.4	<input type="checkbox"/> Type tests on pole fittings		
6.4	<input type="checkbox"/> Note - State test certificate No. on Schedule B		
5.4.2	<input type="checkbox"/> Mechanical test	Yes/No	
5.4.2	<input type="checkbox"/> Actual distortion of:		
	<input type="checkbox"/> Pigtail dimension ΔA	mm	xxxxxxxxxx
	<input type="checkbox"/> Pigtail dimension ΔB	mm	xxxxxxxxxx
	<input type="checkbox"/>		

A.9	Marking/packing/documentation		
Subclause	<input type="checkbox"/> NRS 018-4		
6.1	<input type="checkbox"/> Method of marking components	xxxxxxxxxx	
6.2	<input type="checkbox"/> Preferred method of packing	Individually/c collective	
	<input type="checkbox"/> Method of packing offered	xxxxxxxxxx	
	<input type="checkbox"/> Number of fittings per package	xxxxxxxxxx	
	<input type="checkbox"/> Corrosion and damage protection method	xxxxxxxxxx	
	<input type="checkbox"/> Packing suitable for storage mm	Yes/No	
	<input type="checkbox"/> Gross mass of bulk packs kg	30 max	
6.3	<input type="checkbox"/> Details of installation instructions provided	xxxxxxxxxx	
	<input type="checkbox"/>		

NOTE: DEVIATION SCHEDULE CONTINUE ON NEXT PAGE. IF NO DEVIATIONS ARE MENTIONED ON THE DEVIATION SCHEDULE IT WILL BE ACCEPTED THAT THE SUPPLIER AND MANUFACTURER FULLY COMPLIES WITH THE REQUIREMENTS OF THE ESKOM SPEC

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.

[illegible]

SIGNATURES

Supplier:

Name (Print)

Sign

Date _____

Manufacturer:

Name (Print)

Sign

Date _____

Eskom:

Name (Print)

Sign

Date _____

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