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|  Eskom | Standard | Transmisison |
|--|-----------------|--------------|

Title: **PHASE CONDUCTOR
STANDARD FOR ESKOM
OVERHEAD LINES**

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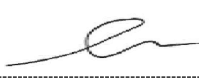

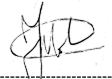
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1. Introduction

This document details the specifications of overhead power line conductors for Eskom Transmission and Distribution.

2. Supporting Clauses

2.1 Scope

This standard covers the technical, manufacturing and testing requirements for aluminium conductor with steel reinforcement (ACSR), all aluminium alloy conductor (AAAC) and all aluminium conductor (AAC) for use on Eskom's overhead power lines.

2.1.1 Purpose

This document outlines technical, manufacturing and testing requirements relating to ACSR, AAAC and AAC conductors.

2.1.2 Applicability

This document shall apply throughout Eskom Holdings Limited Divisions.

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] SANS 61089: 1991, Round wire concentric lay overhead electrical stranded conductors
- [2] IEC 888: 1987, Zinc-coated steel wires for stranded conductors
- [3] IEC 889: 1987, Hard-drawn aluminium wire for overhead line conductors
- [4] IEC 61394: 1997, Characteristics of greases for aluminium, aluminium alloy and steel bare conductors
- [5] IEC 61395: 1998 Overhead Electrical Conductors – Creep Test procedures for stranded conductors
- [6] Cispr TR 18-2:2017, Radio interference characteristics of overhead power lines and high voltage equipment – Part 2: Methods of measurement and procedure for determining limits.
- [7] SANS10005: The Preservative treatment of timber
- [8] ISPM 15: Guidelines for regulating wood packaging material in international trade
- [9] 32-9: Definition of Eskom documents.
- [10] 32-644: Eskom documentation management standard.
- [11] 240-75670386: Operating Manual of the Steering Committee for Technologies (SCOT)
- [12] 240-47172520 TRMSCAAC 6: The Standard for the construction of overhead power lines (latest revision)
- [13] 240-147806256: Determination of conductor ratings in Eskom

2.2.2 Informative

None

2.3 Definitions

2.3.1 General

| Definition | Description |
|---|--|
| All aluminium alloy conductors (AAAC) | A conductor comprising helically wound aluminium alloy wire |
| All aluminium conductors (AAC): | A conductor comprising helically wound hard drawn aluminium wire. |
| Aluminium conductor, steel reinforced (ACSR) | A conductor comprising hard drawn aluminium strands helically wound around steel reinforcing strands |
| Bare conductor | A conductor without any insulating covering |
| Conductor | An electrical conductor arranged to be electrically connected to a source of electrical energy. |

2.3.2 Classification

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

2.4 Abbreviations

| Abbreviation | Description |
|----------------|---|
| AAAC | All aluminium alloy conductors |
| AAC | All aluminium conductors |
| ACSR | Aluminium conductor steel reinforced |
| GSW | Galvanized steel wire. |
| OHS ACT | The Occupational Health and Safety Act, 1993 (Act 85 of 1993) |
| QITP | Quality Inspection Test Plans |
| UTS | Ultimate Tensile Strength. |

2.5 Roles and Responsibilities

It is the responsibility of the engineers, commercial representatives, end user and manufacturers to completely abide by the criteria set out in this standard together with the requirements mentioned in the referenced documentation.

2.6 Process for monitoring

This document will be reviewed once every five years.

2.7 Related/Supporting Documents

See Section 2.2

3. Requirements

3.1 General

- 3.1.1 Nothing in this standard shall lessen the obligations of the supplier detailed in any other specifications or documents forming part of the order.
- 3.1.2 The supplier shall be responsible for all aspects of quality, relating to manufacture, handling, packaging and possible transportation of his product.
- 3.1.3 Eskom will provide the technical details for the required conductors as per Schedule A in **ANNEXURE A**. The Supplier shall provide the details of the conductor offered in Schedule B. Any deviation from the requirements shall be entered separately in a deviation schedule/sheet.
- 3.1.4 Handling and storage of all supplied conductor drums must adhere to guidelines as specified in latest revision of 240-47172520.
- 3.1.5 The requester of the various commodities listed in this document must ensure that the relevant internal Eskom processes are adhered to when placing orders.
- 3.1.6 It is the responsibility of the manufacturer to submit all relevant Quality Inspection Test Plans (QITP) and specific project quality documents to Eskom before production of any batch begins. These quality documents will be used by Eskom to monitor the final product quality before release is done from the factory.

3.2 Standard Drum Sizes

- 3.2.1 **ANNEXURE C** provides guidelines on the typical dimensions to which the drums must conform. Drum sizes for conductors not mentioned in the table, must be designed to satisfy the bending factor criteria. These designs must be submitted to Eskom for approval before production starts. Current drums used for existing conductors supplied to Eskom may be used for conductors not listed in the table in **ANNEXURE C**. Where drum lengths that are requested for supply either differ or are non-standard for conductors that are shown in **ANNEXURE C**, the supplier must indicate if, and if requested to, show via submitted drum designs that, the new total length and drum size are acceptable for drumming and supply according to bending factor and spindle size criteria.

3.3 Fabrication

- 3.3.1 Each wire shall be marked with two uniform longitudinal indentations, situated 180° opposed, along its entire length. A deviation angle of ± 5 degrees from the 180° shall be allowed to ensure proper contact between indent ring and wire. The dimension of the indent mark shall be 0.3 mm wide and the groove depth from 0.15 mm down to 0.11 mm. The marking rollers shall undergo periodic dimension checking to ensure that the marking groove dimensions are within the specified limits (**ANNEXURE B**). The main criteria for the drum design is that the spindle size must have an inside diameter of 92 mm. The indentations shall be performed after the wire drawing process, but before stranding. The indentations shall be clearly visible and shall not affect the original wire characteristics, distort the wire roundness or leave any sharp protrusions.
- 3.3.2 The location of all welds in individual aluminium wires shall be recorded. Copies of these records must be forwarded to Eskom at the time of conductor dispatch.
- 3.3.3 Notwithstanding clause 5.5 of SANS 61089,
- There shall be no joints in any individual wire of a steel core containing less than seven wires.
 - Joints in individual wires of a steel core containing seven wires or more shall be permitted, provided that
 - No two such joints are less than 15 m apart;
 - Each joint is made by resistance butt welding and is protected against corrosion by re-galvanizing; and

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- The diameter of the stranded core is not increased materially by the joint.

- 3.3.4** The wire must be stranded so that the conductor is essentially free from the tendency to untwist or spring apart when cut.
- 3.3.5** The completed conductor shall be uniformly cylindrical and shall be capable of withstanding normal handling during manufacturing, transportation, and installing without being deformed from its cylindrical form in such a way as to increase corona losses and radio interference.
- 3.3.6** When specified in the schedule of requirements only accepted greases which are tested in accordance with ASTM 117B and must comply with IEC 61394. The test results and compliance with both IEC 61394 and ASTM 117B must be provided to Eskom for review and acceptance before use.
- 3.3.7** The method of application of the grease shall be as per IEC 61089 Case 2 and with three or more layers and Case 4 for conductors two layers or a single layer conductor, or as otherwise specified by the client in writing. Grease shall be uniformly applied by a method approved by Eskom. All aspects of manufacture and delivery of greased conductors shall be completed in such a manner that grease is not displaced toward the outer surface of the conductors. The greased conductor shall be delivered as specified above. Incorrectly greased conductor will not be accepted by Eskom and shall be replaced by the supplier unless otherwise stated. All AAAC conductors shall be greased.
- 3.3.8** The conductor linear masses quoted in the schedules are for ungreased conductors. The supplier must provide the mass for greased conductors.

3.4 Matched set requirements

- 3.4.1** Matched sets of conductors shall be furnished in lengths given in schedule A. Matched pairs shall be manufactured from a single length of steel core. Matched sets of four and six conductors shall consist of two or three matched pairs respectively. All the core wire for the matched set shall be produced from steel wires drawn from billets produced from one cast or heat.
- 3.4.2** All lengths of steel core used for a matched set shall be produced on the same stranding machine. Each drum of the matched set of conductors shall be produced on the same stranding machine. Lay gears and tooling set up, shall remain constant for each production run. Lay ratios shall not vary by more than 5 % over the entire order from a specific supplier.
- 3.4.3** The mass of the conductor, per unit length without grease, shall not vary from its nominal value given by the supplier of the conductor to the client and accepted by the client in the relevant schedule B in ANNEXURE A, by more than ± 2 %.

3.5 Lay Ratios

Lay ratios shall be in accordance with SANS 61089 if not specified otherwise.

3.6 Length

- 3.6.1** The length of conductor on a drum shall not vary by more than +2 % and 0 % from the nominal length.
- 3.6.2** The variation in length between conductors forming a matched set shall not exceed 20 m. Only one continuous length of conductor per drum shall be permitted. The accuracy of measurement shall be ± 0.5 %.

3.7 Conductor Marking

- 3.7.1** Only marked conductors shall be used in Eskom projects. Marked conductors shall be obtained only from Eskom approved suppliers. Eskom will provide tenderers for contracted projects with the list of approved suppliers. The tender enquiry will clearly indicate the details of free issue conductor when Eskom wishes to provide marked conductors or for the tenderer to procure marked conductors from an approved supplier, on behalf of Eskom. Eskom will maintain ownership of the marked conductors at all times. Conductor suppliers may sell marked conductors only to those contractors who can prove that they will be used on Eskom projects. Eskom will provide those contractors with the necessary proof, indicating the name of the project and the quantities required. The contractor must obtain the letter of proof from Eskom Group Procurement. The contractor shall arrange for the return of unused, waste and off-cuts of marked conductors to Eskom.

4. Test Requirements

- 4.1.1** Type, sample production and routine production tests shall be carried out by the supplier and shall be submitted to Eskom within 14 days before production of full consignment commences when required or requested.
- 4.1.2** A complete set of conductor type tests certificates, in accordance with SANS 61089, must be submitted for at least one conductor per design type at tender stage. This set of type tests will qualify the design range at tender stage. Before a conductor is supplied to Eskom, a full set of type tests for the conductor must be submitted. Type test reports must include full sample test data and manufacturing equipment details, e.g., stranding machine details. Manufacturers must be aware that if any aspect of the conductor production changes a new type test is required, e.g., new manufacturing equipment, conductor lay ratios, new raw materials suppliers and production changes.
- 4.1.3** A list of typical tests as specified in SANS 61089 is included below, this list is subject to change, and not limited to the following, as required by Eskom and updates to SANS 61089 and the referred IEC 888 and IEC 889 standards.

Table 4-1 Type and sample test check list

| | | Type tests | Sample test |
|------------------------|-----------------------------------|------------|-------------|
| Conductor | | | |
| | Surface condition | x | x |
| | Diameter | x | x |
| | Inertness | x | x |
| | Lay ratio and direction of lay | x | x |
| | Number and type of wires | x | x |
| | Mass per unit length | x | x |
| | Stress-strain curve | x | - |
| | Tensile breaking strength | x | - |
| Aluminium wires | | | |
| | Diameter | x | x |
| | Tensile strength | x | x |
| | Elongation (A1 test not required) | x | x |
| | Resistivity | x | x |
| | Wrapping test | x | x |
| | Welding | x | - |

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| | | | |
|-----------------------------------|--------------------------------|---|---|
| | | | |
| Zinc Coated steel wires | | | |
| | Diameter | X | X |
| | Tensile strength | X | X |
| | Stress at 1% extension | X | X |
| | Elongation or torsion test | X | X |
| | Wrapping test | X | X |
| | Mass of Zinc | X | X |
| | Zinc dip test | X | X |
| | Adhesion of Zinc coating | X | X |
| | | | |
| Aluminium-clad steel wires | | | |
| | Diameter | X | X |
| | Tensile strength | X | X |
| | Stress at 1% extension | X | X |
| | Elongation | X | X |
| | Torsion | X | X |
| | Cladding Thickness/ uniformity | X | X |
| | Resistivity | X | X |
| | | | |
| Grease | | | |
| | Mass per unit length | X | X |
| | Drop point | X | X |

- 4.1.4** The supplier will provide Eskom with the creep behaviour of the conductor which must be obtained by the creep tests according to IEC 61395 (this is over and above the stress-strain curves as per IEC 61089). The creep test data required is for use in PLS-CADD cable files and must be given in the form of the relevant polynomials for the steel and aluminium parts of the conductors.
- 4.1.5** Should deviations from the specification be unavoidable, written acceptance of those deviations must be obtained from Eskom LES.
- 4.1.6** Test certificates showing results of production routine tests, shall be retained by the supplier for a minimum of five years, whereas test certificates showing results of type tests shall be retained on permanent record by the supplier, for Eskom's inspection.
- 4.1.7** For release of any consignment of conductor required by Eskom it is required that the full sample/production test results be available for review by the Eskom Quality Representative. There may be additional samples tested by the Eskom Quality Representative to verify the consignment being released.
- 4.1.8** The tests listed below must be conducted according to *Cispr 18-2* for when requested by Eskom by the supplier.
- Determine corona inception gradient in kV/cm for a single conductor (using RIV measurement method)

- Record the ambient parameters which define relative air density (ambient temp, humidity etc.)

4.1.9 For the resistivity type test, a resistance value per metre of the produced conductor is to be provided. Resistivity values are also required for each material type used to make up the complete conductor. Resistance per conductor type is to be provided in per unit length where requested.

5. Packing, storage and marking requirements

5.1 Drums

5.1.1 All conductors shall be supplied on returnable hybrid (steel/wood) drums or wooden drums as specified in Schedule A. Where hybrid or wooden drums are not available the design and request of specialised drums will be finalised on a project-by-project or supplier-by-supplier basis. Wooden drums are only to be supplied where Eskom finds it acceptable for use on a specific project-by-project basis.

5.1.1.1 The key features of the drums are that the circumference of the flanges should be steel supported by steel spokes. Alternative materials can be proposed instead of steel however these materials must be approved by Eskom before being used.

5.1.1.2 The two flanges should be detachable from the barrel so that the drum can be dismantled and transported for possible re-use.

5.1.2 For multi-layered construction the conductor shall be wound onto the drums to form complete layers. Each layer shall fill the width of the drum before the succeeding layer is wound on. Drums not wound in this manner will be rejected. Conductor drums where conductors are damaged when taken off the drum due to an incorrectly wound conductor shall be replaced by the manufacturer.

5.1.3 An acceptable method of holding the conductor end shall be used, to ensure that no relative movement of conductor occurs between the uppermost uncompleted layer and the completed layer directly below it, during transportation. Details of the proposed holding method shall accompany the tender offer and shall be subject to Eskom's approval.

5.1.4 Wood lagging shall be used to protect the conductor. Four steel straps shall be used to secure the lagging on steel drums. Wooden lagging should be uniformly spaced with at most 10 mm spacing between adjacent laggings. The battens shall be nailed to the flanges of wooden drums and two steel band straps shall be provided around each drum to prevent easy removal of the battens. The length of the nails used shall be at least 10 mm less than the distance from the outside of the battens to the top of the conductor on the drum. Care shall be taken to prevent the nails from protruding through the surface of the flange. No component of the drum shall cause damage to the conductor at any time.

5.1.5 Heavy weatherproof paper, cardboard or other suitable material shall be placed between the conductor and barrel and flange surfaces of all drums. This material shall remain attached to the drum during unreeling.

5.1.6 Imported conductor shall have weatherproof material inserted between the two outermost layers of conductor and wrapped over the outermost layer. The supplier of imported conductors must arrange the arrival dates and times of shipments with Eskom Quality Assurance so that the conductor can be land-tested before it is released.

5.1.7 The moisture content of wood used for the fabrication of drums and reels shall not exceed 150 g/kg (15 %).

5.1.8 Wooden drums shall be preserved from insect attack and mould by adopting either the **Heat Treatment (Kiln drying-CPI indicated by HT)** or by **Methyl Bromide Fumigation (indicated by MB)**. At the time of compiling this document these were the acceptable preservation methods. Further information on this can be sourced from the South African Department of Agriculture (reference document **ISPM 15 – GUIDELINES FOR REGULATING WOOD PACKAGING MATERIAL IN INTERNATIONAL TRADE**). The preservative used shall not react with the metal of the conductor.

5.1.9 Conductor travelling by ship shall have a waterproof plastic or canvas material inserted between the outer most layers of conductor and wrapped over the outermost layer.

5.1.10 All drums must be as ergonomically designed as possible to allow for efficiency and comfort of use in the work environment. Where possible and economically acceptable, upgrades and changes to drums must be included as part of the project if requested.

5.2 Drum Marking

Further to Clause 7.2 of IEC 61089 and Eskom's General Conditions of Purchase, the following requirements shall also be met:

5.2.1 The drums for a matched set of conductors shall be marked:

- 1A and 1B for matched pairs.
- 1A, 1B and 1C for matched triple sets, etc.
- This marking must be on both flanges of the drum.

5.2.2 The actual measured length and nett mass of conductor shall be marked on each drum in black stencilled lettering of 50 mm height on the drum side. Other markings on drums must include the following:

- Matched sets to be marked
- Measured length
- Nett mass
- Gross mass
- Order number
- Conductor type
- Greased or non-greased
- Eskom Logo and signature
- Red dot
- Drum rolling direction

5.2.3 Drums of greased conductor shall be marked "Greased with (the product name)".

5.2.4 All drum marking pertaining to a previous order shall be painted over or otherwise satisfactorily obliterated.

5.2.5 All conductor drums destined for Eskom projects shall be branded with Eskom signature (logo and logotype) on one of its flat sides (the flange).

5.2.6 The Eskom signature shall be printed in Eskom Blue or Black only on the white-coloured background.

5.2.7 For metal drums and wooden drums, a portion of the flange surface shall be painted in white to provide rectangular background on which the signature shall be printed in Eskom Blue or Black only. The width (or height) of the white rectangular background shall be three times the diameter of the "circle" part of the Eskom signature. The printed Eskom signature shall appear central onto the white rectangular background leaving a space equal to one signature "circle" on both front and back ends.

5.2.8 The Eskom logo printing shall be made by stencilling; taking care to complete continuous character "O" in the name Eskom. Other equivalent techniques can be used, once approved by Eskom.

5.2.9 The dimensions of complete Eskom signatures shall be a minimum length and width (height) of 82 mm and 21 mm respectively. All other printing on the flange shall be positioned so as to ensure a minimum clearance of one logo "circle" diameter away from the Eskom signature. An example of a drum with the Eskom signature and standard printing guidelines are shown in **ANNEXURE D**.

5.2.10 Red Round Mark: The Opposite end of a conductor drum (not bearing the Eskom logo) shall be marked (stamped) with a red circle of 200 mm diameter to augment the logo for forensic purposes.

5.2.11 A label detailing handling/storing requirement must be attached onto one side of the drum which will inform contractors of how to take care of drums and conductors. The size of label should be approximately 0.4 m x 0.4 m of drum. As a minimum label should state "Remove all protruding nails near conductor on flanges before conductor is used for stringing; ensure conductor never touches the bare ground; spreader bar must be used for lifting of drums, follow arrow on drum for rolling direction" etc.

5.3 Additional notes

Not applicable.

6. Authorisation

This document has been seen and accepted by:

| Name and surname | Designation |
|-------------------------|---|
| Faith Mokhonoana | Line Engineering Services – Acting Senior Manager |
| Ravi Singh | Line Engineering Services - Chief Engineer |

7. Revisions

| Date | Rev | Compiler | Remarks |
|-------------|------------|-----------------|---|
| July 2022 | 3 | P. Mathuradas | Updates to document. Creep testing, grease requirements and drum requirements |
| March 2021 | 2 | P. Mathuradas | Revision changes due to comments received. Included table in Annex C. |
| Aug 2020 | 1 | P Mathuradas | New document, this document supersedes the following documents: TSP 41-264, DSP 34-377 and 240-75521456 |

8. Development team

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

- Ravi Singh Line Engineering Services
- Bharat Haridass Line Engineering Services
- Jacques Calitz Line Engineering Services
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- Kireesh Singh Line Engineering Services
- Bertie Jacobs Line Engineering Services

9. Acknowledgements

Comments received from the following reviewers:

- N/A

Annex A – Example of Technical Schedule A and B**Squirrel ACSR conductor****ALTERNATIVE phase conductor**

- Resistance (Ohms/km) ≤ 1.3677
- Conductor diameter (mm) ≈ 6.33
- Ultimate Tensile Strength (kN) ≥ 8.02
- Conductor linear mass (kg/km)- ungreaed value ≈ 85.2
- Modulus of elasticity final (MPa) ≈ 80400
- Coefficient of linear expansion, β , (1/°C) $\approx 19.31 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|--------------------------|------------|
| IEC Code | 20.98-A1/S1A-6/1/2.11 | |
| Conductor Overall Diameter (mm) | 6.33 | |
| Area Aluminium (mm ²) | 20.98 | |
| Area Total (mm ²) | 24.48 | |
| Aluminium wires (number off) / (diameter mm) | 6/2.11 | |
| Steel wires (number off) / (diameter mm) | 1/2.11 | |
| Conductor linear mass (kg/km)- ungreaed value | 85.2 | |
| Ultimate Tensile Strength (kN) | 8.02 | |
| Resistance DC @ 20°C (Ohms/km) | 1.3677 | |
| Modulus Elasticity Final (MPa) | 80400 | |
| Coefficient of Linear Expansion, β , (1/°C) | 19.31×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed | |

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Magpie ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 2.707
- Conductor diameter (mm) ≈ 6.35
- Ultimate Tensile Strength (kN) ≥ 18.573
- Conductor linear mass (kg/km)- ungreased value ≈ 139.7
- Modulus of elasticity final (MPa) ≈ 133760
- Coefficient of linear expansion, β , (1/°C) $\approx 13.68 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------------|------------|
| IEC Code | 10.58-A1/S1A-3/2.118-4/2.118 | |
| Conductor Overall Diameter (mm) | 6.35 | |
| Area Aluminium (mm ²) | 10.58 | |
| Area Total (mm ²) | 24.71 | |
| Aluminium wires (number off) / (diameter mm) | 3/2.118 | |
| Steel wires (number off) / (diameter mm) | 4/2.118 | |
| Conductor linear mass (kg/km)- ungreased value | 139.7 | |
| Ultimate Tensile Strength (kN) | 18.573 | |
| Resistance DC @ 20°C (Ohms/km) | 2.707 | |
| Modulus Elasticity Final (MPa) | 133760 | |
| Coefficient of Linear Expansion, β , (1/°C) | 13.68 * 10-6 | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

Fox ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.7822
- Conductor diameter (mm) ≈ 8.37
- Ultimate Tensile Strength (kN) ≥ 13.1
- Conductor linear mass (kg/km)- ungreased value ≈ 149
- Modulus of elasticity final (MPa) ≈ 80400
- Coefficient of linear expansion, β , ($1/^{\circ}\text{C}$) $\approx 19.31 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------|------------|
| IEC Code | 36.68-A1/S1A-6/1/2.79 | |
| Conductor Overall Diameter (mm) | 8.37 | |
| Area Aluminium (mm ²) | 36.68 | |
| Area Total (mm ²) | 42.8 | |
| Aluminium wires (number off) / (diameter mm) | 6/2.79 | |
| Steel wires (number off) / (diameter mm) | 1/2.79 | |
| Conductor linear mass (kg/km)- ungreased value | 149 | |
| Ultimate Tensile Strength (kN) | 13.1 | |
| Resistance DC @ 20°C (Ohms/km) | 0.7822 | |
| Modulus Elasticity Final (MPa) | 80400 | |
| Coefficient of Linear Expansion, β , ($1/^{\circ}\text{C}$) | 19.31×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000/2500 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

Mink ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.4546
- Conductor diameter (mm) ≈ 10.98
- Ultimate Tensile Strength (kN) ≥ 21.9
- Conductor linear mass (kg/km)- ungreased value ≈ 257
- Modulus of elasticity final (MPa) ≈ 80400
- Coefficient of linear expansion, β , ($1/^{\circ}\text{C}$) $\approx 19.31 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------|------------|
| IEC Code | 63.13-A1/S1A-6/1/3.66 | |
| Conductor Overall Diameter (mm) | 10.98 | |
| Area Aluminium (mm ²) | 63.13 | |
| Area Total (mm ²) | 73.65 | |
| Aluminium wires (number off) / (diameter mm) | 6/3.66 | |
| Steel wires (number off) / (diameter mm) | 1/3.66 | |
| Conductor linear mass (kg/km)- ungreased value | 257 | |
| Ultimate Tensile Strength (kN) | 21.9 | |
| Resistance DC @ 20°C (Ohms/km) | 0.4546 | |
| Modulus Elasticity Final (MPa) | 80400 | |
| Coefficient of Linear Expansion, β , ($1/^{\circ}\text{C}$) | 19.31×10^{-6} | |
| Drum Lengths (m) | 1000/1500 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

Horse ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.3939
- Conductor diameter (mm) ≈ 13.95
- Ultimate Tensile Strength (kN) ≥ 60.7
- Conductor linear mass (kg/km)- ungreaed value ≈ 541
- Modulus of elasticity final (MPa) ≈ 108000
- Coefficient of linear expansion, β , (1/°C) $\approx 15.84 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------|------------|
| IEC Code | 73.36-A1/S1A-12/7/2.79 | |
| Conductor Overall Diameter (mm) | 13.95 | |
| Area Aluminium (mm ²) | 73.36 | |
| Area Total (mm ²) | 116.16 | |
| Aluminium wires (number off) / (diameter mm) | 12/2.79 | |
| Steel wires (number off) / (diameter mm) | 7/2.79 | |
| Conductor linear mass (kg/km)- ungreaed value | 541 | |
| Ultimate Tensile Strength (kN) | 60.7 | |
| Resistance DC @ 20°C (Ohms/km) | 0.3939 | |
| Modulus Elasticity Final (MPa) | 108000 | |
| Coefficient of Linear Expansion, β , (1/°C) | 15.84×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed | |

Hare ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.2733
- Conductor diameter (mm) ≈ 14.16
- Ultimate Tensile Strength (kN) ≥ 36
- Conductor linear mass (kg/km)- ungreased value ≈ 427
- Modulus of elasticity final (MPa) ≈ 80400
- Coefficient of linear expansion, β , (1/°C) $\approx 19.31 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------|------------|
| IEC Code | 104.98-A1/S1A-6/1/4.72 | |
| Conductor Overall Diameter (mm) | 14.16 | |
| Area Aluminium (mm ²) | 104.98 | |
| Area Total (mm ²) | 122.48 | |
| Aluminium wires (number off) / (diameter mm) | 6/4.72 | |
| Steel wires (number off) / (diameter mm) | 1/4.72 | |
| Conductor linear mass (kg/km)- ungreased value | 427 | |
| Ultimate Tensile Strength (kN) | 36 | |
| Resistance DC @ 20°C (Ohms/km) | 0.2733 | |
| Modulus Elasticity Final (MPa) | 80400 | |
| Coefficient of Linear Expansion, β , (1/°C) | 19.31×10^{-6} | |
| Drum Lengths (m) | 1000/1500 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

Tiger ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.2202
- Conductor diameter (mm) ≈ 16.52
- Ultimate Tensile Strength (kN) ≥ 58.70
- Conductor linear mass (kg/km)- ungreaed value ≈ 606
- Modulus of elasticity final (MPa) ≈ 83400
- Coefficient of linear expansion, β , (1/°C) $\approx 18.43 * 10^{-6}$

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|-------------------------|------------|
| IEC Code | 131.23-A1/S1A-30/7/2.36 | |
| Conductor Overall Diameter (mm) | 16.52 | |
| Area Aluminium (mm ²) | 131.23 | |
| Area Total (mm ²) | 161.85 | |
| Aluminium wires (number off) / (diameter mm) | 30/2.36 | |
| Steel wires (number off) / (diameter mm) | 7/2.36 | |
| Conductor linear mass (kg/km)- ungreaed value | 606 | |
| Ultimate Tensile Strength (kN) | 58.70 | |
| Resistance DC @ 20°C (Ohms/km) | 0.2202 | |
| Modulus Elasticity Final (MPa) | 83400 | |
| Coefficient of Linear Expansion, β , (1/°C) | $18.43 * 10^{-6}$ | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

Oden ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.2473
- Conductor diameter (mm) ≈ 17.6
- Ultimate Tensile Strength (kN) ≥ 93.62
- Conductor linear mass (kg/km)- ungreaed value ≈ 853
- Modulus of elasticity final (MPa) ≈ 108000
- Coefficient of linear expansion, β , (1/°C) $\approx 15.61 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|-------------------------|------------|
| IEC Code | 116.78-A1/S1A-12/7/3.52 | |
| Conductor Overall Diameter (mm) | 17.6 | |
| Area Aluminium (mm ²) | 116.78 | |
| Area Total (mm ²) | 184.9 | |
| Aluminium wires (number off) / (diameter mm) | 12/3.52 | |
| Steel wires (number off) / (diameter mm) | 7/3.52 | |
| Conductor linear mass (kg/km)- ungreaed value | 853 | |
| Ultimate Tensile Strength (kN) | 93.62 | |
| Resistance DC @ 20°C (Ohms/km) | 0.2473 | |
| Modulus Elasticity Final (MPa) | 108000 | |
| Coefficient of Linear Expansion, β , (1/°C) | 15.61×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

Wolf ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.1828
- Conductor diameter (mm) ≈ 18.13
- Ultimate Tensile Strength (kN) ≥ 69.2
- Conductor linear mass (kg/km)- ungreased value ≈ 730
- Modulus of elasticity final (MPa) ≈ 83400
- Coefficient of linear expansion, β , (1/°C) $\approx 18.43 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|-------------------------|------------|
| IEC Code | 158.06-A1/S1A-30/7/2.59 | |
| Conductor Overall Diameter (mm) | 18.13 | |
| Area Aluminium (mm ²) | 158.06 | |
| Area Total (mm ²) | 194.94 | |
| Aluminium wires (number off) / (diameter mm) | 30/2.59 | |
| Steel wires (number off) / (diameter mm) | 7/2.59 | |
| Conductor linear mass (kg/km)- ungreased value | 730 | |
| Ultimate Tensile Strength (kN) | 69.2 | |
| Resistance DC @ 20°C (Ohms/km) | 0.1828 | |
| Modulus Elasticity Final (MPa) | 83400 | |
| Coefficient of Linear Expansion, β , (1/°C) | 18.43×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

Chickadee ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.1427
- Conductor diameter (mm) ≈ 18.87
- Ultimate Tensile Strength (kN) ≥ 44.9
- Conductor linear mass (kg/km)- ungreased value ≈ 643
- Modulus of elasticity final (MPa) ≈ 66200
- Coefficient of linear expansion, β , ($1/^{\circ}\text{C}$) $\approx 21.44 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|--------------------------|------------|
| IEC Code | 200.93-A1/S1A-18/1/3.77 | |
| Conductor Overall Diameter (mm) | 18.87 | |
| Area Aluminium (mm ²) | 200.93 | |
| Area Total (mm ²) | 212.09 | |
| Aluminium wires (number off) / (diameter mm) | 18/3.77 | |
| Steel wires (number off) / (diameter mm) | 1/3.77 | |
| Conductor linear mass (kg/km)- ungreased value | 643 | |
| Ultimate Tensile Strength (kN) | 44.9 | |
| Resistance DC @ 20°C (Ohms/km) | 0.1427 | |
| Modulus Elasticity Final (MPa) | 66200 | |
| Coefficient of Linear Expansion, β , ($1/^{\circ}\text{C}$) | 21.44×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

Pelican ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.1189
- Conductor diameter (mm) ≈ 20.70
- Ultimate Tensile Strength (kN) ≥ 53.8
- Conductor linear mass (kg/km)- ungreaed value ≈ 775
- Modulus of elasticity final (MPa) ≈ 66200
- Coefficient of linear expansion ($1/^{\circ}\text{C}$) $\approx 21.44 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|--|-------------------------|------------|
| IEC Code | 242.31-A1/S1A-18/1/4.14 | |
| Conductor Overall Diameter (mm) | 20.70 | |
| Area Aluminium (mm ²) | 242.31 | |
| Area Total (mm ²) | 255.77 | |
| Aluminium wires (number off) / (diameter mm) | 18/4.14 | |
| Steel wires (number off) / (diameter mm) | 1/4.14 | |
| Conductor linear mass (kg/km)- ungreaed value | 775 | |
| Ultimate Tensile Strength (kN) | 53.8 | |
| Resistance DC @ 20°C (Ohms/km) | 0.1189 | |
| Modulus Elasticity Final (MPa) | 66200 | |
| Coefficient of Linear Expansion, α , ($1/^{\circ}\text{C}$) | 21.44×10^{-6} | |
| Drum Lengths (m) | 1000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed | |

Panther ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.1363
- Conductor diameter (mm) ≈ 21.00
- Ultimate Tensile Strength (kN) ≥ 90.80
- Conductor linear mass (kg/km)- ungreased value ≈ 970
- Modulus of elasticity final (MPa) ≈ 83400
- Coefficient of linear expansion, β , ($1/^{\circ}\text{C}$) $\approx 18.43 * 10^{-6}$

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|-------------------------|------------|
| IEC Code | 212.06-A1/S1A-30/7/3.00 | |
| Conductor Overall Diameter (mm) | 21.00 | |
| Area Aluminium (mm ²) | 212.06 | |
| Area Total (mm ²) | 261.54 | |
| Aluminium wires (number off) / (diameter mm) | 30/3.00 | |
| Steel wires (number off) / (diameter mm) | 7/3.00 | |
| Conductor linear mass (kg/km)- ungreased value | 970 | |
| Ultimate Tensile Strength (kN) | 90.80 | |
| Resistance DC @ 20°C (Ohms/km) | 0.1363 | |
| Modulus Elasticity Final (MPa) | 83400 | |
| Coefficient of Linear Expansion, β , ($1/^{\circ}\text{C}$) | $18.43 * 10^{-6}$ | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

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Bear ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.1093
- Conductor diameter (mm) ≈ 23.45
- Ultimate Tensile Strength (kN) ≥ 112
- Conductor linear mass (kg/km)- ungreaed value ≈ 1220
- Modulus of elasticity final (MPa) ≈ 83400
- Coefficient of linear expansion, β , (1/°C) $\approx 18.43 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|----------------------------------|------------|
| IEC Code | IEC Code 264.42-A1/S1A-30/7/3.35 | |
| Conductor Overall Diameter (mm) | 23.45 | |
| Area Aluminium (mm ²) | 264.42 | |
| Area Total (mm ²) | 326.12 | |
| Aluminium wires (number off) / (diameter mm) | 30/3.35 | |
| Steel wires (number off) / (diameter mm) | 7/3.35 | |
| Conductor linear mass (kg/km)- ungreaed value | 1220 | |
| Ultimate Tensile Strength (kN) | 112 | |
| Resistance DC @ 20°C (Ohms/km) | 0.1093 | |
| Modulus Elasticity Final (MPa) | 83400 | |
| Coefficient of Linear Expansion, β , (1/°C) | 18.43×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed | |

Kingbird ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) $\leq 0,0891$
- Conductor diameter (mm) ≈ 23.90
- Ultimate Tensile Strength (kN) ≥ 71.32
- Conductor linear mass (kg/km)- ungreaed value ≈ 1038
- Modulus of elasticity final (MPa) ≈ 66200
- Coefficient of linear expansion, β , (1/°C) $\approx 21.69 * 10^{-6}$

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|-------------------------|------------|
| IEC Code | 323.01-A1/S1A-18/1/4.78 | |
| Conductor Overall Diameter (mm) | 23.90 | |
| Area Aluminium (mm ²) | 323.01 | |
| Area Total (mm ²) | 340.96 | |
| Aluminium wires (number off) / (diameter mm) | 18/4.78 | |
| Steel wires (number off) / (diameter mm) | 1/4.78 | |
| Conductor linear mass (kg/km)- ungreaed value | 1038 | |
| Ultimate Tensile Strength (kN) | 71.32 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0891 | |
| Modulus Elasticity Final (MPa) | 66200 | |
| Coefficient of Linear Expansion, β , (1/°C) | $21.69 * 10^{-6}$ | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

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IEC 315 ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) $\leq 0,0917$
- Conductor diameter (mm) ≈ 23.9
- Ultimate Tensile Strength (kN) ≥ 79.03
- Conductor linear mass (kg/km)- ungreased value ≈ 1039.6

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|---------------------------|------------|
| IEC Code | 315-A1/S1A-45/2.99-7/1.99 | |
| Conductor Overall Diameter (mm) | 23.9 | |
| Area Aluminium (mm ²) | 315 | |
| Area Total (mm ²) | 337 | |
| Aluminium wires (number off) / (diameter mm) | 45/2.99 | |
| Steel wires (number off) / (diameter mm) | 7/1.99 | |
| Conductor linear mass (kg/km)- ungreased value | 1039.6 | |
| Ultimate Tensile Strength (kN) | 79.03 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0917 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

Goat ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0891
- Conductor diameter (mm) ≈ 25.97
- Ultimate Tensile Strength (kN) ≥ 136
- Conductor linear mass (kg/km)- ungreaed value ≈ 1500
- Modulus of elasticity final (MPa) ≈ 83400
- Coefficient of linear expansion, β , (1/°C) $\approx 18.43 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|-------------------------|------------|
| IEC Code | 324.31-A1/S1A-30/7/3.71 | |
| Conductor Overall Diameter (mm) | 25.97 | |
| Area Aluminium (mm ²) | 324.31 | |
| Area Total (mm ²) | 399.98 | |
| Aluminium wires (number off) / (diameter mm) | 30/3.71 | |
| Steel wires (number off) / (diameter mm) | 7/3.71 | |
| Conductor linear mass (kg/km)- ungreaed value | 1500 | |
| Ultimate Tensile Strength (kN) | 136 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0891 | |
| Modulus Elasticity Final (MPa) | 83400 | |
| Coefficient of Linear Expansion, β , (1/°C) | 18.43×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed | |

Tern ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) $\leq 0,0718$
- Conductor diameter (mm) ≈ 27.00
- Ultimate Tensile Strength (kN) ≥ 98.70
- Conductor linear mass (kg/km)- ungreased value ≈ 1340
- Modulus of elasticity final (MPa) ≈ 66600
- Coefficient of linear expansion, β , ($1/^{\circ}\text{C}$) $\approx 21.12 * 10^{-6}$

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------------|------------|
| IEC Code | 403.77-A1/S1A-45/3.38-7/2.25 | |
| Conductor Overall Diameter (mm) | 27.00 | |
| Area Aluminium (mm ²) | 403.77 | |
| Area Total (mm ²) | 431.60 | |
| Aluminium wires (number off) / (diameter mm) | 45/3.38 | |
| Steel wires (number off) / (diameter mm) | 7/2.25 | |
| Conductor linear mass (kg/km)- ungreased value | 1340 | |
| Ultimate Tensile Strength (kN) | 98.70 | |
| Resistance DC @ 20°C (Ohms/km) | 0,0718 | |
| Modulus Elasticity Final (MPa) | 66600 | |
| Coefficient of Linear Expansion, β , ($1/^{\circ}\text{C}$) | $21.12 * 10^{-6}$ | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

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Zebra ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0674
- Conductor diameter (mm) ≈ 28.62
- Ultimate Tensile Strength (kN) ≥ 133
- Conductor linear mass (kg/km)- ungreaed value ≈ 1630
- Modulus of elasticity final (MPa) ≈ 73200
- Coefficient of linear expansion, β , (1/°C) $\approx 19.91 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|----------------------------------|------------|
| IEC Code | IEC Code 428.88-A1/S1A-54/7/3.18 | |
| Conductor Overall Diameter (mm) | 28.62 | |
| Area Aluminium (mm ²) | 428.88 | |
| Area Total (mm ²) | 484.48 | |
| Aluminium wires (number off) / (diameter mm) | 54/3.18 | |
| Steel wires (number off) / (diameter mm) | 7/3.18 | |
| Conductor linear mass (kg/km)- ungreaed value | 1630 | |
| Ultimate Tensile Strength (kN) | 133 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0674 | |
| Modulus Elasticity Final (MPa) | 73200 | |
| Coefficient of Linear Expansion, β , (1/°C) | 19.91* 10-6 | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed | |

IEC 450 ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0642
- Conductor diameter (mm) ≈ 28.5
- Ultimate Tensile Strength (kN) ≥ 107.47
- Conductor linear mass (kg/km)- ungreaed value ≈ 1485.2

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS

Schedule A: Purchaser's specific requirements

Schedule B: Particulars of equipment to be supplied

Conductor Type

| Description | Schedule A | Schedule B |
|---|---------------------------|------------|
| IEC Code | 450-A1/S1A-45/3.57-7/2.38 | |
| Conductor Overall Diameter (mm) | 28.5 | |
| Area Aluminium (mm ²) | 450 | |
| Area Total (mm ²) | 481 | |
| Aluminium wires (number off) / (diameter mm) | 45/3.57 | |
| Steel wires (number off) / (diameter mm) | 7/2.38 | |
| Conductor linear mass (kg/km)- ungreaed value | 1485.2 | |
| Ultimate Tensile Strength (kN) | 107.47 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0642 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

Rail ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0598
- Conductor diameter (mm) ≈ 29.59
- Ultimate Tensile Strength (kN) ≥ 117
- Conductor linear mass (kg/km)- ungreaed value ≈ 1610
- Modulus of elasticity final (MPa) ≈ 66700
- Coefficient of linear expansion, β , (1/°C) $\approx 21.11 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------------|------------|
| IEC Code | 483.84-A1/S1A-45/3.70-7/2.47 | |
| Conductor Overall Diameter (mm) | 29.59 | |
| Area Aluminium (mm ²) | 483.84 | |
| Area Total (mm ²) | 517.39 | |
| Aluminium wires (number off) / (diameter mm) | 45/3.70 | |
| Steel wires (number off) / (diameter mm) | 7/2.47 | |
| Conductor linear mass (kg/km)- ungreaed value | 1610 | |
| Ultimate Tensile Strength (kN) | 117 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0598 | |
| Modulus Elasticity Final (MPa) | 66700 | |
| Coefficient of Linear Expansion, β , (1/°C) | 21.11×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

IEC 500 ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0578
- Conductor diameter (mm) ≈ 30.1
- Ultimate Tensile Strength (kN) ≥ 119.41
- Conductor linear mass (kg/km)- ungreaed value ≈ 1650.2

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|---------------------------|------------|
| IEC Code | 500-A1/S1A-45/3.76-7/2.51 | |
| Conductor Overall Diameter (mm) | 30.1 | |
| Area Aluminium (mm ²) | 500 | |
| Area Total (mm ²) | 535 | |
| Aluminium wires (number off) / (diameter mm) | 45/3.76 | |
| Steel wires (number off) / (diameter mm) | 7/2.51 | |
| Conductor linear mass (kg/km)- ungreaed value | 1650.2 | |
| Ultimate Tensile Strength (kN) | 119.41 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0578 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

IEC 560 ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0516
- Conductor diameter (mm) ≈ 31.8
- Ultimate Tensile Strength (kN) ≥ 133.74
- Conductor linear mass (kg/km)- ungreaed value ≈ 1848.2

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS

Schedule A: Purchaser's specific requirements

Schedule B: Particulars of equipment to be supplied

Conductor Type

| Description | Schedule A | Schedule B |
|---|---------------------------|------------|
| IEC Code | 560-A1/S1A-45/3.98-7/2.65 | |
| Conductor Overall Diameter (mm) | 31.8 | |
| Area Aluminium (mm ²) | 560 | |
| Area Total (mm ²) | 599 | |
| Aluminium wires (number off) / (diameter mm) | 45/3.98 | |
| Steel wires (number off) / (diameter mm) | 7/2.65 | |
| Conductor linear mass (kg/km)- ungreaed value | 1848.2 | |
| Ultimate Tensile Strength (kN) | 133.74 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0516 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

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Zambezi ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.051
- Conductor diameter (mm) ≈ 31.8
- Ultimate Tensile Strength (kN) ≥ 98.3
- Conductor linear mass (kg/km)- ungreaed value ≈ 1764

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS

Schedule A: Purchaser's specific requirements

Schedule B: Particulars of equipment to be supplied

Conductor Type

| Description | Schedule A | Schedule B |
|---|------------------------------|------------|
| IEC Code | 565.38-A1/S1A-42/4.14-7/2.32 | |
| Conductor Overall Diameter (mm) | 31.8 | |
| Area Aluminium (mm ²) | 565.38 | |
| Area Total (mm ²) | 594.97 | |
| Aluminium wires (number off) / (diameter mm) | 42/4.14 | |
| Steel wires (number off) / (diameter mm) | 7/2.32 | |
| Conductor linear mass (kg/km)- ungreaed value | 1764 | |
| Ultimate Tensile Strength (kN) | 98.3 | |
| Resistance DC @ 20°C (Ohms/km) | 0.051 | |
| Modulus Elasticity Final (MPa) | 73.2 | |
| Coefficient of Linear Expansion, β , (1/°C) | 21.49x10 ⁻⁶ | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

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IEC 630 ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0459
- Conductor diameter (mm) ≈ 33.8
- Ultimate Tensile Strength (kN) ≥ 150.45
- Conductor linear mass (kg/km)- ungreaed value ≈ 2079.2

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS

Schedule A: Purchaser's specific requirements

Schedule B: Particulars of equipment to be supplied

Conductor Type

| Description | Schedule A | Schedule B |
|---|---------------------------|------------|
| IEC Code | 630-A1/S1A-45/4.22-7/2.81 | |
| Conductor Overall Diameter (mm) | 33.8 | |
| Area Aluminium (mm ²) | 630 | |
| Area Total (mm ²) | 674 | |
| Aluminium wires (number off) / (diameter mm) | 45/4.22 | |
| Steel wires (number off) / (diameter mm) | 7/2.81 | |
| Conductor linear mass (kg/km)- ungreaed value | 2079.2 | |
| Ultimate Tensile Strength (kN) | 150.45 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0459 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

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Dinosaur ACSR conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0437
- Conductor diameter (mm) ≈ 35.55
- Ultimate Tensile Strength (kN) ≥ 202.92
- Conductor linear mass (kg/km)- ungreaed value ≈ 2493
- Modulus of elasticity final (MPa) ≈ 72200
- Coefficient of linear expansion, β , (1/°C) $\approx 19.91 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|-------------------------------|------------|
| IEC Code | 661.72-A1/S1A-54/3.95-19/2.36 | |
| Conductor Overall Diameter (mm) | 35.55 | |
| Area Aluminium (mm ²) | 661.72 | |
| Area Total (mm ²) | 744.84 | |
| Aluminium wires (number off) / (diameter mm) | 54/3.95 | |
| Steel wires (number off) / (diameter mm) | 19/2.36 | |
| Conductor linear mass (kg/km)- ungreaed value | 2493 | |
| Ultimate Tensile Strength (kN) | 202.92 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0437 | |
| Modulus Elasticity Final (MPa) | 72200 | |
| Coefficient of Linear Expansion, β , (1/°C) | 19.91×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

Bersfort ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) $\leq 0,0420$
- Conductor diameter (mm) ≈ 35.58
- Ultimate Tensile Strength (kN) ≥ 177.65
- Conductor linear mass (kg/km)- ungreaed value ≈ 2386
- Modulus of elasticity final (MPa) ≈ 68800
- Coefficient of linear expansion, β , ($1/^{\circ}\text{C}$) $\approx 20.68 * 10^{-6}$

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------------|------------|
| IEC Code | 687.36-A1/S1A-48/4.27-7/3.32 | |
| Conductor Overall Diameter (mm) | 35.58 | |
| Area Aluminium (mm ²) | 687.36 | |
| Area Total (mm ²) | 747.96 | |
| Aluminium wires (number off) / (diameter mm) | 48/4.27 | |
| Steel wires (number off) / (diameter mm) | 7/3.32 | |
| Conductor linear mass (kg/km)- ungreaed value | 2386 | |
| Ultimate Tensile Strength (kN) | 177.65 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0420 | |
| Modulus Elasticity Final (MPa) | 68800 | |
| Coefficient of Linear Expansion, β , ($1/^{\circ}\text{C}$) | $20.68 * 10^{-6}$ | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

IEC 800 ACSR conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0361
- Conductor diameter (mm) ≈ 37.6
- Ultimate Tensile Strength (kN) ≥ 167.41
- Conductor linear mass (kg/km)- ungreaed value ≈ 2480.2

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS

Schedule A: Purchaser's specific requirements

Schedule B: Particulars of equipment to be supplied

Conductor Type

| Description | Schedule A | Schedule B |
|---|----------------------------|------------|
| IEC Code | 800-A1/S1A-72/3,76 -7/2,51 | |
| Conductor Overall Diameter (mm) | 37.6 | |
| Area Aluminium (mm ²) | 800 | |
| Area Total (mm ²) | 835 | |
| Aluminium wires (number off) / (diameter mm) | 72/3.76 | |
| Steel wires (number off) / (diameter mm) | 7/2.51 | |
| Conductor linear mass (kg/km)- ungreaed value | 2480.2 | |
| Ultimate Tensile Strength (kN) | 167.41 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0361 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed. | |

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Acacia AAAC conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 1.39
- Conductor diameter (mm) ≈ 6.24
- Ultimate Tensile Strength (kN) ≥ 6.69
- Conductor linear mass (kg/km)- ungreased value ≈ 65
- Modulus of elasticity final (MPa) ≈ 61000
- Coefficient of linear expansion, β , (1/°C) $\approx 23 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|--------------------------|------------|
| IEC Code | IEC Code 23.79-A2-7/2.08 | |
| Conductor Overall Diameter (mm) | 6.24 | |
| Area Aluminium (mm ²) | 23.79 | |
| Area Total (mm ²) | 23.79 | |
| Aluminium wires (number off) / (diameter mm) | 7/2.08 | |
| Steel wires (number off) / (diameter mm) | N/A | |
| Conductor linear mass (kg/km)- ungreased value | 65 | |
| Ultimate Tensile Strength (kN) | 6.69 | |
| Resistance DC @ 20°C (Ohms/km) | 1.39 | |
| Modulus Elasticity Final (MPa) | 61000 | |
| Coefficient of Linear Expansion, β , (1/°C) | 23×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

Code 35 AAAC conductor**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.785
- Conductor diameter (mm) ≈ 8.31
- Ultimate Tensile Strength (kN) ≥ 11.86
- Conductor linear mass (kg/km)- ungreaed value ≈ 115
- Modulus of elasticity final (MPa) ≈ 61000
- Coefficient of linear expansion, β , (1/°C) $\approx 23 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|--------------------------|------------|
| IEC Code | IEC Code 42.18-A2-7/2.77 | |
| Conductor Overall Diameter (mm) | 8.31 | |
| Area Aluminium (mm ²) | 42.18 | |
| Area Total (mm ²) | 42.18 | |
| Aluminium wires (number off) / (diameter mm) | 7/2.77 | |
| Steel wires (number off) / (diameter mm) | N/A | |
| Conductor linear mass (kg/km)- ungreaed value | 115 | |
| Ultimate Tensile Strength (kN) | 11.86 | |
| Resistance DC @ 20°C (Ohms/km) | 0.785 | |
| Modulus Elasticity Final (MPa) | 61000 | |
| Coefficient of Linear Expansion, β , (1/°C) | 23×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000/2500 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed | |

Pine AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.462
- Conductor diameter (mm) ≈ 10.83
- Ultimate Tensile Strength (kN) ≥ 20.2
- Conductor linear mass (kg/km)- ungreased value ≈ 196
- Modulus of elasticity final (MPa) ≈ 61000
- Coefficient of linear expansion, β , ($1/^{\circ}\text{C}$) $\approx 23 * 10^{-6}$

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------|------------|
| IEC Code | 71.65-A2-7/3.61 | |
| Conductor Overall Diameter (mm) | 10.83 | |
| Area Aluminium (mm ²) | 71.65 | |
| Area Total (mm ²) | 71.65 | |
| Aluminium wires (number off) / (diameter mm) | 7/3.61 | |
| Conductor linear mass (kg/km)- ungreased value | 196 | |
| Ultimate Tensile Strength (kN) | 20.2 | |
| Resistance DC @ 20°C (Ohms/km) | 0.462 | |
| Modulus Elasticity Final (MPa) | 61000 | |
| Coefficient of Linear Expansion, β , ($1/^{\circ}\text{C}$) | $23 * 10^{-6}$ | |
| Drum Lengths (m) | 1000/1500/2000/2500 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

Oak AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.279
- Conductor diameter (mm) ≈ 13.95
- Ultimate Tensile Strength (kN) ≥ 33.33
- Conductor linear mass (kg/km)- ungreased value ≈ 325
- Modulus of elasticity final (MPa) ≈ 61000
- Coefficient of linear expansion, β , ($1/^{\circ}\text{C}$) $\approx 23 * 10^{-6}$

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------|------------|
| IEC Code | 118.9-A2-7/4.65 | |
| Conductor Overall Diameter (mm) | 13.95 | |
| Area Aluminium (mm ²) | 118.9 | |
| Area Total (mm ²) | 118.9 | |
| Aluminium wires (number off) / (diameter mm) | 7/4.65 | |
| Conductor linear mass (kg/km)- ungreased value | 325 | |
| Ultimate Tensile Strength (kN) | 33.33 | |
| Resistance DC @ 20°C (Ohms/km) | 0.279 | |
| Modulus Elasticity Final (MPa) | 61000 | |
| Coefficient of Linear Expansion, β , ($1/^{\circ}\text{C}$) | $23 * 10^{-6}$ | |
| Drum Lengths (m) | 1000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

IEC 160 AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.1798
- Conductor diameter (mm) ≈ 17.6
- Ultimate Tensile Strength (kN) ≥ 54.32
- Conductor linear mass (kg/km)- ungreased value ≈ 506.1

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|--------------------------|------------|
| IEC Code | 184-A2-19/3.51 | |
| Conductor Overall Diameter (mm) | 17.6 | |
| Area Aluminium (mm ²) | 184 | |
| Area Total (mm ²) | 184 | |
| Aluminium wires (number off) / (diameter mm) | 19/3.51 | |
| Conductor linear mass (kg/km)- ungreased value | 506.1 | |
| Ultimate Tensile Strength (kN) | 54.32 | |
| Resistance DC @ 20°C (Ohms/km) | 0.1798 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

Sycamore AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.110
- Conductor diameter (mm) ≈ 22.61
- Ultimate Tensile Strength (kN) ≥ 85
- Conductor linear mass (kg/km)- ungreased value ≈ 835

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------|------------|
| IEC Code | 303.2-A2-37/3.23 | |
| Conductor Overall Diameter (mm) | 22.61 | |
| Area Aluminium (mm ²) | 303.2 | |
| Area Total (mm ²) | 303.2 | |
| Aluminium wires (number off) / (diameter mm) | 37/3.23 | |
| Conductor linear mass (kg/km)- ungreased value | 835 | |
| Ultimate Tensile Strength (kN) | 85 | |
| Resistance DC @ 20°C (Ohms/km) | 0.110 | |
| Modulus Elasticity Final (MPa) | 58600 | |
| Coefficient of Linear Expansion, β , (1/°C) | 23×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

IEC 315 AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0916
- Conductor diameter (mm) ≈ 24.7
- Ultimate Tensile Strength (kN) ≥ 106.95
- Conductor linear mass (kg/km)- ungreased value ≈ 998.9

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|--------------------------|------------|
| IEC Code | 363-A2-37/3.53 | |
| Conductor Overall Diameter (mm) | 24.7 | |
| Area Aluminium (mm ²) | 363 | |
| Area Total (mm ²) | 363 | |
| Aluminium wires (number off) / (diameter mm) | 37/3.53 | |
| Conductor linear mass (kg/km)- ungreased value | 998.9 | |
| Ultimate Tensile Strength (kN) | 106.95 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0916 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

IEC 400 AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0721
- Conductor diameter (mm) ≈ 27.9
- Ultimate Tensile Strength (kN) ≥ 135.81
- Conductor linear mass (kg/km)- ungreased value ≈ 1268.4

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|--------------------------|------------|
| IEC Code | 460-A2-37/3.98 | |
| Conductor Overall Diameter (mm) | 27.9 | |
| Area Aluminium (mm ²) | 460 | |
| Area Total (mm ²) | 460 | |
| Aluminium wires (number off) / (diameter mm) | 37/3.98 | |
| Conductor linear mass (kg/km)- ungreased value | 1268.4 | |
| Ultimate Tensile Strength (kN) | 135.81 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0721 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

IEC 450 AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0641
- Conductor diameter (mm) ≈ 29.6
- Ultimate Tensile Strength (kN) ≥ 152.79
- Conductor linear mass (kg/km)- ungreased value ≈ 1426.9

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|--------------------------|------------|
| IEC Code | 518-A2-37/4.22 | |
| Conductor Overall Diameter (mm) | 29.6 | |
| Area Aluminium (mm ²) | 518 | |
| Area Total (mm ²) | 518 | |
| Aluminium wires (number off) / (diameter mm) | 37/4.22 | |
| Conductor linear mass (kg/km)- ungreased value | 1426.9 | |
| Ultimate Tensile Strength (kN) | 152.79 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0641 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

IEC 500 AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0577
- Conductor diameter (mm) ≈ 31.2
- Ultimate Tensile Strength (kN) ≥ 169.76
- Conductor linear mass (kg/km)- ungreased value ≈ 1585.5

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS

Schedule A: Purchaser's specific requirements

Schedule B: Particulars of equipment to be supplied

Conductor Type

| Description | Schedule A | Schedule B |
|---|--------------------------|------------|
| IEC Code | 575-A2-37/4.45 | |
| Conductor Overall Diameter (mm) | 31.2 | |
| Area Aluminium (mm ²) | 575 | |
| Area Total (mm ²) | 575 | |
| Aluminium wires (number off) / (diameter mm) | 37/4.45 | |
| Conductor linear mass (kg/km)- ungreased value | 1585.5 | |
| Ultimate Tensile Strength (kN) | 169.76 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0577 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

IEC 560 AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0516
- Conductor diameter (mm) $\approx 33,0$
- Ultimate Tensile Strength (kN) ≥ 190.14
- Conductor linear mass (kg/km)- ungreased value ≈ 1778.4

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------|------------|
| IEC Code | 645-A2-61/3.67 | |
| Conductor Overall Diameter (mm) | 33.0 | |
| Area Aluminium (mm ²) | 645 | |
| Area Total (mm ²) | 645 | |
| Aluminium wires (number off) / (diameter mm) | 61/3.67 | |
| Conductor linear mass (kg/km)- ungreased value | 1778.4 | |
| Ultimate Tensile Strength (kN) | 190.14 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0516 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

IEC 630 AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0458
- Conductor diameter (mm) ≈ 35.0
- Ultimate Tensile Strength (kN) ≥ 213.9
- Conductor linear mass (kg/km)- ungreased value ≈ 2000.7

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| DESCRIPTION | SCHEDULE A | SCHEDULE B |
|---|------------------------|------------|
| IEC Code | 725-A2-61/3.89 | |
| Conductor Overall Diameter (mm) | 35.0 | |
| Area Aluminium (mm ²) | 725 | |
| Area Total (mm ²) | 725 | |
| Aluminium wires (number off) / (diameter mm) | 61/3.89 | |
| Conductor linear mass (kg/km)- ungreased value | 2000.7 | |
| Ultimate Tensile Strength (kN) | 213.9 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0458 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

IEC 710 AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0407
- Conductor diameter (mm) ≈ 37.2
- Ultimate Tensile Strength (kN) ≥ 241.07
- Conductor linear mass (kg/km)- ungreased value ≈ 2254.8

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|------------------------|------------|
| IEC Code | 817-A2-61/4.13 | |
| Conductor Overall Diameter (mm) | 37.2 | |
| Area Aluminium (mm ²) | 817 | |
| Area Total (mm ²) | 817 | |
| Aluminium wires (number off) / (diameter mm) | 61/4.13 | |
| Conductor linear mass (kg/km)- ungreased value | 2254.8 | |
| Ultimate Tensile Strength (kN) | 241.07 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0407 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

IEC 800 AAAC conductor**ALTERNATIVE PHASE CONDUCTOR**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0361
- Conductor diameter (mm) ≈ 39.5
- Ultimate Tensile Strength (kN) ≥ 271.62
- Conductor linear mass (kg/km)- ungreased value ≈ 2540.6

A/B SCHEDULES PHASE CONDUCTOR SPECIFICATION SHEETS

Schedule A: Purchaser's specific requirements

Schedule B: Particulars of equipment to be supplied

Conductor Type

| DESCRIPTION | SCHEDULE A | SCHEDULE B |
|---|------------------------|------------|
| IEC Code | 921-A2-61/4.38 | |
| Conductor Overall Diameter (mm) | 39.5 | |
| Area Aluminium (mm ²) | 921 | |
| Area Total (mm ²) | 921 | |
| Aluminium wires (number off) / (diameter mm) | 61/4.38 | |
| Conductor linear mass (kg/km)- ungreased value | 2540.6 | |
| Ultimate Tensile Strength (kN) | 271.62 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0361 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, β , (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

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Hornet AAC conductor (Insulated and non-insulated)**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.1825
- Conductor diameter (mm) ≈ 16.25
- Ultimate Tensile Strength (kN) ≥ 26
- Conductor linear mass (kg/km)- ungreaed value ≈ 435
- Modulus of elasticity final (MPa) ≈ 59650
- Coefficient of linear expansion, β , (1/°C) $\approx 23 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|-----------------------------|------------|
| IEC Code | 157.95-A1-19/3.25 | |
| Conductor Overall Diameter (mm) | 16.25 | |
| Area Aluminium (mm ²) | 157.95 | |
| Area Total (mm ²) | 157.95 | |
| Aluminium wires (number off) / (diameter mm) | 19/3.25 | |
| Steel wires (number off) / (diameter mm) | N/A | |
| Conductor linear mass (kg/km)- ungreaed value | 435 | |
| Ultimate Tensile Strength (kN) | 26 | |
| Resistance DC @ 20°C (Ohms/km) | 0.1825 | |
| Modulus Elasticity Final (MPa) | 59650 | |
| Coefficient of Linear Expansion, β , (1/°C) | 23×10^{-6} | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed | |
| Insulated (Specification) material, thickness | Insulated and non-insulated | |

Centipede AAC conductor (Insulated and non-insulated)**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0694
- Conductor diameter (mm) ≈ 26.46
- Ultimate Tensile Strength (kN) ≥ 67.2
- Conductor linear mass (kg/km)- ungreaed value ≈ 1150
- Modulus of elasticity final (MPa) ≈ 58600
- Coefficient of linear expansion, β , (1/°C) $\approx 23 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|-----------------------------|------------|
| IEC Code | 415.22-A1-37/3.78 | |
| Conductor Overall Diameter (mm) | 26.46 | |
| Area Aluminium (mm ²) | 415.22 | |
| Area Total (mm ²) | 415.22 | |
| Aluminium wires (number off) / (diameter mm) | 37/3.78 | |
| Steel wires (number off) / (diameter mm) | N/A | |
| Conductor linear mass (kg/km)- ungreaed value | 1150 | |
| Ultimate Tensile Strength (kN) | 67.2 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0694 | |
| Modulus Elasticity Final (MPa) | 58600 | |
| Coefficient of Linear Expansion, β , (1/°C) | 23×10^{-6} | |
| Drum Lengths (m) | 1000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed | |
| Insulated (Specification) material, thickness | Insulated and non-insulated | |

Bull AAC conductor (Insulated and Non-insulated)**ALTERNATIVE phase conductor**

If an alternative conductor is offered, the following electrical and mechanical properties shall be observed:

- Resistance (Ohms/km) ≤ 0.0334
- Conductor diameter (mm) ≈ 38.25
- Ultimate Tensile Strength (kN) ≥ 139
- Conductor linear mass (kg/km)- ungreaed value ≈ 2400
- Modulus of elasticity final (MPa) ≈ 57570
- Coefficient of linear expansion, β , ($1/^{\circ}\text{C}$) $\approx 23 \times 10^{-6}$

A/B SCHEDULES phase conductor Specification Sheets**Schedule A: Purchaser's specific requirements****Schedule B: Particulars of equipment to be supplied****Conductor Type**

| Description | Schedule A | Schedule B |
|---|-----------------------------|------------|
| IEC Code | 865.36-A1-61/4.25 | |
| Conductor Overall Diameter (mm) | 38.25 | |
| Area Aluminium (mm ²) | 865.36 | |
| Area Total (mm ²) | 865.36 | |
| Aluminium wires (number off) / (diameter mm) | 61/4.25 | |
| Steel wires (number off) / (diameter mm) | N/A | |
| Conductor linear mass (kg/km)- ungreaed value | 2400 | |
| Ultimate Tensile Strength (kN) | 139 | |
| Resistance DC @ 20°C (Ohms/km) | 0.0334 | |
| Modulus Elasticity Final (MPa) | 57570 | |
| Coefficient of Linear Expansion, β , ($1/^{\circ}\text{C}$) | 23×10^{-6} | |
| Drum Lengths (m) | 1000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreaed | |
| Insulated (Specification) material, thickness | Insulated and non-insulated | |

Annex B – Conductor Strand Marking

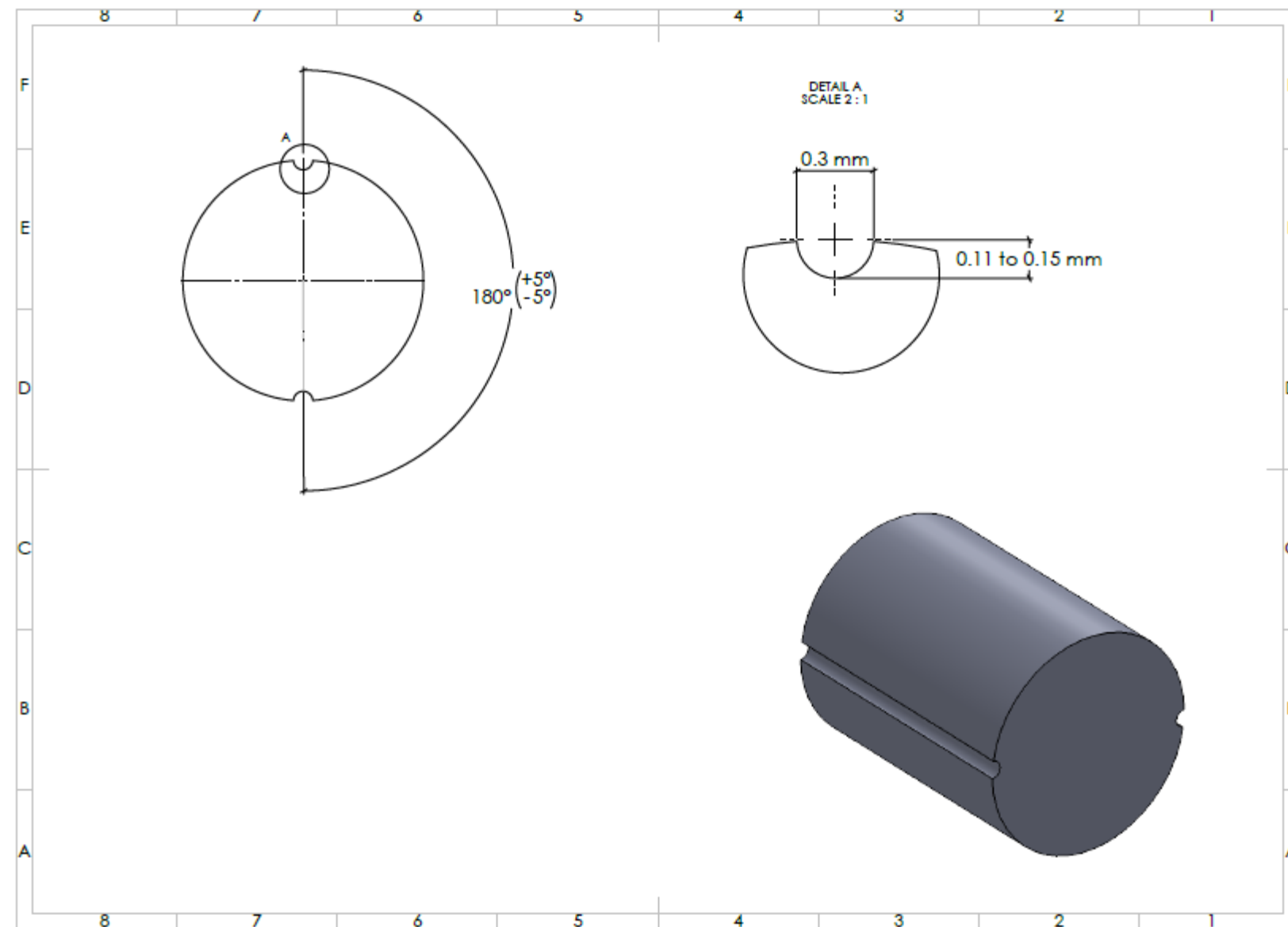


Figure 9-1 Eskom bare conductor marking

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Annex C – Conductor properties, ampacity and drum properties

| Type | Name | IEC code | Diameter (mm) | UTS (kN) | Mass (kg/km) – ungreased value | DC resistance @ 20°C Ω/km | Current rating (RA – Rate A, RB – Rate B) (Rate A is an indication of conductor normal ampacity rating, Rate B is an indication of conductor emergency ampacity rating) | | | | | | | | Length (m) | Drum size | | | | |
|------|-----------|----------------------------|---------------|----------|--------------------------------|---------------------------|---|-----|------|-----|------|-----|------|-----|--------------------------|----------------------|----------------------|------------|-----------------------|----------------------------|
| | | | | | | | 50°C | | 60°C | | 70°C | | 80°C | | | Flange diameter (mm) | Barrel diameter (mm) | Width (mm) | Flange thickness (mm) | Spindle hole diameter (mm) |
| | | | | | | | RA | RB | RA | RB | RA | RB | RA | RB | | | | | | |
| ACSR | Squirrel | 20.98-A1/S1A-6/1/2.11 | 6.33 | 8.02 | 85.2 | 1.3677 | 104 | 143 | 122 | 165 | 138 | 183 | 150 | 198 | 1000/1500/2000/2500/3000 | 950 | 500 | 790 | 140 | 92 |
| | Magpie | 10.58-A1/S1A-3/2.12-4/2.12 | 6.35 | 18.573 | 139.7 | 2.707 | 33 | 40 | 47 | 52 | 58 | 62 | 67 | 70 | 1000/1500/2000/2500/3000 | 950 | 500 | 790 | 140 | 92 |
| | Fox | 36.68-A1/S1A-6/1/2.79 | 8.37 | 13.1 | 149 | 0.7822 | | | | | | | | | 1000/1500/2000/2500 | 850 | 400 | 630 | 130 | 92 |
| | Mink | 63.13-A1/S1A-6/1/3.66 | 10.98 | 21.9 | 257 | 0.4546 | | | | | | | | | 1000/1500 | 950 | 450 | 790 | 140 | 92 |
| | Horse | 73.36-A1/S1A-12/7/2.79 | 13.95 | 60.7 | 541 | 0.3939 | | | | | | | | | 1000/1500/2000 | 1350 | 700 | 1050 | 150 | 92 |
| | Hare | 104.98-A1/S1A-6/1/4.72 | 14.16 | 36 | 427 | 0.2733 | | | | | | | | | 1000/1500 | 1050 | 600 | 1050 | 150 | 92 |
| | Tiger | 131.23-A1/S1A-30/7/2.36 | 16.52 | 58.7 | 606 | 0.2202 | | | | | | | | | 1000/1500/2000 | 1350 | 700 | 1050 | 150 | 92 |
| | Oden (AC) | 116.78-A1/S1A-12/7/3.52 | 17.6 | 93.62 | 853 | 0.2473 | | | | | | | | | 1000/1500/2000 | 1350 | 700 | 1050 | 150 | 92 |
| | Oden (DC) | 116.78-A1/S1A-12/7/3.52 | 17.6 | 93.62 | 853 | 0.2473 | | | | | | | | | 1000/1500/2000 | 1350 | 700 | 1050 | 150 | 92 |
| | Wolf | 158.06-A1/S1A-30/7/2.59 | 18.13 | 69.2 | 730 | 0.1828 | | | | | | | | | 1000/1500/2000 | 1350 | 700 | 1050 | 150 | 92 |

| | | | | | | | | | | | | | | | | | | | | |
|--|-----------|------------------------------|-------|--------|--------|--------|-----|------|-----|------|------|------|------|------|--------------------------|------|------|------|-----|----|
| | Chickadee | 200.93-A1/S1A-18/1/3.77 | 18.87 | 44.9 | 643 | 0.1427 | 419 | 602 | 496 | 691 | 559 | 761 | 608 | 823 | 1000/1500/2000/2500/3000 | 1850 | 1000 | 1066 | 166 | 92 |
| | Pelican | 242.31-A1/S1A-18/1/4.14 | 20.70 | 53.8 | 775 | 0.1189 | 475 | 698 | 572 | 794 | 646 | 874 | 705 | 942 | 1000 | 2250 | 1200 | 1102 | 202 | 92 |
| | Panther | 212.06-A1/S1A-30/7/3.00 | 21 | 90.8 | 970 | 0.1363 | 441 | 642 | 536 | 737 | 606 | 818 | 662 | 883 | 1000/1500/2000 | 2250 | 1200 | 1102 | 202 | 92 |
| | Bear | 264.42-A1/S1A-30/7/3.35 | 23.45 | 112 | 1220 | 0.1093 | 521 | 767 | 625 | 873 | 706 | 962 | 773 | 1041 | 1000/1500/2000 | 1850 | 900 | 1066 | 166 | 92 |
| | Kingbird | 323.01-A1/S1A-18/1/4.78 | 23.9 | 71.32 | 1038 | 0.0891 | 586 | 831 | 684 | 949 | 771 | 1045 | 837 | 1136 | 1000/1500/2000 | 1850 | 900 | 1066 | 166 | 92 |
| | IEC 315 | 315-A1/S1A-45/2.99-7/1.99 | 23.9 | 79.03 | 1039.6 | 0.0917 | 573 | 834 | 687 | 952 | 774 | 1050 | 844 | 1134 | 1000/1500/2000/2500/3000 | 1700 | 830 | 1110 | 76 | 92 |
| | Goat | 324.31-A1/S1A-30/7/3.71 | 25.97 | 136 | 1500 | 0.0891 | 618 | 866 | 726 | 996 | 813 | 1102 | 889 | 1197 | 1000/1500/2000 | 1900 | 960 | 1290 | 76 | 92 |
| | Tern | 403.77-A1/S1A-45/3.38-7/2.25 | 27 | 98.7 | 1340 | 0.0718 | 665 | 963 | 792 | 1110 | 894 | 1231 | 970 | 1324 | 1000/1500/2000/2500/3000 | 2050 | 1000 | 1302 | 202 | 92 |
| | Zebra | 428.88-A1/S1A-54/7/3.18 | 28.62 | 133 | 1630 | 0.0674 | 710 | 1022 | 832 | 1161 | 938 | 1285 | 1024 | 1391 | 1000/1500/2000/2500/3000 | 2450 | 1300 | 1252 | 202 | 92 |
| | IEC 450 | 450-A1/S1A-45/3.57-7/2.38 | 28.5 | 107.47 | 1485.2 | 0.0642 | 726 | 1053 | 867 | 1207 | 970 | 1330 | 1057 | 1432 | 1000/1500/2000/2500/3000 | 2300 | 1270 | 1452 | 76 | 92 |
| | Rail | 304-A1/S1A-45/3.70-7/2.47 | 29.59 | 117 | 1610 | 0.0598 | 755 | 1109 | 902 | 1273 | 1101 | 1408 | 1130 | 1527 | 1000/1500/2000/2500/3000 | 2300 | 1270 | 1452 | 76 | 92 |
| | IEC 500 | 500-A1/S1A-45/3.76-7/2.51 | 30.1 | 119.41 | 1650.2 | 0.0578 | 781 | 1133 | 933 | 1300 | 1043 | 1434 | 1135 | 1540 | 1000/1500/2000/2500/3000 | 2500 | 1450 | 1452 | 76 | 92 |

| | | | | | | | | | | | | | | | | | | | | |
|------|--------------|-------------------------------|-------|--------|--------|--------|------|------|------|------|------|------|------|------|--------------------------|------|------|------|-----|----|
| | IEC 560 | 560-A1/S1A-45/3.98-7/2.65 | 31.8 | 133.74 | 1848.2 | 0.0516 | 844 | 1230 | 1008 | 1411 | 1128 | 1556 | 1226 | 1673 | 1000/1500/2000/2500/3000 | 2650 | 1500 | 1452 | 76 | 92 |
| | Zambezi (AC) | 565.38-A1/S1A-42/4.14-7/2.32 | 31.8 | 98.3 | 1764 | 0.051 | 841 | 1220 | 1000 | 1407 | 1124 | 1556 | 1229 | 1691 | 1000/1500/2000 | 2650 | 1500 | 1452 | 76 | 92 |
| | Zambezi (DC) | 565.38-A1/S1A-42/4.14-7/2.32 | 31.8 | 98.3 | 1764 | 0.051 | 852 | 1234 | 1016 | 1417 | 1143 | 1567 | 1250 | 1688 | 1000/1500/2000 | 2650 | 1500 | 1452 | 76 | 92 |
| | IEC 630 | 630-A1/S1A-45/4.22-7/2.81 | 33.8 | 150.45 | 2079.2 | 0.0459 | 909 | 1343 | 1087 | 1544 | 1216 | 1704 | 1325 | 1838 | 1000/1500/2000/2500/3000 | 2850 | 1600 | 1452 | 76 | 92 |
| | Dinosaur | 661.72-A1/S1A-54/3.95-19/2.36 | 35.55 | 202.92 | 2493 | 0.0437 | 938 | 1380 | 1120 | 1585 | 1267 | 1763 | 1379 | 1906 | 1000/1500/2000 | 2850 | 1600 | 1452 | 76 | 92 |
| | Bersfort | 687.36-A1/S1A-48/4.27-7/3.32 | 35.58 | 177.65 | 2386 | 0.042 | 965 | 1420 | 1153 | 1630 | 1304 | 1814 | 1417 | 1957 | 1000/1500/2000 | 2850 | 1600 | 1452 | 76 | 92 |
| | IEC 800 | 800-A1/S1A-72/3,76 - 7/2,51 | 37.6 | 167.41 | 2480.2 | 0.0361 | 1089 | 1595 | 1280 | 1838 | 1435 | 2021 | 1555 | 2177 | 1000/1500/2000 | 2300 | 1270 | 1452 | 76 | 92 |
| | | | | | | | | | | | | | | | | | | | | |
| AAAC | Acacia | 23.79-A2-7/2.08 | 6.24 | 6.69 | 65 | 1.39 | 108 | 153 | 129 | 176 | 145 | 194 | 157 | 210 | 1000/1500/2000/2500/3000 | 950 | 500 | 790 | 140 | 92 |
| | Code 35 | 42.18-A2-7/2.77 | 8.31 | 11.86 | 115 | 0.785 | 158 | 216 | 188 | 248 | 209 | 275 | 230 | 299 | 1000/1500/2000/2500 | 900 | 400 | 500 | 50 | 92 |
| | Pine | 71.65-A2-7/3.61 | 10.83 | 20.2 | 196 | 0.462 | 219 | 302 | 261 | 346 | 293 | 385 | 320 | 418 | 1000/1500/2000/2500 | 1150 | 600 | 950 | 150 | 92 |
| | Oak | 118.9-A2-7/4.65 | 13.95 | 33.33 | 325 | 0.279 | 297 | 417 | 350 | 479 | 391 | 530 | 432 | 575 | 1000 | 1200 | 600 | 900 | 50 | 92 |
| | IEC 160 | 184-A2-19/3.51 | 17.6 | 54.32 | 506.1 | 0.1798 | 382 | 549 | 455 | 630 | 512 | 693 | 558 | 749 | 1000/1500/2000/2500/3000 | 1700 | 830 | 1110 | 76 | 92 |
| | Sycamore | 303.2-A2-37/3.23 | 22.61 | 85 | 303.2 | 0.110 | 549 | 775 | 639 | 888 | 725 | 981 | 787 | 1066 | 1000/1500/2000 | 2000 | 960 | 1322 | 76 | 92 |

| | | | | | | | | | | | | | | | | | | | | |
|---|-----------|-------------------|-------|--------|--------|--------|------|------|------|------|------|------|------|------|--------------------------|------|------|------|------|----|
| | IEC 315 | 363-A2-37/3.53 | 24.7 | 106.95 | 998.9 | 0.0916 | 573 | 834 | 686 | 959 | 772 | 1064 | 848 | 1151 | 1000/1500/2000/2500/3000 | 2000 | 960 | 1322 | 76 | 92 |
| | IEC 400 | 460-A2-37/3.98 | 27.9 | 135.81 | 1268.4 | 0.0721 | 676 | 988 | 813 | 1133 | 911 | 1252 | 994 | 1362 | 1000/1500/2000/2500/3000 | 2300 | 1270 | 1452 | 76 | 92 |
| | IEC 450 | 518-A2-37/4.22 | 29.6 | 152.79 | 1426.9 | 0.0641 | 734 | 1074 | 883 | 1233 | 989 | 1363 | 1078 | 1481 | 1000/1500/2000/2500/3000 | 2500 | 1450 | 1452 | 76 | 92 |
| | IEC 500 | 575-A2-37/4.45 | 31.2 | 169.76 | 1585.5 | 0.0577 | 790 | 1160 | 945 | 1332 | 1063 | 1480 | 1161 | 1601 | 1000/1500/2000/2500/3000 | 2500 | 1450 | 1452 | 76 | 92 |
| | IEC 560 | 645-A2-61/3.67 | 33 | 190.14 | 1778.4 | 0.0516 | 850 | 1254 | 1018 | 1441 | 1145 | 1601 | 1248 | 1737 | 1000/1500/2000 | 2300 | 1270 | 1452 | 76 | 92 |
| | IEC 630 | 725-A2-61/3.89 | 35 | 213.9 | 2000.7 | 0.0458 | 918 | 1364 | 1102 | 1575 | 1237 | 1744 | 1351 | 1887 | 1000/1500/2000 | 2500 | 1450 | 1452 | 76 | 92 |
| | IEC 710 | 817-A2-61/4.13 | 37.2 | 241.07 | 2254.8 | 0.0407 | 997 | 1489 | 1202 | 1718 | 1351 | 1903 | 1475 | 2059 | 1000/1500/2000 | 2500 | 1450 | 1452 | 76 | 92 |
| | IEC 800 | 921-A2-61/4.38 | 39.5 | 271.62 | 2540.6 | 0.0361 | 1093 | 1622 | 1318 | 1863 | 1480 | 2066 | 1611 | 2244 | 1000/1500 | 2500 | 1450 | 1452 | 76 | 92 |
| | | | | | | | | | | | | | | | | | | | | |
| AAC (insulated and non- insulated) | Hornet | 157.62-A1-19/3.25 | 16.25 | 26 | 435 | 0.1825 | 357 | 510 | 427 | 584 | 478 | 647 | 524 | 700 | 1000/1500/2000 | 1500 | 1650 | 800 | 1066 | 92 |
| | Centipede | 415.22-A1-37/3.78 | 26.46 | 67.2 | 1150 | 0.0694 | 695 | 975 | 816 | 1121 | 913 | 1242 | 1002 | 1349 | 1000 | 1000 | 1900 | 960 | 1290 | 92 |
| | Bull | 865.36-A1-61/4.25 | 38.25 | 139 | 2400 | 0.0334 | 1150 | 1654 | 1365 | 1900 | 1517 | 2117 | 1660 | 2291 | 1000 | 1000 | 2250 | 1200 | 1102 | 92 |

Note: 1. the above table shows typical parameters for drum sizes conductor drum lengths and sizes are subject to change. All drum designs must be submitted to Eskom for Acceptance.
2. Ampacity values are obtained from Determination of conductor ratings in Eskom – 240-147806256

Annex D – Typical drum indications

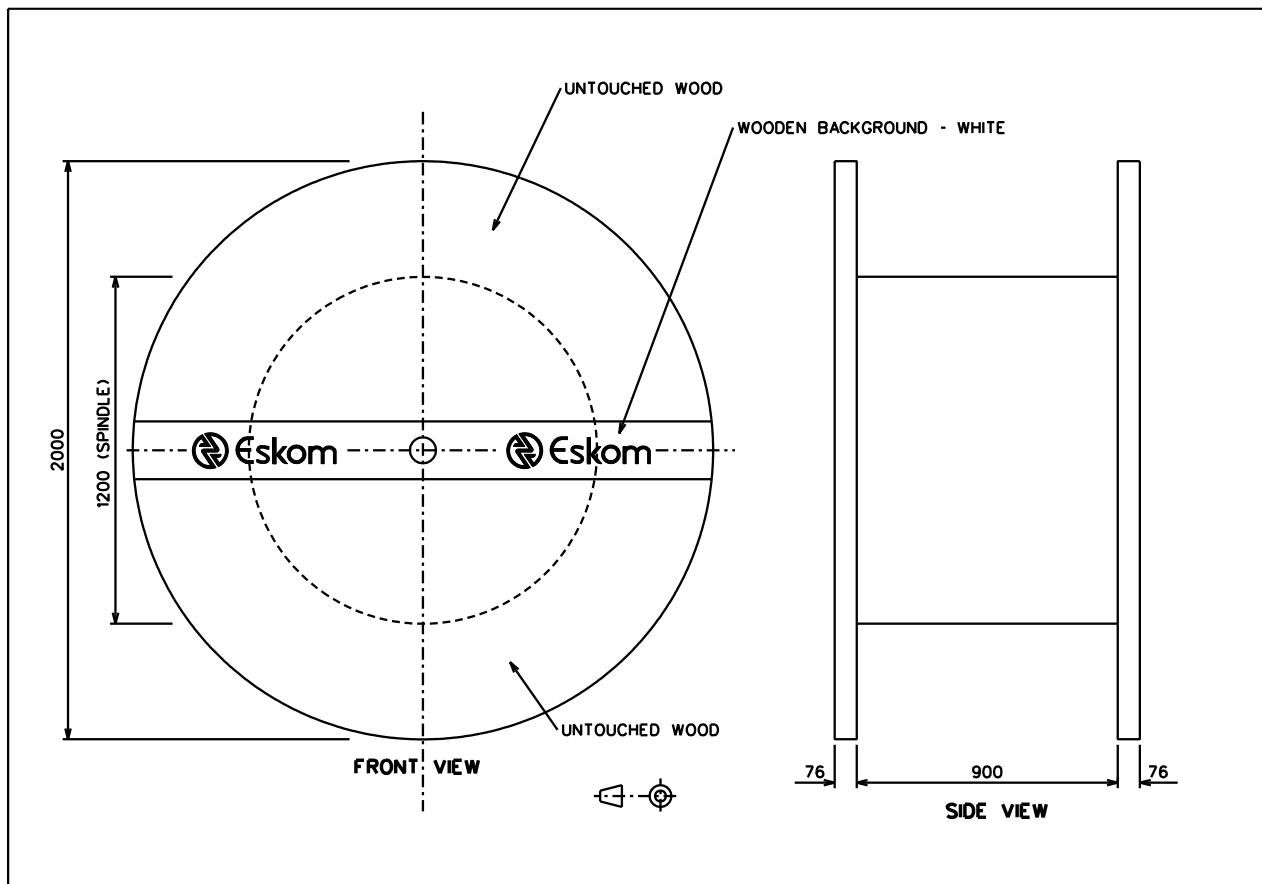


Figure 9-1 typical wooden drum side and front view showing Eskom branded flange

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Figure 9-2 typical hybrid drum side view

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Figure 9-3 typical hybrid drum front view

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The Eskom Signature (logo and logotype) printing guide

The Eskom Signature (logo and logotype) must be used together as a unit. The logo ("circle") and the logotype (the word "Eskom") must always appear together as one unit.

a) Colour specifications:

The corporate signature may only appear in the **Eskom corporate blue** (Pantone 287C - 100%C + 70%M + 0%Y + 10%K) or in **black** or in **white**.

To match colours, swatches must always be used. Previously printed material must never be used for colour matching.

b) Corporate signature isolation area:

There should always be a minimum clear area around the signature. This minimum is equal to the full diameter of the logo ("circle").

c) Relationship between the logo and the logotype:

The relationship between the logo and the logotype must always be followed exactly as indicated in the graphic. The measurement between the logo ("circle") and the logotype (word "Eskom") is twice the linewidth of the "circle".

For more information please refer to: Corporate Identity Manual (ESKAMAAA1).