| Eskom | **Report** | Technology |
|---|---|---|

Title: **TECHNICAL EVALUATION CRITERIA FOR OVERHEAD PHASE CONDUCTOR**

| | |
|---|---|
| Unique Identifier: | **240-130900871** |
| Alternative Reference Number: | **N/A** |
| Area of Applicability: | **Engineering** |
| Documentation Type: | **Report** |
| Revision: | **3** |
| Total Pages: | **62** |
| Next Review Date: | **July 2027** |
| Disclosure Classification: | **Confidential** |

| **Compiled by** | **Functional Responsibility** | **Authorized by** |
|---|---|---|
| **Bharat Haridass** | **Ravi Singh** | **Faith Mokhonoana** |
| **Senior Consultant Engineer** | **Chief Engineer** | **Senior Manager – Line Engineering Services** |
| Date: 22 June 2023 | Date: 21 June 2023 | Date: 26/06/2023 |

PCM Reference: 240-53458961

SCOT Study Committee Number/Name: **Overhead Lines Conductor Care Group**

# Content

# 1. Introduction

This document aims to describe the criteria which will govern the evaluation of tender submissions by external contractors intending to supply overhead phase conductors. The criteria for each phase conductor type are tabulated in the annexures at the end of this document.

The criteria necessary to perform both the desktop and factory evaluations are outlined. This document is meant as an assistive document for new conductor contracts and does not replace the existing phase conductor specification (240-152844641).

# 2. Supporting clauses

## 2.1 Scope

This document explains the technical evaluation process and criteria associated with overhead phase conductors.

### 2.1.1 Purpose

The purpose of this document is to describe the criteria which are to be used when evaluating tender submissions for the supply of overhead phase 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] 32-1034 - Eskom Procurement and Supply Management Procedure.

[2] ISO 9001 Quality Management Systems.

### 2.2.2 Informative

[3] 32-9: Definition of Eskom documents.

[4] 32-644: Eskom documentation management standard.

[5] 474-65: Operating manual of the Steering Committee of Technologies (SCOT).

## 2.3 Definitions

### 2.3.1 General

None

### 2.3.2 Disclosure classification

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

## 2.4 Abbreviations

| Abbreviation | Description |
|---|---|
| **ACSR** | Aluminium Conductor Steel Reinforced |
| **AAAC** | All Aluminium Alloy Conductor |
| **AAC** | All Aluminium Conductor |
| **PLS-CADD** | Power Line Systems - Computer Assisted Design and Drawing |

## 2.5 Roles and responsibilities

Not applicable.

## 2.6 Process for monitoring

Not applicable.

## 2.7 Related/supporting documents

[1] SANS IEC 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: 2011 Requirements for greases for aluminium, aluminium alloy and steel bare conductors

[5] IEC 61395: 1998 Overhead Electrical Conductors – Creep Test procedures for stranded conductors

[6] 240-152844641: Phase Conductor for Eskom Overhead Lines

[7] ASTM B117: Salt Fog Testing

# 3. Technical Tender Evaluation Procedure

The technical evaluation procedure is specific to each item type. The items include ACSR, AAAC and AAC conductors.

The complete technical tender evaluation of any potential supplier will involve only a desktop evaluation. A factory assessment shall only be undertaken upon placement of the first order or post contract award of successful tenderers to verify if the supplier possesses the capabilities which they have documented in their tender submissions. Factory assessments shall not be conducted for successful tenderers that have passed technical evaluation in the immediate previous conductor enquiry and that have supplied conductors to Eskom during that Eskom National Contract for conductors.

## 3.1 Desktop Evaluation

The desktop evaluation forms the first aspect of the assessment. During this process, the tender documentation submitted by potential suppliers is evaluated against the criteria listed in the attached ANNEXURES A, B, and C. Generic A/B schedules are provided in the document, but the full schedules and tick sheets will be available in excel format with the tender enquiry package. The Eskom evaluating representatives will go through the details of the returnable submissions that are required and will ensure that the Gatekeeper criteria are met. If submissions that receive a “No” on any of the Gatekeeper criteria, the supplier will not be able to proceed to the Desktop Evaluation and therefore will fail the technical evaluation.

From a technical perspective, the submitted documentations should consist of but not be limited to:

### 3.1.1 Conductor Evaluation – the tenderers will be scored according to score sheets in Annexures A, B, and C once they meet the Gatekeeper requirements, also found in the Annexures.

a) Specifications of the various phase conductors which the supplier proposes, and has the capability to, manufacture and supply. Tenderers are required to completely populate the relevant A/B schedules (found in Annexure C) submitted for all phase conductors that can be manufactured. A minimum or nearest equivalent (to be approved by Line Engineering Services) to the greased and ungreased options of phase conductors must be submitted.

b) Tenderers are required to submit type test reports for every conductor tendered upon. Where type tests are not available for conductors not previously manufactured (e.g. IEC 630 ACSR) type tests will be required after order placement but before full production of the order (Eskom and the supplier shall agree on the timeframes for the submission of type tests)

c) The supplier shall submit phase conductor information for use in PLS-CADD software applications with the cable creep test co-efficients as requested and within a year of contract award.

d) Tenderers to submit details of manufacturing premises, location, staff and equipment, testing facilities, manufacturing lead times.

e) Tenderers shall ensure that they cater for the manufacture of previously unsupplied conductors that may be requested during the contract lifetime. Tenderers shall also produce all the above- mentioned information for each of the unsupplied conductors they wish to supply as part of the contract.

f) The phase conductor technical tender returnable shall have the following deliverables:

### 3.1.2 Phase conductor contract returnable list and gatekeepers

| Item | Criteria | Number/Score | Submitted | Scoring | Gatekeepers |
|---|---|---|---|---|---|
| 1.1 | Completed A/B schedules for all conductors in Eskom spec. | 46 possible conductor types (1 point will be allocated if a tenderer submits a completed conductor schedule per proposed conductor type) | | The total score will be determined based on the number of completed schedules that the tenderer proposes to supply. | ✓ |
| 1.2 | Conductor Schedule Summary (Annexure A) | 46 | | Will be done based on number of schedules and conductor that can be made by tenderer. | ✓ |
| 1.3 | Type test report summary (Annexure A) | 46 | | Tenderer to fill in the list of conductors where a valid type test report is available and when the remaining will be done. | ✓ |
| 1.4 | Submission of file containing information for: Analysis of ACSR, AAC and AAAC manufacturers. | 42 (as per analysis table in Annexure B) | | A file must be submitted by the tenderer with requested information. | ✓ |

## 3.2 Factory assessment

The factory assessments are conducted to assess the tenderer's capability to perform under contractual agreements with Eskom with respect to a specific product or service and meet Eskom's requirements.

This report and any actions that are listed or recommended as a result of this assessment, is by no means a confirmation or guarantee that any contract will be entered into by Eskom and the supplier or that post contract performance has been achieved.

Any actions undertaken by the tenderer as a consequence of this report is for the tenderer's account. Any liability for the said actions undertaken by the tenderer is not transferrable to Eskom in any way.

The assessment team has no authority or responsibility in the decision taken by Eskom with respect to contracting for a product or service.

Any statements, intentions and/or actions expressed by the assessment team during the assessment and after the assessment should not be interpreted as the awarding of a contract and does not constitute any liability to Eskom with regards to contract placement or post-contract performance guarantees.

### 3.2.1 Scope

Technical evaluation criteria shall not involve a factory evaluation. A factory assessment shall only be undertaken upon placement of the first order or post contract award of successful tenderers to verify if the supplier possesses the capabilities which they have documented in their tender submissions.

Factory assessments shall not be conducted for successful tenderers that have passed technical evaluation in the immediate previous conductor enquiry and that have supplied conductors to Eskom during that Eskom National Contract for conductors. In addition, these suppliers which qualify for exemption from a factory assessment, must confirm in writing that they have not made any changes in their conductor production processes or conductor production equipment.

Eskom assessment representative(s) will arrange visits to the relevant factories that have qualified for factory evaluations.

At the factory, the Eskom assessment representative(s) will conduct the assessment through the use of checklists. A generic checklist is provided in Annexure B and may serve as a guide on the aspects which the Eskom representative(s) will look to assess. The checklists are used to verify capability of the factory to supply the required products and to comply with the relevant specifications and tender submission documents.

### 3.2.2 Purpose

Assessments are performed as part of the standard practice within Eskom to determine whether a supplier has the capability to manufacture the required products, from a business, technical and quality perspective. The assessment also confirms the supplier's compliance to the governing specifications and tender submission documents. This document is intended to formalise the factory assessment procedure followed for phase conductors.

### 3.2.3 Confidentiality

All information reviewed, observed, recorded during and reported as a result of the assessments will be treated as, and will remain highly confidential. The procurement team and the supplier team will be the only parties included in the distribution list.

### 3.2.4 Assessment Methodology

A factory assessment may only be conducted if a minimum score of 70% was achieved for the desktop assessment. In the event that a factory assessment is conducted, the tenderer will still be required to achieve a minimum score of 70% to meet the technical requirements threshold.

| **Criteria (Technical)** | | | | |
|---|---|---|---|---|
| Item | Final scoring - desktop | Scoring | Final score | Criteria |
| A/B schedules | Acceptable submitted/submitted | 100% | 50% of final score | Minimum 70% gatekeeper score |
| Conductor schedules summary | Verify number of conductors | N/A | 0% towards final score | Used to verify number of products that the tenderer can manufacture. |
| Type test reports | Submitted and acceptable | N/A | 0% towards final score | Used to verify the status of type testing for products tendered for. |
| Analysis of ACSR, AAAC and AAC conductor information submitted. | Inspection of file submitted as requested. | 100% | 50% of item score | Minimum 70% gatekeeper score |
| **Total** | | | 100% | |
| **Overall minimum threshold for qualification(s)** | | | **70%** | |

## 4. Authorization

This document has been seen and accepted by:

| Name and surname | Designation |
|---|---|
| Ravi Singh | Chief Engineer Line Engineering Services |
| F. Mokhonoana | Senior Manager Line Engineering Services |
| Bharat Haridass | Senior Consultant Engineer Line Engineering Services |

## 5. Revisions

| Date | Rev | Compiler | Remarks |
|---|---|---|---|
| Sept 2017 | 1 | P. Mathuradas | New document for the evaluation of the phase conductor contract to be issued in 2017. |
| July 2022 | 2 | P. Mathuradas | Updates to document for new conductor contract to be issued in 2024 |
| June 2023 | 3 | R Singh | Revised factory evaluation criteria |

## 6. Development team

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

- Ravi Singh
- Bharat Haridass

- Bertie Jacobs

## 7. Acknowledgements

Not applicable.

## Annexure A: Conductor Schedule Summary (confirms which tests were submitted for different phase conductor types)

| Conductor | Greased | Ungreased | Type Test | Schedules submitted (greased) | Schedules submitted (ungreased) |
|---|---|---|---|---|---|
| Squirrel | x | x | | | |
| Magpie | x | x | | | |
| Fox | x | x | | | |
| Mink | x | x | | | |
| Horse | x | x | | | |
| Hare | x | x | | | |
| Tiger | x | x | | | |
| Oden | x | x | | | |
| Wolf | x | x | | | |
| Chickadee | x | x | | | |
| Pelican | x | x | | | |
| Panther | x | x | | | |
| Bear | x | x | | | |
| Kingbird | x | x | | | |
| IEC 315 | x | x | | | |
| Goat | x | x | | | |
| Tern | x | x | | | |
| Zebra | x | x | | | |
| IEC 450 | x | x | | | |
| Rail | x | x | | | |
| IEC 500 | x | x | | | |
| IEC 560 | x | x | | | |
| Zambezi | x | x | | | |
| IEC 630 | x | x | | | |
| Dinosaur | x | x | | | |
| Bersfort | x | x | | | |
| IEC 800 | x | x | | | |
| Acacia | x | x | | | |
| Code 35 | x | x | | | |
| Pine | x | x | | | |
| Oak | x | x | | | |
| IEC 160 | x | x | | | |
| Sycamore | x | x | | | |
| IEC 315 | x | x | | | |
| IEC 400 | x | x | | | |
| IEC 450 | x | x | | | |
| IEC 500 | x | x | | | |
| IEC 560 | x | x | | | |

| | | | | | |
|---|---|---|---|---|---|
| IEC 630 | x | x | | | |
| IEC 710 | x | x | | | |
| IEC 800 | x | x | | | |
| Hornet | x | x | | | |
| Centipede | x | x | | | |
| Bull | x | x | | | |
| IEC 315 ACSR Trapezoidal equivalent | For the ACSR trapezoidal equivalents listed to the left, technical specifications and costing is required. Equivalent conductor refers to an ACSR conductor that has trapezoidal stranding instead of concentric stranding. These equivalents can either be equivalent to the existing conductor with respect to diameter or Aluminium area. The equivalency must be specified as part of the submission. Information must be provided if special construction and installation practices are required for the ACSS and ACCC proposed e conductors (e.g. special joints, special manufacturing processes, disposal of waste etc.). | | | | |
| Tern ACSR Trapezoidal equivalent | | | | | |
| Bersfort ACSR Trapezoidal equivalent | | | | | |

# Annex A - Analysis sheet of ACSR and AAAC manufacturers

| | **Criteria for ACSR manufacturers- Technical** | **Total score achievable** |
|---|---|---|
| **1** | **Manufacturing Methods/Product Conformance** | |
| 1.1 | Do you have the ability to draw down raw aluminium material to required strand sizes? (Yes or no response required) | 1 |
| 1.2 | Do you have the ability to produce complete stranded ACSR conductor? (Yes or no response required) | 1 |
| 1.3 | Are all conductors manufactured according to the Eskom conductor specification? (Yes or No response required) | 2 |
| 1.4 | Do you have the capability to design a conductor to a user requirement? (Yes or No response required) | 1 |
| 1.5 | Are you affiliated to any international organisation/ experts in the field? State affiliations. | 1 |
| 1.6 | Do you have the ability to supply technical drawings indicating conductor technical data? Provide a sample drawing. | 2 |
| 1.7 | Provide a history and list of external customers that you have supplied similar products to. | 3 |
| 1.8 | Do you have the ability to or have access to a supplier of services to conduct creep testing in accordance with IEC 61395? | 3 |
| 1.9 | Will you supply certified test reports of conductor greases in accordance with IEC 61394? (Yes or no response required) | 2 |
| 1.10 | Does the supplier have access to facilities to conduct all types of tests required as per the Phase conductor standard for Eskom overhead lines (240-152844641)? | 4 |
| 1.11 | Show evidence of an example of Type testing in accordance with the Phase conductor standard for Eskom overhead lines (240-152844641). A type test report must be submitted. | 4 |
| 1.12 | Show evidence of Sample testing on each individual product in accordance with the relevant IEC standards and the Phase conductor standard for Eskom overhead lines (240-152844641). Sample test format and report to be submitted. | 4 |
| 1.13 | Supplier must provide typical drawings of wood and hybrid drums and packaging details of items after manufacture | 2 |
| 1.14 | Indicate ability and process to be used to mark aluminium strands as per Eskom requirements (Yes or No response required). | 1 |
| 1.15 | Submit example drawings of the hybrid and wooden drum details along with packaging details of items after manufacture (1point per drum type). Indicate the following key dimensions and material used per drum type (1 point per complete drawing):<br>• Spindle diameter<br>• Flange diameter<br>• Barrel diameter<br>• Total drum width<br>• Material used for different sections of the drums (i.e. spindle material, flange material, barrel material) | 4 |
| 1.16 | Supply a sample drawing of the marking to be applied on the drums as per Eskom requirements: | 1 |

| | | |
|---|---|---|
| | • Matched sets to be marked<br>• Measured length<br>• Nett mass<br>• Gross mass<br>• Order number<br>• Conductor type<br>• Greased or non-greased<br>• Eskom Logo and signature<br>• Red dot<br>• Drum rolling direction | |
| 1.17. | Supply handling and long term (>6 months) storage requirements of the product in an open environment. | 2 |
| | | |
| **2** | **Quality control Practices** | |
| 2.1 | Submit calibration certificates of all testing equipment | 1 |
| 2.2 | Do you have competent technicians operating the testing equipment? | 1 |
| 2.3 | Are the testing procedures in alignment with the relevant IEC specifications? | 1 |
| 2.4 | Provide examples of quality test reports | 1 |
| | | |
| | | **42** |

# Annex B – Generic Phase Conductor A/B Schedules

## 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) - ungreased value ≈85.2
- Modulus of elasticity final (MPa) ≈80400
- Coefficient of linear expansion (1/°C) ≈19.31* $10^{-6}$

**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)- ungreased value | 85.2 | |
| Ultimate Tensile Strength (kN) | 8.02 | |
| Resistance DC @ 20ºC (Ohms/km) | 1.3677 | |
| Modulus Elasticity Final (MPa) | 80400 | |
| Coefficient of Linear Expansion, □, (1/°C) | 19.31 * 10-6 | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

## 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 (1/°C) ≈13.68* $10^{-6}$

**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 | 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 @ 20ºC (Ohms/km) | 2.707 | |
| Modulus Elasticity Final (MPa) | 133760 | |
| Coefficient of Linear Expansion, □, (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 (1/°C) ≈19.31* $10^{-6}$

**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 @ 20ºC (Ohms/km) | 0.7822 | |
| Modulus Elasticity Final (MPa) | 80400 | |
| Coefficient of Linear Expansion, □, (1/°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 (1/°C) ≈19.31* $10^{-6}$

**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 @ 20ºC (Ohms/km) | 0.4546 | |
| Modulus Elasticity Final (MPa) | 80400 | |
| Coefficient of Linear Expansion, □, (1/°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)- ungreased value ≈541
- Modulus of elasticity final (MPa) ≈108000
- Coefficient of linear expansion (1/°C) ≈15.84* $10^{-6}$

**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)- ungreased value | 541 | |
| Ultimate Tensile Strength (kN) | 60.7 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.3939 | |
| Modulus Elasticity Final (MPa) | 108000 | |
| Coefficient of Linear Expansion, □, (1/°C) | 15.84 * 10-6 | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

## 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 (1/°C) ≈19.31* $10^{-6}$

**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 @ 20ºC (Ohms/km) | 0.2733 | |
| Modulus Elasticity Final (MPa) | 80400 | |
| Coefficient of Linear Expansion, □, (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) ≥.70
- Conductor linear mass (kg/km)- ungreased value ≈606
- Modulus of elasticity final (MPa) ≈83400
- Coefficient of linear expansion (1/°C) ≈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)- ungreased value | 606 | |
| Ultimate Tensile Strength (kN) | 58.70 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.2202 | |
| Modulus Elasticity Final (MPa) | 83400 | |
| Coefficient of Linear Expansion, □, (1/°C) | 18.43 □ 10-6 | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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)- ungreased value ≈853
- Modulus of elasticity final (MPa) ≈108000
- Coefficient of linear expansion (1/°C) ≈15.61* $10^{-6}$

**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 (mm2) | 116.78 | |
| Area Total (mm2) | 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)- ungreased value | 853 | |
| Ultimate Tensile Strength (kN) | 93.62 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.2473 | |
| Modulus Elasticity Final (MPa) | 108000 | |
| Coefficient of Linear Expansion, □, (1/°C) | 15.61* 10-6 | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and Ungreased. | |

## 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 (1/°C) ≈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 | 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 @ 20ºC (Ohms/km) | 0.1828 | |
| Modulus Elasticity Final (MPa) | 83400 | |
| Coefficient of Linear Expansion, □, (1/°C) | 18.43 * 10-6 | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

## Chicadee 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 (1/°C) ≈21.44* $10^{-6}$

**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 @ 20ºC (Ohms/km) | 0.1427 | |
| Modulus Elasticity Final (MPa) | 66200 | |
| Coefficient of Linear Expansion, □, (1/°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)- ungreased value ≈775
- Modulus of elasticity final (MPa) ≈66200
- Coefficient of linear expansion (1/°C) ≈21.44* $10^{-6}$

**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)- ungreased value | 775 | |
| Ultimate Tensile Strength (kN) | 53.8 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.1189 | |
| Modulus Elasticity Final (MPa) | 66200 | |
| Coefficient of Linear Expansion, □, (1/°C) | 21.44 * 10-6 | |
| Drum Lengths (m) | 1000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

## 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 (1/°C) ≈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 @ 20ºC (Ohms/km) | 0.1363 | |
| Modulus Elasticity Final (MPa) | 83400 | |
| Coefficient of Linear Expansion, □, (1/°C) | 18.43 * 10-6 | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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)- ungreased value ≈1220
- Modulus of elasticity final (MPa) ≈83400
- Coefficient of linear expansion (1/°C) ≈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 | 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)- ungreased value | 1220 | |
| Ultimate Tensile Strength (kN) | 112 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.1093 | |
| Modulus Elasticity Final (MPa) | 83400 | |
| Coefficient of Linear Expansion, □, (1/°C) | 18.43 * 10-6 | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

## Kingbird 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) ≈23.90
- Ultimate Tensile Strength (kN) ≥71.32
- Conductor linear mass (kg/km)- ungreased value ≈1038
- Modulus of elasticity final (MPa) ≈66200
- Coefficient of linear expansion (1/°C) ≈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)- ungreased value | 1038 | |
| Ultimate Tensile Strength (kN) | 71.32 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0891 | |
| Modulus Elasticity Final (MPa) | 66200 | |
| Coefficient of Linear Expansion, □, (1/°C) | 21.69 * $10^{-6}$ | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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) ≤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 @ 20ºC (Ohms/km) | 0.0917 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (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)- ungreased value ≈1500
- Modulus of elasticity final (MPa) ≈83400
- Coefficient of linear expansion (1/°C) ≈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 | 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)- ungreased value | 1500 | |
| Ultimate Tensile Strength (kN) | 136 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0891 | |
| Modulus Elasticity Final (MPa) | 83400 | |
| Coefficient of Linear Expansion, □, (1/°C) | 18.43 * 10-6 | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

## Tern ACSR conductor

## ALTERNATIVE PHASE CONDUCTOR

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

- Resistance (Ohms/km) ≤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 (1/°C) ≈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 @ 20ºC (Ohms/km) | 0,0718 | |
| Modulus Elasticity Final (MPa) | 66600 | |
| Coefficient of Linear Expansion, □, (1/°C) | 21.12 * $10^{-6}$ | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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)- ungreased value ≈1630
- Modulus of elasticity final (MPa) ≈73200
- Coefficient of linear expansion (1/°C) ≈19.91* $10^{-6}$

**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 | 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)- ungreased value | 1630 | |
| Ultimate Tensile Strength (kN) | 133 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0674 | |
| Modulus Elasticity Final (MPa) | 73200 | |
| Coefficient of Linear Expansion, □, (1/°C) | 19.91* 10-6 | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

## 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)- ungreased 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)- ungreased value | 1485.2 | |
| Ultimate Tensile Strength (kN) | 107.47 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0642 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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)- ungreased value ≈1610
- Modulus of elasticity final (MPa) ≈66700
- Coefficient of linear expansion (1/°C) ≈21.11* $10^{-6}$

**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 (mm2) | 483.84 | |
| Area Total (mm2) | 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)- ungreased value | 1610 | |
| Ultimate Tensile Strength (kN) | 117 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0598 | |
| Modulus Elasticity Final (MPa) | 66700 | |
| Coefficient of Linear Expansion, □, (1/°C) | 21.11 * 10-6 | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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)- ungreased 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)- ungreased value | 1650.2 | |
| Ultimate Tensile Strength (kN) | 119.41 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0578 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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)- ungreased 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)- ungreased value | 1848.2 | |
| Ultimate Tensile Strength (kN) | 133.74 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0516 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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) ≥124.3
- Conductor linear mass (kg/km)- ungreased 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)- ungreased value | 1764 | |
| Ultimate Tensile Strength (kN) | 124.2 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.051 | |
| Modulus Elasticity Final (MPa) | 73.2 | |
| Coefficient of Linear Expansion, □, (1/°C) | $21.49x10^{-6}$ | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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)- ungreased 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)- ungreased value | 2079.2 | |
| Ultimate Tensile Strength (kN) | 150.45 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0459 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000/2500/3000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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)- ungreased value ≈2493
- Modulus of elasticity final (MPa) ≈72200
- Coefficient of linear expansion (1/°C) ≈19.91* $10^{-6}$

**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 (mm2) | 661.72 | |
| Area Total (mm2) | 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)- ungreased value | 2493 | |
| Ultimate Tensile Strength (kN) | 202.92 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0437 | |
| Modulus Elasticity Final (MPa) | 72200 | |
| Coefficient of Linear Expansion, □, (1/°C) | 19.91* 10-6 | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## Bersfort ACSR conductor

## ALTERNATIVE PHASE CONDUCTOR

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

- Resistance (Ohms/km) ≤0,0420
- Conductor diameter (mm) ≈35.58
- Ultimate Tensile Strength (kN) ≥177.65
- Conductor linear mass (kg/km)- ungreased value ≈2386
- Modulus of elasticity final (MPa) ≈68800
- Coefficient of linear expansion (1/°C) ≈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)- ungreased value | 2386 | |
| Ultimate Tensile Strength (kN) | 177.65 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0420 | |
| Modulus Elasticity Final (MPa) | 68800 | |
| Coefficient of Linear Expansion, □, (1/°C) | 20.68 □ $10^{-6}$ | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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)- ungreased 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)- ungreased value | 2480.2 | |
| Ultimate Tensile Strength (kN) | 167.41 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0361 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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 (1/°C) ≈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 | IEC Code 23.79-A2-7/2.08 | |
| Conductor Overall Diameter (mm) | 6.24 | |
| Area Aluminium (mm2) | 23.79 | |
| Area Total (mm2) | 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 @ 20ºC (Ohms/km) | 1.39 | |
| Modulus Elasticity Final (MPa) | 61000 | |
| Coefficient of Linear Expansion, □, (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)- ungreased value ≈115
- Modulus of elasticity final (MPa) ≈61000
- Coefficient of linear expansion (1/°C) ≈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 | IEC Code 42.18-A2-7/2.77 | |
| Conductor Overall Diameter (mm) | 8.31 | |
| Area Aluminium (mm2) | 42.18 | |
| Area Total (mm2) | 42.18 | |
| Aluminium wires (number off) / (diameter mm) | 7/2.77 | |
| Steel wires (number off) / (diameter mm) | N/A | |
| Conductor linear mass (kg/km)- ungreased value | 115 | |
| Ultimate Tensile Strength (kN) | 11.86 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.785 | |
| Modulus Elasticity Final (MPa) | 61000 | |
| Coefficient of Linear Expansion, □, (1/°C) | 23* 10-6 | |
| Drum Lengths (m) | 1000/1500/2000/2500 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |

## 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 (1/°C) ≈$23 * 10^{-6}$

**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 @ 20ºC (Ohms/km) | 0.462 | |
| Modulus Elasticity Final (MPa) | 61000 | |
| Coefficient of Linear Expansion, □, (1/°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 (1/°C) ≈$23 * 10^{-6}$

**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 @ 20ºC (Ohms/km) | 0.279 | |
| Modulus Elasticity Final (MPa) | 61000 | |
| Coefficient of Linear Expansion, □, (1/°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 @ 20ºC (Ohms/km) | 0.1798 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (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 @ 20ºC (Ohms/km) | 0.110 | |
| Modulus Elasticity Final (MPa) | 58600 | |
| Coefficient of Linear Expansion, □, (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 @ 20ºC (Ohms/km) | 0.0916 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (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 @ 20ºC (Ohms/km) | 0.0721 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (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 @ 20ºC (Ohms/km) | 0.0641 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (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 @ 20ºC (Ohms/km) | 0.0577 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (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) ≈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 @ 20ºC (Ohms/km) | 0.0516 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (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 @ 20ºC (Ohms/km) | 0.0458 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (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 @ 20ºC (Ohms/km) | 0.0407 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (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 @ 20ºC (Ohms/km) | 0.0361 | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, □, (1/°C) | Supplier to specify | |
| Drum Lengths (m) | 1000/1500 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased. | |

## 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)- ungreased value ≈435
- Modulus of elasticity final (MPa) ≈ 59650
- Coefficient of linear expansion (1/°C) ≈ 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 | 157.95-A1-19/3.25 | |
| Conductor Overall Diameter (mm) | 16.25 | |
| Area Aluminium (mm2) | 157.95 | |
| Area Total (mm2) | 157.95 | |
| Aluminium wires (number off) / (diameter mm) | 19/3.25 | |
| Steel wires (number off) / (diameter mm) | N/A | |
| Conductor linear mass (kg/km)- ungreased value | 435 | |
| Ultimate Tensile Strength (kN) | 26 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.1825 | |
| Modulus Elasticity Final (MPa) | 59650 | |
| Coefficient of Linear Expansion, □, (1/°C) | 23* 10-6 | |
| Drum Lengths (m) | 1000/1500/2000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |
| 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)- ungreased value ≈1150
- Modulus of elasticity final (MPa) ≈58600
- Coefficient of linear expansion (1/°C) ≈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 | 415.22-A1-37/3.78 | |
| Conductor Overall Diameter (mm) | 26.46 | |
| Area Aluminium (mm2) | 415.22 | |
| Area Total (mm2) | 415.22 | |
| Aluminium wires (number off) / (diameter mm) | 37/3.78 | |
| Steel wires (number off) / (diameter mm) | N/A | |
| Conductor linear mass (kg/km)- ungreased value | 1150 | |
| Ultimate Tensile Strength (kN) | 67.2 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0694 | |
| Modulus Elasticity Final (MPa) | 58600 | |
| Coefficient of Linear Expansion, □, (1/°C) | 23* 10-6 | |
| Drum Lengths (m) | 1000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |
| 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)- ungreased value ≈2400
- Modulus of elasticity final (MPa) ≈57570
- Coefficient of linear expansion (1/°C) ≈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 | 865.36-A1-61/4.25 | |
| Conductor Overall Diameter (mm) | 38.25 | |
| Area Aluminium (mm2) | 865.36 | |
| Area Total (mm2) | 865.36 | |
| Aluminium wires (number off) / (diameter mm) | 61/4.25 | |
| Steel wires (number off) / (diameter mm) | N/A | |
| Conductor linear mass (kg/km)- ungreased value | 2400 | |
| Ultimate Tensile Strength (kN) | 139 | |
| Resistance DC @ 20ºC (Ohms/km) | 0.0334 | |
| Modulus Elasticity Final (MPa) | 57570 | |
| Coefficient of Linear Expansion, □, (1/°C) | 23* 10-6 | |
| Drum Lengths (m) | 1000 | |
| Matched Sets | Yes | |
| Greased | Greased and ungreased | |
| Insulated (Specification) material, thickness | Insulated and non-insulated | |

# IEC 315 ACSR Trapezoidal conductor (equivalent in diameter or Aluminium area)

## 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 | Supplier to specify | |
| Conductor Overall Diameter (mm) | Supplier to specify | |
| Area Aluminium ($mm^2$) | Supplier to specify | |
| Area Total ($mm^2$) | Supplier to specify | |
| Aluminium wires (number off) / (diameter mm) | Supplier to specify | |
| Steel wires (number off) / (diameter mm) | Supplier to specify | |
| Conductor linear mass (kg/km) | Supplier to specify | |
| Ultimate Tensile Strength (kN) | Supplier to specify | |
| Resistance DC @ 20ºC (ohms/km) | Supplier to specify | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, ß, (1/°C) | Supplier to specify | |
| Drum Length(m) | Supplier to specify | |
| Matched Sets | Supplier to specify | |
| Greased (Castrol BJ20 or equivalent. Equivalent products subject to Eskom's approval. All layers must be greased except the outside) | Supplier to specify | |
| Insulated (Specification) material, thickness | Supplier to specify | |

# Tern ACSR Trapezoidal conductor (equivalent in diameter or Aluminium area)

## 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 | Supplier to specify | |
| Conductor Overall Diameter (mm) | Supplier to specify | |
| Area Aluminium ($mm^2$) | Supplier to specify | |
| Area Total ($mm^2$) | Supplier to specify | |
| Aluminium wires (number off) / (diameter mm) | Supplier to specify | |
| Steel wires (number off) / (diameter mm) | Supplier to specify | |
| Conductor linear mass (kg/km) | Supplier to specify | |
| Ultimate Tensile Strength (kN) | Supplier to specify | |
| Resistance DC @ 20ºC (ohms/km) | Supplier to specify | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, ß, (1/°C) | Supplier to specify | |
| Drum Length(m) | Supplier to specify | |
| Matched Sets | Supplier to specify | |
| Greased (Castrol BJ20 or equivalent. Equivalent products subject to Eskom's approval. All layers must be greased except the outside) | Supplier to specify | |
| Insulated (Specification) material, thickness | Supplier to specify | |

# Bersfort ACSR Trapezoidal conductor (equivalent in diameter or Aluminium area)

## 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 | Supplier to specify | |
| Conductor Overall Diameter (mm) | Supplier to specify | |
| Area Aluminium ($mm^2$) | Supplier to specify | |
| Area Total ($mm^2$) | Supplier to specify | |
| Aluminium wires (number off) / (diameter mm) | Supplier to specify | |
| Steel wires (number off) / (diameter mm) | Supplier to specify | |
| Conductor linear mass (kg/km) | Supplier to specify | |
| Ultimate Tensile Strength (kN) | Supplier to specify | |
| Resistance DC @ 20ºC (ohms/km) | Supplier to specify | |
| Modulus Elasticity Final (MPa) | Supplier to specify | |
| Coefficient of Linear Expansion, ß, (1/°C) | Supplier to specify | |
| Drum Length(m) | Supplier to specify | |
| Matched Sets | Supplier to specify | |
| Greased (Castrol BJ20 or equivalent. Equivalent products subject to Eskom's approval. All layers must be greased except the outside) | Supplier to specify | |
| Insulated (Specification) material, thickness | Supplier to specify | |