BICC CABLES

Connecting The Future

POWER CABLES

25 YEARS Anniversary

INDEX

Overview

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BICC CABLES Overview

Over 25 years , BICC CABLES contributed by its cables in several projects of almost all sectors either contracting , tourism , water treatment , oil & Gas,.....etc.

Our scope of production includes : building wires , low voltage power cables (Copper & Aluminum) , control cables, instrument cables, fire resistance & fire alarm cables and overhead transmission lines (AAC, AAAC, ABC, ACSR).

Factory located in Abu Rawash Industrial Zone,
Km. 28 Misr - Alexandria ,Desert Road, Giza, Egypt.

Andrew Fitch

Technical manager

Since 1996 - 2000

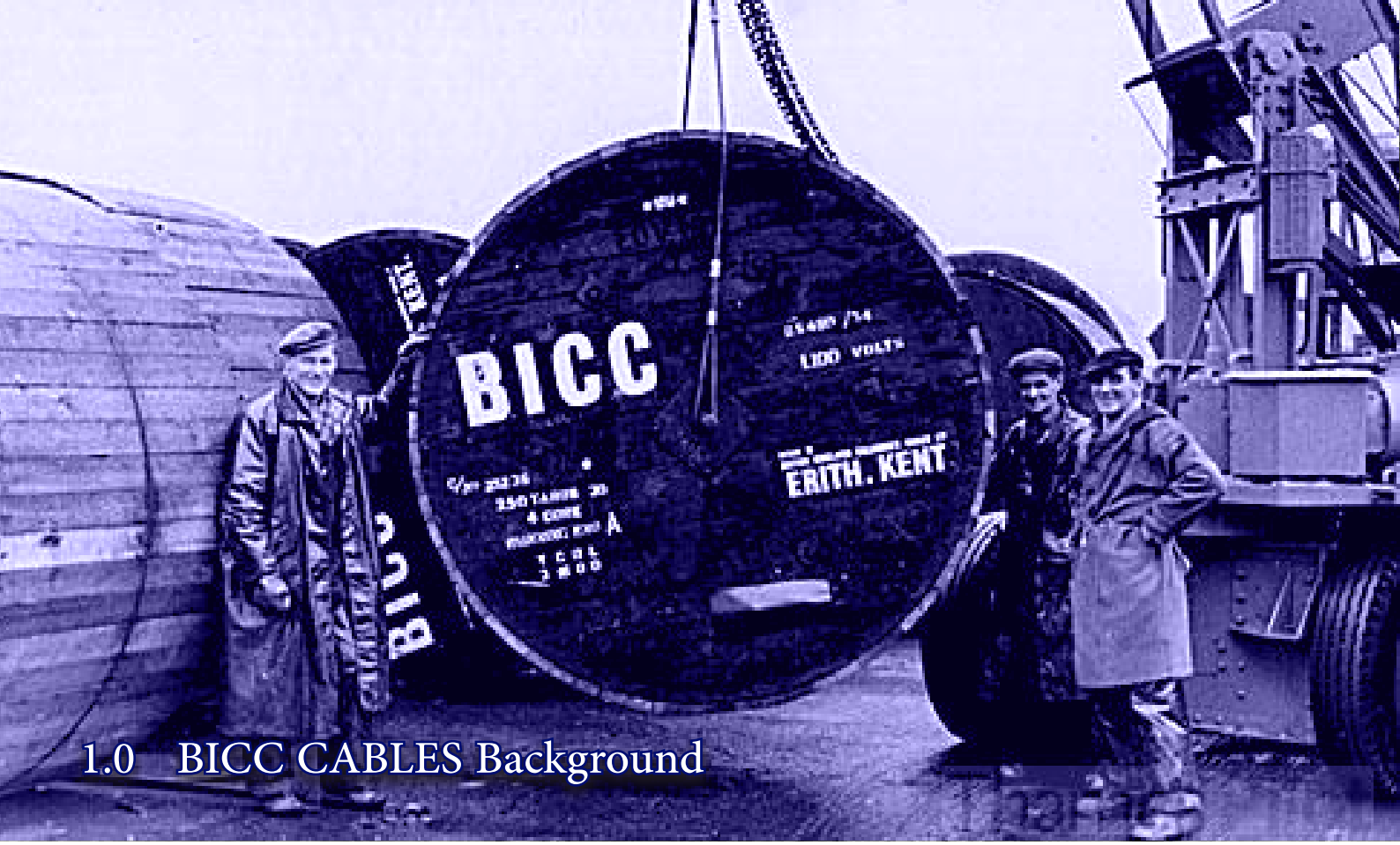
- BICC Cables was established in 1996 as a joint venture company between BICC Cables of the UK and other investors.The company was set up to manufacture Low Voltage Power Cables up to 3.3 kV

- BICC CABLES was originally owned and gained its brand name by British Insulated Cables Company (BICC) / UK which had a worldwide presence in cables industry since 1890 , all activities related to factory installation, erection and machines start up executed and supervised by highly sophisticated experts from BICC/UK with such long experience in cables manufacturing field.

- In the current time , BICC Cables name continued in use at the former BICC cables (UK) and expanding our production capacity and range increasing our market share using new machinery to meet client requiremnts for new and quality products.

Our cables are tested at the premises of international recognized organizations such as KEMA (Netherland) & BASEC (UK).

We are proud of our past , confident about future.



1.0 BICC CABLES Background

• Ordering Advices

The following details will ensure that your inquiries and orders are handled quickly and efficiently

1. Length of cables required and individual drum lengths.*
2. Voltage designation.
3. Relevant British or International standard.
4. Number of cores.
5. Color code & color sequence (Phase colors and neutral color).
6. Conductor size, where applicable and size of reduced neutral conductor.
7. Conductor material i.e. Copper, Aluminum.
8. Conductor type (solid class 1, stranded class 2 or Flexible strand class 5).
9. Type of insulation (PVC, XLPE and Special compounds)
10. Type of bedding
11. Fire Resistance Cables According to IEC 60331 and BS 6387.
12. Type of armour (STA, GSWA, AWA, STA+SWA, ...)
13. Type of outer sheath (PVC, Reduced Flame Propagation PVC, LSF & LSOH or LSHF....)
14. Any other requirement, e.g. (circular conductors, special PVC sheath material, drum weight limitation, etc.)

* Cables are normally supplied in lengths of 1000 meters and its multiplies on non returnable wooden drums but varies based on cable size and construction where large sizes are supplied in shorter lengths. For wires, it can be supplied as coils of 100 Mt. for small cross sectional area (up to 25 mm^2) and other sizes are supplied on non returnable wooden drums.

1.0 BICC CABLES Background

- Quality Management System ISO 9001:2015

bsi.

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that: BICC Cables
Abou Rawash
KM 28 Misr Alexandria Desert Road
Cairo
Egypt

Holds Certificate No: **FM 45568**

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

Manufacture and supply of control and power cables up to a rating of 3.3 kV.

For and on behalf of BSI:

Andrew Launn, EMEA Systems Certification Director

Original Registration Date: 1999-04-16
Latest Revision Date: 2020-08-12
Effective Date: 2020-08-13
Expiry Date: 2023-08-12

Page: 1 of 1

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Printed copies can be validated at www.bsigroup.com/ClientDirectory

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000

BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.

- Health and Safety OHSAS 18001

bsi.

Certificate of Registration

OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM - ISO 45001:2018

This is to certify that: BICC Cables
Abou Rawash
KM 28 Misr Alexandria Desert Road
Cairo
Egypt

Holds Certificate No: **OHS 690304**

and operates an Occupational Health and Safety Management System which complies with the requirements of ISO 45001:2018 for the following scope:

Manufacture and supply of control and power cables up to a rating of 3.3 kV.

Previously certified to OHSAS 18001 since 07/04/2018.

For and on behalf of BSI:

Andrew Launn, EMEA Systems Certification Director

Original Registration Date: 2020-08-28
Latest Revision Date: 2021-02-23
Effective Date: 2021-04-07
Expiry Date: 2024-04-06

Page: 1 of 1

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BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.

1.0 BICC CABLES Background

- BASEC

Sample of Test Reports

Test Report

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Customer **BICC Cables**
Abou Rawash, Industrial Zone
Km 28, Cairo-Alexandria Desert Road
Alexandria
Egypt

Report No NAC275-1

Number of pages in this Report: 5

Issue Date **23 August 2019**

Items Tested 1 sample of Electric Cable

Specification(s) BS 6387:2013 Category C W Z (modified by BS 7846:2015 Annex I for cables exceeding 20mm diameter)

Test Results The sample submitted complied with the requirements of the specification for the tests which were requested.

Authorised by: I McGuinness Laboratory Manager

Issue Date: 23 August 2019

The results presented in this Test Report relate only to the items tested as received from the customer and to the specific tests carried out. The test laboratory has played no part in sampling the items for testing. This Test Report does not represent any Approval or Certification by BASEC of the product or of the associated manufacturer. This test Report shall not be reproduced except in full, without written approval of the laboratory.

British Approvals Service for Cables
Presley House
Presley Way
Crownhill
Milton Keynes
MK8 0ES UK
T: 01908 267300
F: 01908 267255
E: mail@basec.org.uk
W: www.basec.org.uk

UKAS TESTING BASEC TESTING
5950

BASEC Report No NAC275-1

Sample 1 sheet 1

Fire Resistance determination

Cable Description

Cable standard	IEC 60502-1		
Cable shape	Circular		
Cable dimensions	39.9 mm	Outer colour	Black
Conductors	4 x 50 mm²	Conductor shape	Circular
Components	Conductor, Mica Tape, Insulation, Filler, Bedding, Armour, Tape, Sheath		

Cable Marking

The sheath had the following marking:	
Line one printed	BICC CABLES FIRE RESISTANT CABLE 4x50 mm² 600/1000V CU/MICA/XLPE/SWA/LSOH 2019

The decision rule applied by the laboratory is such that for any item tested whose measured value is within BASEC MU value, the test will be deemed as a failure.

Date samples received: 05/08/19	Date testing commenced: 12/08/19	Tested by: R Skippe-Quartley
Date job raised: 16/07/19	Date testing completed: 20/08/19	Checked by: I McGuinness
N/A = Not Applicable	N/R = Not Requested	N/T = Not Tested
BASEC Reference: LF069.011 Issue date: 06/06/2019	Report Issue Date: 23/08/19	Page 2 of 5

Test Report

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Customer **BICC Cables**
Abou Rawash, Industrial Zone
Km 28, Cairo-Alexandria Desert Road
Alexandria
Egypt

Report No NAC275-2

Number of pages in this Report: 5

Issue Date **23 August 2019**

Items Tested 1 sample of Electric Cable

Specification(s) BS 6387:2013 Category C W Z (modified by BS 7846:2015 Annex I for cables exceeding 20mm diameter)

Test Results The sample submitted complied with the requirements of the specification for the tests which were requested.

Authorised by: I McGuinness Laboratory Manager

Issue Date: 23 August 2019

The results presented in this Test Report relate only to the items tested as received from the customer and to the specific tests carried out. The test laboratory has played no part in sampling the items for testing. This Test Report does not represent any Approval or Certification by BASEC of the product or of the associated manufacturer. This test Report shall not be reproduced except in full, without written approval of the laboratory.

British Approvals Service for Cables
Presley House
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E: mail@basec.org.uk
W: www.basec.org.uk

UKAS TESTING BASEC TESTING
5950

BASEC Reference: LF069.011 Issue date: 06/06/2019

BASEC Report No NAC275-2

Sample 2 sheet 1

Fire Resistance determination

Cable Description

Cable standard	IEC 60502-1		
Cable shape	Circular		
Cable dimensions	22.2 mm	Outer colour	Black
Conductors	1 x 50 mm²	Conductor shape	Circular
Components	Conductor, Mica Tape, Insulation, Bedding, Armour, Tape, Sheath		

Cable Marking

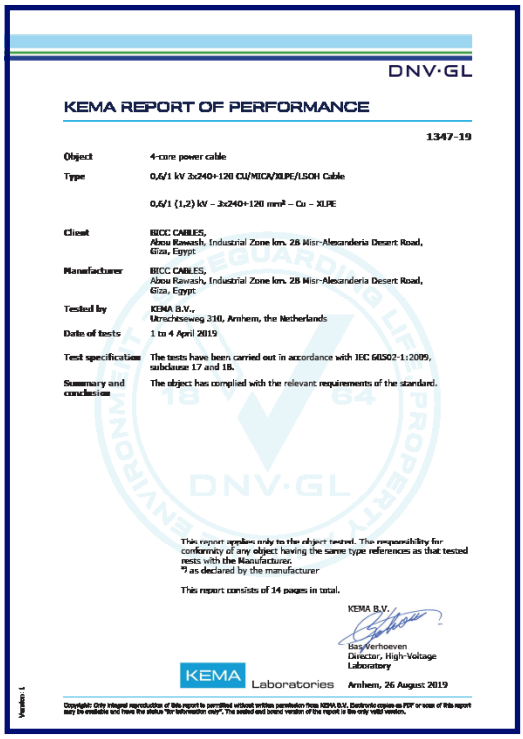
The sheath had the following marking:	
Line one printed	BICC CABLES FIRE RESISTANT CABLE 1x50 mm² 600/1000V CU/MICA/XLPE/AWA/LSOH 2019

The decision rule applied by the laboratory is such that for any item tested whose measured value is within BASEC MU value, the test will be deemed as a failure.

Date samples received: 05/08/19	Date testing commenced: 12/08/19	Tested by: R Skippe-Quartley
Date job raised: 16/07/19	Date testing completed: 20/08/19	Checked by: I McGuinness
N/A = Not Applicable	N/R = Not Requested	N/T = Not Tested
BASEC Reference: LF069.011 Issue date: 06/06/2019	Report Issue Date: 23/08/19	Page 2 of 5

1.0 BICC CABLES Background

- KEMA



DNV·GL

KEMA REPORT OF PERFORMANCE

1347-19

Object	4-core power cable
Type	0,6/1 kV 3x240+120 CU/MICA/XLPE/LSOH Cable 0,6/1 (1,2) kV – 3x240+120 mm² – Cu – XLPE
Client	BICC CABLES, Abou Rawash, Industrial Zone km. 28 Misr-Alexanderia Desert Road, Giza, Egypt
Manufacturer	BICC CABLES, Abou Rawash, Industrial Zone km. 28 Misr-Alexanderia Desert Road, Giza, Egypt
Tested by	KEMA B.V., Utrechtseweg 310, Arnhem, the Netherlands
Date of tests	1 to 4 April 2019
Test specification	The tests have been carried out in accordance with IEC 60502-1:2009, subclause 17 and 18.
Summary and conclusion	The object has complied with the relevant requirements of the standard.

This report applies only to the object tested. The responsibility for conformity of any object having the same type references as that tested rests with the Manufacturer.
*) as declared by the manufacturer

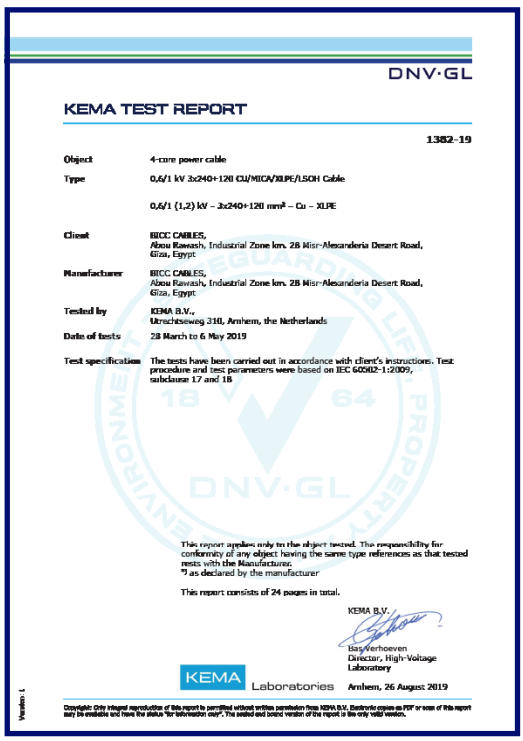
This report consists of 14 pages in total.

KEMA B.V.

Bas Verhoeven
Director, High-Voltage Laboratory

KEMA Laboratories Arnhem, 26 August 2019

Version: 1



DNV·GL

KEMA TEST REPORT

1382-19

Object	4-core power cable
Type	0,6/1 kV 3x240+120 CU/MICA/XLPE/LSOH Cable 0,6/1 (1,2) kV – 3x240+120 mm² – Cu – XLPE
Client	BICC CABLES, Abou Rawash, Industrial Zone km. 28 Misr-Alexanderia Desert Road, Giza, Egypt
Manufacturer	BICC CABLES, Abou Rawash, Industrial Zone km. 28 Misr-Alexanderia Desert Road, Giza, Egypt
Tested by	KEMA B.V., Utrechtseweg 310, Arnhem, the Netherlands
Date of tests	28 March to 6 May 2019
Test specification	The tests have been carried out in accordance with client's instructions. Test procedure and test parameters were based on IEC 60502-1:2009, subclause 17 and 18

This report applies only to the object tested. The responsibility for conformity of any object having the same type references as that tested rests with the Manufacturer.
*) as declared by the manufacturer

This report consists of 24 pages in total.

KEMA B.V.

Bas Verhoeven
Director, High-Voltage Laboratory

KEMA Laboratories Arnhem, 26 August 2019

Version: 1

1.0 BICC CABLES Background

•Technical Advisory Service

Specialist advice on all matters concerning electrical power cables is available from BICC Cables sales team or direct from: -

Factory:
Industrial Zone, Abu Rawash Km 28 Cairo
Alexandria Desert Road Cairo, Egypt
Tel. :(202) 3539 0251,2,3,4
Fax :(202) 3539 0255,6
E-mail: info@bicccables.com

BICC Cables is committed to supplying its customers with the highest quality of product and service. BICC Cables have undergone rigorous type testing by ERA Technology Ltd and the British Standard institution (via BASEC of the UK) and fully conform to IEC 60502 for electricity supply up to including 1.8 /3.3 kV ratings.

2.0 BICC CABLES Qualifications

• Performance

BICC Cables can provide optimum cables performance, and has access to the latest development in conductor, insulation and protective materials technology. Our experienced technical staff can provide guidance on cable selection and installation.

Where necessary, special features can be incorporated into the cable enabling it to have:

- Improved fire performance
- Low smoke and fume (Halogen free).
- Termite resistance
- Resistance to attack from oils, solvents or corrosive chemicals.

Specifying the right cable for a particular application is the first step. However, the key to reliability is in the manufacturing process. The cable must be from high quality material and manufactured ensuring that no defects or weaknesses will be revealed in service.

BICC Cables constantly monitors all manufacturing processes and operates the most stringent quality assurance procedures to give you excellent reliability. It is a factor which assumes vital significance when cables are to be installed in locations where future access would be difficult. That is when BICC cables and resources will give peace of mind.

2.0 BICC CABLES Qualifications

• Safety

BICC Cables is able to maintain a close watch on development in cable technology and regulations, and therefore ensure that our products are designed and constructed to be hazard free under the prescribed conditions of use.

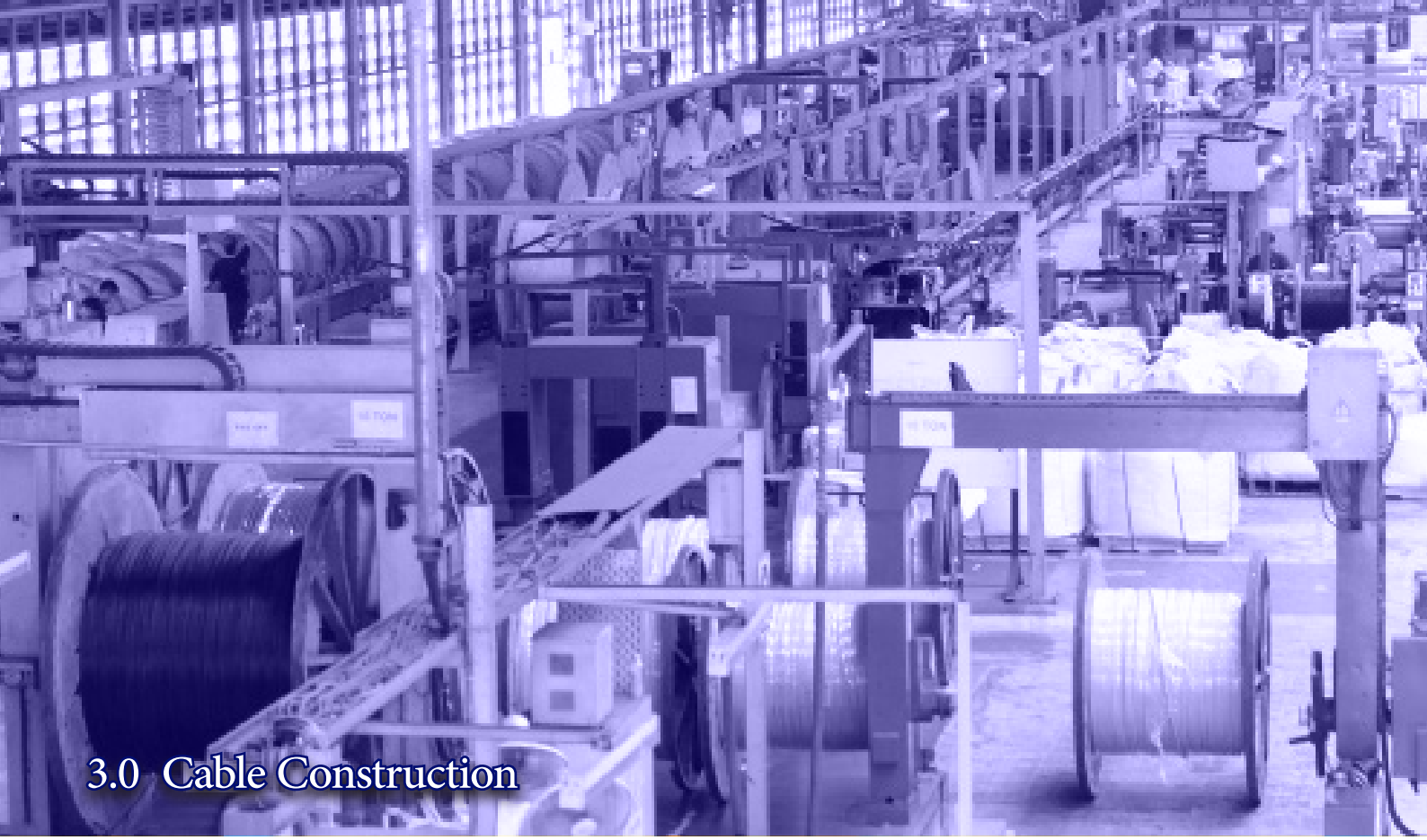
BICC Cables uses only tried and tested materials and processes in full compliance with all the relevant British and International standards. therefore, our cables are manufactured for safe use, without the risk to health, on the understanding that users will exercise the same degree of care in their selection and application. Industrial safety is also an important issue with BICC Cables and is strictly applied to the company's own operations.

• ISO 9001: 2015

BICC Cables Quality Management system, from the start of manufacture is in conformance to:

ISO 9001: 2015 BICC Cables is certified to ISO 9001 by the British Standards Institute (BSI-UK) which is an international recognized accreditation body with uncompromising standards.

ISO 9001: 2015 is an international standard which defines, for suppliers and manufacturers, what is required of quality oriented management system. Essentially, it requires the certified company to draw up written procedures to ensure full compliance with all requirements of the standard. The procedures are strictly followed by every department in the company, thus ensuring that the goods leaving the factory are of the highest quality and meet each customer's requirements in every respect.



3.0 Cable Construction

The PVC & XLPE insulated power cables details in this publication are rated at 0.6/1 kV. Details of BICC Cables 1.8/3.3 kV rated cables are available on request. Both steel tape and steel wire armoured and un-armoured designs are included. These conform specifically to IEC60502, Cables can also be supplied to the National Standards of other countries.

Conductors

It is the current carrying component of the cable.

The conductors in BICC Cables are of high conductivity copper or high purity aluminum and all meet the requirements of IEC60228 “Conductors in insulated cables and cords”.

The flexibility degree is described as:

- Conductor to class 1 (solid conductor, where no strand wires).
- Conductor to class 2 (stranded wires like 7 wires, 19 wires, 37 wires, and 61 wires).
- Conductor to class 5 (more number of wires inside the conductor to make the conductor flexible).
- Conductor to class 6 (like class 5, but with more number of wires and more flexible to be used in cords).

Dependent upon the actual cable type, conductors may be stranded copper or aluminum. Smaller sizes are circular in profile; larger conductors are shaped or tightly compacted to reduce their physical size. This compacting sometimes entails a change in the number and size of wires and therefore conductors are generally categorized by their nominal cross sectional area rather than by their stranding configuration.

Insulation

In accordance with this technical guide, cables are insulated with PVC (Polyvinyl Chloride) or XLPE (Cross Linked Polyethylene) or Low Smoke Zero Halogen (LSOH).

3.0 Cable Construction

PVC Insulation

PVC as per IEC 60502 is a clean, easy to handle material with good electrical characteristics and resistance to water, oils and chemicals, together with inherent toughness and flexibility over a wide temperature range. PVC cables are easy to handle joints, terminates and have an outstanding record of trouble free service.

PVC is inherently flame retardant and is suitable for a maximum operating temperature of 70 °C.

All of the cables in this publication meet the requirements of IEC 60332, "Test on electrical cables under fire condition", part 1 "Method of test on a single vertical insulated wire or cables".

Under some unfavorable circumstances PVC can burn and fire may even propagate along the cables. However, types of over sheath incorporating special developed compounds to overcome fire hazards are available, as described later 'over sheath'.

XLPE Insulation

Cross linked polyethylene (XLPE) type GP 8 as per BS 7655 and IEC 60502 requirements.

XLPE matches many of the attributes of PVC, although it is not flame retardant, but goes a stage or two further. The good qualities of polyethylene are retained but at high temperatures the toughness and physical properties are improved. In particular, there is greatly enhanced resistance to deformation.

Having superior thermal and mechanical properties compared with PVC, the XLPE also has higher insulation resistance, enabling its thickness to be reduced, leading to corresponding reduction in the overall diameter and weight of a finished cable.

The main comparative consideration however, is that XLPE permits the operating temperature of cables to be raised substantially without suffering thermal deformation or degradation.

The continuous current rating of XLPE insulated cables are based upon a maximum conductor temperature of 90 °C as opposite to 70 °C for PVC insulated types.

Short circuit rating are also higher, XLPE accepted 250 °C as a final conductor temperature at the end of short circuit compared with 140/160 °C for PVC insulated cables. As a result, in situations where conductor size is governed by current rating rather than voltage drop, it may be possible to use a smaller conductor size.

3.0 Cable Construction

• Core Identification

N ° . Cores	Core Colors
1	Black or Red
2	Red, Black
3	Red, Yellow, Blue
3.5	Red, Yellow, Blue, Black
4	Red, Yellow, Blue, Black

Black identifies the neutral conductor and the other colors identify the phase conductors in two, three, three& half, and four cores cables.
All core colors are available as per customer request

Bedding

A layer of extruded PVC is applied around the laid up cores separating the heart of the cable from the metallic armour and providing a secure bending.
Reduced propagation flame retardant (FR PVC) compound may be used for reduced propagation characteristic.
Halogen Free Flame-Retardant (HFFR) or LSOH ,LSZH and LSHF compounds may be used for installation where fire hazard exists. It is a low smoke, low toxic compound when fired.

Armour

Armour is necessary to protect the conductors from mechanical damage. Armour may be provided for using:-
Steel tape (STA) Double steel tape of thickness 0.2 or 0.5 is applied helically over bedding.
Steel wire (SWA) one layer of round wires is applied helically over the bedding. Steel wire with hard drawn tinned copper wire to increase conductivity.
For single core cables used for AC purposes, it is not recommended to use magnetic armoured cables, since the eddy current will affect the cable, so if armouring is essential, Aluminum wire (AWA) can be used as a cable armour .

Note!
Under short circuit conditions, steel tape armour has high earth fault loop impedance, so the steel wire armour can carry more short circuit current.

Fillers

Non-hygroscopic polypropylene fillers are included between laid up cores as standard.
It is optional according to cable size and where necessary

Binding Tape

A separator tape of polypropylene (PP tape) or polyester mylar tape is applied over the laid up cores where necessary.

3.0 Cable Construction

Oversheath

PVC

The standard sheath of all cables is an extruded layer of black PVC, the external surface of which is embossed with voltage, rating and cable size. Normally the over sheath PVC grade meets the requirements of BS 7655. Other grades can be used dependent upon customer requirements e.g. PVC sheath with anti-termite properties can be provided when specified.

Ordinary PVC is intrinsically flame retardant and all cables described in this publication meet the requirements of IEC 60332 part 1 "Tests on electric cables under fire conditions on a single vertical insulated wire or cable".

For enhanced fire performance, special PVC sheath compounds are available, e.g. Reduced Propagation (FR-PVC) and Reduced Propagation & low Hydrochloric acid gas emissions (FRLHCL) PVC compounds can be offered as a sheathing material.

PVC and XLPE insulated armoured cables with FR, FRLHCL bedding and sheath will pass the test requirements under category C of IEC 60332 Part 3 specification for "test on electrical cables under fire condition on bunched wires or cables". For IEC 60332 Part 3 categories A and B, meeting the specification depends primarily on the type, size and number of cables in the bunched cable installation that make up the total volume of non-metallic components.
Please seek advice from our Technical Department for specific installations.

Halogen Free Flame Retardant (HFFR), Low Smoke & Fume (LSF) and Low Smoke Zero Halogen (LSOH, LSZH or LSHF).

BICC Cables is manufacturing a dedicated cable called HFFR (or LSOH), which is Low Smoke, Low toxic emission and low Fume.
This cable is specially installed where fire and its associated problems-the emission of smoke and toxic fumes- offer a serious potential threat. HFFR compound is free from halogen (fluorine, chlorine and bromine). BICC Cables can provide the customer with this type of cables that:

- Are manufactured to BS 6724.
- Have minimum limited oxygen index (LOI) is 32 % for bedding and over sheath (measured as per BS 2782 / ISO 4589 - A-IV).
- Have low HCL emission.
- Have acidic gas evolution of less than 0.5 % (to BS 2782).
- Comply to IEC 60332 -3 (Cable construction and design should be agreed by BICC Cables).

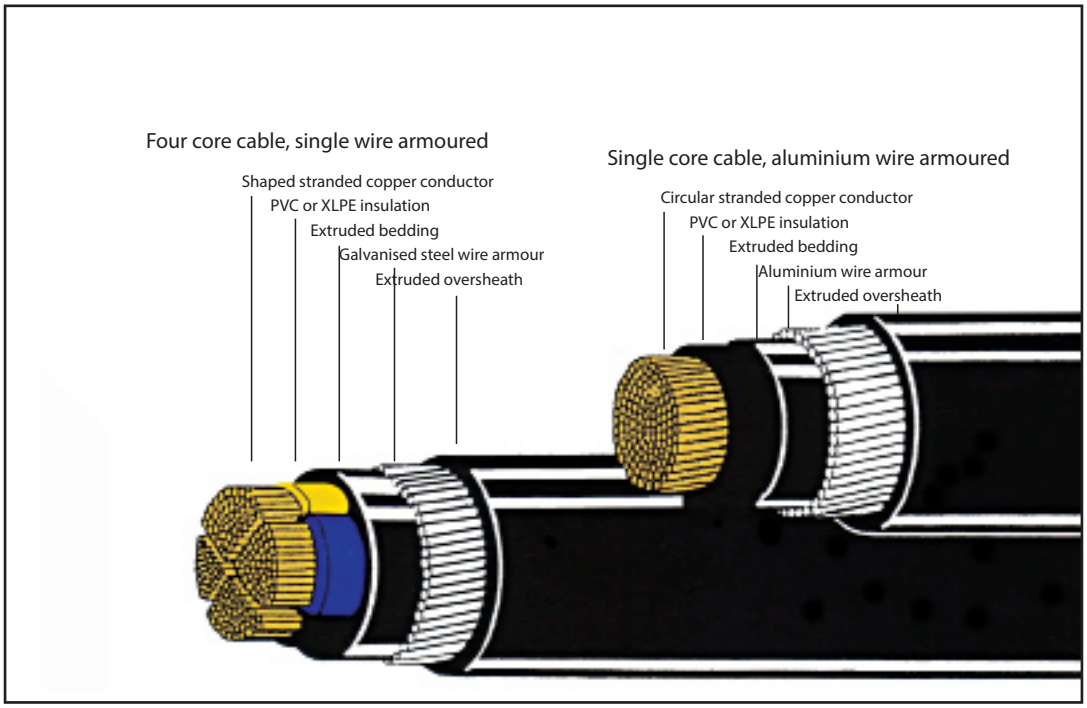
Further properties are available upon request such as anti-termite, resistant to chemicals, oil, UV, acids, alkaline, hydrocarbon.
Please refer to BICC Cables technical department for advice about the subject.

Special types of over Sheath (Jacketing)

If your application requires special protection for the cable, other material for sheathing jacketing may be considered. BICC Cables technical department will be glad to provide you with the best cable selection that will fit the application.

TYPICAL EXAMPLES OF DESIGN & CONSTRUCTION

600/1000V CABLES TO IEC 60502-1



3.0 Cable Construction

• Product Code

NO. OF
No. of
Cores or Pairs

CORES
C: Core T: Triple
P: Pair Q: Quad

Size
THE CONDUCTOR
CROSS SECTIONAL
AREA (MM^2)

CONDUCTOR MATERIAL
C: Copper A: Aluminium

CONDUCTOR DESIGN
S: Solid
T: Strand (st.)
F: Flexible
N: Tinned Copper st.
Z: Tinned Copper Flex

Fire Resistance
M: Mica Glass Tape

INSULATION TYPE
P: PVC L: LSOH
X: XLPE E: PE

OUTER SHEATH
P: PVC L: LSOH
X: XLPE E: PE

ARMOURING
T: Steel Tape
G: Galvanized Steel Tape
W: Galvanized Steel Wire
K: Aluminum Tape
J: Aluminum Wire

BEDDING
P: PVC L: LSOH
X: XLPE E: PE

SCREEN & SHEILDING
OS: Overall Shield
IS: INDV. Shield
IS + OS: INDV. + Overall

C: Copper Tape
O: Copper Wire
S: Copper Braid

RATED VOLTAGE kV
A: 0.3 / 0.5 C: 0.6 / 1
B: 0.45 / 0.75 D: 1.8 / 3.3

4.0 Installation

All the cables described in this publication can be used outdoors, but some reservations are necessary concerning cables without a metal sheath for direct burial e.g.

- Unarmored cables are not recommended for laying direct in the ground.
- Cables for laying directly in the ground particularly in sustained wet conditions should have extruded bedding.
- For installation where there is water logging, or where it is likely to occur, advice should be obtained from our technical department.

Other important factors to be taken into account are:

- Sheath Damage

Care should be taken to ensure that the over sheath is not damaged during installation. This is especially important where aluminum armor is used since ingress of moisture could lead to corrosion and loss of earth continuity.

- Minimum Bending Radius

Cables should not be bent during installation to a radius smaller than that recommended below. Wherever possible larger radii as should be used.

Type of Cable	Minimum Internal Radius of Bending
Power Cable (stranded Copper)	8D
Power Cable (flexible Copper)	6D
Fire resistance cables	15D

Where D is cable outer diameter.

4.0 Installation

- Connectors

For PVC compression or soldered connectors may be used.
For XLPE insulated cables, it is recommended to use compression type connectors since the use of soldered connectors would limit the maximum short circuit temperature of the cable to 160 °C, and consequently reduce the final short circuit current by approximately 30 % .

- Overhead Terminations

Ultra Violet resistant sleeving or taping should be provided on PVC insulated cores to avoid degradation due to exposure to sunlight.

- Cable Support Spacing

The following table gives the recommended spacing of supports for cable covered by this publication. They are, where possible, in line with the 18th edition of the IEE Wiring Regulations (BS 7671) clause 522-08-04 and the dimensional range has been extended so as to cover a greater number of cable sizes.

Stranded Copper or Aluminum Conductor Cables

Overall cable Dia. (mm)	Support spacing (mm)	
	Horizontal	Vertical
Up to 15	350	450
15 - 20	400	550
20 - 40	450	600
40 - 60	700	900
60 and above	1100	1300

5.0 Current Ratings

• Source of Data

The maximum sustained current rating (AC) for copper and aluminum conductor cables given for PVC insulated cables, in this publication are based, where applicable, on ERA report 69-30 Part Ill (Sustained Current Ratings for PVC Insulated cables).

For XLPE insulated cables, the current rating in this publication are derived from the latest issue of ERA report no. 69-30 part 5, which is based upon IEC 287.

All other current ratings have to be calculated by agreed formula and methods in IEC 287 and/or the IEE wiring regulations 18th Edition (BS 7671).
Current rating or unrmoured cables are based on IEC Publication IEC 60364-5-52:2001 and IEE Wiring Regulations 18th Edition.

In the case of single core cables, ratings for various installation conditions have been given. Where the cables are armoured, these are based on the assumption that the non-magnetic armour will be solidly bonded at both ends of the cable run. It should be noted that Regulation 521-02 of the 18th Edition of the IEE Wiring Regulation prohibits the use of single core cables with steel wire on AC systems.
In addition to Electric Cables Hand book (BICC CABLES Limited) 3rd edition.

All the current ratings given in data tables are or single circuits, thermally independent of other circuits or any other heat source and on the basis of the standard conditions of installation given.

For other ambient or ground temperatures, depth of laying and soil factors given in data tables.

5.0 Current Ratings

• Installation Environment

There are three main installation conditions that affect the current rating of a cable and these are:

- Cables laid directly in the ground.
- Cables laid in ducts.
- Cables laid in free air.

Current ratings for PVC and XLPE insulated cables are listed in the relevant tables in data tables and refer to standard conditions of installation, for single circuits, as detailed in ERA report 96.30 part 3 and part 5, for ground and duct installation. For installation in air, values are relevant to IEE wiring regulations (18^{th} Edition).

For other ambient or ground temperatures, change in depth of laying, soil thermal resistivity or number of grouping cables, the current rating must be multiplied by relevant rating factors Listed in data tables.

6.0 Current Rating Factors

For the current ratings listed in the main text of this guide the values listed pertain to certain installation conditions. Should your particular installation environment differ from those defined in the current rating it necessary to utilize the following tables and employ the rating factors listed.
There are three main installation categories:

1. Cables laid directly in ground.
2. Cables laid in ducts.
3. Cables installed in air.

Within each of these categories there are a series of rating factors for installation that may need to be considered.

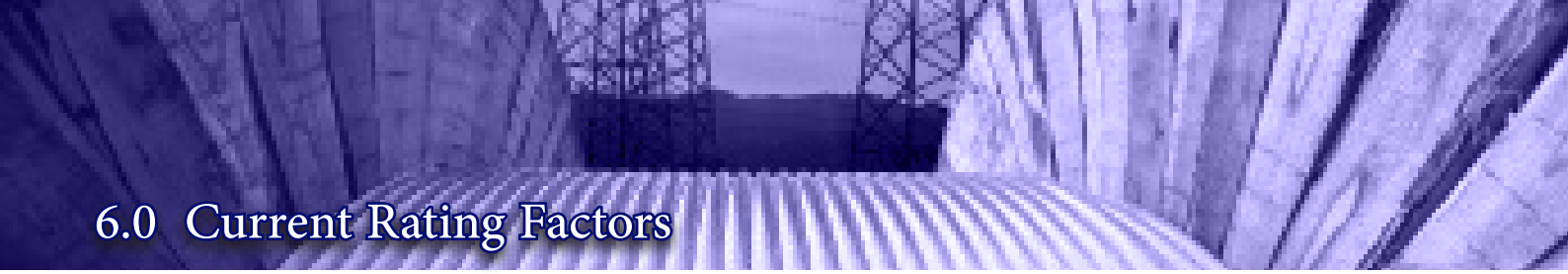
Tables in this catalogue indicate current ratings at conditions of ambient air temperature at 30°C (shaded) , Ground Temperature : 20°C , soil thermal resistivity 1.0 °C m/W.
For other ambient conditions, current rating factors in below tables shall considered.

• Cables laid directly in ground

For Cables laid directly in ground the following four Rating Factors may need to be considered:

- Rating Factors for Ground Temperature
- Rating Factors for Soil Thermal Resistivity
- Rating Factors for Depth
- Rating Factors for Cables Grouping

The current rating for cables installed directly in the ground are based on values of soil temperature and soil thermal resistivity which are generally representative of conditions in Egypt. Rating factors that take account of variation in ground temperatures are given in below table



6.0 Current Rating Factors

Rating factors for Ground Temperature

Insulation	Ground Temperature						
	15°C	20°C	25°C	30°C	35°C	40°C	45°C
PVC	1.05	1	0.95	0.89	0.84	0.77	0.71
XLPE	1.04	1	0.96	0.93	0.89	0.85	0.8

Where conditions of operation can be more accurately estimated and knowledge of the soil along the route is available, it is possible to determine the ratings more precisely by the use of soil thermal resistivity factors, factors for depth, and grouping factors as per below tables.

Rating factors for variation in thermal resistivity of soil

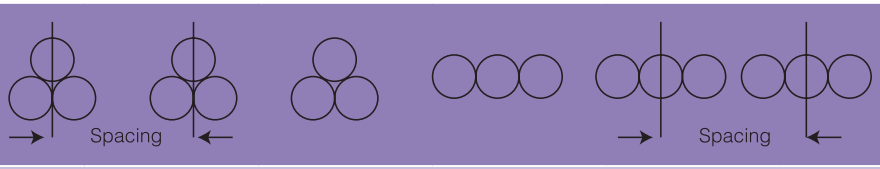
Size of Cable (mm^2)	Soil thermal resistivity in (°C m/W)							
Single core cables	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
Up to 150	1.08	1.05	1	0.93	0.85	0.76	0.68	0.62
From 185 to 300	1.09	1.05	1	0.93	0.85	0.75	0.68	0.62
From 400 to 630	1.09	1.05	1	0.93	0.85	0.75	0.68	0.62
Multicore Cables								
Up to 16	1.07	1.03	1	0.95	0.89	0.8	0.73	0.69
From 25 to 150	1.08	1.04	1	0.94	0.87	0.77	0.71	0.65
From 185 to 500	1.07	1.03	1	0.93	0.86	0.76	0.69	0.63

Rating factors for depth of laying (to center of cable or trefoil group of cables)

Depth of laying (M)	0.6/1 KV rated cables conductor size		
	Up to 50 mm^2	70 mm^2 to 300 mm^2	Above 300 mm^2
0.50	1.00	1.00	1.00
0.60	0.99	0.98	0.97
0.80	0.97	0.96	0.94
1.00	0.95	0.93	0.92
1.25	0.94	0.92	0.89
1.50	0.93	0.90	0.87
1.75	0.92	0.89	0.86
2.00	0.91	0.88	0.85
2.50	0.90	0.87	0.84
3.00 or more	0.89	0.85	0.82

6.0 Current Rating Factors

Group Rating factors for circuits of three single core cables in trefoil or laid flat touching, in horizontal formation.

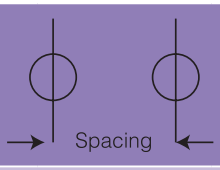
Number of Circuits						
	Spacing of Circuits					
	Touching+		Not Touching			
600/1000 V	Trefoil	Laid Flat	0.15 m *	0.30 m	0.45 m	0.60 m
2	0.78	0.81	0.83	0.88	0.91	0.93
3	0.66	0.70	0.73	0.79	0.84	0.87
4	0.61	0.64	0.68	0.73	0.81	0.85
5	0.56	0.60	0.64	0.73	0.79	0.85
6	0.53	0.57	0.61	0.71	0.78	0.82

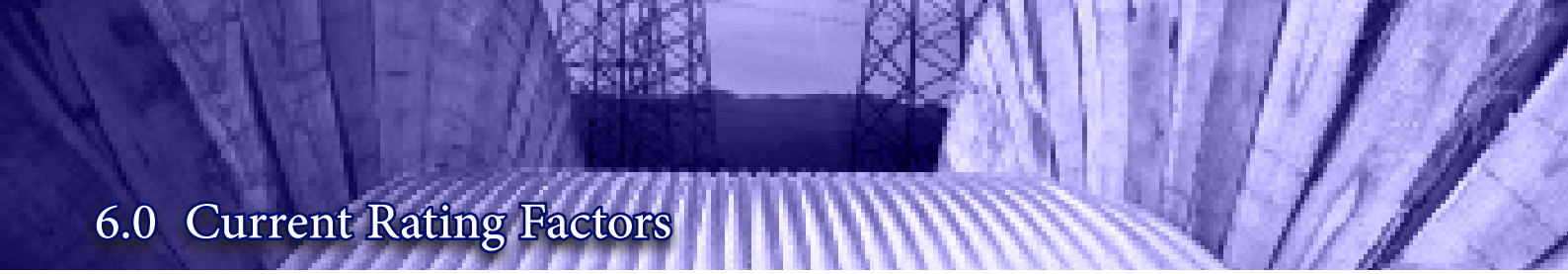
This spacing will not be possible for some of the large diameter cables.

* For high current carrying cables (i.e. large size) it is advisable to allow spacing between circuits.

Alternatively, the most appropriate group-rating factor must be applied when determining the cable size and required number of cables in parallel.

Rating factors for multicore cables in horizontal Formation

Number of Circuits					
	Spacing				
0.6/1 KV	Touching+	0.15 m	0.30 m	0.45 m	0.60 m
2	0.81	0.87	0.91	0.95	0.95
3	0.70	0.78	0.84	0.88	0.90
4	0.63	0.74	0.81	0.86	0.89
5	0.59	0.70	0.78	0.84	0.87
6	0.55	0.68	0.77	0.83	0.87



6.0 Current Rating Factors

• Cables laid in ducts

The term ducts simply apply to single way earthenware, fiber or ferrous pipe. Recommended duct sizes are detailed in below table.

Cables Laid in duct

Overall Cable Diameter (mm)	Duct	
	Inside Diameter (mm)	Outside Diameter (mm)
Up to and including 65	100	130
Above 65 up to and including 90	125	160

For Cables laid in ducts the following four Rating Factors may need to be considered:

- Rating Factors for Ground Temperature
- Rating Factors for Soil Thermal Resistivity
- Rating Factors for Depth
- Rating Factors for Cables Grouping

The Current Rating for cables installed in single way ducts, underground, have been based on values of soil temperature and soil thermal resistivity which are generally representative of conditions in Egypt.

The rating factors for ground temperature are the same as those for cables laid direct in ground detailed in above table. Where conditions of operation can be more accurately estimated and knowledge of the soil along the route is available, it is possible to determine the ratings more precisely by the use of soil thermal resistivity factors, factors for depth, and grouping factors.

Notes! + For high current carrying cables (i.e. large size) it is advisable to allow spacing between circuits. Alternatively, the most

Rating factors for variation in thermal resistivity of soil (Average values)

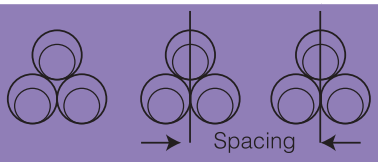
Size of Cable (mm^2)	Soil Thermal Resistivity in (°C m/W)							
Single core cables	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
Up to 150	1.06	1.03	1	0.96	0.9	0.83	0.77	0.73
From 185 to 300	1.06	1.03	1	0.95	0.89	0.81	0.75	0.71
From 400 to 630	1.07	1.03	1	0.95	0.89	0.8	0.74	0.7
Multicore Cables								
Up to 16	1.02	1.01	1	0.98	0.95	0.9	0.86	0.84
From 25 to 150	1.03	1.01	1	0.97	0.92	0.87	0.83	0.79
From 185 to 500	1.04	1.02	1	0.97	0.92	0.85	0.81	0.76

6.0 Current Rating Factors

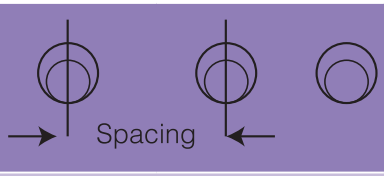
Rating Factors for depth of laying
(to center of duct of trefoil Group of ducts)

Depth of laying m	Duct	
	Single Core	Multicore
0.50	1.00	1.00
0.60	0.98	0.99
0.80	0.95	0.98
1.00	0.93	0.96
1.25	0.91	0.95
1.50	0.89	0.94
1.75	0.88	0.94
2.00	0.87	0.93
2.50	0.86	0.92
3 or more	0.85	0.91

Rating Factors for single core cables in trefoil
single way ducts, Horizontal formation (average values)

Number of Circuits			
	Spacing		
0.6/1 KV	Touching	0.45 m	0.60 m
2	0.87	0.91	0.93
3	0.78	0.84	0.87
4	0.74	0.81	0.85
5	0.70	0.79	0.83
6	0.69	0.78	0.82

Rating Factors for multicore cables in single way ducts, Horizontal formation (average values)

Number of Circuits				
	Spacing			
0.6/1 KV	Touching	0.30 m	0.45 m	0.60 m
2	0.90	0.93	0.95	0.96
3	0.83	0.88	0.91	0.93
4	0.79	0.85	0.89	0.92
5	0.75	0.83	0.88	0.91
6	0.73	0.82	0.87	0.90

• Cables laid in air

it is anticipated that many of the 'in air' installation will be in building, and the ratings are therefore given in accordance with IEE Wiring Regulation for Electrical installation 18th Edition.

It should be noted that all ratings for cables run in free air have been on the assumption that they are shield from the direct rays of the sun without restriction of ventilation.

The current rating for cables subjected to direct sunlight should be redacted to take acount of this factor and further guidance on this subject is available on request.

Rating Factors for single core cables in air

Insulation	25°C	30°C	35°C	40°C	45°C	50°C	55°C
PVC	1.07	1	1.92	0.84	0.75	0.66	0.55
XLPE	1.05	1	1.95	0.90	0.84	0.78	0.72

7.0 Voltage Drop

When current flows in a cable conductor there is a voltage drop between the ends of the conductor which is the product of the current and the impedance.

Voltage drop is normally only of importance for cables of voltage rating 0.6/1 KV or below.
As per IEE wiring regulations (BS 7671), used to require that the drop in voltage from the origin of installation to any point in the installation should not exceed 2.5% of the nominal voltage when the conductors are carrying the full load current. This regarding the starting conditions.
However, in normal service is being left to the designer to quantify this.

Other assumptions can be gained from the Technical Department of BICC Cables.

The following equations should be used to calculate the voltage drop:

1- For Single phase circuit

$$Vd = 2Il(R\cos\varphi + X\sin\varphi)$$

2- For Three phase circuit

$$Vd = \sqrt{3}Il(R\cos\varphi + X\sin\varphi)$$

Where

Vd : Voltage drop V

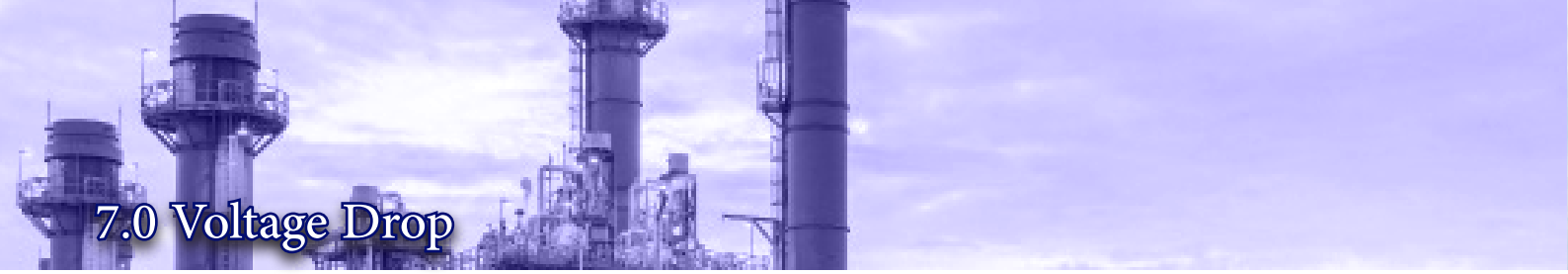
I : Load current A

R : AC resistance Ω/km

l : Length km

X : Reactance Ω/km

cosφ : Power factor



7.0 Voltage Drop

Relation between cos Ø and sin Ø

Cos Ø 1.0	0.9	0.8	0.71	0.6	0.5
Sin Ø 0.0	0.44	0.6	0.71	0.8	0.87

The below tables indicate voltage drop for cables 600/1000 V values at power factor 0.8. For other assumptions , please refer to BICC CABLES technical office.

- L.V. cable systems advisable to be not to exceed voltage drop 3-5 % in normal operating condition.
- Voltage drop data for L.V. Cable (Single & Multi Core) are tabulated in tables.

Voltage Drop (mV/Amp./Meter) For Copper Conductor

• Copper Multi Core Cables

Conductor Size (mm^2)	Insulation : XLPE	Insulation :PVC
	Vd (mV/amp/m)	Vd (mV/amp/m)
1	32.096	30.130
1.5	21.490	20.176
2	16.396	15.396
2.5	13.196	12.393
3	10.879	10.218
4	8.242	7.750
6	5.535	5.208
10	3.322	3.130
16	2.117	1.998
25	1.370	1.296
35	1.010	0.957
50	0.764	0.727
70	0.553	0.527
95	0.419	0.403
120	0.348	0.335
150	0.298	0.287
185	0.255	0.247
240	0.213	0.208
300	0.187	0.183

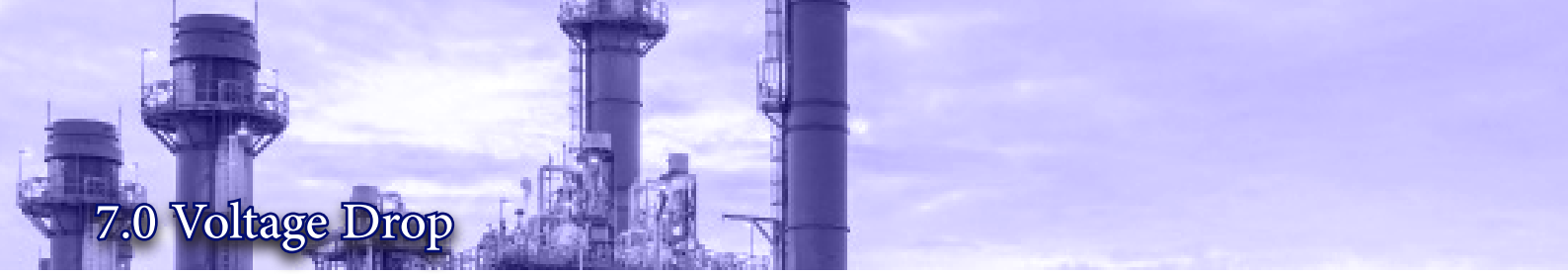
above values at power factor = 0.8, frequency = 50 Hz

7.0 Voltage Drop

• Copper Single Core Cables

Conductor Size (mm^2)	Insulation : XLPE		Insulation :PVC	
	Trefoil Formation	Flat Formation	Trefoil Formation	Flat Formation
	Vd (mV/amp/m)	Vd (mV/amp/m)	Vd (mV/amp/m)	Vd (mV/amp/m)
1	32.138	32.153	30.169	30.185
1.5	21.529	21.544	20.214	20.229
2	16.434	16.449	15.432	15.447
2.5	13.233	13.248	12.428	12.443
3	10.913	10.928	10.251	10.266
4	8.274	8.289	7.778	7.793
6	5.563	5.578	5.233	5.248
10	3.347	3.362	3.152	3.167
16	2.139	2.154	2.018	2.033
25	1.387	1.402	1.311	1.326
35	1.025	1.040	0.972	0.987
50	0.778	0.793	0.740	0.755
70	0.564	0.579	0.537	0.552
95	0.430	0.444	0.412	0.427
120	0.357	0.371	0.344	0.358
150	0.306	0.321	0.295	0.310
185	0.262	0.277	0.254	0.268
240	0.220	0.234	0.214	0.228
300	0.193	0.207	0.190	0.203
400	0.170	0.184	0.167	0.181
500	0.152	0.165	0.151	0.164
630	0.138	0.151	0.136	0.149

above values at power factor = 0.8, frequency = 50 Hz for non armoured cables , three phase circuit.



7.0 Voltage Drop

Voltage Drop (mV/Amp./Meter)For Aluminum Conductor

• Aluminum Multi Core Cables

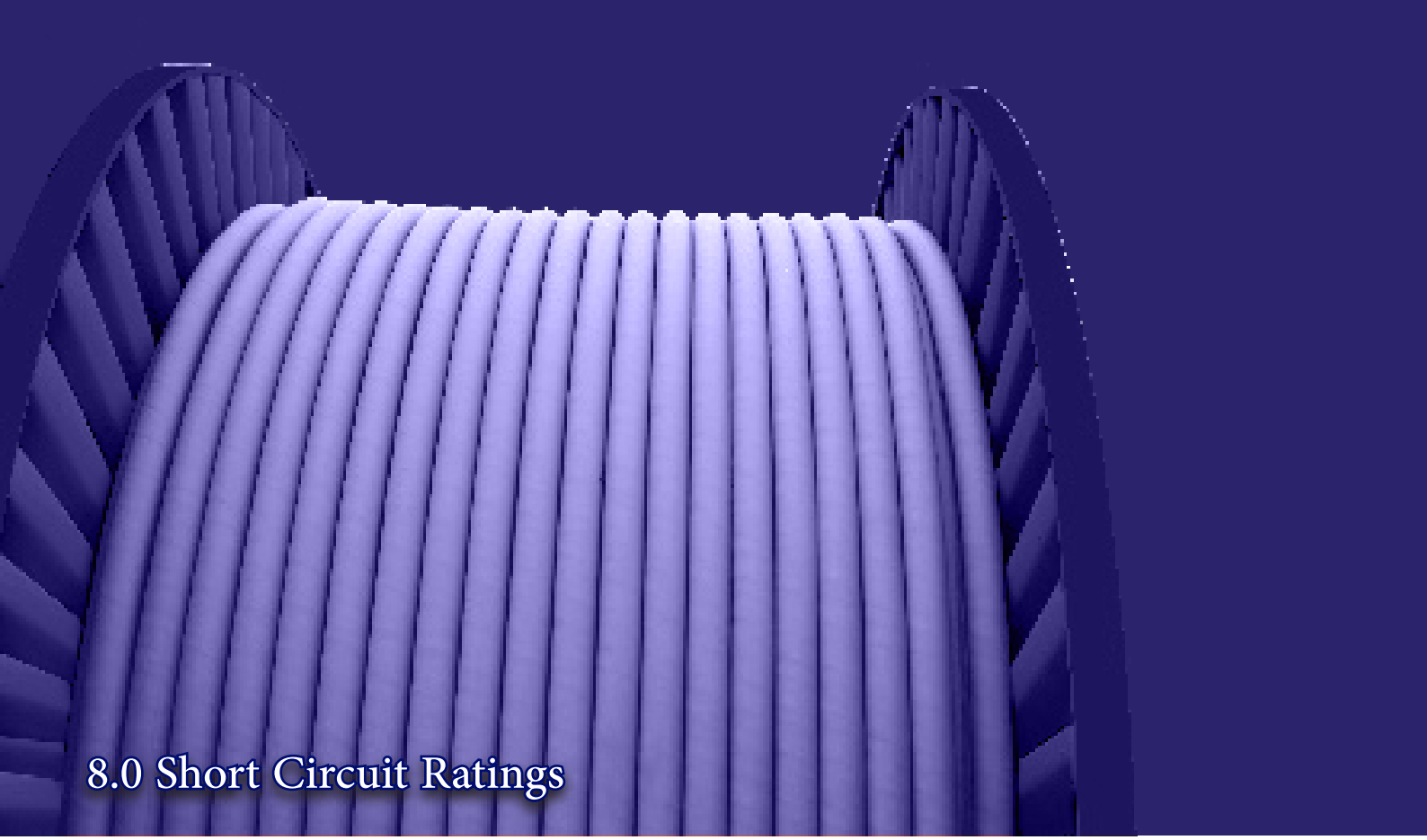
Conductor Size (mm^2)	Insulation : XLPE	Insulation :PVC
	Vd (mV/amp/m)	Vd (mV/amp/m)
16	3.478	3.271
25	2.217	2.088
35	1.625	1.532
50	1.218	1.152
70	0.865	0.819
95	0.646	0.615
120	0.526	0.501
150	0.443	0.423
185	0.369	0.354
240	0.300	0.289
300	0.256	0.248

above values at power factor = 0.8, frequency = 50 Hz

• Aluminum Single Core Cables

Conductor Size (mm^2)	Insulation : XLPE		Insulation :PVC	
	Trefoil Formation	Flat Formation	Trefoil Formation	Flat Formation
	Vd (mV/amp/m)	Vd (mV/amp/m)	Vd (mV/amp/m)	Vd (mV/amp/m)
16	3.501	3.516	3.292	3.308
25	2.236	2.251	2.106	2.121
35	1.642	1.657	1.548	1.564
50	1.233	1.248	1.166	1.181
70	0.878	0.893	0.831	0.846
95	0.658	0.673	0.626	0.641
120	0.537	0.552	0.512	0.527
150	0.454	0.469	0.433	0.448
185	0.379	0.394	0.363	0.378
240	0.309	0.324	0.298	0.312
300	0.264	0.279	0.256	0.271
400	0.224	0.238	0.218	0.232
500	0.194	0.208	0.189	0.203
630	0.170	0.183	0.166	0.179

above values at power factor = 0.8, frequency = 50 Hz for non armoured cables , three phase circuit.



8.0 Short Circuit Ratings

When cables are subjected to temperatures higher than those permissible for continuous operation they may suffer damage. Therefore, in installation, where there is a possibility of the cables being overloaded by mistake or accident, cables should be selected having regard to the characteristics of the device used or protection against excess current, so that the effects of overloading are limited to a degree tolerable or a relatively short period of operation. Design criteria and requirement for such conditions are detailed in the18th Edition of the IEE Wiring Regulation.

PVC Insulated Cables

The values of fault current given in the table below are based on the cable being fully loaded at the start of the short circuit (conductor temperature 70^{o}C) and at a final temperature of 160^{o}C for conductors up to 300 mm^2 and 140^{o}C for sizes above 300 mm^2.

XLPE Insulated Cables

The values of fault current given in the table below are based on the cable being fully loaded at the start of the short circuit (conductor temperature 90^{o}C) and at a final temperature of 250^{o}C. It should be insured that the accessories associated with the cables are also capable of operation at these values of fault current and temperature.

Short Circuit Ratings for PVC Insulated Cables Copper Conductor

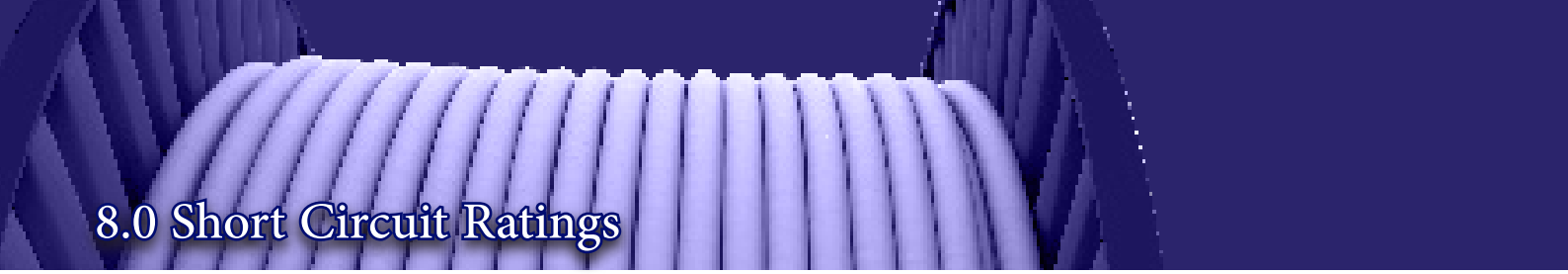
Conductor Area (mm^2)	Short Circuit Rating Current (KA)				
	Duration of Short circuit (Sec.)				
	0.2	0.5	1	2	3
1	0.3	0.2	0.1	0.1	0.1
1.5	0.4	0.2	0.2	0.1	0.1
2	0.5	0.3	0.2	0.2	0.1
2.5	0.6	0.4	0.3	0.2	0.2
3	0.8	0.5	0.3	0.2	0.2
4	1.0	0.7	0.5	0.3	0.3
6	1.5	1.0	0.7	0.5	0.4
10	2.6	1.6	1.2	0.8	0.7
16	4.1	2.6	1.8	1.3	1.1
25	6.4	4.1	2.9	2.0	1.7
35	9.0	5.7	4.0	2.8	2.3
50	12.9	8.1	5.8	4.1	3.3
70	18.0	11.4	8.1	5.7	4.6
95	24.4	15.5	10.9	7.7	6.3
120	30.9	19.5	13.8	9.8	8
150	38.6	24.4	17.3	12.2	10.0
185	47.6	30.1	21.3	15	12.3
240	61.7	39.0	27.6	19.5	15.9
300	77.1	48.8	34.5	24.4	19.9
400	92.1	58.3	41.2	29.1	23.8
500	115.2	72.8	51.5	36.4	29.7
630	145.1	91.8	64.9	45.9	37.5

8.0 Short Circuit Ratings

Short Circuit Ratings for XLPE Insulated Cables

Copper Conductor

Conductor Area (mm^2)	Short Circuit Rating Current (KA)				
	Duration Of Short Circuit (sec.)				
	0.2	0.5	1	2	3
1	0.3	0.2	0.1	0.1	0.1
1.5	0.5	0.3	0.2	0.2	0.1
2	0.6	0.4	0.3	0.2	0.2
2.5	0.8	0.5	0.4	0.3	0.2
3	1.0	0.6	0.4	0.3	0.2
4	1.3	0.8	0.6	0.4	0.3
6	1.9	1.2	0.9	0.6	0.5
10	3.2	2	1.4	1.0	0.8
16	5.1	3.2	2.3	1.6	1.3
25	8.0	5.1	3.6	2.5	2.1
35	11.2	7.1	5.0	3.5	2.9
50	16.0	10.1	7.2	5.1	4.1
70	22.4	14.2	10.0	7.1	5.8
95	30.4	19.2	13.6	9.6	7.8
120	38.4	24.3	17.2	12.1	9.9
150	48.0	30.3	21.5	15.2	12.4
185	59.2	37.4	26.5	18.7	15.3
240	76.7	48.5	34.3	24.3	19.8
300	96	60.7	42.9	30.3	24.8
400	128	80.9	57.2	40.4	33.0
500	160	101.1	71.5	50.6	41.3
630	201.4	127.4	90.1	63.7	52.0



8.0 Short Circuit Ratings

Short Circuit Ratings for PVC Insulated Cables Aluminum Conductor

Conductor Area (mm^2)	Short Circuit Rating Current (KA)				
	Duration of Short circuit (Sec.)				
	0.2	0.5	1	2	3
16	2.7	1.7	1.2	0.9	0.7
25	4.2	2.7	1.9	1.3	1.1
35	5.9	3.8	2.7	1.9	1.5
50	8.5	5.4	3.8	2.7	2.2
70	11.9	7.5	5.3	3.8	3.1
95	16.1	10.2	7.2	5.1	4.2
120	20.4	12.9	9.1	6.4	5.3
150	25.5	16.1	11.4	8.1	6.6
185	31.4	19.9	14.1	9.9	8.1
240	40.8	25.8	18.2	12.9	10.5
300	51	32.2	22.8	16.1	13.2
400	60	36	25	18	16
500	72	48	32	23	19
630	92	59	40	29	24

Short Circuit Ratings for XLPE Insulated Cables Aluminum Conductor

Conductor Area (mm^2)	Short Circuit Rating Current (KA)				
	Duration of Short circuit (Sec.)				
	0.2	0.5	1	2	3
16	3.4	2.1	1.5	1.1	0.9
25	5.2	3.3	2.3	1.7	1.4
35	7.3	4.6	3.3	2.3	1.9
50	10.5	6.6	4.7	3.3	2.7
70	14.7	9.3	6.6	4.6	3.8
95	19.9	12.6	8.9	6.3	5.1
120	25.1	15.9	11.2	8.0	6.5
150	31.4	19.9	14.1	9.9	8.1
185	38.8	24.5	17.3	12.3	10.0
240	50.3	31.8	22.5	15.9	13.0
300	62.9	39.8	28.1	19.9	16.2
400	83.8	53.0	37.5	26.5	21.6
500	105	66.3	46.9	33.1	27.0
630	132	84	59	41.7	34.1

STRANDED COPPER

Single Core

PVC Insulated

450/750 V

APPLICATIONS:

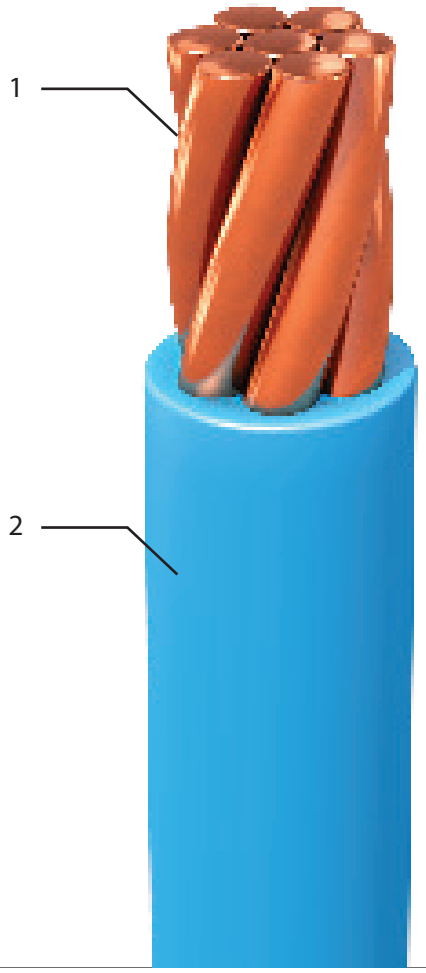
For indoor fixed installations in dry locations, laid in conduits, as well as in steel support brackets

Maximum operating temperature: 70°

CONSTRUCTION:

1. CONDUCTOR
   Copper, semi-regid class 2

2. INSULATION
   Polyvinyl Chloride [PVC]



STANDARDS:

IEC 60227
BSEN 50525-2-31
IEC 60228

RATED VOLTAGE:

450/750 V

Stranded CU/PVC

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Rating	
				DC at 20 °C	AC at 70 °C	in free air 	in pipes 
	(mm^2)	(mm)	(kg/km)	Ω/Km	Ω/Km	A	A
01C001CT0PB0000	1	2.7	20	18.1	21.66	15	12
01C01.5CT0PB0000	1.5	2.9	26	12.1	14.48	18	15
01C002CT0PB0000	2	3.4	32	9.22	11.03	21	17
01C02.5CT0PB0000	2.5	3.5	37	7.41	8.87	29	24
01C003CT0PB0000	3	3.7	42	6.1	7.30	31	25
01C004CT0PB0000	4	4.1	58	4.61	5.52	38	27
01C006CT0PB0000	6	4.6	79	3.08	3.69	45	33
01C010CT0PB0000	10	5.8	116	1.83	2.19	67	48
01C016CT0PB0000	16	6.7	173	1.15	1.38	89	65
01C025CT0PB0000	25	8.5	274	0.727	0.87	118	83
01C035CT0PB0000	35	9.1	366	0.524	0.63	147	104
01C050CT0PB0000	50	10.6	495	0.387	0.46	178	125
01C070CT0PB0000	70	12.6	694	0.268	0.32	228	155
01C095CT0PB0000	95	14.6	956	0.193	0.23	290	199
01C120CT0PB0000	120	16.1	1191	0.153	0.18	338	227
01C150CT0PB0000	150	17.9	1481	0.124	0.15	385	259
01C185CT0PB0000	185	20.0	1830	0.0991	0.12	449	298
01C240CT0PB0000	240	23.0	2422	0.0754	0.09	541	358
01C300CT0PB0000	300	25.2	2990	0.0601	0.08	619	405
01C400CT0PB0000	400	28.7	3813	0.047	0.06	748	488
01C500CT0PB0000	500	32.6	4843	0.0366	0.05	863	560
01C630CT0PB0000	630	38.4	6155	0.0283	0.04	1024	652

Installation Conditions for the above rating

In Air : 30 °C

In Duct : 20 °C

The above dimensions are approximate and subject to manufacturing tolerance.

FLEXIBLE COPPER

Single Core

PVC Insulated

450/750 V

APPLICATIONS:

For indoor fixed installations in dry locations, where particular flexibility is required. For electrical panels connection or for electrical apparatus. they can be laid in groups around steek sheet

Maximum operating temperature: 70°C

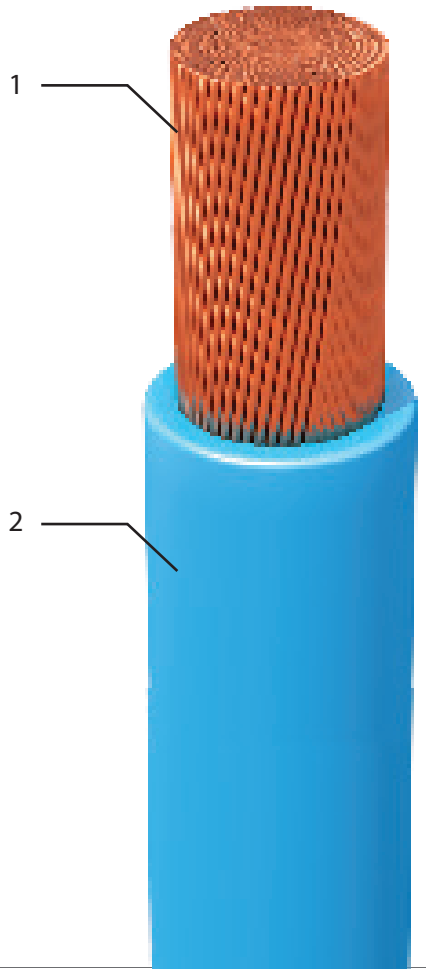
CONSTRUCTION:

1. CONDUCTOR

   Copper, flexible class 5

2. INSULATION

   Polyvinyl Chloride [PVC]



STANDARDS:

IEC 60227

BSEN 50525-2-31

IEC 60228

RATED VOLTAGE:

450/750 V

Flex. CU/PVC

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Rating	
				DC at 20 °C	AC at 70 °C	in free air 	in pipes 
	(mm^2)	(mm)	(kg/km)	Ω/Km	Ω/Km	A	A
01C001CF0PB0000	1	2.7	18	19.5	23.3	15	12
01C01.5CF0PB0000	1.5	3.0	23	13.3	15.9	18	15
01C002CF0PB0000	2	3.5	30	9.755	11.67	21	17
01C02.5CF0PB0000	2.5	3.7	37	7.98	9.548	29	24
01C003CF0PB0000	3	4.1	43	6.45	7.717	31	25
01C004CF0PB0000	4	4.3	53	4.95	5.922	38	27
01C006CF0PB0000	6	4.9	74	3.3	3.948	45	33
01C010CF0PB0000	10	6.2	123	1.91	2.29	67	48
01C016CF0PB0000	16	7.2	176	1.21	1.45	89	65
01C025CF0PB0000	25	9.9	281	0.78	0.94	118	83
01C035CF0PB0000	35	11.7	382	0.554	0.663	147	104
01C050CF0PB0000	50	13.3	511	0.386	0.462	178	125
01C070CF0PB0000	70	15.4	704	0.272	0.326	228	155
01C095CF0PB0000	95	17.9	974	0.206	0.247	290	199
01C120CF0PB0000	120	19.5	1200	0.161	0.193	338	227
01C150CF0PB0000	150	21.1	1520	0.129	0.155	385	259
01C185CF0PB0000	185	25.0	1854	0.106	0.127	449	298
01C240CF0PB0000	240	28.4	2439	0.0801	0.096	541	358
01C300CF0PB0000	300	31.8	3063	0.0641	0.0769	619	405
01C400CF0PB0000	400	36.2	3903	0.0486	0.0583	748	488

Installation Conditions for the above rating

In Air : 30 °C

In Duct : 20 °C

The above dimensions are approximate and subject to manufacturing tolerance.

STRANDED ALUMINUM

Single Core

PVC Insulated

450/750v

APPLICATIONS:

For indoor fixed installations in dry locations, laid in conduits, as well as in steel support brackets.

Maximum operating temperature: 70 °C

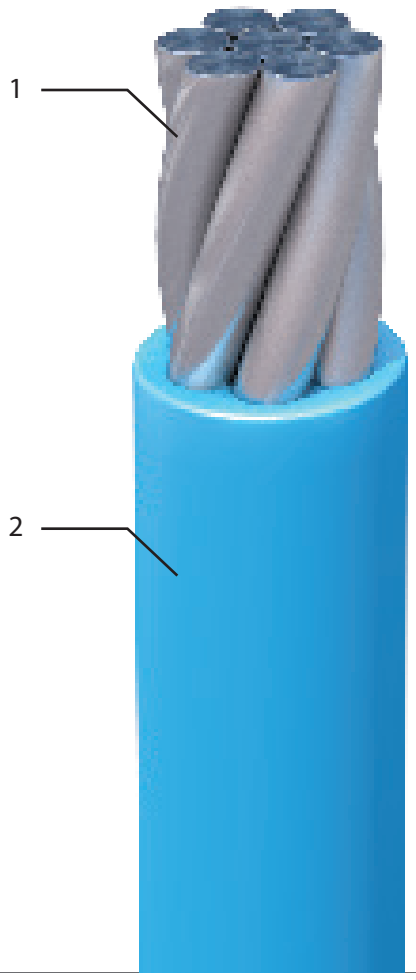
CONSTRUCTION:

1. CONDUCTOR

   Aluminum, semi-rigid class 2

2. INSULATION

   Polyvinyl Chloride (PVC)



STANDARDS:

IEC 60227

IEC 60228

RATED VOLTAGE:

450/750 V

AL/PVC

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Rating	
						in free air 	in pipes 
	(mm^2)	(mm)	(kg/km)	DC at 20 °C	AC at 70 °C		
				Ω/Km	Ω/Km	A	A
01C016AT0PB0000	16	6.8	79	1.91	2.29	62	46
01C025AT0PB0000	25	8.5	120	1.2	1.44	83	58
01C035AT0PB0000	35	9.5	151	0.868	1.04	110	79
01C050AT0PB0000	50	10.9	204	0.641	0.77	133	95
01C070AT0PB0000	70	12.6	277	0.443	0.533	171	118
01C095AT0PB0000	95	14.6	373	0.32	0.385	217	151
01C120AT0PB0000	120	16.1	451	0.253	0.305	254	173
01C150AT0PB0000	150	17.9	558	0.206	0.248	289	198
01C185AT0PB0000	185	20.0	693	0.164	0.198	337	226
01C240AT0PB0000	240	23.0	908	0.125	0.152	291	273
01C300AT0PB0000	300	25.2	1122	0.1	0.123	465	307
01C400AT0PB0000	400	29.6	1457	0.0778	0.096	561	371
01C500AT0PB0000	500	32.6	1843	0.0605	0.076	647	426
01C630AT0PB0000	630	36.2	2276	0.0469	0.0625	768	495

Installation Conditions for the above rating

In Air : 30 °C

In Duct : 20 °C

The above dimensions are approximate and subject to manufacturing tolerance.

STRANDED COPPER

Single Core

PVC Insulated

0.6/1 kv

APPLICATIONS:

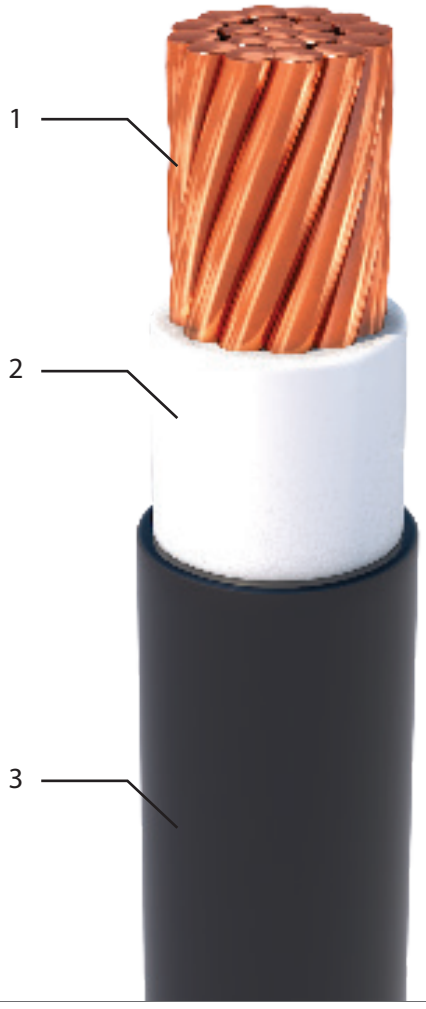
For outdoor and indoor installations in dump and wet locations, They are normally used for power distribution in urban networks. industrial plants. As well as in thermopower and Hydropower stations.
Maximum operating temperature: 70 °C

CONSTRUCTION:

1. CONDUCTOR
   Copper, semi-rigid class 2

2. INSULATION
   Polyvinyl Chloride [PVC]

3. SHEATH
   Polyvinyl Chloride [PVC]

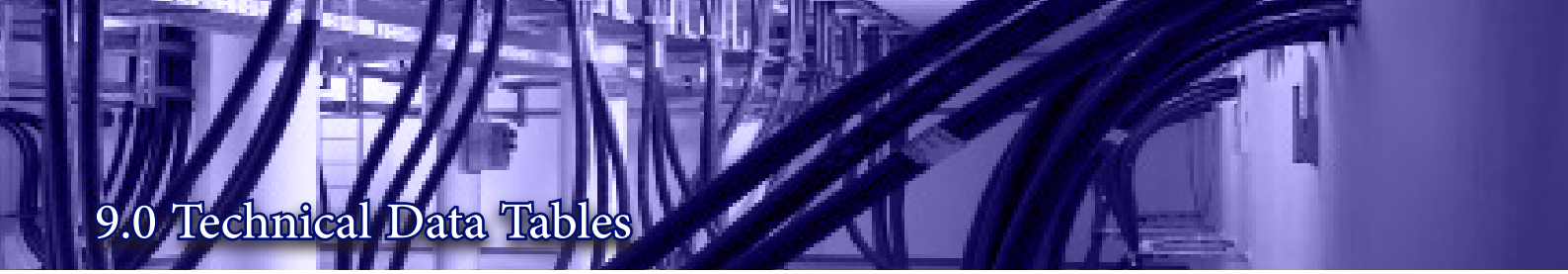


STANDARDS:

IEC 60502-1
IEC 60228

RATED VOLTAGE:

0.6/1 KV



9.0 Technical Data Tables

CU/PVC/PVC 1 CORE

Flat Formation

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Rating		
	(mm^2)	(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
				Ω/Km	Ω/Km	A	A	A
01C004CT0PC000P	4	7.1	105	4.61	5.5	53	38	38
01C006CT0PC000P	6	7.6	130	3.08	3.7	52	48	48
01C010CT0PC000P	10	8.4	180	1.83	2.2	70	62	67
01C016CT0PC000P	16	9.3	235	1.15	1.37	115	77	86
01C025CT0PC000P	25	11.1	345	0.727	0.86	146	101	109
01C035CT0PC000P	35	11.7	440	0.524	0.63	172	125	144
01C050CT0PC000P	50	13.2	570	0.387	0.46	204	149	173
01C070CT0PC000P	70	15.2	775	0.268	0.320	255	184	219
01C095CT0PC000P	95	17.4	1060	0.193	0.230	299	220	276
01C120CT0PC000P	120	19.1	1310	0.153	0.190	344	250	316
01C150CT0PC000P	150	20.9	1585	0.124	0.150	382	280	368
01C185CT0PC000P	185	23.2	1965	0.0991	0.120	439	321	426
01C240CT0PC000P	240	26.4	2560	0.0754	0.0926	509	369	529
01C300CT0PC000P	300	28.8	3170	0.0601	0.075	573	417	610
01C400CT0PC000P	400	32.5	4025	0.047	0.0590	656	464	707
01C500CT0PC000P	500	36.6	5125	0.0366	0.0480	739	518	805
01C630CT0PC000P	630	42.8	6480	0.0283	0.0390	840	589	932

Trefoil Formation

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Rating		
	(mm^2)	(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
				Ω/Km	Ω/Km	A	A	A
01C004CT0PC000P	4	7.1	105	4.61	5.5	51	38	33
01C006CT0PC000P	6	7.6	130	3.08	3.7	64	48	44
01C010CT0PC000P	10	8.4	180	1.83	2.2	85	62	59
01C016CT0PC000P	16	9.3	235	1.15	1.37	108	77	75
01C025CT0PC000P	25	11.1	345	0.727	0.86	140	101	104
01C035CT0PC000P	35	11.7	440	0.524	0.63	166	125	127
01C050CT0PC000P	50	13.2	570	0.387	0.46	197	149	155
01C070CT0PC000P	70	15.2	775	0.268	0.320	242	184	196
01C095CT0PC000P	95	17.4	1060	0.193	0.230	286	220	242
01C120CT0PC000P	120	19.1	1310	0.153	0.190	325	250	282
01C150CT0PC000P	150	20.9	1585	0.124	0.150	363	280	322
01C185CT0PC000P	185	23.2	1965	0.0991	0.120	414	321	368
01C240CT0PC000P	240	26.4	2560	0.0754	0.0926	477	369	443
01C300CT0PC000P	300	28.8	3170	0.0601	0.075	535	417	518
01C400CT0PC000P	400	32.5	4025	0.047	0.0590	605	464	598
01C500CT0PC000P	500	36.6	5125	0.0366	0.0480	668	518	690
01C630CT0PC000P	630	42.8	6480	0.0283	0.0390	751	589	782

Installation Conditions for above ratings:

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth Of Laying : 0.50 Mt.

Soil Thermal Resistivity : 1.0 °C m/W

The above dimensions are approximate and subject to manufacturing tolerance.

STRANDED ALUMINUM

Single Core

PVC Insulated

0.6/1 kv

APPLICATIONS:

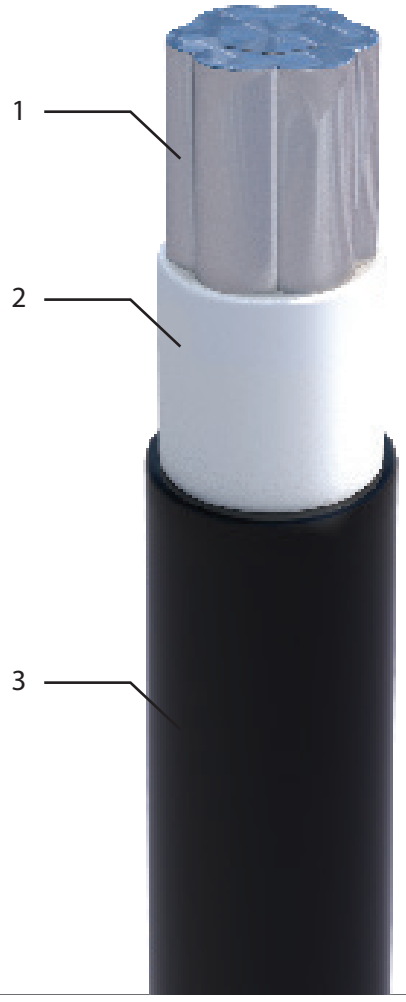
For indoor and outdoor installations in damp and wet locations.
They are normally used for power distribution in urban networks, industrial plants as well as in thermopower and hydropower stations.
Maximum operating temperature: 90°C

CONSTRUCTION:

1. CONDUCTOR
   Aluminum, semi-rigid class 2

2. INSULATION
   Polyvinyl Chloride [PVC]

3. SHEATH
   Polyvinyl Chloride [PVC]

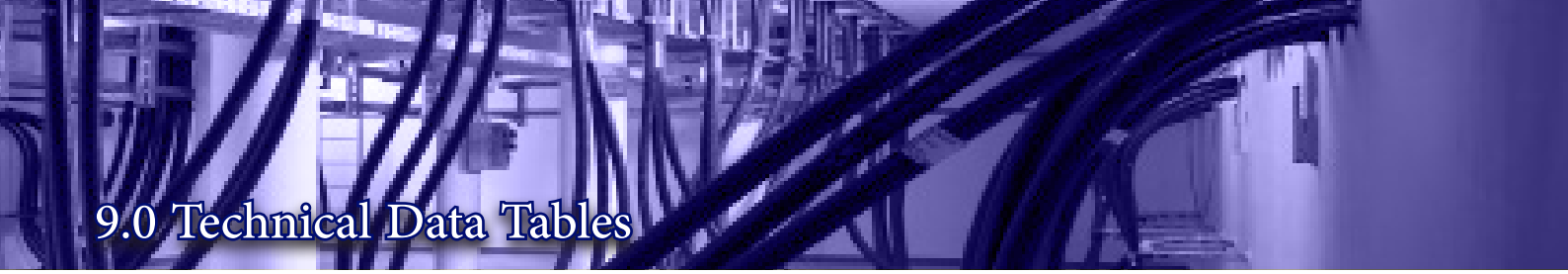


STANDARDS:

IEC 60502-1
IEC 60228

RATED VOLTAGE:

0.6/1 KV



9.0 Technical Data Tables

AL/PVC/PVC 1 CORE

Flat Formation

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Rating		
	(mm^2)	(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
				Ω/Km	Ω/Km	A	A	A
01C016AT0PC000P	16	9.4	140	1.91	2.29	83	60	69
01C025AT0PC000P	25	11.1	190	1.2	1.44	108	77	92
01C035AT0PC000P	35	12.1	230	0.868	1.04	134	95	115
01C050AT0PC000P	50	13.6	290	0.641	0.771	159	113	138
01C070AT0PC000P	70	15.9	370	0.443	0.533	197	143	178
01C095AT0PC000P	95	17.5	490	0.32	0.385	236	161	224
01C120AT0PC000P	120	19.2	590	0.253	0.305	267	196	259
01C150AT0PC000P	150	20.9	710	0.206	0.249	299	214	293
01C185AT0PC000P	185	23.2	870	0.164	0.199	337	244	345
01C240AT0PC000P	240	26.4	1110	0.125	0.151	395	286	408
01C300AT0PC000P	300	28.8	1350	0.1	0.123	452	321	466
01C400AT0PC000P	400	32.5	1690	0.0778	0.0962	522	369	552
01C500AT0PC000P	500	36.6	2130	0.0605	0.0761	592	422	644
01C630AT0PC000P	630	43.2	2600	0.0469	0.0625	681	482	759

Trefoil Formation

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Rating		
	(mm^2)	(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
				Ω/Km	Ω/Km	A	A	A
01C016AT0PC000P	16	9.4	140	1.91	2.29	80	60	52
01C025AT0PC000P	25	11.1	190	1.2	1.44	106	77	75
01C035AT0PC000P	35	12.1	230	0.868	1.04	130	95	98
01C050AT0PC000P	50	13.6	290	0.641	0.771	153	113	121
01C070AT0PC000P	70	15.9	370	0.443	0.533	185	143	144
01C095AT0PC000P	95	17.5	490	0.32	0.385	223	161	184
01C120AT0PC000P	120	19.2	590	0.253	0.305	255	196	213
01C150AT0PC000P	150	20.9	710	0.206	0.249	286	214	242
01C185AT0PC000P	185	23.2	870	0.164	0.199	325	244	282
01C240AT0PC000P	240	26.4	1110	0.125	0.151	376	286	334
01C300AT0PC000P	300	28.8	1350	0.1	0.123	427	321	385
01C400AT0PC000P	400	32.5	1690	0.0778	0.0962	484	369	449
01C500AT0PC000P	500	36.6	2130	0.0605	0.0761	548	422	529
01C630AT0PC000P	630	43.2	2600	0.0469	0.0625	624	482	615

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

STRANDED COPPER

Multi Core

PVC Insulated

0.6/1 kv

APPLICATIONS:

For outdoor and indoor installations in dump and wet locations

Maximum operating temperature: 70 °C

CONSTRUCTION:

1. CONDUCTOR

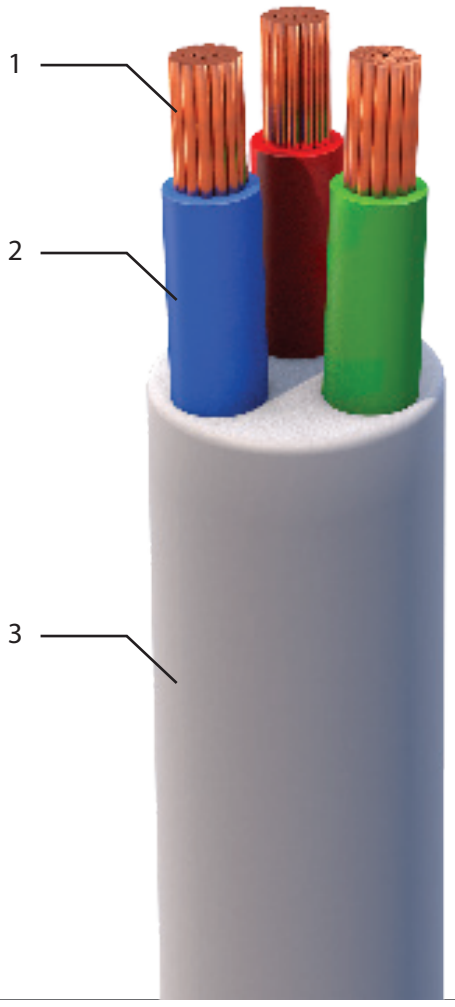
   Copper, semi-rigid class 2

2. INSULATION

   Polyvinyl Chloride [PVC]

3. SHEATH

   Polyvinyl Chloride [PVC]



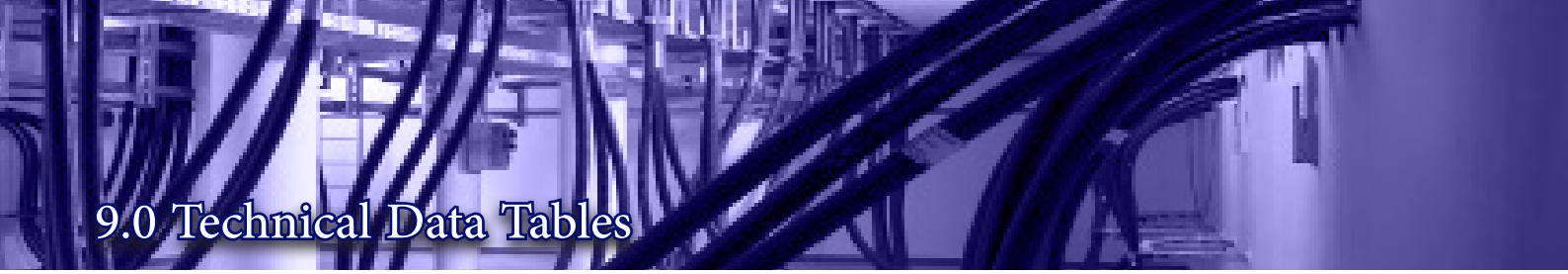
STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV



9.0 Technical Data Tables

2 Core Cable , CU/PVC/PVC

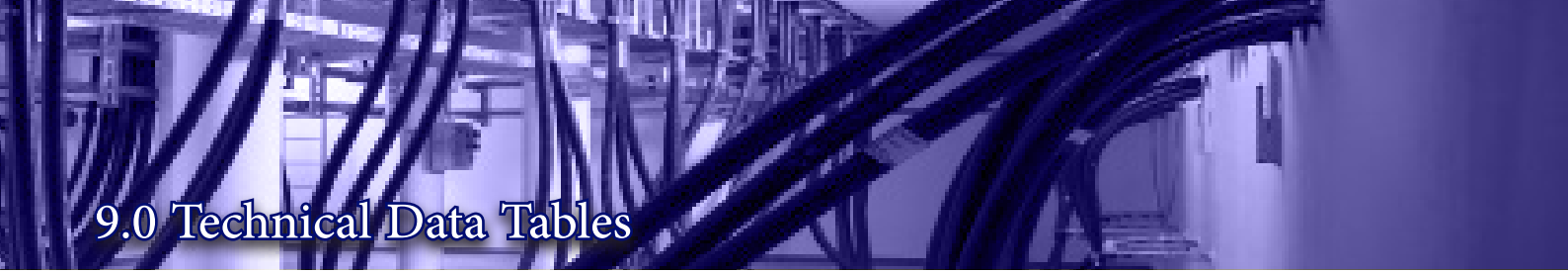
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C01.5CT0PC000P	1.5	RM	9.4	135	12.1	14.48	33	25	22
02C02.5CT0PC000P	2.5	RM	10.2	170	7.41	8.87	42	32	31
02C004CT0PC000P	4	RM	12.2	335	4.61	5.52	56	43	41
02C006CT0PC000P	6	RM	13.2	398	3.08	3.69	70	55	53
02C010CT0PC000P	10	RM	15.3	490	1.83	2.19	94	73	72
02C016CT0PC000P	16	RM	17.0	530	1.15	1.39	117	93	93
02C025CT0PC000P	25	RM	20.6	715	0.727	0.87	153	119	121
02C035CT0PC000P	35	RM	21.9	915	0.524	0.628	188	144	150
02C050CT0PC000P	50	SM	21.0	1190	0.387	0.464	219	170	181
02C070CT0PC000P	70	SM	23.4	1630	0.268	0.322	275	209	232
02C095CT0PC000P	95	SM	26.6	2200	0.193	0.232	330	253	281

3 Core Cable , CU/PVC/PVC

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C01.5CT0PC000P	1.5	RM	9.9	170	12.1	14.48	28	21	20
03C02.5CT0PC000P	2.5	RM	10.7	260	7.41	8.87	36	27	26
03C004CT0PC000P	4	RM	12.9	350	4.61	5.52	48	36	35
03C006CT0PC000P	6	RM	14.0	431	3.08	3.69	60	45	45
03C010CT0PC000P	10	RM	16.2	582	1.83	2.19	79	61	62
03C016CT0PC000P	16	RM	18.1	680	1.15	1.3900	101	77	79
03C025CT0PC000P	25	SM	19.8	1015	0.727	0.8700	132	100	102
03C035CT0PC000P	35	SM	21.9	1300	0.524	0.6280	159	120	125
03C050CT0PC000P	50	SM	25.3	1710	0.387	0.4640	188	143	153
03C070CT0PC000P	70	SM	28.5	2380	0.268	0.3220	230	175	194
03C095CT0PC000P	95	SM	32.6	3220	0.193	0.2320	276	211	239
03C120CT0PC000P	120	SM	35.6	3980	0.153	0.1850	315	242	277
03C150CT0PC000P	150	SM	39.5	4920	0.124	0.1510	351	273	319
03C185CT0PC000P	185	SM	43.8	6023	0.0991	0.1210	399	309	365
03C240CT0PC000P	240	SM	49.3	7920	0.0754	0.0840	465	363	430
03C300CT0PC000P	300	SM	54.4	9730	0.0601	0.0770	520	405	497

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



9.0 Technical Data Tables

4 Core Cable , CU/PVC/PVC

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω//Km	Ω//Km	A	A	A
04C01.5CT0PC000P	1.5	RM	10.7	245	12.1	14.48	28	21	20
04C02.5CT0PC000P	2.5	RM	11.6	310	7.41	8.87	36	27	26
04C004CT0PC000P	4	RM	14.0	425	4.61	5.52	48	36	35
04C006CT0PC000P	6	RM	15.3	530	3.08	3.69	60	45	45
04C010CT0PC000P	10	RM	17.7	725	1.83	2.19	79	61	62
04C016CT0PC000P	16	RM	19.8	880	1.15	1.3900	101	77	79
04C025CT0PC000P	25	SM	22.8	1300	0.727	0.8700	132	100	102
04C035CT0PC000P	35	SM	25.2	1675	0.524	0.628	159	120	125
04C050CT0PC000P	50	SM	29.4	2245	0.387	0.4640	188	143	153
04C070CT0PC000P	70	SM	33.0	3120	0.268	0.3220	230	175	194
04C095CT0PC000P	95	SM	38.0	4250	0.193	0.2320	276	211	239
04C120CT0PC000P	120	SM	41.4	5255	0.153	0.1850	315	242	277
04C150CT0PC000P	150	SM	46.2	6505	0.124	0.1510	351	273	319
04C185CT0PC000P	185	SM	50.9	7975	0.0991	0.1210	399	309	365
04C240CT0PC000P	240	SM	57.3	10455	0.0754	0.0840	465	363	430
04C300CT0PC000P	300	SM	63.5	12920	0.0601	0.0770	520	405	497

4 core Cable with reduced neutral, CU/PVC/PVC

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω//Km	Ω/Km	A	A	A
3HC025CT0PC000P	25	SM/RM	22.2	1195	0.727/1.1500	0.87/1.3900	132	100	102
3HC035CT0PC000P	35	SM/RM	24.1	1485	0.524/1.1500	0.628/13900	159	120	125
3HC050CT0PC000P	50	SM	28.2	2030	0.387/0.7270	0.646/0.8700	188	143	153
3HC070CT0PC000P	70	SM	31.6	2755	0.268/0.5240	0.322/0.6280	230	175	194
3HC095CT0PC000P	95	SM	36.3	3735	0.193/0.3870	0.232/0.4640	276	211	239
3HC120CT0PC000P	120	SM	39.7	4715	0.153/0.2680	0.185/0.3220	315	242	277
3HC150CT0PC000P	150	SM	43.8	5670	0.124/0.2680	0.151/0.3220	351	273	319
3HC185CT0PC000P	185	SM	48.5	7055	0.0991/0.1930	0.121/0.2320	399	309	365
3HC240CT0PC000P	240	SM	54.5	9155	0.0754/0.1530	0.084/0.1850	465	363	430
3HC300CT0PC000P	300	SM	60.3	11220	0.601/0.1240	0.077/0.1510	520	405	497

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

STRANDED ALUMINUM

Multi Core

PVC Insulated

0.6/1 kv

APPLICATIONS:

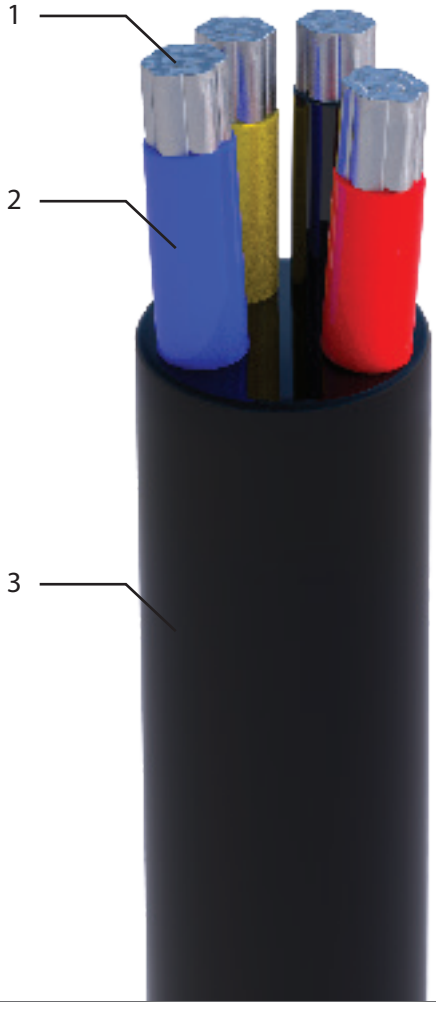
For indoor and outdoor installations in damp and wet locations.
They are normally used for power distribution in urban networks,
industrial plants as well as in thermopower and hydropower stations.
Maximum operating temperature: 70°C

CONSTRUCTION:

1. CONDUCTOR
   Aluminum, semi-rigid class 2

2. INSULATION
   Polyvinyl Chloride [PVC]

3. SHEATH
   Polyvinyl Chloride [PVC]

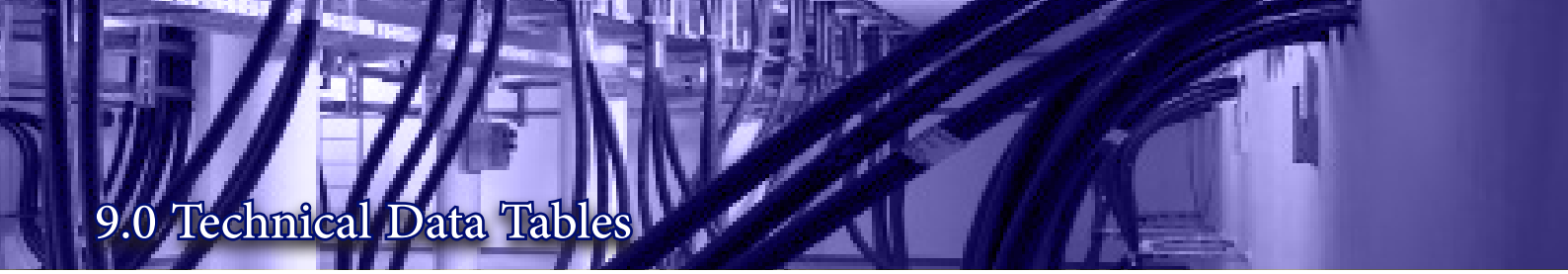


STANDARDS:

IEC 60502-1
IEC 60228

RATED VOLTAGE:

0.6/1 KV



9.0 Technical Data Tables

AL/PVC/PVC 2 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C016AT0PC000P	16	RM	17.3	305	1.91	2.29	92	73	72
02C025AT0PC000P	25	RM	20.6	405	1.2	1.44	120	93	90
02C035AT0PC000P	35	RM	22.7	480	0.868	1.04	144	113	110
02C050AT0PC000P	50	SM	21.0	605	0.641	0.771	170	133	135
02C070AT0PC000P	70	SM	23.4	785	0.443	0.533	211	164	173
02C095AT0PC000P	95	SM	26.6	1030	0.32	0.385	254	198	213

AL/PVC/PVC 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C016AT0PC000P	16	RM	18.4	395	1.91	2.29	76	61	61
03C025AT0PC000P	25	SM	19.8	550	1.2	1.44	102	79	78
03C035AT0PC000P	35	SM	21.9	655	0.868	1.04	122	94	97
03C050AT0PC000P	50	SM	25.3	840	0.641	0.771	145	112	117
03C070AT0PC000P	70	SM	28.5	1110	0.443	0.533	177	138	151
03C095AT0PC000P	95	SM	32.6	1465	0.32	0.385	212	167	183
03C120AT0PC000P	120	SM	35.6	1750	0.253	0.305	242	190	212
03C150AT0PC000P	150	SM	39.5	2150	0.206	0.249	270	214	245
03C185AT0PC000P	185	SM	43.8	2620	0.164	0.199	309	245	281
03C240AT0PC000P	240	SM	49.3	3380	0.125	0.151	360	287	330
03C300AT0PC000P	300	SM	54.4	4135	0.100	0.123	393	312	381

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

9.0 Technical Data Tables

AL/PVC/PVC 4 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C016AT0PC000P	16	RM	20.2	505	1.91	2.29	76	61	62
04C025AT0PC000P	25	SM	22.8	680	1.20	1.44	102	79	78
04C035AT0PC000P	35	SM	25.2	820	0.868	1.04	122	94	98
04C050AT0PC000P	50	SM	29.4	1080	0.641	0.771	145	112	118
04C070AT0PC000P	70	SM	33.0	1430	0.443	0.533	177	138	151
04C095AT0PC000P	95	SM	38.0	1915	0.32	0.385	212	167	184
04C120AT0PC000P	120	SM	41.4	2285	0.253	0.305	242	190	213
04C150AT0PC000P	150	SM	46.2	2800	0.206	0.249	270	214	246
04C185AT0PC000P	185	SM	50.9	3430	0.164	0.199	309	245	283
04C240AT0PC000P	240	SM	57.3	4410	0.125	0.151	360	287	330
04C300AT0PC000P	300	SM	63.5	5460	0.100	0.123	393	312	381

AL/PVC/PVC 4 core Cable with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025AT0PC000P	25	SM/RM	22.2	640	1.200/1.1910	1.440/2.290	99	61	78
3HC035AT0PC000P	35	SM/RM	24.1	750	0.868/1.9100	1.0430/2.2900	118	79	98
3HC050AT0PC000P	50	SM	28.2	1010	0.641/1.2000	0.7710/1.4400	140	94	118
3HC070AT0PC000P	70	SM	31.6	1270	0.443/0.8680	0.5330/1.0400	171	112	151
3HC095AT0PC000P	95	SM	36.3	1695	0.32/0.6410	0.3850/0.7710	205	138	184
3HC120AT0PC000P	120	SM	39.7	2060	0.253/0.4430	0.3050/0.5330	234	167	213
3HC150AT0PC000P	150	SM	43.8	2490	0.206/0.4430	0.2490/0.5330	261	190	246
3HC185AT0PC000P	185	SM	48.5	3065	0.164/0.3200	0.1990/0.3850	299	214	283
3HC240AT0PC000P	240	SM	54.5	3900	0.125/0.2530	0.1510/0.3050	348	245	330
3HC300AT0PC000P	300	SM	60.3	4750	0.1/0.2060	0.1230/0.2490	380	312	381

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

STRANDED COPPER

Multi Core

PVC Insulated

0.6/1 kv

APPLICATIONS:

For indoor and outdoor installations in damp and wet locations.

Where mechanical damage is expected to occur.

Maximum operating temperature: 70 °C

CONSTRUCTION:

1. CONDUCTOR

   Copper, semi-rigid class 2

2. INSULATION

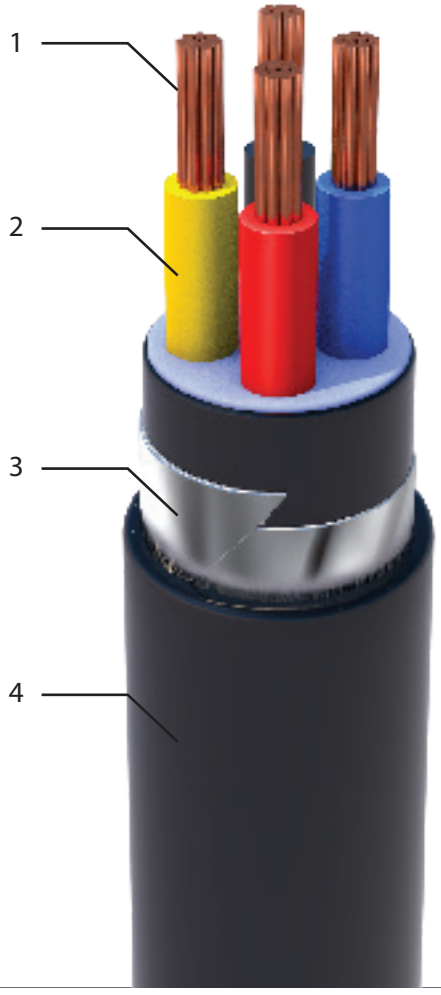
   Polyvinyl Chloride [PVC]

3. ARMOUR

   Double Steel Tape

4. SHEATH

   Polyvinyl Chloride [PVC]



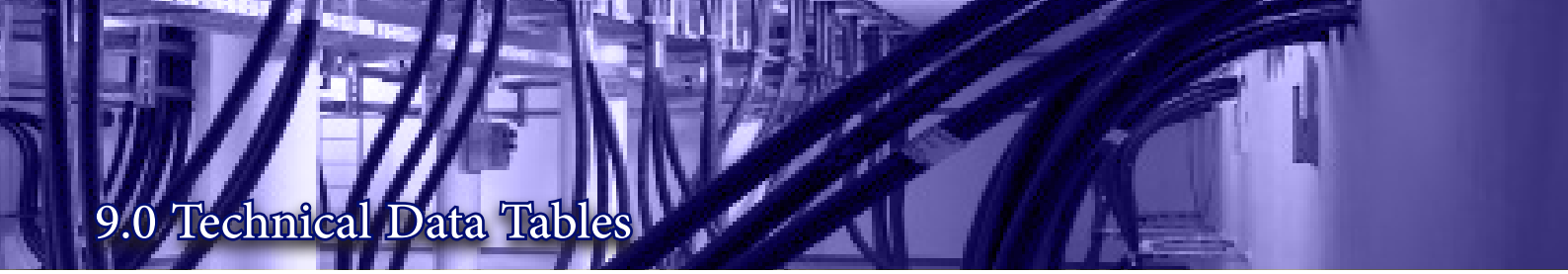
STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV



9.0 Technical Data Tables

CU/PVC/STA/PVC 2 CORES

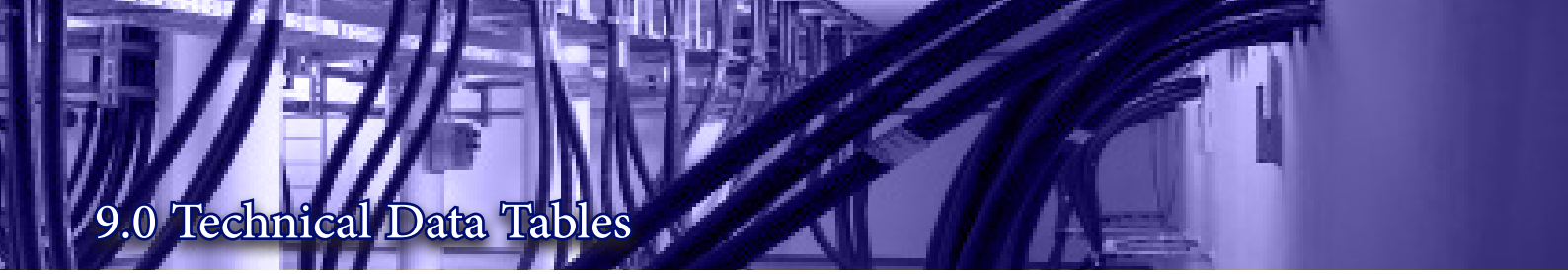
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C006CT0PC0PTP	6	RM	15.4	535	3.08	3.69	69	55	53
02C010CT0PC0PTP	10	RM	17.5	665	1.83	2.19	92	73	72
02C016CT0PC0PTP	16	RM	19.2	700	1.15	1.39	117	93	94
02C025CT0PC0PTP	25	RM	22.8	945	0.727	0.87	158	121	127
02C035CT0PC0PTP	35	RM	24.1	1165	0.524	0.628	190	145	154
02C050CT0PC0PTP	50	SM	23.2	1480	0.387	0.464	225	171	187
02C070CT0PC0PTP	70	SM	25.6	1985	0.268	0.322	276	211	235
02C095CT0PC0PTP	95	SM	29.0	2935	0.193	0.232	330	253	288

CU/PVC/STA/PVC 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C004CT0PC0PTP	4	RM	15.1	510	4.61	5.52	47	36	35
03C006CT0PC0PTP	6	RM	16.2	600	3.08	3.69	59	45	45
03C010CT0PC0PTP	10	RM	18.4	770	1.83	2.19	77	61	62
03C016CT0PC0PTP	16	RM	20.3	900	1.15	1.3900	102	77	81
03C025CT0PC0PTP	25	SM	22.0	1270	0.727	0.8700	132	100	109
03C035CT0PC0PTP	35	SM	24.1	1580	0.524	0.6280	160	120	133
03C050CT0PC0PTP	50	SM	27.7	2045	0.387	0.4640	189	143	162
03C070CT0PC0PTP	70	SM	31.3	2805	0.268	0.3220	232	176	204
03C095CT0PC0PTP	95	SM	36.8	4055	0.193	0.2320	279	213	248
03C120CT0PC0PTP	120	SM	39.8	4900	0.153	0.1850	318	243	286
03C150CT0PC0PTP	150	SM	44.1	5990	0.124	0.1510	356	274	328
03C185CT0PC0PTP	185	SM	48.2	7175	0.0991	0.1210	409	311	382
03C240CT0PC0PTP	240	SM	53.7	9300	0.0754	0.0840	475	364	436
03C300CT0PC0PTP	300	SM	59.4	11215	0.0601	0.0770	527	407	511

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



9.0 Technical Data Tables

CU/PVC/STA/PVC 4 CORES

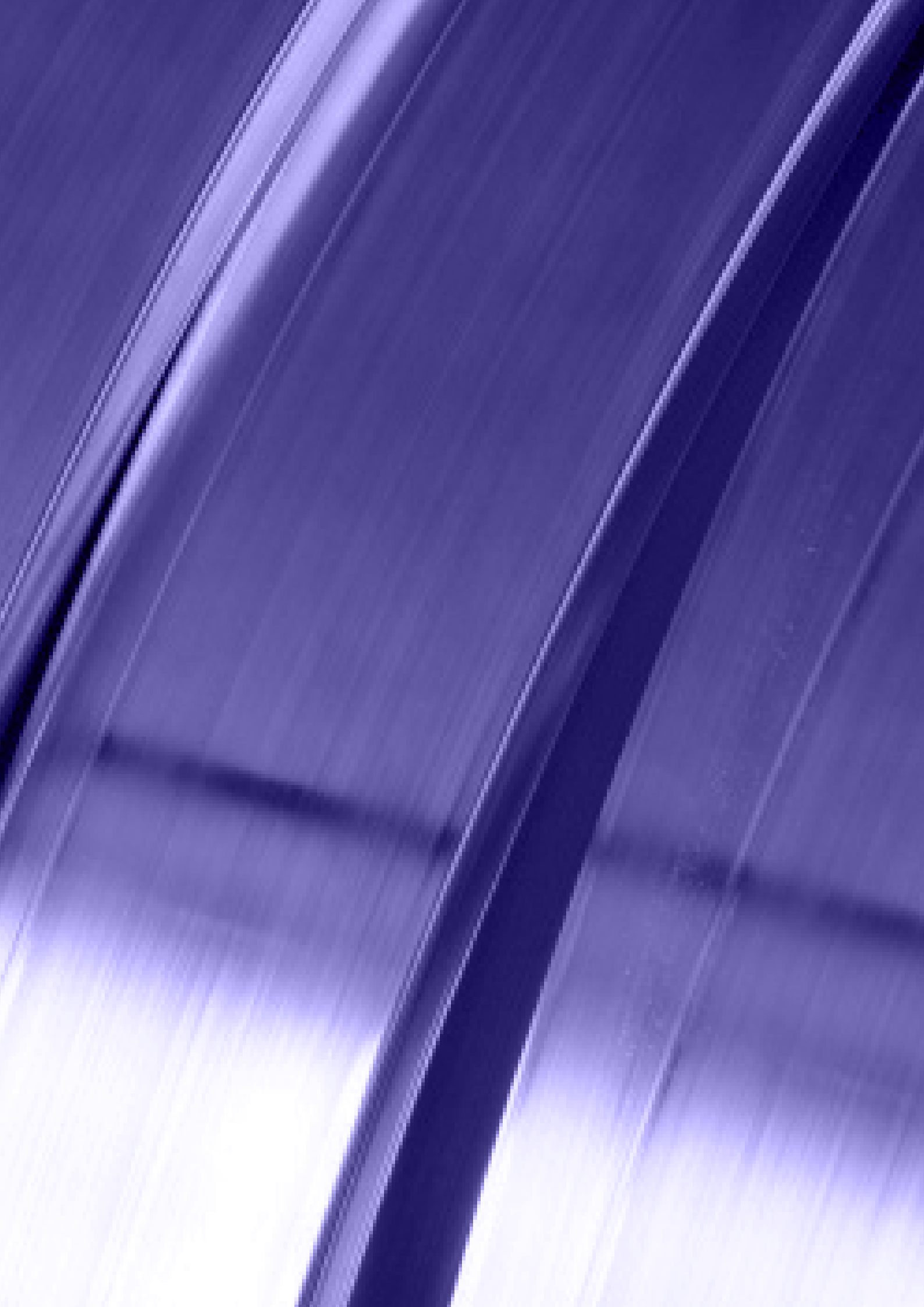
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C004CT0PC0PTP	4	RM	16.2	600	4.61	5.52	47	36	35
04C006CT0PC0PTP	6	RM	17.5	715	3.08	3.69	59	45	45
04C010CT0PC0PTP	10	RM	19.9	930	1.83	2.19	77	61	62
04C016CT0PC0PTP	16	RM	22.0	1130	1.15	1.3900	102	77	81
04C025CT0PC0PTP	25	SM	25.0	1585	0.727	0.8700	132	100	109
04C035CT0PC0PTP	35	SM	27.6	2000	0.524	0.6280	160	120	133
04C050CT0PC0PTP	50	SM	32.2	2655	0.387	0.4640	189	143	162
04C070CT0PC0PTP	70	SM	37.2	3940	0.268	0.3220	232	176	204
04C095CT0PC0PTP	95	SM	42.0	5260	0.193	0.2320	279	213	248
04C120CT0PC0PTP	120	SM	46.0	6350	0.153	0.1850	318	243	286
04C150CT0PC0PTP	150	SM	50.6	7700	0.124	0.1510	356	274	328
04C185CT0PC0PTP	185	SM	55.9	9335	0.0991	0.1210	409	311	382
04C240CT0PC0PTP	240	SM	62.3	12010	0.0754	0.0840	475	364	436
04C300CT0PC0PTP	300	SM	68.5	14625	0.0601	0.0770	527	407	511

CU/PVC/STA/PVC 4 core Cable with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025CT0PC0PTP	25	SM/RM	24.4	1480	0.727/1.1500	0.87/1.3900	132	100	109
3HC035CT0PC0PTP	35	SM/RM	26.3	1800	0.524/1.1500	0.628/13900	160	120	133
3HC050CT0PC0PTP	50	SM	30.6	2445	0.387/0.7270	0.646/0.8700	189	143	162
3HC070CT0PC0PTP	70	SM	34.4	3200	0.268/0.5240	0.322/0.6280	232	176	204
3HC095CT0PC0PTP	95	SM	40.5	2645	0.193/0.3870	0.232/0.4640	279	213	248
3HC120CT0PC0PTP	120	SM	44.3	5740	0.153/0.2680	0.185/0.3220	318	243	286
3HC150CT0PC0PTP	150	SM	48.2	6845	0.124/0.2680	0.151/0.3220	356	274	328
3HC185CT0PC0PTP	185	SM	53.1	8305	0.0991/0.1930	0.121/0.2320	409	311	382
3HC240CT0PC0PTP	240	SM	59.5	10670	0.0754/0.1530	0.084/0.1850	475	364	436
3HC300CT0PC0PTP	300	SM	65.3	12860	0.601/0.1240	0.077/0.1510	527	407	511

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



STRANDED ALUMINUM

Multi Core

PVC Insulated

0.6/1 kv

APPLICATIONS:

For indoor and outdoor installations in damp and wet locations.

Where mechanical damage is expected to occur.

Maximum operating temperature: 70 °C

CONSTRUCTION:

1. CONDUCTOR

   Aluminum, semi-rigid class 2

2. INSULATION

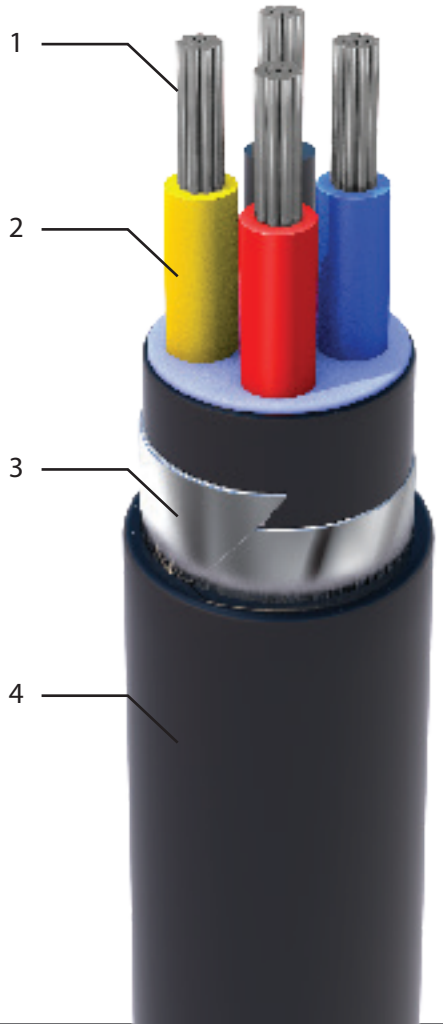
   Polyvinyl Chloride [PVC]

3. ARMOUR

   Double Steel Tape

4. SHEATH

   Polyvinyl Chloride [PVC]



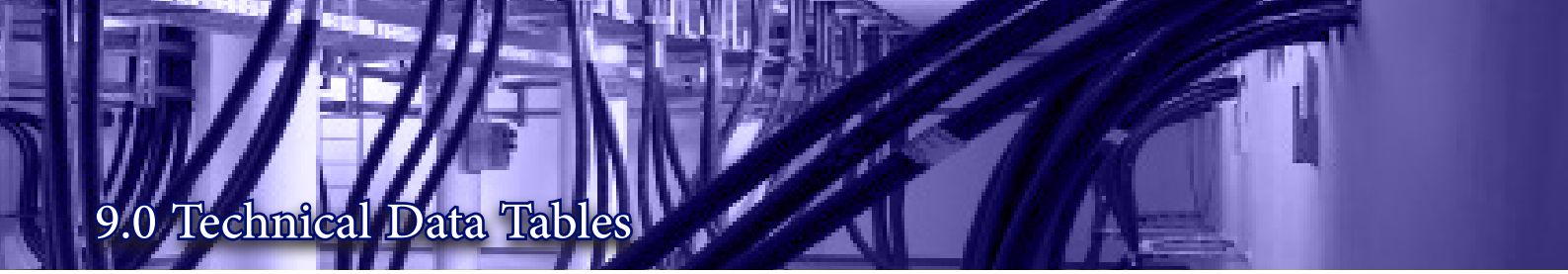
STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV



9.0 Technical Data Tables

AL/PVC/STA/PVC 2 CORES

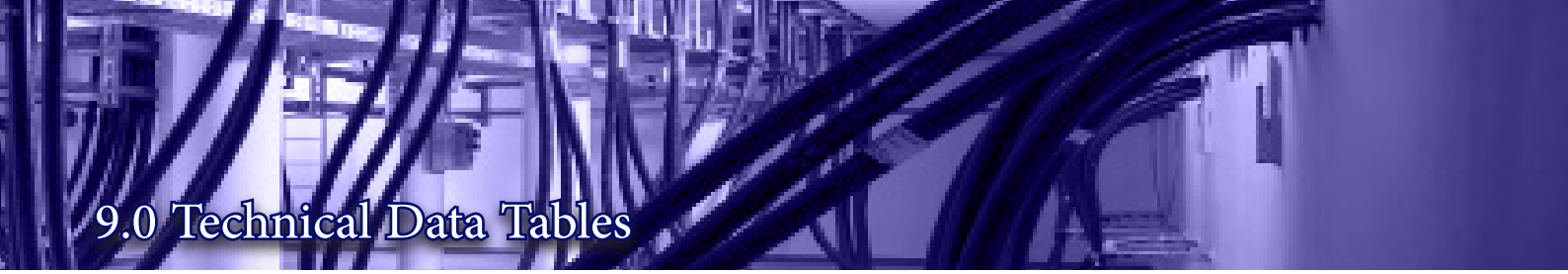
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C016AT0PC0PTP	16	RM	19.5	510	1.91	2.29	91	71	70
02C025AT0PC0PTP	25	RM	22.8	640	1.2	1.44	119	93	93
02C035AT0PC0PTP	35	RM	24.9	740	0.868	1.04	141	112	114
02C050AT0PC0PTP	50	SM	23.2	900	0.641	0.771	167	132	137
02C070AT0PC0PTP	70	SM	25.6	1140	0.443	0.533	209	163	173
02C095AT0PC0PTP	95	SM	29.0	1770	0.32	0.385	251	195	209

AL/PVC/STA/PVC 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C016AT0PC0PTP	16	RM	20.6	620	1.91	2.29	77	61	61
03C025AT0PC0PTP	25	SM	22.0	810	1.2	1.44	102	77	78
03C035AT0PC0PTP	35	SM	24.1	940	0.868	1.04	122	94	97
03C050AT0PC0PTP	50	SM	27.7	1170	0.641	0.771	145	111	117
03C070AT0PC0PTP	70	SM	31.3	1540	0.443	0.533	178	137	148
03C095AT0PC0PTP	95	SM	36.8	2300	0.32	0.385	213	165	182
03C120AT0PC0PTP	120	SM	39.8	2670	0.253	0.305	243	188	209
03C150AT0PC0PTP	150	SM	44.1	3210	0.206	0.249	272	212	244
03C185AT0PC0PTP	185	SM	48.2	3770	0.164	0.199	313	242	281
03C240AT0PC0PTP	240	SM	53.7	4760	0.125	0.151	364	282	334
03C300AT0PC0PTP	300	SM	59.4	5620	0.1	0.123	388	312	391

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



9.0 Technical Data Tables

AL/PVC/STA/PVC 4 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C016AT0PC0PTP	16	RM	22.4	750	1.91	2.29	77	61	61
04C025AT0PC0PTP	25	SM	25.0	970	1.2	1.44	102	77	78
04C035AT0PC0PTP	35	SM	27.6	1150	0.868	1.04	122	94	97
04C050AT0PC0PTP	50	SM	32.2	1490	0.641	0.771	145	111	117
04C070AT0PC0PTP	70	SM	37.2	2250	0.443	0.533	178	137	148
04C095AT0PC0PTP	95	SM	42.0	2923	0.32	0.385	213	165	182
04C120AT0PC0PTP	120	SM	46.0	3380	0.253	0.305	243	188	209
04C150AT0PC0PTP	150	SM	50.6	4000	0.206	0.249	272	212	244
04C185AT0PC0PTP	185	SM	55.9	4790	0.164	0.199	313	242	281
04C240AT0PC0PTP	240	SM	62.3	5960	0.125	0.151	364	282	334
04C300AT0PC0PTP	300	SM	68.5	7170	0.1	0.123	388	312	391

AL/PVC/STA/PVC 4 core Cable with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025AT0PC0PTP	25	SM/RM	24.4	925	1.200/1.1910	1.440/2.290	102	77	78
3HC035AT0PC0PTP	35	SM/RM	26.3	1065	0.868/1.9100	1.0430/2.2900	122	94	97
3HC050AT0PC0PTP	50	SM	30.6	1410	0.641/1.2000	0.7710/1.4400	145	111	117
3HC070AT0PC0PTP	70	SM	34.4	1710	0.443/0.8680	0.5330/1.0400	178	137	148
3HC095AT0PC0PTP	95	SM	40.5	2605	0.32/0.6410	0.3850/0.7710	213	165	182
3HC120AT0PC0PTP	120	SM	44.3	3090	0.253/0.4430	0.3050/0.5330	243	188	209
3HC150AT0PC0PTP	150	SM	48.2	3660	0.206/0.4430	0.2490/0.5330	272	212	244
3HC185AT0PC0PTP	185	SM	53.1	4320	0.164/0.3200	0.1990/0.3850	313	242	281
3HC240AT0PC0PTP	240	SM	59.5	5410	0.125/0.2530	0.1510/0.3050	364	282	334
3HC300AT0PC0PTP	300	SM	65.3	6385	0.1/0.2060	0.1230/0.2490	388	312	391

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

STRANDED COPPER

Multi Core

PVC Insulated

0.6/1 kv

APPLICATIONS:

For indoor and outdoor installations in damp and wet locations.

Where mechanical damage is expected to occur.

Maximum operating temperature: 70°C

CONSTRUCTION:

1. CONDUCTOR

   Copper, semi-rigid class 2

2. INSULATION

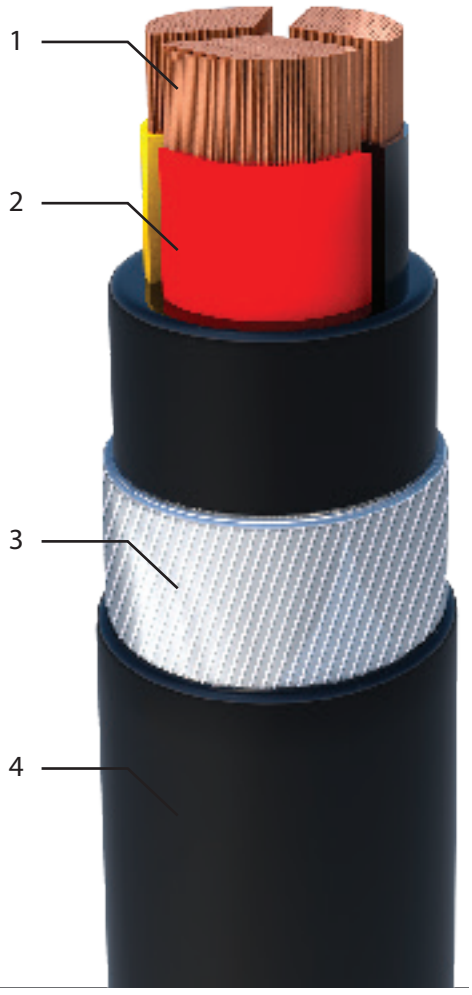
   Polyvinyl Chloride [PVC]

3. ARMOUR

   Galvanized Round Steel Wire

4. SHEATH

   Polyvinyl Chloride [PVC]



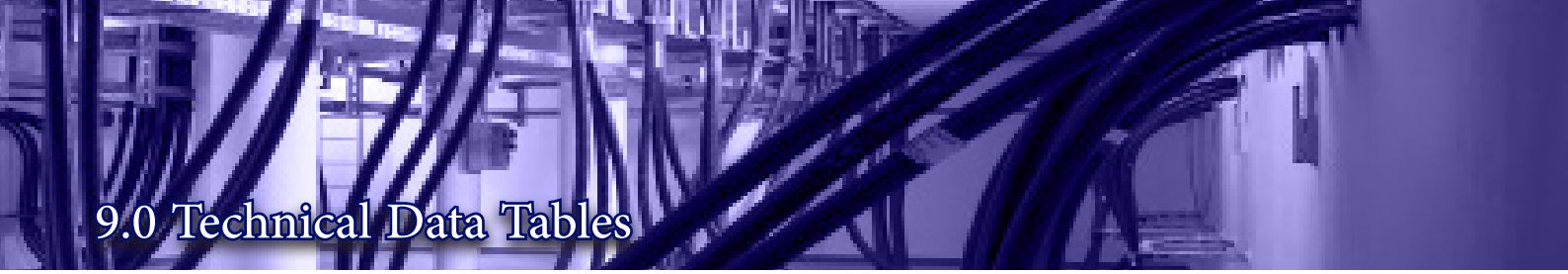
STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV



9.0 Technical Data Tables

CU/PVC/SWA/PVC 2 CORES

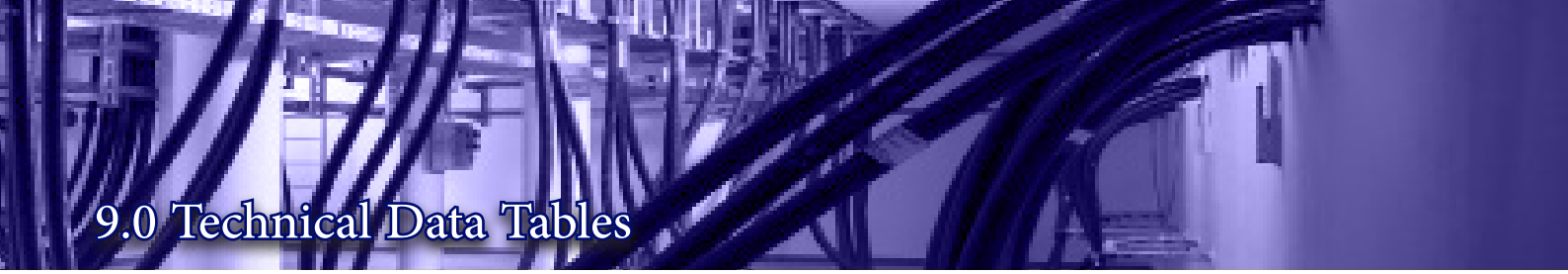
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C004CT0PC0PWP	4	RM	17.0	670	4.61	5.54	55	43	41
02C006CT0PC0PWP	6	RM	18.0	760	3.08	3.69	69	55	53
02C010CT0PC0PWP	10	RM	20.1	915	1.83	2.19	92	73	72
02C016CT0PC0PWP	16	RM	22.5	1050	1.15	1.39	120	94	97
02C025CT0PC0PWP	25	RM	26.1	1360	0.727	0.87	160	123	129
02C035CT0PC0PWP	35	RM	27.6	1615	0.524	0.628	193	146	156
02C050CT0PC0PWP	50	SM	26.5	1995	0.387	0.464	227	174	190
02C070CT0PC0PWP	70	SM	29.1	2740	0.268	0.322	280	214	240
02C095CT0PC0PWP	95	SM	33.3	3465	0.193	0.232	334	257	292

CU/PVC/SWA/PVC 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C004CT0PC0PWP	4	RM	17.7	730	4.61	5.54	47	36	35
03C006CT0PC0PWP	6	RM	18.8	840	3.08	3.69	59	45	45
03C010CT0PC0PWP	10	RM	21.0	1035	1.83	2.19	77	61	62
03C016CT0PC0PWP	16	RM	23.6	1335	1.15	1.3900	102	80	82
03C025CT0PC0PWP	25	SM	25.3	1735	0.727	0.8700	134	102	110
03C035CT0PC0PWP	35	SM	27.6	2110	0.524	0.6280	160	123	135
03C050CT0PC0PWP	50	SM	31.2	2820	0.387	0.4640	190	146	163
03C070CT0PC0PWP	70	SM	35.2	3685	0.268	0.3220	233	180	205
03C095CT0PC0PWP	95	SM	39.3	4715	0.193	0.2320	280	217	251
03C120CT0PC0PWP	120	SM	42.3	5930	0.153	0.1850	319	248	291
03C150CT0PC0PWP	150	SM	47.3	7145	0.124	0.1510	357	278	332
03C185CT0PC0PWP	185	SM	51.4	8485	0.0991	0.1210	410	317	386
03C240CT0PC0PWP	240	SM	56.9	11365	0.0754	0.0840	476	365	446
03C300CT0PC0PWP	300	SM	63.9	13540	0.0601	0.0770	527	407	511

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



9.0 Technical Data Tables

CU/PVC/SWA/PVC 4 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C004CT0PC0PWP	4	RM	18.8	835	4.61	5.54	47	36	35
04C006CT0PC0PWP	6	RM	20.1	975	3.08	3.69	59	45	45
04C010CT0PC0PWP	10	RM	23.2	1340	1.83	2.19	77	61	62
04C016CT0PC0PWP	16	RM	25.3	1570	1.15	1.39	102	80	82
04C025CT0PC0PWP	25	SM	28.5	2110	0.727	0.87	134	102	110
04C035CT0PC0PWP	35	SM	31.1	2580	0.524	0.6280	160	123	135
04C050CT0PC0PWP	50	SM	36.1	3550	0.387	0.4640	190	146	163
04C070CT0PC0PWP	70	SM	39.9	4590	0.268	0.3220	233	180	205
04C095CT0PC0PWP	95	SM	45.2	6375	0.193	0.2320	280	217	251
04C120CT0PC0PWP	120	SM	49.2	7530	0.153	0.1850	319	248	291
04C150CT0PC0PWP	150	SM	53.8	9015	0.124	0.1510	357	278	332
04C185CT0PC0PWP	185	SM	59.1	11420	0.0991	0.1210	410	317	386
04C240CT0PC0PWP	240	SM	66.8	14345	0.0754	0.0840	490	365	446
04C300CT0PC0PWP	300	SM	73.0	16685	0.0601	0.0770	548	431	511

CU/PVC/SWA/PVC 4 core Cable with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025CT0PC0PWP	25	SM/RM	27.9	1995	0.727/1.1500	0.87/1.3900	134	102	110
3HC035CT0PC0PWP	35	SM/RM	29.8	2375	0.524/1.1500	0.628/13900	160	123	135
3HC050CT0PC0PWP	50	SM	34.9	3320	0.387/0.7270	0.646/0.8700	190	146	163
3HC070CT0PC0PWP	70	SM	38.3	4135	0.268/0.5240	0.322/0.6280	233	180	205
3HC095CT0PC0PWP	95	SM	43.2	5680	0.193/0.3870	0.232/0.4640	280	217	251
3HC120CT0PC0PWP	120	SM	47.5	6870	0.153/0.2680	0.185/0.3220	319	248	291
3HC150CT0PC0PWP	150	SM	51.4	8130	0.124/0.2680	0.151/0.3220	357	278	332
3HC185CT0PC0PWP	185	SM	56.3	9700	0.0991/0.1930	0.121/0.2320	410	317	386
3HC240CT0PC0PWP	240	SM	64.0	12990	0.0754/0.1530	0.084/0.1850	476	364	446
3HC300CT0PC0PWP	300	SM	69.8	15355	0.601/0.1240	0.077/0.1510	527	407	511

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

STRANDED ALUMINUM

Multi Core

PVC Insulated

0.6/1 kv

APPLICATIONS:

For indoor and outdoor installations in damp and wet locations.

Where mechanical damage is expected to occur.

Maximum operating temperature: 70°C

CONSTRUCTION:

1. CONDUCTOR

   Aluminum, semi-rigid class 2

2. INSULATION

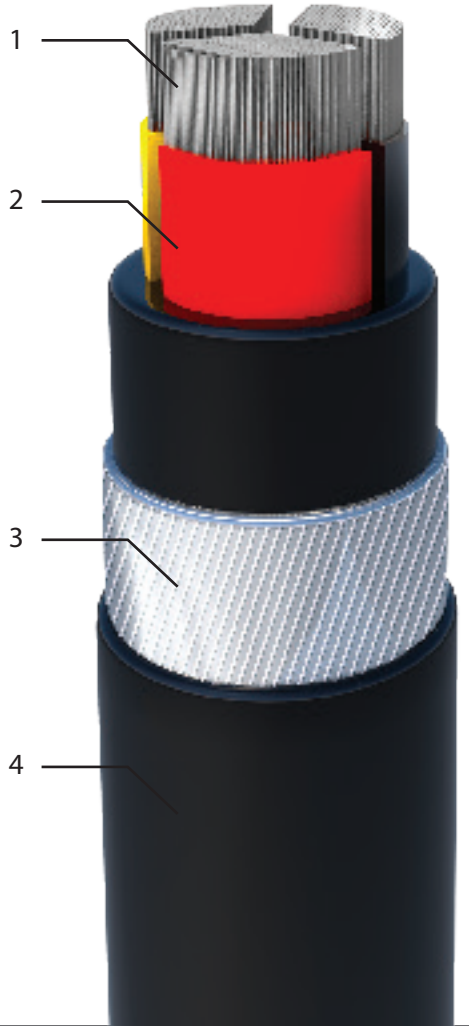
   Polyvinyl Chloride [PVC]

3. ARMOUR

   Galvanized Round Steel Wire

4. SHEATH

   Polyvinyl Chloride [PVC]



STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV

9.0 Technical Data Tables

AL/PVC/SWA/PVC 2 CORES

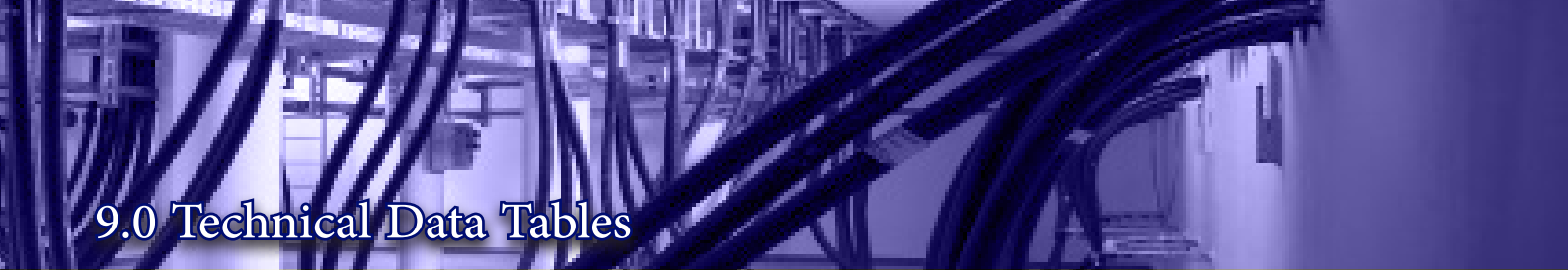
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C016AT0PC0PWP	16	RM	22.8	860	1.91	2.29	92	73	71
02C025AT0PC0PWP	25	RM	26.1	1050	1.2	1.44	120	95	94
02C035AT0PC0PWP	35	RM	28.4	1190	0.868	1.04	144	114	115
02C050AT0PC0PWP	50	SM	26.5	1410	0.641	0.771	169	134	139
02C070AT0PC0PWP	70	SM	29.1	1895	0.443	0.533	211	165	176
02C095AT0PC0PWP	95	SM	33.3	2295	0.32	0.385	252	199	213

AL/PVC/SWA/PVC 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C016AT0PC0PWP	16	RM	23.9	1050	1.91	2.29	77	62	62
03C025AT0PC0PWP	25	SM	25.3	1270	1.2	1.44	102	80	81
03C035AT0PC0PWP	35	SM	27.6	1465	0.868	1.04	124	95	98
03C050AT0PC0PWP	50	SM	31.2	1950	0.641	0.771	146	113	120
03C070AT0PC0PWP	70	SM	35.2	2420	0.443	0.533	179	139	151
03C095AT0PC0PWP	95	SM	39.3	2965	0.32	0.385	214	168	185
03C120AT0PC0PWP	120	SM	42.3	3700	0.253	0.305	246	193	215
03C150AT0PC0PWP	150	SM	47.3	4370	0.206	0.249	275	215	250
03C185AT0PC0PWP	185	SM	51.4	5080	0.164	0.199	316	245	286
03C240AT0PC0PWP	240	SM	56.9	6800	0.125	0.151	367	283	340
03C300AT0PC0PWP	300	SM	63.9	7900	0.100	0.123	388	312	391

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



9.0 Technical Data Tables

AL/PVC/SWA/PVC 4 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C016AT0PC0PWP	16	RM	25.7	1190	1.91	2.29	77	62	62
04C025AT0PC0PWP	25	SM	28.5	1490	1.2	1.44	102	80	81
04C035AT0PC0PWP	35	SM	31.1	1720	0.868	1.04	124	95	98
04C050AT0PC0PWP	50	SM	36.1	2385	0.641	0.771	146	113	120
04C070AT0PC0PWP	70	SM	39.9	2900	0.443	0.533	179	139	151
04C095AT0PC0PWP	95	SM	45.2	4040	0.32	0.385	214	168	185
04C120AT0PC0PWP	120	SM	49.2	4560	0.253	0.305	246	193	215
04C150AT0PC0PWP	150	SM	53.8	5310	0.206	0.249	275	215	250
04C185AT0PC0PWP	185	SM	59.1	6800	0.164	0.199	316	245	286
04C240AT0PC0PWP	240	SM	66.8	8290	0.125	0.151	367	283	340
04C300AT0PC0PWP	300	SM	73.0	9614	0.1	0.123	388	312	391

AL/PVC/SWA/PVC 4 core Cable with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 70 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025AT0PC0PWP	25	SM/RM	27.9	1440	1.200/1.1910	1.440/2.290	102	80	81
3HC035AT0PC0PWP	35	SM/RM	29.8	1635	0.868/1.9100	1.0430/2.2900	124	95	98
3HC050AT0PC0PWP	50	SM	34.9	2290	0.641/1.2000	0.7710/1.4400	146	113	120
3HC070AT0PC0PWP	70	SM	38.3	2650	0.443/0.8680	0.5330/1.0400	179	139	151
3HC095AT0PC0PWP	95	SM	43.2	3640	0.32/0.6410	0.3850/0.7710	214	168	185
3HC120AT0PC0PWP	120	SM	47.5	4220	0.253/0.4430	0.3050/0.5330	246	193	215
3HC150AT0PC0PWP	150	SM	51.4	4950	0.206/0.4430	0.2490/0.5330	275	215	250
3HC185AT0PC0PWP	185	SM	56.3	5710	0.164/0.3200	0.1990/0.3850	316	245	286
3HC240AT0PC0PWP	240	SM	64.0	7730	0.125/0.2530	0.1510/0.3050	367	283	340
3HC300AT0PC0PWP	300	SM	69.8	8880	0.1/0.2060	0.1230/0.2490	388	312	391

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

STRANDED COPPER

Single Core

XLPE Insulated

0.6/1 kv

APPLICATIONS:

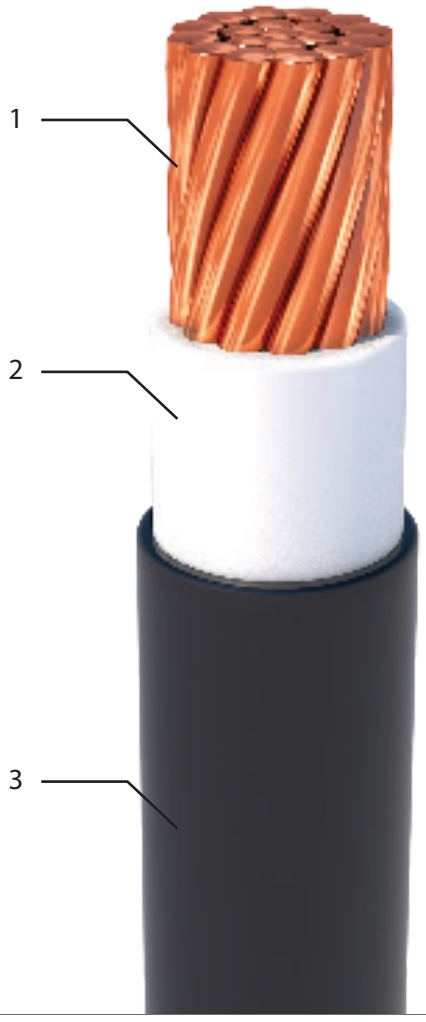
For outdoor and indoor installations in dump and wet locations, They are normally used for power distribution in urban networks. industrial plants. As well as in thermopower and Hydropower stations.
Maximum operating temperature: 90°C

CONSTRUCTION:

1. CONDUCTOR
   Copper, semi-rigid class 2

2. INSULATION
   Cross-Linked polyethylene [XLPE]

3. SHEATH
   Polyvinyl Chloride [PVC]



STANDARDS:

IEC 60502-1
IEC 60228

RATED VOLTAGE:

0.6/1 KV

9.0 Technical Data Tables

CU/XLPE/PVC 1 CORE Flat

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)	(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
				Ω/Km	Ω/Km	A	A	A
01C004CT0XC000P	4	6.5	90	4.61	5.88	67	45	52
01C006CT0XC000P	6	7.0	110	3.08	3.93	82	60	65
01C010CT0XC000P	10	7.8	160	1.83	2.33	118	77	87
01C016CT0XC000P	16	8.7	210	1.15	1.47	140	98	121
01C025CT0XC000P	25	10.5	310	0.727	0.927	181	124	151
01C035CT0XC000P	35	11.1	410	0.524	0.669	216	155	190
01C050CT0XC000P	50	12.4	530	0.387	0.494	254	184	231
01C070CT0XC000P	70	14.6	725	0.268	0.343	318	226	295
01C095CT0XC000P	95	16.4	985	0.193	0.248	375	273	370
01C120CT0XC000P	120	18.1	1220	0.153	0.197	432	308	433
01C150CT0XC000P	150	20.1	1495	0.124	0.160	476	350	491
01C185CT0XC000P	185	22.4	1855	0.0991	0.1290	547	398	572
01C240CT0XC000P	240	25.4	2410	0.0754	0.990	629	457	705
01C300CT0XC000P	300	27.4	2990	0.0601	0.0810	711	516	832
01C400CT0XC000P	400	31.3	3805	0.047	0.0638	813	582	959
01C500CT0XC000P	500	35.4	4885	0.0366	0.0517	920	646	1086
01C630CT0XC000P	630	42.0	6235	0.0283	0.0425	1054	736	1247

CU/XLPE/PVC 1 CORE Trefoil

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)	(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
				Ω/Km	Ω/Km	A	A	A
01C004CT0XC000P	4	6.5	90	4.61	5.88	62	45	44
01C006CT0XC000P	6	7.0	110	3.08	3.93	79	60	58
01C010CT0XC000P	10	7.8	160	1.83	2.33	104	77	75
01C016CT0XC000P	16	8.7	210	1.15	1.47	134	98	105
01C025CT0XC000P	25	10.5	310	0.727	0.927	172	124	133
01C035CT0XC000P	35	11.1	410	0.524	0.669	208	155	167
01C050CT0XC000P	50	12.4	530	0.387	0.494	242	184	202
01C070CT0XC000P	70	14.6	725	0.268	0.343	299	226	260
01C095CT0XC000P	95	16.4	985	0.193	0.248	355	273	318
01C120CT0XC000P	120	18.1	1220	0.153	0.197	406	308	375
01C150CT0XC000P	150	20.1	1495	0.124	0.160	451	350	428
01C185CT0XC000P	185	22.4	1855	0.0991	0.1290	514	398	485
01C240CT0XC000P	240	25.4	2410	0.0754	0.990	590	457	590
01C300CT0XC000P	300	27.4	2990	0.0601	0.0810	660	516	682
01C400CT0XC000P	400	31.3	3805	0.047	0.0638	750	582	785
01C500CT0XC000P	500	35.4	4885	0.0366	0.0517	838	646	895
01C630CT0XC000P	630	42.0	6235	0.0283	0.0425	939	736	1052

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

STRANDED ALUMINUM

Single Core

XLPE Insulated

0.6/1 kv

APPLICATIONS:

For indoor and outdoor installations in damp and wet locations.

They are normally used for power distribution in urban networks, industrial plants as well as in thermopower and hydropower stations.

Maximum operating temperature: 90°C

CONSTRUCTION:

1. CONDUCTOR

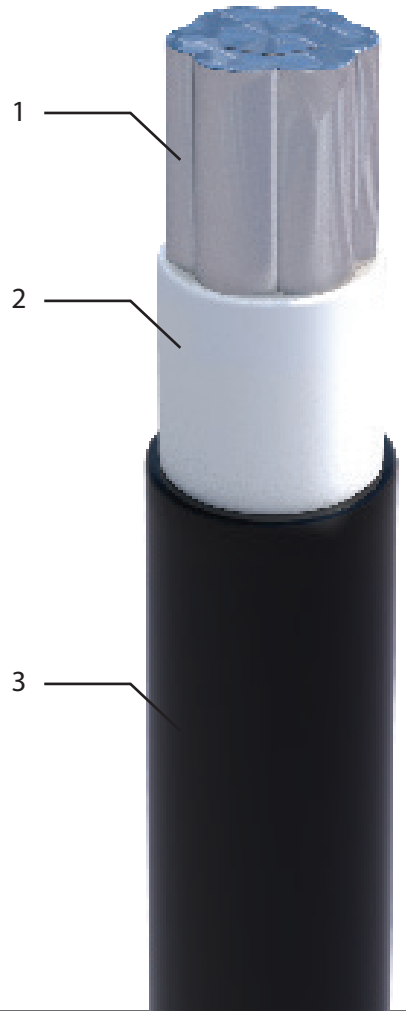
   Aluminum, semi-rigid class 2

2. INSULATION

   Cross-linked polyethylene [XLPE]

3. SHEATH

   Polyvinyl Chloride [PVC]



STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV

9.0 Technical Data Tables

AL/XLPE/PVC 1 CORE Flat

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)	(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
				Ω/Km	Ω/Km	A	A	A
01C016AT0XC000P	16	8.8	118	1.91	2.45	108	75	92
01C025AT0XC000P	25	10.5	165	1.2	1.54	137	95	121
01C035AT0XC000P	35	11.5	200	0.868	1.113	166	119	151
01C050AT0XC000P	50	12.8	240	0.641	0.822	197	137	185
01C070AT0XC000P	70	15.1	328	0.443	0.569	242	172	237
01C095AT0XC000P	95	16.5	420	0.32	0.411	285	202	300
01C120AT0XC000P	120	18.2	505	0.253	0.325	336	243	347
01C150AT0XC000P	150	20.1	620	0.206	0.265	375	267	398
01C185AT0XC000P	185	22.4	765	0.164	0.212	426	302	462
01C240AT0XC000P	240	25.4	960	0.125	0.163	496	356	549
01C300AT0XC000P	300	27.4	1170	0.1	0.131	565	403	624
01C400AT0XC000P	400	32.2	1470	0.0778	0.1	654	463	745
01C500AT0XC000P	500	35.4	1890	0.0605	0.087	736	528	867
01C630AT0XC000P	630	42.2	2360	0.0469	0.062	844	606	1016

AL/XLPE/PVC 1 CORE Trefoil

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)	(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
				Ω/Km	Ω/Km	A	A	A
01C016AT0XC000P	16	8.8	118	1.91	2.45	105	75	69
01C025AT0XC000P	25	10.5	165	1.2	1.54	133	95	105
01C035AT0XC000P	35	11.5	200	0.868	1.113	158	119	133
01C050AT0XC000P	50	12.8	240	0.641	0.822	187	137	162
01C070AT0XC000P	70	15.1	328	0.443	0.569	229	172	197
01C095AT0XC000P	95	16.5	420	0.32	0.411	273	202	237
01C120AT0XC000P	120	18.2	505	0.253	0.325	318	243	266
01C150AT0XC000P	150	20.1	620	0.206	0.265	355	267	329
01C185AT0XC000P	185	22.4	765	0.164	0.212	406	302	370
01C240AT0XC000P	240	25.4	960	0.125	0.163	470	356	439
01C300AT0XC000P	300	27.4	1170	0.1	0.131	527	403	508
01C400AT0XC000P	400	32.2	1470	0.0778	0.1	609	463	595
01C500AT0XC000P	500	35.4	1890	0.0605	0.087	686	528	693
01C630AT0XC000P	630	42.2	2360	0.0469	0.062	781	606	821

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

STRANDED COPPER

Multi Core

XLPE Insulated

0.6/1 kv

APPLICATIONS:

Simi-rigid for use in low voltage power distribution in fixed indoor and outdoor installations.

Maximum operating temperature: 90 °C

CONSTRUCTION:

1. CONDUCTOR

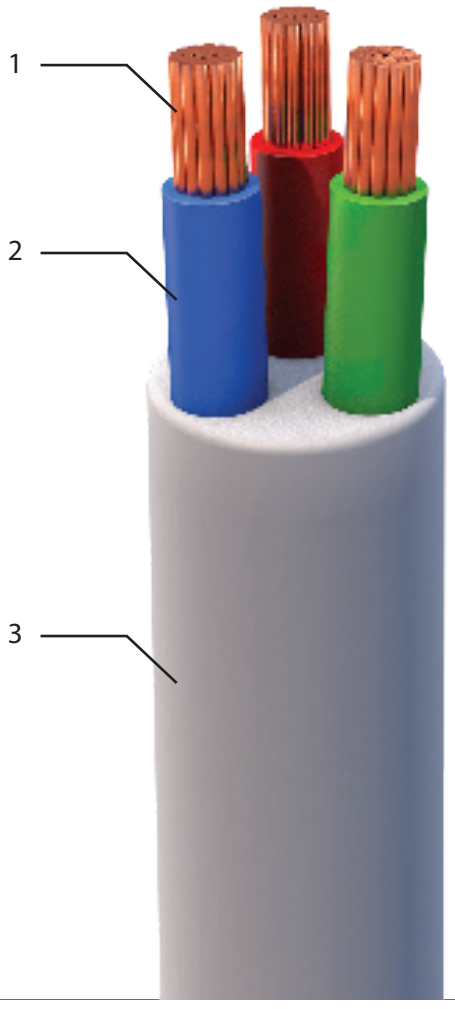
   Copper, semi-rigid class 2

2. INSULATION

   Cross-Linked polyethylene [XLPE]

3. SHEATH

   Polyvinyl Chloride [PVC]



STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV

9.0 Technical Data Tables

CU/XLPE/PVC 2 CORES

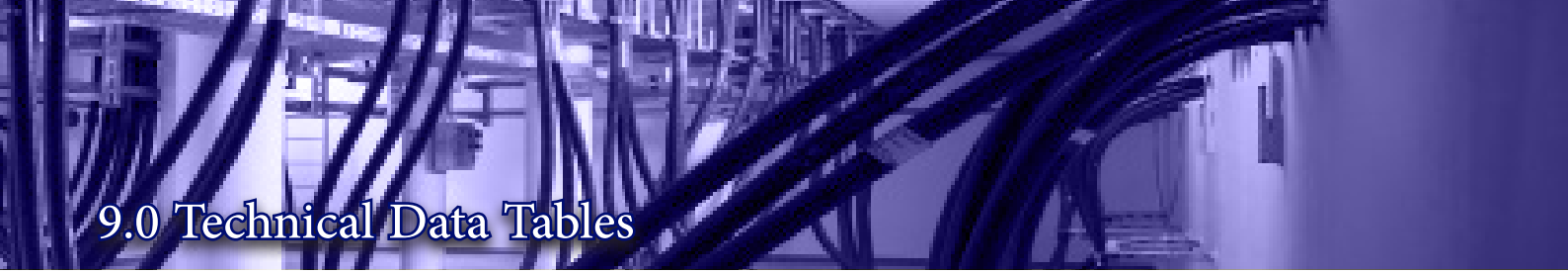
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C01.5CT0XC000P	1.5	RM	9.0	120	12.1	15.43	40	31	29
02C02.5CT0XC000P	2.5	RM	9.8	150	7.41	9.45	51	40	39
02C004CT0XC000P	4	RM	11.0	285	4.61	5.88	68	52	52
02C006CT0XC000P	6	RM	12.0	340	3.08	3.93	85	66	66
02C010CT0XC000P	10	RM	14.1	305	1.83	2.33	114	87	90
02C016CT0XC000P	16	RM	15.8	450	1.15	1.47	145	112	116
02C025CT0XC000P	25	RM	19.4	650	0.727	0.927	187	136	150
02C035CT0XC000P	35	RM	20.7	840	0.524	0.669	224	165	185
02C050CT0XC000P	50	SM	19.8	1085	0.387	0.494	265	199	226
02C070CT0XC000P	70	SM	22.5	1505	0.268	0.343	328	247	289
02C095CT0XC000P	95	SM	25.1	2015	0.193	0.248	395	302	352

CU/XLPE/PVC 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C01.5CT0XC000P	1.5	RM	9.4	140	12.1	15.43	33	25	25
03C02.5CT0XC000P	2.5	RM	10.3	185	7.41	9.45	43	33	33
03C004CT0XC000P	4	RM	11.6	290	4.61	5.88	56	44	44
03C006CT0XC000P	6	RM	12.7	365	3.08	3.93	70	54	56
03C010CT0XC000P	10	RM	14.9	510	1.83	2.33	94	73	78
03C016CT0XC000P	16	RM	16.8	605	1.15	1.47	122	90	100
03C025CT0XC000P	25	SM	18.6	910	0.727	0.927	150	122	128
03C035CT0XC000P	35	SM	20.7	1190	0.524	0.669	186	141	158
03C050CT0XC000P	50	SM	23.7	1560	0.387	0.494	222	171	193
03C070CT0XC000P	70	SM	27.1	2210	0.268	0.343	273	209	246
03C095CT0XC000P	95	SM	30.4	2970	0.193	0.248	325	247	298
03C120CT0XC000P	120	SM	34.0	3715	0.153	0.197	376	292	347
03C150CT0XC000P	150	SM	37.9	4625	0.124	0.160	417	321	399
03C185CT0XC000P	185	SM	42.0	5660	0.0991	0.1290	484	370	457
03C240CT0XC000P	240	SM	47.1	7445	0.0754	0.990	561	427	539
03C300CT0XC000P	300	SM	51.8	9150	0.0601	0.0810	624	486	622

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



9.0 Technical Data Tables

CU/XLPE/PVC 4 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C01.5CT0XC000P	1.5	RM	10.2	215	12.1	15.43	33	25	25
04C02.5CT0XC000P	2.5	RM	11.1	275	7.41	9.45	43	33	33
04C004CT0XC000P	4	RM	12.6	350	4.61	5.88	56	44	44
04C006CT0XC000P	6	RM	13.9	445	3.08	3.93	70	54	56
04C010CT0XC000P	10	RM	16.2	630	1.83	2.33	94	73	78
04C016CT0XC000P	16	RM	18.4	790	1.15	1.47	122	90	100
04C025CT0XC000P	25	SM	21.3	1170	0.727	0.927	150	122	128
04C035CT0XC000P	35	SM	23.7	1540	0.524	0.669	186	141	158
04C050CT0XC000P	50	SM	27.2	2060	0.387	0.494	222	171	193
04C070CT0XC000P	70	SM	31.5	2895	0.268	0.343	273	209	246
04C095CT0XC000P	95	SM	35.3	3905	0.193	0.248	325	247	298
04C120CT0XC000P	120	SM	39.2	4930	0.153	0.197	376	292	347
04C150CT0XC000P	150	SM	44.0	6085	0.124	0.160	417	321	399
04C185CT0XC000P	185	SM	48.7	7495	0.0991	0.1290	484	370	457
04C240CT0XC000P	240	SM	54.6	9835	0.0754	0.990	561	427	539
04C300CT0XC000P	300	SM	60.3	12135	0.0601	0.0810	624	486	622

CU/XLPE/PVC 4 core Cable with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025CT0XC000P	25	SM/RM	20.7	1080	0.727/1.1500	0.927/1.4700	150	122	128
3HC035CT0XC000P	35	SM/RM	22.6	1360	0.524/1.1500	0.669/1.4700	186	141	158
3HC050CT0XC000P	50	SM	26.0	1835	0.387/0.7270	0.494/0.9270	222	171	193
3HC070CT0XC000P	70	SM	29.9	2545	0.268/0.5240	0.343/0.6690	273	209	246
3HC095CT0XC000P	95	SM	33.6	3450	0.193/0.3870	0.248/0.4940	325	247	298
3HC120CT0XC000P	120	SM	37.7	4400	0.153/0.2680	0.197/0.3430	376	292	347
3HC150CT0XC000P	150	SM	41.6	5305	0.124/0.2680	0.16/0.3430	417	321	399
3HC185CT0XC000P	185	SM	46.5	6625	0.0991/0.1930	0.129/0.2480	484	370	457
3HC240CT0XC000P	240	SM	51.8	8630	0.0754/0.1530	0.099/0.1970	561	427	539
3HC300CT0XC000P	300	SM	57.1	10550	0.601/0.1240	0.081/0.1600	624	486	622

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

STRANDED ALUMINUM

Multi Core

XLPE Insulated

0.6/1 kv

APPLICATIONS:

For indoor and outdoor installations in damp and wet locations.

Maximum operating temperature: 90°C

CONSTRUCTION:

1. CONDUCTOR

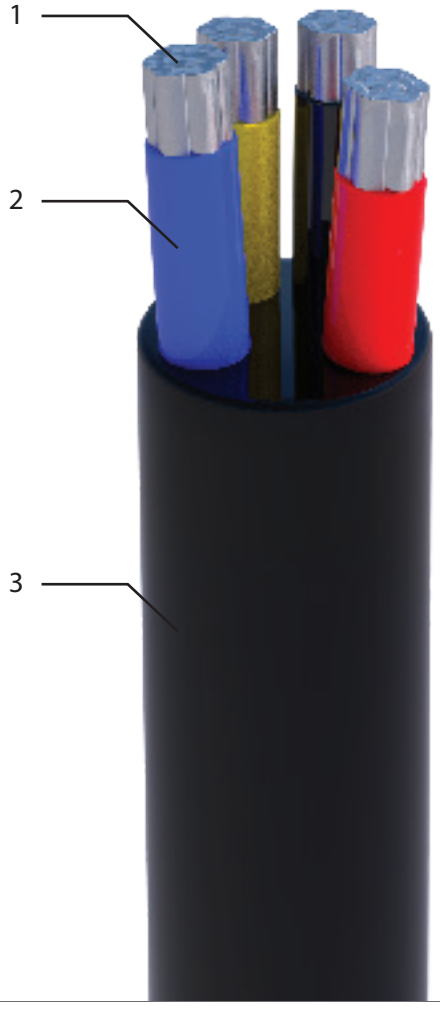
   Aluminum, semi-rigid class 2

2. INSULATION

   Cross-Linked polyethylene [XLPE]

3. SHEATH

   Polyvinyl Chloride [PVC]



STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV

9.0 Technical Data Tables

AL/XLPE/PVC 2 CORES

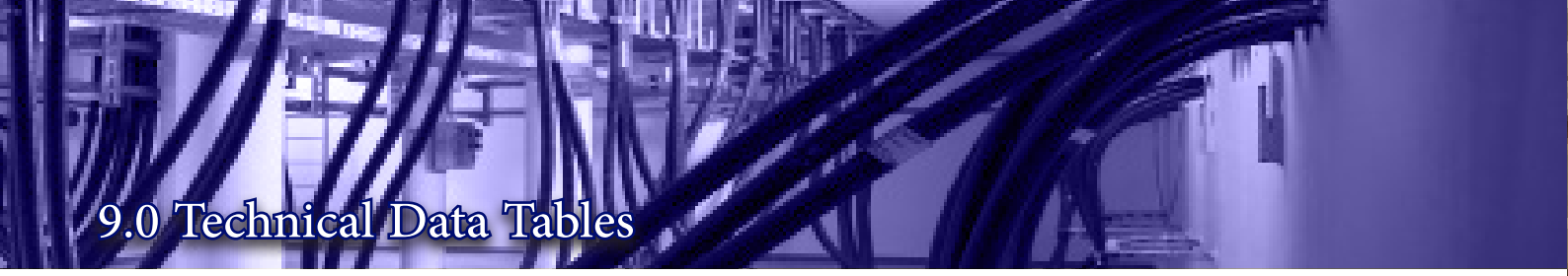
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C016AT0XC000P	16	RM	16.1	260	1.91	2.45	107	80	87
02C025AT0XC000P	25	RM	19.4	340	1.2	1.54	139	102	108
02C035AT0XC000P	35	RM	21.5	410	0.868	1.113	170	127	135
02C050AT0XC000P	50	SM	19.8	500	0.641	0.822	201	146	164
02C070AT0XC000P	70	SM	22.5	660	0.443	0.569	247	190	211
02C095AT0XC000P	95	SM	25.1	850	0.32	0.411	293	228	257

AL/XLPE/PVC 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C016AT0XC000P	16	RM	17.1	320	1.91	2.45	91	68	73
03C025AT0XC000P	25	SM	18.6	450	1.2	1.54	119	89	97
03C035AT0XC000P	35	SM	20.7	550	0.868	1.113	139	107	120
03C050AT0XC000P	50	SM	23.7	685	0.641	0.822	170	131	146
03C070AT0XC000P	70	SM	27.1	940	0.443	0.569	206	160	187
03C095AT0XC000P	95	SM	30.4	1220	0.32	0.411	247	190	228
03C120AT0XC000P	120	SM	34.0	1485	0.253	0.325	284	219	263
03C150AT0XC000P	150	SM	37.9	1850	0.206	0.265	320	247	305
03C185AT0XC000P	185	SM	42.0	2255	0.164	0.212	364	281	348
03C240AT0XC000P	240	SM	47.1	2905	0.125	0.163	432	330	409
03C300AT0XC000P	300	SM	51.8	3560	0.100	0.131	484	374	472

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



9.0 Technical Data Tables

AL/XLPE/PVC 4 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C016AT0XC000P	16	RM	18.7	415	1.91	2.45	91	68	73
04C025AT0XC000P	25	SM	21.3	560	1.2	1.54	119	89	97
04C035AT0XC000P	35	SM	23.7	685	0.868	1.113	139	107	120
04C050AT0XC000P	50	SM	27.2	890	0.641	0.822	170	131	146
04C070AT0XC000P	70	SM	31.5	1200	0.443	0.569	206	160	187
04C095AT0XC000P	95	SM	35.3	1570	0.32	0.411	247	190	228
04C120AT0XC000P	120	SM	39.2	1955	0.253	0.325	284	219	263
04C150AT0XC000P	150	SM	44.0	2380	0.206	0.265	320	247	305
04C185AT0XC000P	185	SM	48.7	2950	0.164	0.212	364	281	348
04C240AT0XC000P	240	SM	54.6	3780	0.125	0.163	432	330	409
04C300AT0XC000P	300	SM	60.3	4670	0.100	0.131	484	374	472

AL/XLPE/PVC 4 core Cable with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025AT0XC000P	25	SM/RM	20.7	525	1.200/1.1910	1.5400/2.4500	119	89	97
3HC035AT0XC000P	35	SM/RM	22.6	625	0.868/1.9100	1.1130/2.4500	139	107	120
3HC050AT0XC000P	50	SM	26.0	805	0.641/1.2000	0.8220/1.5400	170	131	146
3HC070AT0XC000P	70	SM	29.9	1060	0.443/0.8680	0.5690/1.1130	206	160	187
3HC095AT0XC000P	95	SM	33.6	1405	0.32/0.6410	0.4110/0.8220	247	190	228
3HC120AT0XC000P	120	SM	37.7	1750	0.253/0.4430	0.3250/0.5690	284	219	263
3HC150AT0XC000P	150	SM	41.6	2120	0.206/0.4430	0.2650/0.5690	320	247	305
3HC185AT0XC000P	185	SM	46.5	2630	0.164/0.3200	0.2120/0.4110	364	281	348
3HC240AT0XC000P	240	SM	51.8	3370	0.125/0.2530	0.1630/0.3250	432	330	409
3HC300AT0XC000P	300	SM	57.1	4090	0.1000/0.2060	0.1310/0.2650	484	374	472

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

STRANDED COPPER

Multi Core

XLPE Insulated

0.6/1 kv

APPLICATIONS:

For indoor and outdoor installations in damp and wet locations.

Where mechanical damage is expected to occur.

Maximum operating temperature: 90 °C

CONSTRUCTION:

1. CONDUCTOR

   Copper, semi-rigid class 2

2. INSULATION

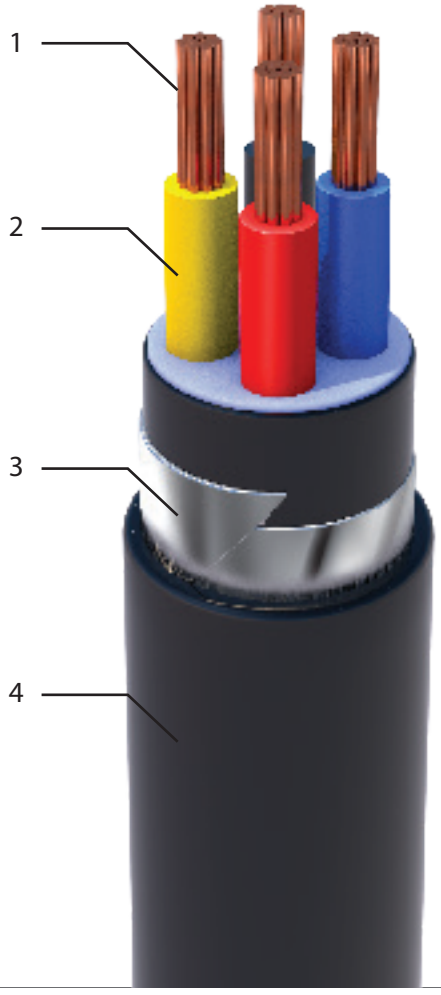
   Cross-linked polyethylene [XLPE]

3. ARMOUR

   Double Steel Tape

4. SHEATH

   Polyvinyl Chloride [PVC]



STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV

9.0 Technical Data Tables

CU/XLPE/STA/PVC 2 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C006CT0XC0PTP	6	RM	14.2	470	3.08	3.93	83	66	66
02C010CT0XC0PTP	10	RM	16.3	595	1.83	2.33	112	87	90
02C016CT0XC0PTP	16	RM	18.0	635	1.15	1.47	142	112	116
02C025CT0XC0PTP	25	RM	21.6	865	0.727	0.927	186	141	152
02C035CT0XC0PTP	35	RM	22.9	1075	0.524	0.669	222	171	188
02C050CT0XC0PTP	50	SM	22.0	1345	0.387	0.494	262	205	228
02C070CT0XC0PTP	70	SM	24.7	1840	0.268	0.343	325	253	292
02C095CT0XC0PTP	95	SM	27.3	2405	0.193	0.248	393	304	354

CU/XLPE/STA/PVC 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C006CT0XC0PTP	6	RM	14.9	525	3.08	3.93	70	54	56
03C010CT0XC0PTP	10	RM	17.1	685	1.83	2.33	94	73	78
03C016CT0XC0PTP	16	RM	19.0	810	1.15	1.47	117	92	99
03C025CT0XC0PTP	25	SM	20.8	1150	0.727	0.927	155	122	131
03C035CT0XC0PTP	35	SM	22.9	1455	0.524	0.669	186	146	162
03C050CT0XC0PTP	50	SM	25.9	1870	0.387	0.494	222	171	197
03C070CT0XC0PTP	70	SM	29.5	2600	0.268	0.343	273	209	251
03C095CT0XC0PTP	95	SM	33.2	3765	0.193	0.248	325	253	305
03C120CT0XC0PTP	120	SM	38.0	4590	0.153	0.197	371	292	353
03C150CT0XC0PTP	150	SM	41.9	5625	0.124	0.160	417	325	406
03C185CT0XC0PTP	185	SM	46.6	6790	0.0991	0.1290	479	370	463
03C240CT0XC0PTP	240	SM	51.5	8765	0.0754	0.990	551	427	547
03C300CT0XC0PTP	300	SM	56.8	10565	0.0601	0.0810	613	481	628

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

9.0 Technical Data Tables

CU/XLPE/STA/PVC 4 CORES

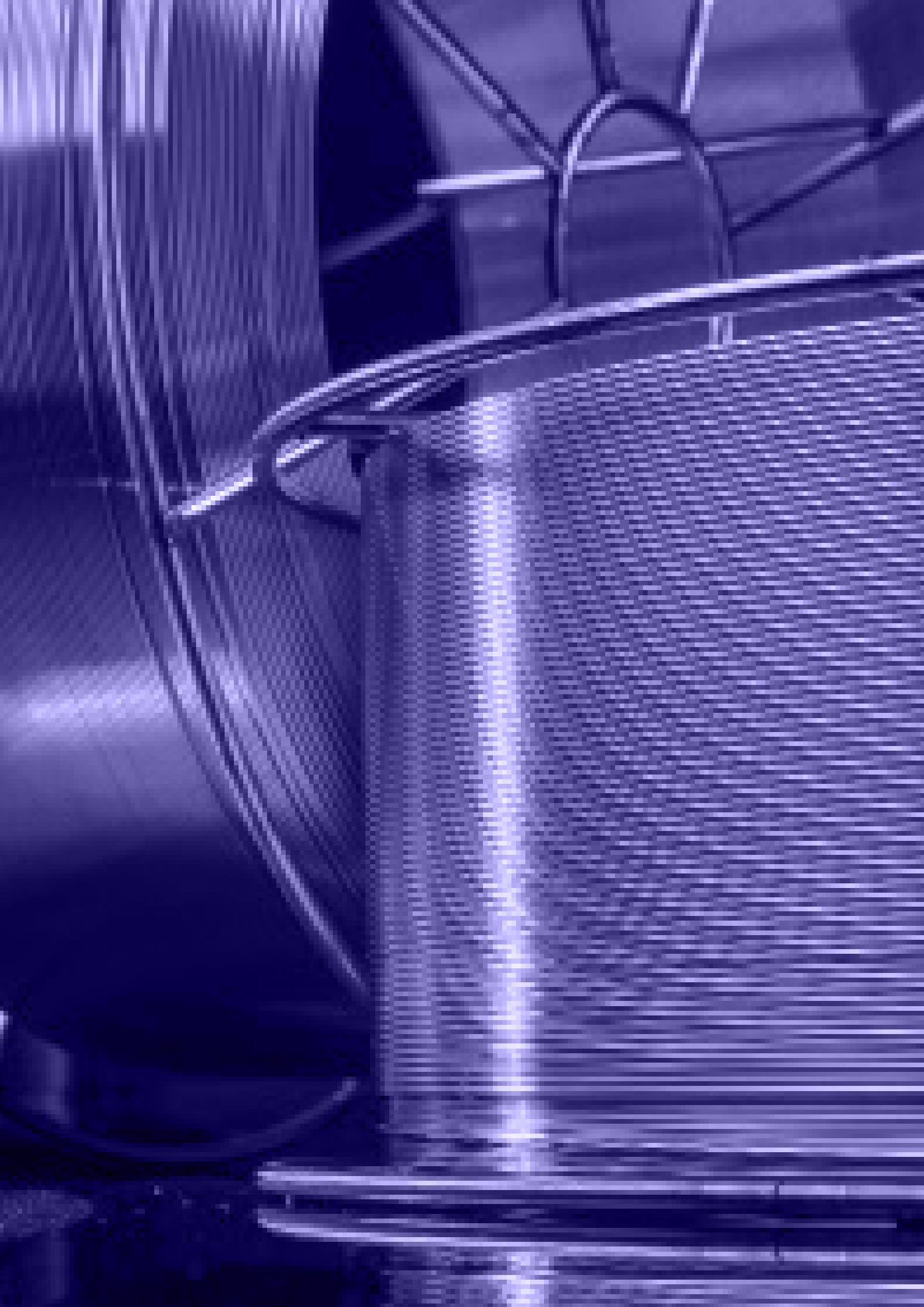
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C006CT0XC0PTP	6	RM	16.1	615	3.08	3.93	70	54	56
04C010CT0XC0PTP	10	RM	18.4	825	1.83	2.33	94	73	78
04C016CT0XC0PTP	16	RM	20.6	1020	1.15	1.47	117	92	99
04C025CT0XC0PTP	25	SM	23.5	1440	0.727	0.927	155	122	131
04C035CT0XC0PTP	35	SM	25.9	1835	0.524	0.669	186	146	162
04C050CT0XC0PTP	50	SM	29.6	2440	0.387	0.494	222	171	197
04C070CT0XC0PTP	70	SM	34.3	3690	0.268	0.343	273	209	251
04C095CT0XC0PTP	95	SM	39.3	4850	0.193	0.248	325	253	305
04C120CT0XC0PTP	120	SM	43.8	5950	0.153	0.197	371	292	353
04C150CT0XC0PTP	150	SM	48.4	7230	0.124	0.160	417	325	406
04C185CT0XC0PTP	185	SM	53.3	8825	0.0991	0.1290	479	370	463
04C240CT0XC0PTP	240	SM	59.6	11315	0.0754	0.990	551	427	547
04C300CT0XC0PTP	300	SM	65.3	13760	0.0601	0.0810	613	481	628

CU/XLPE/STA/PVC 4 core Cable with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025CT0XC0PTP	25	SM/RM	22.9	1345	0.727/1.1500	0.927/1.4700	155	122	131
3HC035CT0XC0PTP	35	SM/RM	24.8	1655	0.524/1.1500	0.669/1.4700	186	146	162
3HC050CT0XC0PTP	50	SM	28.4	2215	0.387/0.7270	0.494/0.9270	222	171	197
3HC070CT0XC0PTP	70	SM	32.7	2970	0.268/0.5240	0.343/0.6690	273	209	251
3HC095CT0XC0PTP	95	SM	37.8	4280	0.193/0.3870	0.248/0.4940	325	253	305
3HC120CT0XC0PTP	120	SM	41.7	5395	0.153/0.2680	0.197/0.3430	371	292	353
3HC150CT0XC0PTP	150	SM	46.2	6425	0.124/0.2680	0.16/0.3430	417	325	406
3HC185CT0XC0PTP	185	SM	50.9	7800	0.0991/0.1930	0.129/0.2480	479	370	463
3HC240CT0XC0PTP	240	SM	56.8	10055	0.0754/0.1530	0.099/0.1970	551	427	547
3HC300CT0XC0PTP	300	SM	62.1	12115	0.601/0.1240	0.081/0.1600	613	481	628

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



STRANDED ALUMINUM

Multi Core

XLPE Insulated

0.6/1 kv

APPLICATIONS:

For indoor and outdoor installations in damp and wet locations.

Where mechanical damage is expected to occur.

Maximum operating temperature: 90 °C

CONSTRUCTION:

1. CONDUCTOR

   Aluminum, semi-rigid class 2

2. INSULATION

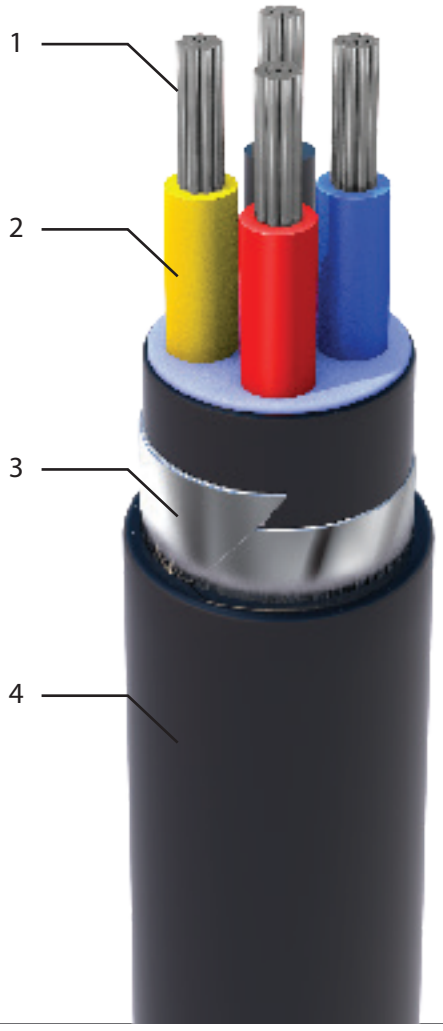
   Cross-linked polyethylene [XLPE]

3. ARMOUR

   Double Steel Tape

4. SHEATH

   Polyvinyl Chloride [PVC]



STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV

9.0 Technical Data Tables

AL/XLPE/STA/PVC 2 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C016AT0XC0PTP	16	RM	18.3	450	1.91	2.45	107	82	90
02C025AT0XC0PTP	25	RM	21.6	560	1.2	1.54	139	107	112
02C035AT0XC0PTP	35	RM	23.7	645	0.868	1.113	170	127	139
02C050AT0XC0PTP	50	SM	22.0	760	0.641	0.822	201	150	166
02C070AT0XC0PTP	70	SM	24.7	995	0.443	0.569	247	190	211
02C095AT0XC0PTP	95	SM	27.3	1240	0.32	0.411	297	231	254

AL/XLPE/STA/PVC 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C016AT0XC0PTP	16	RM	19.3	525	1.91	2.45	91	70	74
03C025AT0XC0PTP	25	SM	20.8	690	1.2	1.54	119	92	98
03C035AT0XC0PTP	35	SM	22.9	810	0.868	1.113	139	107	120
03C050AT0XC0PTP	50	SM	25.9	995	0.641	0.822	170	131	145
03C070AT0XC0PTP	70	SM	29.5	1330	0.443	0.569	206	160	185
03C095AT0XC0PTP	95	SM	33.2	2015	0.32	0.411	247	194	224
03C120AT0XC0PTP	120	SM	38.0	2360	0.253	0.325	284	224	264
03C150AT0XC0PTP	150	SM	41.9	2850	0.206	0.265	320	247	306
03C185AT0XC0PTP	185	SM	46.6	3380	0.164	0.212	364	287	351
03C240AT0XC0PTP	240	SM	51.5	4225	0.125	0.163	427	330	418
03C300AT0XC0PTP	300	SM	56.8	4970	0.100	0.131	479	374	488

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

9.0 Technical Data Tables

AL/XLPE/STA/PVC 4 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C016AT0XC0PTP	16	RM	20.9	640	1.91	2.45	91	70	74
04C025AT0XC0PTP	25	SM	23.5	825	1.2	1.54	119	92	98
04C035AT0XC0PTP	35	SM	25.9	980	0.868	1.113	139	107	120
04C050AT0XC0PTP	50	SM	29.6	1270	0.641	0.822	170	131	145
04C070AT0XC0PTP	70	SM	34.3	2005	0.443	0.569	206	160	185
04C095AT0XC0PTP	95	SM	39.3	2510	0.32	0.411	247	194	224
04C120AT0XC0PTP	120	SM	43.8	2980	0.253	0.325	284	224	264
04C150AT0XC0PTP	150	SM	48.4	3525	0.206	0.265	320	247	306
04C185AT0XC0PTP	185	SM	53.3	4285	0.164	0.212	364	287	351
04C240AT0XC0PTP	240	SM	59.6	5260	0.125	0.163	427	330	418
04C300AT0XC0PTP	300	SM	65.3	6305	0.100	0.131	479	374	488

AL/XLPE/STA/PVC 4 CORES with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025AT0XC0PTP	25	SM/RM	22.9	790	1.200/1.1910	1.5400/2.4500	119	92	98
3HC035AT0XC0PTP	35	SM/RM	24.8	920	0.868/1.9100	1.1130/2.4500	139	107	120
3HC050AT0XC0PTP	50	SM	28.4	1190	0.641/1.2000	0.8220/1.5400	170	131	145
3HC070AT0XC0PTP	70	SM	32.7	1490	0.443/0.8680	0.5690/1.1130	206	160	185
3HC095AT0XC0PTP	95	SM	37.8	2240	0.32/0.6410	0.4110/0.8220	247	194	224
3HC120AT0XC0PTP	120	SM	41.7	2740	0.253/0.4430	0.3250/0.5690	284	224	264
3HC150AT0XC0PTP	150	SM	46.2	3240	0.206/0.4430	0.2650/0.5690	320	247	306
3HC185AT0XC0PTP	185	SM	50.9	3810	0.164/0.3200	0.2120/0.4110	364	287	351
3HC240AT0XC0PTP	240	SM	56.8	4800	0.125/0.2530	0.1630/0.3250	427	330	418
3HC300AT0XC0PTP	300	SM	62.1	5640	0.1000/0.2060	0.1310/0.2650	479	374	488

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

STRANDED COPPER

Multi Core

XLPE Insulated

0.6/1 kv

APPLICATIONS:

For indoor and outdoor installations in damp and wet locations.

Where mechanical damage is expected to occur.

Maximum operating temperature: 90 °C

CONSTRUCTION:

1. CONDUCTOR

   Copper, semi-rigid class 2

2. INSULATION

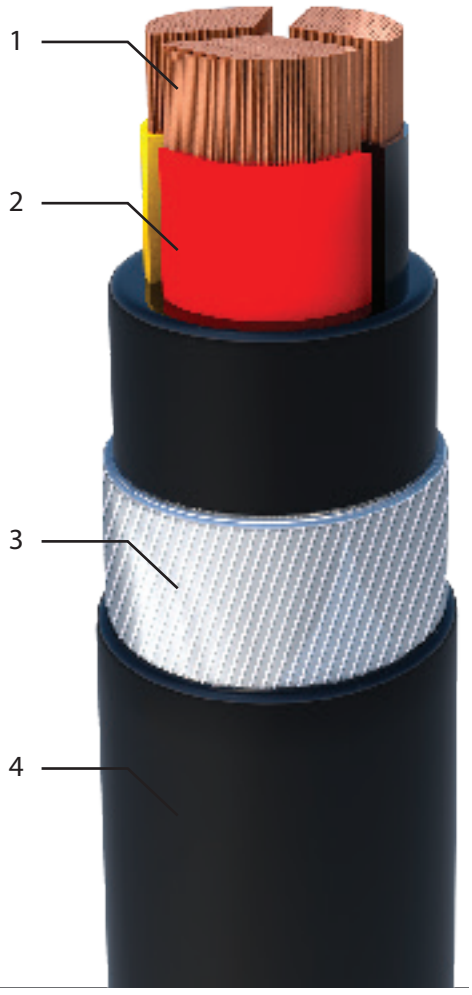
   Cross-linked polyethylene [XLPE]

3. ARMOUR

   Galvanized Round Steel Wire

4. SHEATH

   Polyvinyl Chloride [PVC]



STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV

9.0 Technical Data Tables

CU/XLPE/SWA/PVC 2 CORES

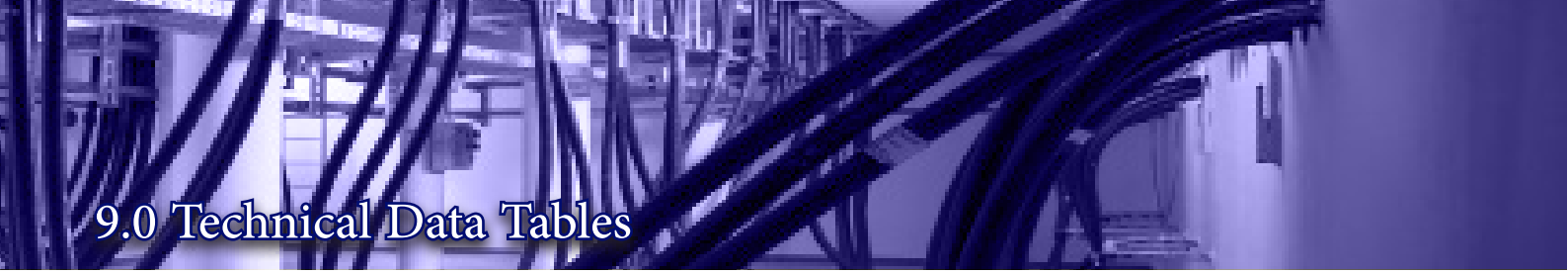
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C004CT0XC0PWP	4	RM	15.1	590	4.6100	5.8782	66	52	52
02C006CT0XC0PWP	6	RM	16.8	670	3.0800	3.9273	83	66	66
02C010CT0XC0PWP	10	RM	18.9	825	1.8300	2.3335	112	87	90
02C016CT0XC0PWP	16	RM	20.6	870	1.1500	1.4700	142	112	116
02C025CT0XC0PWP	25	RM	24.9	1245	0.7270	0.9270	186	141	152
02C035CT0XC0PWP	35	RM	26.2	1490	0.5240	0.6690	222	171	188
02C050CT0XC0PWP	50	SM	25.3	1820	0.3870	0.4940	262	205	228
02C070CT0XC0PWP	70	SM	28.2	2570	0.2680	0.3430	325	253	292
02C095CT0XC0PWP	95	SM	31.0	3200	0.1930	0.2480	393	304	354

CU/XLPE/SWA/PVC 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C004CT0XC0PWP	4	RM	16.4	635	4.6100	5.8782	56	44	44
03C006CT0XC0PWP	6	RM	17.5	730	3.0800	3.9273	70	54	56
03C010CT0XC0PWP	10	RM	19.7	930	1.8300	2.3335	94	73	78
03C016CT0XC0PWP	16	RM	22.3	1220	1.1500	1.4700	117	92	99
03C025CT0XC0PWP	25	SM	24.1	1575	0.7270	0.9270	155	122	131
03C035CT0XC0PWP	35	SM	26.2	1930	0.5240	0.6690	186	146	162
03C050CT0XC0PWP	50	SM	29.4	2425	0.3870	0.4940	222	171	197
03C070CT0XC0PWP	70	SM	34.0	3440	0.2680	0.3430	273	209	251
03C095CT0XC0PWP	95	SM	37.3	4350	0.1930	0.2480	325	253	305
03C120CT0XC0PWP	120	SM	40.7	5265	0.1530	0.1970	371	292	353
03C150CT0XC0PWP	150	SM	45.1	6735	0.1240	0.1600	417	325	406
03C185CT0XC0PWP	185	SM	49.8	8030	0.0991	0.1290	479	370	463
03C240CT0XC0PWP	240	SM	54.7	10150	0.0754	0.9900	551	427	547
03C300CT0XC0PWP	300	SM	60.0	12745	0.0601	0.0810	613	481	628

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



9.0 Technical Data Tables

CU/XLPE/SWA/PVC 4 CORES

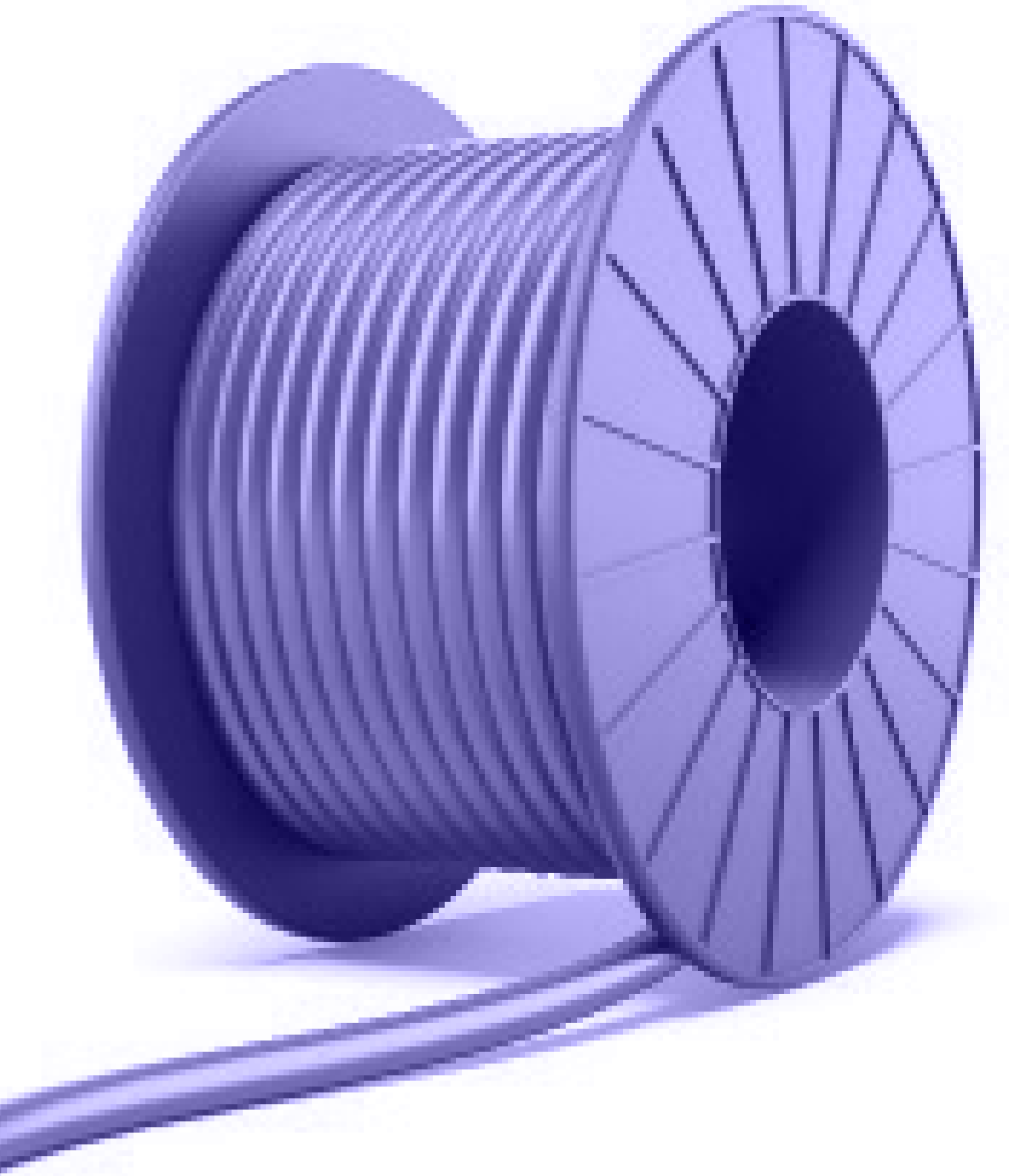
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C004CT0XC0PWP	4	RM	17.4	715	4.6100	5.8782	56	44	44
04C006CT0XC0PWP	6	RM	18.7	844	3.0800	3.9273	70	54	56
04C010CT0XC0PWP	10	RM	21.0	1193	1.8300	2.3335	94	73	78
04C016CT0XC0PWP	16	RM	23.9	1420	1.1500	1.4700	117	92	99
04C025CT0XC0PWP	25	SM	26.8	1915	0.7270	0.9270	155	122	131
04C035CT0XC0PWP	35	SM	29.4	2385	0.5240	0.6690	186	146	162
04C050CT0XC0PWP	50	SM	34.1	3260	0.3870	0.4940	222	171	197
04C070CT0XC0PWP	70	SM	38.2	4275	0.2680	0.3430	273	209	251
04C095CT0XC0PWP	95	SM	42.0	5555	0.1930	0.2480	325	253	305
04C120CT0XC0PWP	120	SM	47.0	7085	0.1530	0.1970	371	292	353
04C150CT0XC0PWP	150	SM	51.6	8495	0.1240	0.1600	417	325	406
04C185CT0XC0PWP	185	SM	56.5	10245	0.0991	0.1290	479	370	463
04C240CT0XC0PWP	240	SM	64.3	13565	0.0754	0.9900	551	427	547
04C300CT0XC0PWP	300	SM	69.8	15620	0.0601	0.0810	613	481	628

CU/XLPE/SWA/PVC 4 CORES with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025CT0XC0PWP	25	SM/RM	26.2	1820	0.727/1.1500	0.927/1.4700	155	122	131
3HC035CT0XC0PWP	35	SM/RM	28.3	2210	0.524/1.1500	0.669/1.4700	186	146	162
3HC050CT0XC0PWP	50	SM	31.9	3030	0.387/0.7270	0.494/0.9270	222	171	197
3HC070CT0XC0PWP	70	SM	36.8	3880	0.268/0.5240	0.343/0.6690	273	209	251
3HC095CT0XC0PWP	95	SM	40.5	4925	0.193/0.3870	0.248/0.4940	325	253	305
3HC120CT0XC0PWP	120	SM	44.9	6480	0.153/0.2680	0.197/0.3430	371	292	353
3HC150CT0XC0PWP	150	SM	49.4	7665	0.124/0.2680	0.16/0.3430	417	325	406
3HC185CT0XC0PWP	185	SM	54.1	9145	0.0991/0.1930	0.129/0.2480	479	370	463
3HC240CT0XC0PWP	240	SM	60.0	12285	0.0754/0.1530	0.099/0.1970	551	427	547
3HC300CT0XC0PWP	300	SM	66.6	14530	0.601/0.1240	0.081/0.1600	613	481	628

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



STRANDED ALUMINUM

Multi Core

XLPE Insulated

0.6/1 kv

APPLICATIONS:

For indoor and outdoor installations in damp and wet locations.

Where mechanical damage is expected to occur.

Maximum operating temperature: 90°C

CONSTRUCTION:

1. CONDUCTOR

   Aluminum, semi-rigid class 2

2. INSULATION

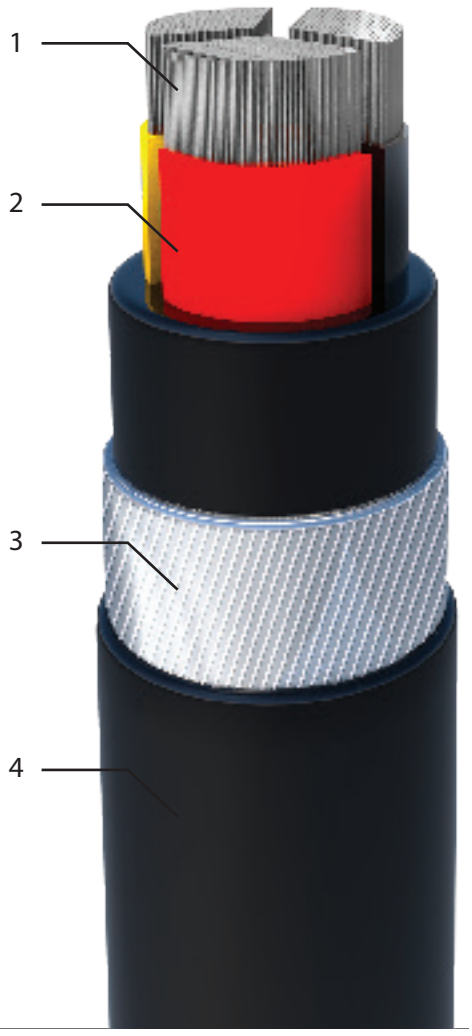
   Cross-linked ployethylene [XLPE]

3. ARMOUR

   Galvanized Round Steel Wire

4. SHEATH

   Polyvinyl Chloride [PVC]



STANDARDS:

IEC 60502-1

IEC 60228

RATED VOLTAGE:

0.6/1 KV

9.0 Technical Data Tables

AL/XLPE/SWA/PVC 2 CORES

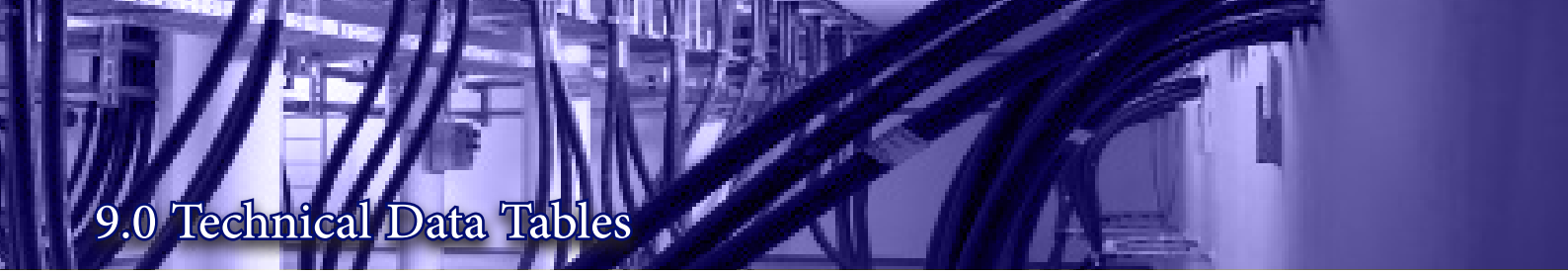
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C016AT0XC0PWP	16	RM	20.9	680	1.91	2.45	107	82	90
02C025AT0XC0PWP	25	RM	24.9	940	1.2	1.54	139	107	112
02C035AT0XC0PWP	35	RM	27.0	1060	0.868	1.113	170	127	139
02C050AT0XC0PWP	50	SM	25.3	1240	0.641	0.822	201	150	166
02C070AT0XC0PWP	70	SM	28.2	1725	0.443	0.569	247	190	211
02C095AT0XC0PWP	95	SM	31.0	2035	0.32	0.411	297	231	254

AL/XLPE/SWA/PVC 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C016AT0XC0PWP	16	RM	22.6	930	1.91	2.45	91	70	74
03C025AT0XC0PWP	25	SM	24.1	1110	1.2	1.54	119	92	98
03C035AT0XC0PWP	35	SM	26.2	1285	0.868	1.113	139	107	120
03C050AT0XC0PWP	50	SM	29.4	1550	0.641	0.822	170	131	145
03C070AT0XC0PWP	70	SM	34.0	2170	0.443	0.569	206	160	185
03C095AT0XC0PWP	95	SM	37.3	2600	0.32	0.411	247	194	224
03C120AT0XC0PWP	120	SM	40.7	3035	0.253	0.325	284	224	264
03C150AT0XC0PWP	150	SM	45.1	3960	0.206	0.265	320	247	306
03C185AT0XC0PWP	185	SM	49.8	4620	0.164	0.212	364	287	351
03C240AT0XC0PWP	240	SM	54.7	5610	0.125	0.163	427	330	418
03C300AT0XC0PWP	300	SM	60.0	7150	0.1	0.131	479	374	488

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



9.0 Technical Data Tables

AL/XLPE/SWA/PVC 4 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C016AT0XC0PWP	16	RM	24.2	1040	1.91	2.45	91	70	74
04C025AT0XC0PWP	25	SM	26.8	1300	1.2	1.54	119	92	98
04C035AT0XC0PWP	35	SM	29.4	1530	0.868	1.113	139	107	120
04C050AT0XC0PWP	50	SM	34.1	2090	0.641	0.822	170	131	145
04C070AT0XC0PWP	70	SM	38.2	2580	0.443	0.569	206	160	185
04C095AT0XC0PWP	95	SM	42.0	3220	0.32	0.411	247	194	224
04C120AT0XC0PWP	120	SM	47.0	4110	0.253	0.325	284	224	264
04C150AT0XC0PWP	150	SM	51.6	4790	0.206	0.265	320	247	306
04C185AT0XC0PWP	185	SM	56.5	5705	0.164	0.212	364	287	351
04C240AT0XC0PWP	240	SM	64.3	7510	0.125	0.163	427	330	418
04C300AT0XC0PWP	300	SM	69.8	8060	0.1	0.131	479	374	488

AL/XLPE/SWA/PVC 4 CORES with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025AT0XC0PWP	25	SM/RM	26.2	1260	1.200/1.1910	1.5400/2.4500	119	92	98
3HC035AT0XC0PWP	35	SM/RM	28.3	1470	0.868/1.9100	1.1130/2.4500	139	107	120
3HC050AT0XC0PWP	50	SM	31.9	2005	0.641/1.2000	0.8220/1.5400	170	131	145
3HC070AT0XC0PWP	70	SM	36.8	2390	0.443/0.8680	0.5690/1.1130	206	160	185
3HC095AT0XC0PWP	95	SM	40.5	2880	0.32/0.6410	0.4110/0.8220	247	194	224
3HC120AT0XC0PWP	120	SM	44.9	3830	0.253/0.4430	0.3250/0.5690	284	224	264
3HC150AT0XC0PWP	150	SM	49.4	4480	0.206/0.4430	0.2650/0.5690	320	247	306
3HC185AT0XC0PWP	185	SM	54.1	5150	0.164/0.3200	0.2120/0.4110	364	287	351
3HC240AT0XC0PWP	240	SM	60.0	7020	0.125/0.2530	0.1630/0.3250	427	330	418
3HC300AT0XC0PWP	300	SM	66.6	7900	0.1000/0.2060	0.1310/0.2650	479	374	488

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

10.0 FIRE RESISTANCE Cables

●Description

This section includes Fire resistant cables which are used when the cables are required to keep circuit integrity and continue to operate in the presence of a fire for a specified time under defined conditions.

● Fire resistance cables meets the following

- Circuit Integrity :

Fire Resistance cable with glass Mica tape 950°C in accordance with IEC 60331 & BS 6387 category C, W and Z where :

- BS 6387: 2013 Category C :

Resistance to fire alone test where cable subjected to flame temperature 950°C for 180 min .

- BS 6387 : 2013 Category W modified by BS 7846 Annex I

Resistance to fire with water where cables are subjected to 15 minutes fire at 650°C±40 °C , then at 650°C with water spray for a further 15 minutes.

- BS 6387 : 2013 Category Z modified by BS 7846:2015 Annex I

Resistance to fire with mechanical shock where cables are subjected to fire at 950°C±40 °C For 15 minutes with mechanical shock.

10.0 FIRE RESISTANCE Cables

- Controlled emissions of fumes and smoke

Emissions of smoke and toxic gases are critical in such cables . So, bedding and outer sheath material are : Low Smoke Zero Halogen which has abbreviations of LS0H , LSOH & LSZH (the 3 abbreviations are the same material) with No halogen content and controlled emission of smoke meets the following :

- IEC 60754-1&2: Test on gas evolved during the combustion of material from cables.
- IEC 61034: Measurement of smoke density for cables burning under defined conditions.

● Further OPTIONS

Upon request , special features can be incorporated into the cable enabling it to have:

- improved fire performance

as per IEC 60332-3-24 (Cat C) or IEC 60332-3-22 (Cat A)

- Termite Resistance
- Resistance to attack of oils , solvents or corrosive chemicals, sunlight, UV,...etc.

STRANDED COPPER

Fire Resistant Single Core

450/750 V

APPLICATIONS:

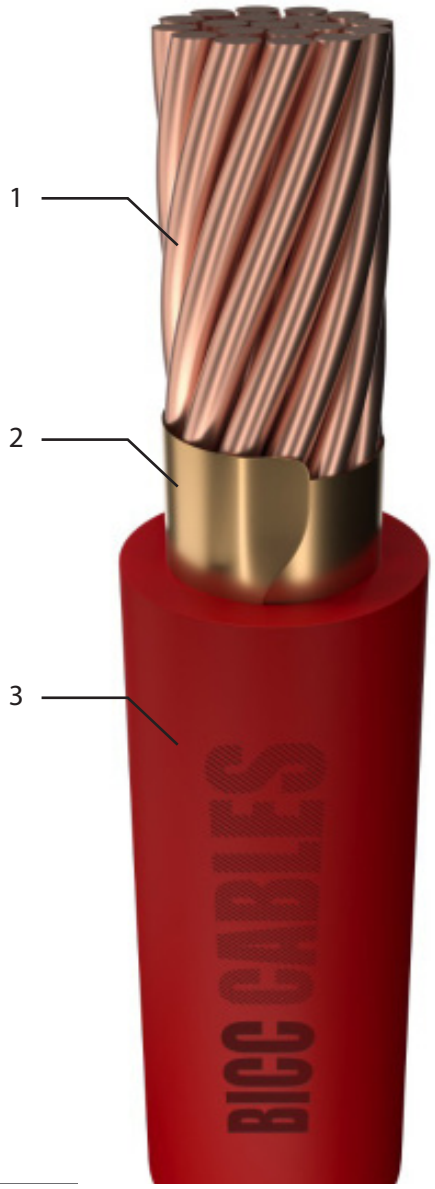
These cables are used in hazardous areas where safety and circuit integrity are highly required during fire conditions.

CONSTRUCTION:

1. CONDUCTOR
   Copper, semi-rigid class 2

2. Fire Resistance Material
   MICA Glass Tape

3. INSULATION
   Low Smoke Zero Halogen [LSOH]



RATED VOLTAGE:

450/750 V

10.0 FIRE RESISTANCE Cables

CU/MICA/LSOH 1 CORE

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings	
	(mm^2)	(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in free air	in pipes
				Ω/Km	Ω/Km	A	A
01C01.5CTMLB0000	1.5	3.5	26	12.1	15.43	21	19
01C02.5CTMLB0000	2.5	4.1	38	7.41	9.45	30	25
01C004CTMLB0000	4	4.7	54	4.61	5.88	40	33
01C006CTMLB0000	6	5.2	73	3.08	3.93	49	43
01C010CTMLB0000	10	6.4	118	1.83	2.33	69	62
01C016CTMLB0000	16	7.3	175	1.15	1.47	94	84
01C025CTMLB0000	25	9.1	274	0.727	0.927	118	81
01C035CTMLB0000	35	9.7	363	0.524	0.669	147	100
01C050CTMLB0000	50	11.2	488	0.387	0.494	197	122
01C070CTMLB0000	70	13.2	679	0.268	0.343	230	151
01C095CTMLB0000	95	15.2	938	0.193	0.247	289	191
01C120CTMLB0000	120	16.7	1166	0.153	0.197	337	219
01C150CTMLB0000	150	18.5	1432	0.124	0.16	385	252
01C185CTMLB0000	185	20.6	1781	0.0991	0.129	449	288
01C240CTMLB0000	240	23.6	2344	0.0754	0.099	542	345
01C300CTMLB0000	300	25.8	2923	0.0601	0.081	621	391
01C400CTMLB0000	400	29.3	3726	0.047	0.065	681	582
01C500CTMLB0000	500	33.2	4769	0.0366	0.053	760	629
01C630CTMLB0000	630	39.0	6098	0.0283	0.044	853	714

Installation Conditions for above ratings:

Ambient Air Temperature : 30 °C

Duct Temperature : 20 °C

The above dimensions are approximate and subject to manufacturing tolerance.

STRANDED COPPER

Fire Resistant Single Core

XLPE Insulated

0.6/1 kv

APPLICATIONS:

These cables are used in hazardous areas where safety and circuit integrity are highly required during fire conditions

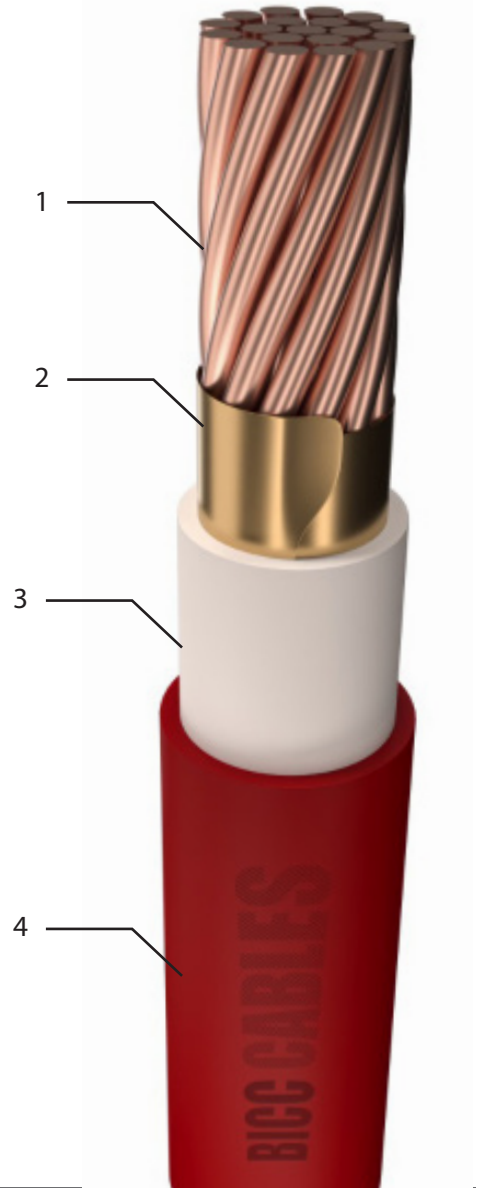
CONSTRUCTION:

1. CONDUCTOR
   Copper, semi-rigid class 2

2. Fire Resistance Material
   MICA Glass Tape

3. INSULATION
   Cross Linked Polyethylene (XLPE)

4. SHEATH
   Low Smoke Zero Halogen [LSOH]

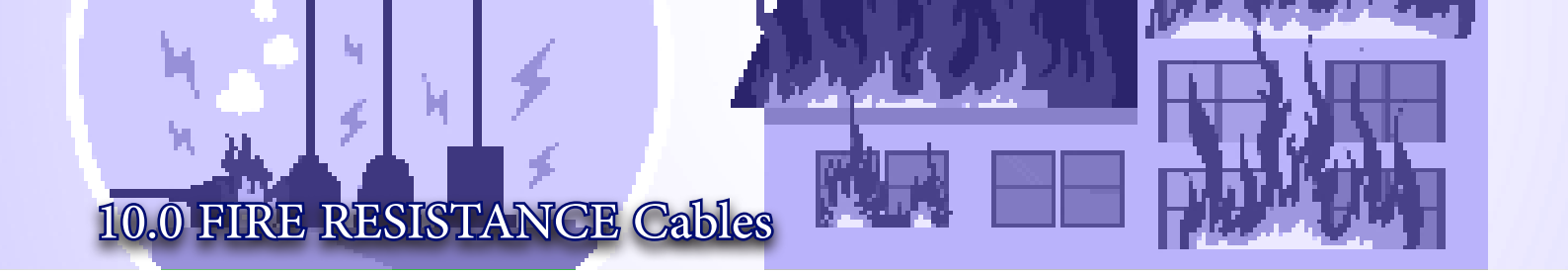


STANDARDS:

IEC 60502-1
IEC 60228

RATED VOLTAGE:

0.6/1 kv



10.0 FIRE RESISTANCE Cables

CU/MICA/XLPE/LSOH 1 CORE FLAT

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)	(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
				Ω/Km	Ω/Km	A	A	A
01C004CTMXC000L	4	7.3	89	4.61	5.88	67	45	52
01C006CTMXC000L	6	7.8	111	3.08	3.93	82	60	65
01C010CTMXC000L	10	8.6	153	1.83	2.33	118	77	87
01C016CTMXC000L	16	9.5	214	1.15	1.47	140	98	121
01C025CTMXC000L	25	11.3	317	0.727	0.927	181	124	151
01C035CTMXC000L	35	11.9	409	0.524	0.669	216	155	190
01C050CTMXC000L	50	13.2	532	0.387	0.494	254	184	231
01C070CTMXC000L	70	15.4	734	0.268	0.343	318	226	295
01C095CTMXC000L	95	17.2	992	0.193	0.248	375	273	370
01C120CTMXC000L	120	19.1	1241	0.153	0.197	432	308	433
01C150CTMXC000L	150	20.9	1507	0.124	0.160	476	350	491
01C185CTMXC000L	185	23.2	1869	0.0991	0.1290	547	398	572
01C240CTMXC000L	240	26.2	2439	0.0754	0.990	629	457	705
01C300CTMXC000L	300	28.4	3021	0.0601	0.0810	711	516	832

CU/MICA/XLPE/LSOH 1 CORE TREFOIL

Product Code	Conductor Size	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm²)	(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
				Ω/Km	Ω/Km	A	A	A
01C004CTMXC000L	4	7.3	89	4.61	5.88	62	45	44
01C006CTMXC000L	6	7.8	111	3.08	3.93	79	60	58
01C010CTMXC000L	10	8.6	153	1.83	2.33	104	77	75
01C016CTMXC000L	16	9.5	214	1.15	1.47	134	98	105
01C025CTMXC000L	25	11.3	317	0.727	0.927	172	124	133
01C035CTMXC000L	35	11.9	409	0.524	0.669	208	155	167
01C050CTMXC000L	50	13.2	532	0.387	0.494	242	184	202
01C070CTMXC000L	70	15.4	734	0.268	0.343	299	226	260
01C095CTMXC000L	95	17.2	992	0.193	0.248	355	273	318
01C120CTMXC000L	120	19.1	1241	0.153	0.197	406	308	375
01C150CTMXC000L	150	20.9	1507	0.124	0.160	451	350	428
01C185CTMXC000L	185	23.2	1869	0.0991	0.1290	514	398	485
01C240CTMXC000L	240	26.2	2439	0.0754	0.990	590	457	590
01C300CTMXC000L	300	28.4	3021	0.0601	0.0810	660	516	682

Installation Conditions for above ratings:

Ambient Air Temperature : 30 °C

Ground Temperature : 20 °C

Depth of Laying: 0.50 Mt.

Soil Thermal Resistivity : 1.0 °C m/W

The above dimensions are approximate and subject to manufacturing tolerance.

STRANDED COPPER

Fire Resistant Multi Core

XLPE Insulated

0.6/1 kv

APPLICATIONS:

These cables are used in hazardous areas where safety and circuit integrity are highly required during fire conditions

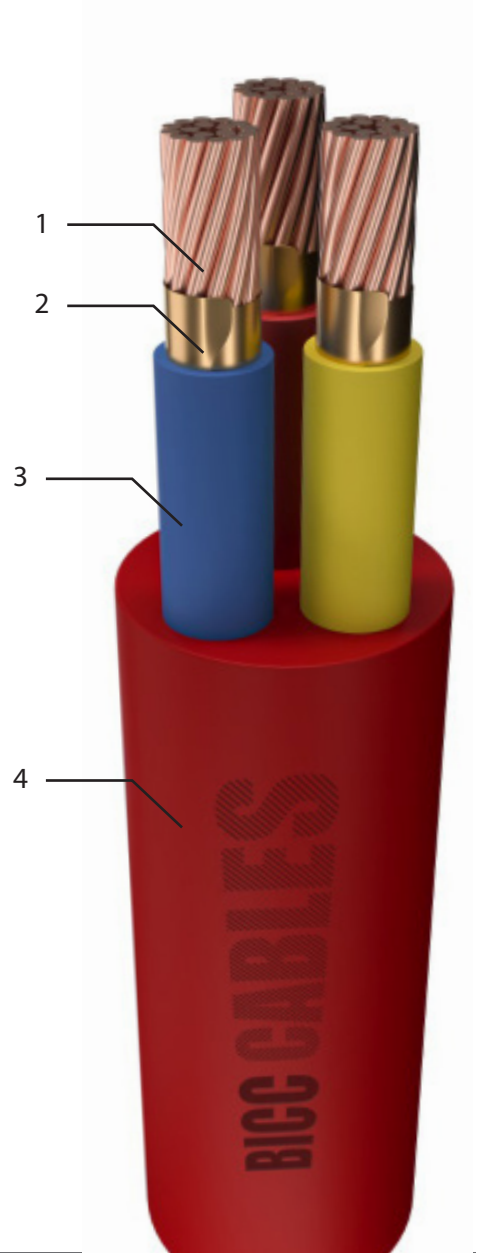
CONSTRUCTION:

1. CONDUCTOR
   Copper, semi-rigid class 2

2. Fire Resistance Material
   MICA Glass Tape

3. INSULATION
   Cross Linked Polyethylene (XLPE)

4. SHEATH
   Low Smoke Zero Halogen [LSOH]

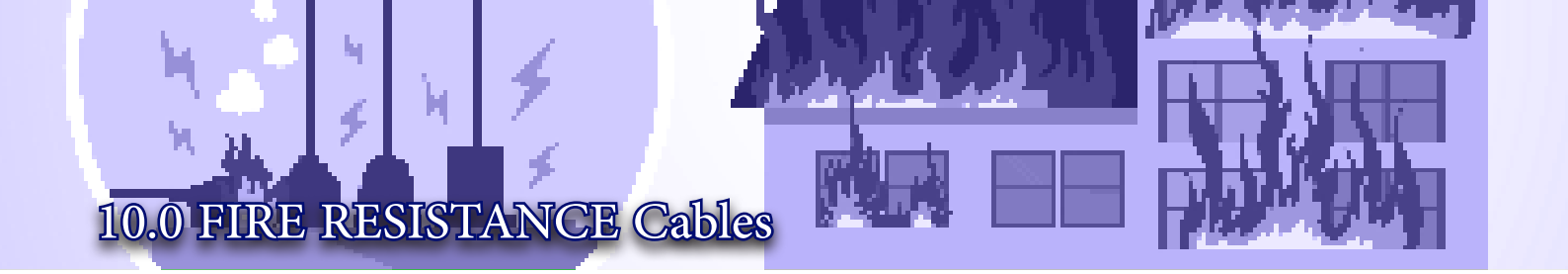


STANDARDS:

IEC 60502-1
IEC 60228

RATED VOLTAGE:

0.6/1 kv



10.0 FIRE RESISTANCE Cables

CU/MICA/XLPE/LSOH 2 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C01.5CTMXC000L	1.5	RM	11.1	173	12.1	15.43	40	31	29
02C02.5CTMXC000L	2.5	RM	11.9	207	7.41	9.45	51	40	39
02C004CTMXC000L	4	RM	13.1	264	4.61	5.88	68	52	52
02C006CTMXC000L	6	RM	14.1	325	3.08	3.93	85	66	66
02C010CTMXC000L	10	RM	15.7	370	1.83	2.33	114	87	90
02C016CTMXC000L	16	RM	17.4	507	1.15	1.47	145	112	116
02C025CTMXC000L	25	RM	21	749	0.727	0.927	187	136	150
02C035CTMXC000L	35	RM	22.3	947	0.524	0.669	224	165	185
02C050CTMXC000L	50	SM	22	1123	0.387	0.494	265	199	226
02C070CTMXC000L	70	SM	24.7	1545	0.268	0.343	328	247	289
02C095CTMXC000L	95	SM	27.3	2043	0.193	0.248	395	302	352

CU/MICA/XLPE/LSOH 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C01.5CTMXC000L	1.5	RM	11.6	195	12.100	15.429	33	25	25
03C02.5CTMXC000L	2.5	RM	12.5	238	7.410	9.449	43	33	33
03C004CTMXC000L	4	RM	13.8	310	4.610	5.878	56	44	44
03C006CTMXC000L	6	RM	14.9	388	3.080	3.927	70	54	56
03C010CTMXC000L	10	RM	16.6	476	1.830	2.334	94	73	78
03C016CTMXC000L	16	RM	18.5	667	1.150	1.470	122	90	100
03C025CTMXC000L	25	SM	21.4	939	0.727	0.927	150	122	128
03C035CTMXC000L	35	SM	23.5	1233	0.524	0.669	186	141	158
03C050CTMXC000L	50	SM	26.5	1625	0.387	0.494	222	171	193
03C070CTMXC000L	70	SM	30.1	2270	0.268	0.343	273	209	246
03C095CTMXC000L	95	SM	33.4	3052	0.193	0.248	325	247	298
03C120CTMXC000L	120	SM	36.8	3765	0.153	0.197	376	292	347
03C150CTMXC000L	150	SM	40.9	4667	0.124	0.160	417	321	399
03C185CTMXC000L	185	SM	45	5713	0.099	0.129	484	370	457
03C240CTMXC000L	240	SM	50.1	7557	0.075	0.990	561	427	539
03C300CTMXC000L	300	SM	54.8	9280	0.060	0.081	624	486	622

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

10.0 FIRE RESISTANCE Cables

CU/MICA/XLPE/LSOH 4 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C01.5CTMXC000L	1.5	RM	12.5	230	12.1	15.43	33	25	25
04C02.5CTMXC000L	2.5	RM	13.5	284	7.41	9.45	43	33	33
04C004CTMXC000L	4	RM	14.9	374	4.61	5.88	56	44	44
04C006CTMXC000L	6	RM	16.2	473	3.08	3.93	70	54	56
04C010CTMXC000L	10	RM	18.1	595	1.83	2.33	94	73	78
04C016CTMXC000L	16	RM	20.2	845	1.15	1.47	122	90	100
04C025CTMXC000L	25	SM	24.7	1243	0.727	0.927	150	122	128
04C035CTMXC000L	35	SM	27.1	1618	0.524	0.669	186	141	158
04C050CTMXC000L	50	SM	30.8	2163	0.387	0.494	222	171	193
04C070CTMXC000L	70	SM	35.1	3008	0.268	0.343	273	209	246
04C095CTMXC000L	95	SM	38.9	4033	0.193	0.248	325	247	298
04C120CTMXC000L	120	SM	42.8	5056	0.153	0.197	376	292	347
04C150CTMXC000L	150	SM	47.6	6244	0.124	0.160	417	321	399
04C185CTMXC000L	185	SM	52.3	7675	0.0991	0.1290	484	370	457
04C240CTMXC000L	240	SM	58.2	10022	0.0754	0.990	561	427	539
04C300CTMXC000L	300	SM	63.9	12341	0.0601	0.0810	624	486	622

CU/MICA/XLPE/LSOH 4 CORES with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025CTMXC000L	25	SM/RM	24.1	1139	0.727/1.15	0.927/1.47	150	122	128
3HC035CTMXC000L	35	SM/RM	26	1423	0.524/1.15	0.669/1.47	186	141	158
3HC050CTMXC000L	50	SM	29.6	1924	0.387/0.727	0.494/0.927	222	171	193
3HC070CTMXC000L	70	SM	33.5	2666	0.268/0.524	0.343/0.669	273	209	246
3HC095CTMXC000L	95	SM	37.4	3569	0.193/0.387	0.248/0.494	325	247	298
3HC120CTMXC000L	120	SM	41.3	4536	0.153/0.268	0.197/0.343	376	292	347
3HC150CTMXC000L	150	SM	45.2	5450	0.124/0.268	0.16/0.343	417	321	399
3HC185CTMXC000L	185	SM	50.1	6788	0.0991/0.193	0.129/0.248	484	370	457
3HC240CTMXC000L	240	SM	55.4	8802	0.0754/0.153	0.099/0.197	561	427	539
3HC300CTMXC000L	300	SM	60.8	10817	0.601/0.124	0.081/0.160	624	486	622

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

STRANDED COPPER

Fire Resistant Multi Core

XLPE Insulated

0.6/1 kv

APPLICATIONS:

These cables are used in hazardous areas where safety and circuit integrity are highly required during fire conditions

CONSTRUCTION:

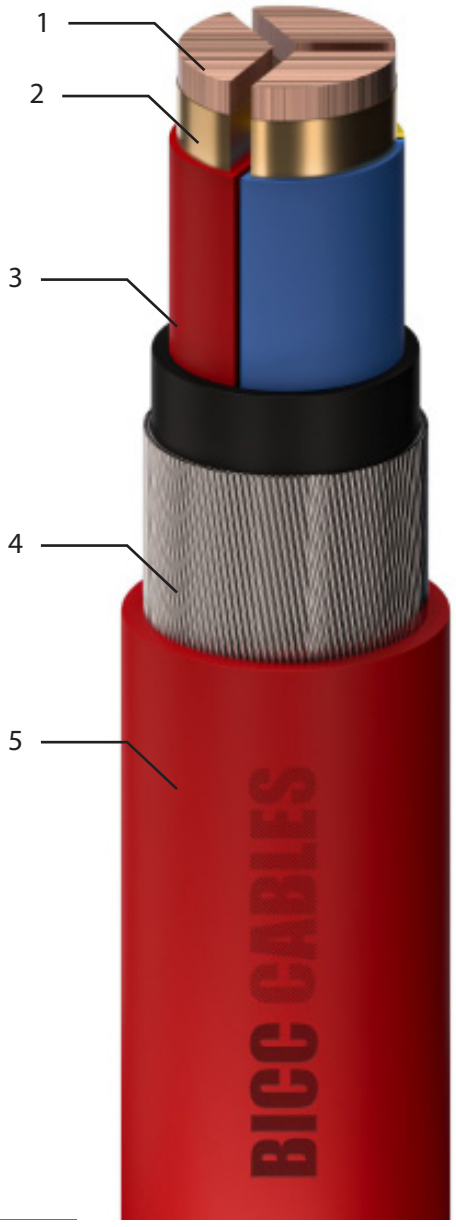
1. CONDUCTOR
   Copper, semi-rigid class 2

2. Fire Resistance Material
   MICA Glass Tape

3. INSULATION
   Cross Linked Polyethylene (XLPE)

4. ARMOUR
   Galvanized Round Steel Wire

5. SHEATH
   Low Smoke Zero Halogen [LSOH]

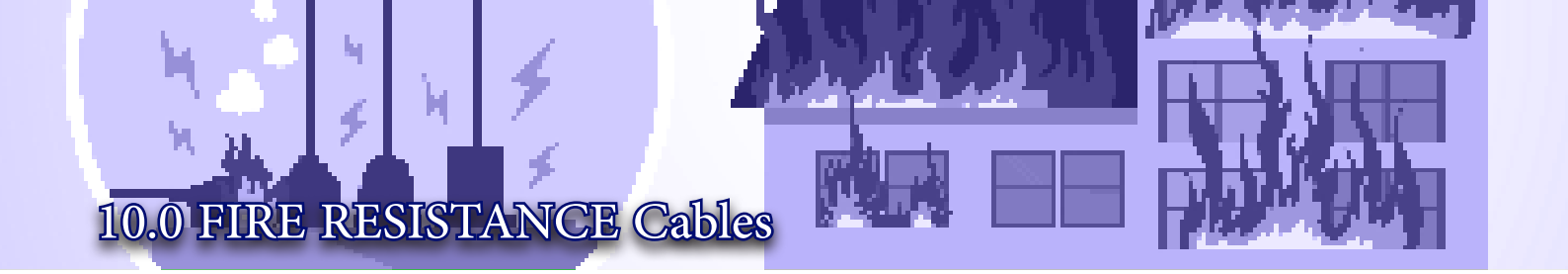


STANDARDS:

IEC 60502-1
IEC 60228

RATED VOLTAGE:

0.6/1 kv



10.0 FIRE RESISTANCE Cables

CU/MICA/XLPE/SWA/LSOH 2 CORES

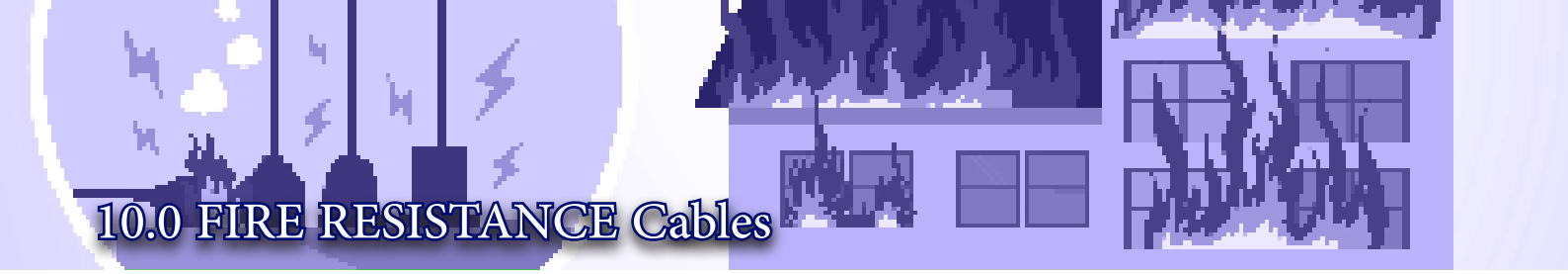
Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
02C004CTMXC0LWL	4	RM	18.1	689	4.6100	5.8782	66	52	52
02C006CTMXC0LWL	6	RM	19.1	781	3.0800	3.9273	83	66	66
02C010CTMXC0LWL	10	RM	20.7	844	1.8300	2.3335	112	87	90
02C016CTMXC0LWL	16	RM	23.1	1168	1.1500	1.4700	142	112	116
02C025CTMXC0LWL	25	RM	26.7	1518	0.7270	0.9270	186	141	152
02C035CTMXC0LWL	35	RM	28.2	1768	0.5240	0.6690	222	171	188
02C050CTMXC0LWL	50	SM	27.7	1993	0.3870	0.4940	262	205	228
02C070CTMXC0LWL	70	SM	30.6	2531	0.2680	0.3430	325	253	292
02C095CTMXC0LWL	95	SM	34.4	3400	0.1930	0.2480	393	304	354

CU/MICA/XLPE/SWA/LSOH 3 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
03C004CTMXC0LWL	4	RM	18.8	828	4.6100	5.8782	56	44	44
03C006CTMXC0LWL	6	RM	19.9	957	3.0800	3.9273	70	54	56
03C010CTMXC0LWL	10	RM	21.6	1013	1.8300	2.3335	94	73	78
03C016CTMXC0LWL	16	RM	24.2	1414	1.1500	1.4700	117	92	99
03C025CTMXC0LWL	25	SM	27.1	1789	0.7270	0.9270	155	122	131
03C035CTMXC0LWL	35	SM	29.4	2170	0.5240	0.6690	186	146	162
03C050CTMXC0LWL	50	SM	32.6	2694	0.3870	0.4940	222	171	197
03C070CTMXC0LWL	70	SM	37	3778	0.2680	0.3430	273	209	251
03C095CTMXC0LWL	95	SM	40.5	4693	0.1930	0.2480	325	253	305
03C120CTMXC0LWL	120	SM	43.9	5577	0.1530	0.1970	371	292	353
03C150CTMXC0LWL	150	SM	48.7	7149	0.1240	0.1600	417	325	406
03C185CTMXC0LWL	185	SM	53	8434	0.0991	0.1290	479	370	463
03C240CTMXC0LWL	240	SM	57.9	10534	0.0754	0.9900	551	427	547
03C300CTMXC0LWL	300	SM	64.6	13443	0.0601	0.0810	613	481	628

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral



10.0 FIRE RESISTANCE Cables

CU/MICA/XLPE/SWA/LSOH 4 CORES

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
04C004CTMXC0LWL	4	RM	19.9	951	4.61	5.878	56	44	44
04C006CTMXC0LWL	6	RM	21.2	1110	3.08	3.927	70	54	56
04C010CTMXC0LWL	10	RM	23.8	1328	1.83	2.334	94	73	78
04C016CTMXC0LWL	16	RM	25.9	1656	1.15	1.47	117	92	99
04C025CTMXC0LWL	25	SM	30.6	2225	0.727	0.927	155	122	131
04C035CTMXC0LWL	35	SM	34.1	2967	0.524	0.669	186	146	162
04C050CTMXC0LWL	50	SM	37.9	3694	0.387	0.494	222	171	197
04C070CTMXC0LWL	70	SM	42	4735	0.268	0.343	273	209	251
04C095CTMXC0LWL	95	SM	46.4	6357	0.193	0.248	325	253	305
04C120CTMXC0LWL	120	SM	50.8	7655	0.153	0.197	371	292	353
04C150CTMXC0LWL	150	SM	55.4	9116	0.124	0.16	417	325	406
04C185CTMXC0LWL	185	SM	60.7	10884	0.0991	0.129	479	370	463
04C240CTMXC0LWL	240	SM	68.1	14425	0.0754	0.99	551	427	547
04C300CTMXC0LWL	300	SM	73.6	17111	0.0601	0.081	613	481	628

CU/MICA/XLPE/SWA/LSOH 4 CORES with reduced neutral

Product Code	Conductor Size	Conductor Shape	Overall Diameter	Cable Weight	Max. Conductor Resistance		Current Ratings		
	(mm^2)		(mm)	(kg/km)	DC at 20 °C	AC at 90 °C	in Ground	in Duct	In Free Air
					Ω/Km	Ω/Km	A	A	A
3HC025CTMXC0LWL	25	SM/RM	30	2113	0.727/1.1500	0.927/1.4700	155	122	131
3HC035CTMXC0LWL	35	SM/RM	32.1	2481	0.524/1.1500	0.669/1.4700	186	146	162
3HC050CTMXC0LWL	50	SM	36.5	3405	0.387/0.7270	0.494/0.9270	222	171	197
3HC070CTMXC0LWL	70	SM	40.6	4326	0.268/0.5240	0.343/0.6690	273	209	251
3HC095CTMXC0LWL	95	SM	44.3	5389	0.193/0.3870	0.248/0.4940	325	253	305
3HC120CTMXC0LWL	120	SM	49.1	7060	0.153/0.2680	0.197/0.3430	371	292	353
3HC150CTMXC0LWL	150	SM	53.2	8176	0.124/0.2680	0.16/0.3430	417	325	406
3HC185CTMXC0LWL	185	SM	57.9	9784	0.0991/0.1930	0.129/0.2480	479	370	463
3HC240CTMXC0LWL	240	SM	65.3	12993	0.0754/0.1530	0.099/0.1970	551	427	547
3HC300CTMXC0LWL	300	SM	70.5	15379	0.601/0.1240	0.081/0.1600	613	481	628

Installation Conditions for above ratings:
Ambient Air Temperature : 30 °C
Ground Temperature : 20 °C
Depth Of Laying : 0.50 Mt.
Soil Thermal Resistivity : 1.0 °C m/W
The above dimensions are approximate and subject to manufacturing tolerance.

RM : Round , Stranded
SM : Sector , Stranded
SM/RM : Sector for Phase , Round for Neutral

11.0 Overhead Transmission Lines (OHTL)

Description

OHTL are generally used for power transmission at long distances in open county and rural where it is considered the most economic method for transmission of large quantities of electric energy.

We can manufacture this category as per the applied reference standards either IEC , BS , ASTM ,DIN , NF C (for the ABC cables)

Our products

- Bare Soft Drawn Copper
- Bare Hard Drawn Copper
- All Aluminum Conductors (AAC)
- Aluminum Conductor Steel Reinforced (ACSR)
- Arial Bundle Cables (ABC)

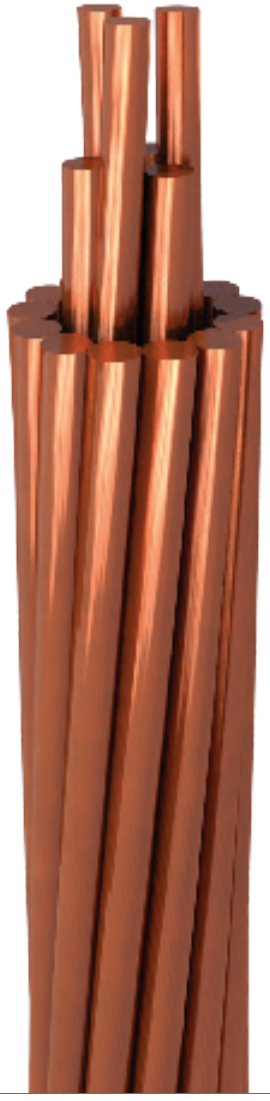
BARE COPPER CONDUCTORS

APPLICATIONS:

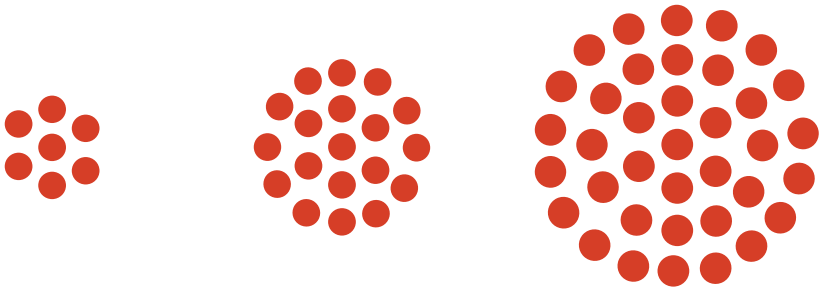
1: Overhead transmission system

2: Overhead traction system

3: Transformer earthing (occasionally)



CONDUCTOR SECTIONS:



7 STRANDS 19 STRANDS 37 STRANDS

• Bare Soft Drawn Stranded Copper Conductors,

Application:

Soft drawn copper conductors are used for earthing electrical systems and equipment, where high conductivity, flexibility and easy handling during installation are required.

Construction :

1. Conductor: Bare Copper

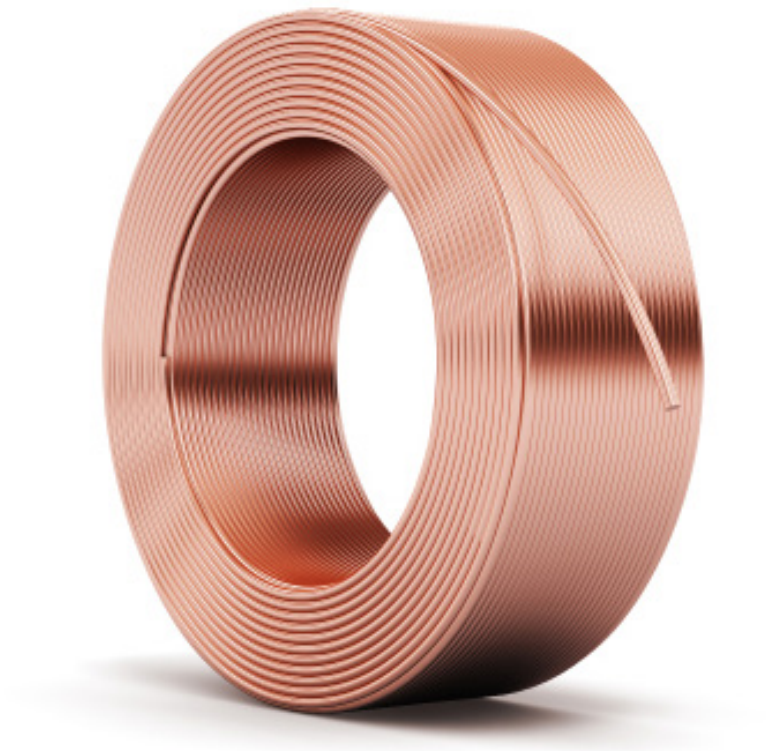
(Soft annealed copper wires stranded in successive layers, in opposite direction, to form the copper stranded conductor, it can be circular or circular compacted.

Applied standard:

IEC 60228

DC Resistance:

The DC resistance of soft annealed copper conductor are based on 100 % conductivity at 20°C with corresponding volume resistivity 1.7241 $x10^{-8}$ ohm.m. and temperature coefficient of resistance at 20 °C equal 0.00393.



11.0 Overhead Transmission Lines (OHTL)

Bare Soft Drawn Copper CU , Circular Compacted

Product Code	Conductor Size	Strands Number / Diameter	Approximate Overall Diameter	Max DC Resistance At 20°C	Approximate Conductor Weight
	mm^2	mm	mm	Ω/Km	Kg/Km
01C001CT0000000	1	7x0.43	1.26	18.10	9
01C01.5CT0000000	1.5	7x0.53	1.49	12.10	13
01C002CT0000000	2	7x0.60	1.75	9.22	17
01C02.5CT0000000	2.5	7x0.67	1.88	7.41	21
01C003CT0000000	3	7x0.74	2.1	6.10	26
01C004CT0000000	4	7x0.84	2.48	4.61	35
01C006CT0000000	6	7x1.04	3.01	3.08	51
01C010CT0000000	10	7x1.36	3.78	1.83	85
01C016CT0000000	16	7x1.75	4.66	1.15	135
01C025CT0000000	25	7x2.12	6.05	0.727	216
01C035CT0000000	35	7x2.54	6.7	0.524	300
01C050CT0000000	50	19x1.80	7.8	0.387	405
01C070CT0000000	70	19x2.12	9.75	0.268	578
01C095CT0000000	95	19x2.54	11.4	0.193	807
01C120CT0000000	120	25x2.5	12.9	0.153	1019
01C150CT0000000	150	30x2.54	14.3	0.124	1251
01C185CT0000000	185	37x2.54	16	0.0991	1560
01C240CT0000000	240	37x2.90	18.6	0.0754	2065
01C300CT0000000	300	37x3.18	20.4	0.0601	2591
01C400CT0000000	400	61x2.90	23.5	0.047	3300
01C500CT0000000	500	61x3.18	26.95	0.0369	4250
01C630CT0000000	630	91x2.90	32.8	0.0283	5475

Bare Soft Drawn Copper CU , Circular

Nominal Cross Section	Number & Nominal Wire diameter NRx	Approximate Overall Diameter	Approximate Conductor Weight	Max DC Resistance At 20°C
mm^2	mm	mm	Kg/Km	Ω/Km
4	7x0.84	2.5	35	4.81
6	7x1.03	3.1	53	3.08
10	7x1.33	4	88	1.83
16	7x1.68	5	140	1.15
25	7x2.11	8.3	221	0.727
35	7x2.48	7.5	308	0.524
50	19x1.76	8.8	419	0.387
70	19x2.12	10.8	600	0.288
95	19x2.48	12.5	831	0.193
120	37x2.00	14	1053	0.153
150	37x2.22	15.8	1298	0.124
185	37x2.48	17.5	1820	0.0991
240	61x2.22	20	2141	0.0754
300	61x2.48	22.4	2872	0.0801
400	61x2.82	25.4	3455	0.0470
500	61x3.17	28.8	4385	0.0388
630	91x3.00	31.95	5475	0.0283

The above data is approximate and subjected to manufacturing tolerance

11.0 Overhead Transmission Lines (OHTL)

• Bare Hard Drawn Stranded Copper Conductors

Application:

Hard drawn copper conductors are used for overhead lines in transmission and distribution electrical networks.

Specifications:

Type: Bare Hard Copper

standard: DIN - 48201, Part 1

Conductor:

Hard drawn copper wires stranded in successive layer, in opposite direction, to form the copper stranded conductor

DC Resistance:

The DC resistance of hard drawn copper conductors are based on 97 % conductivity at 20 °C with corresponding volume resistivity 1.777 x10^{-8} ohm's and temperature coefficient of resistance at 20°C equal 0.00393

Bare Hard Drawn Copper CU , Circular

Nominal Cross Section	Number & Nominal Wire diameter	Approximate Overall Diameter	Approximate Conductor Weight	Max DC Resistance At 20°C	Calculated Breaking Load
mm^2	mm	mm	Kg/Km	Ω/Km	KN
10	7x1.35	4.1	90	1.8060	4.02
16	7x1.7	5.1	143	1.1385	6.35
25	7x2.1	6.3	218	0.7461	9.72
35	7x2.5	7.5	310	0.5236	13.77
50	7x3	9	448	0.3656	19.84
50	19x1.8	9	437	0.3759	19.38
70	19x2.1	10.5	596	0.2762	26.38
95	19x2.5	12.5	846	0.1949	37.39
120	19x2.8	14	1060	0.1554	46.90
150	37x2.25	15.8	1337	0.1238	58.96
185	37x2.5	17.5	1640	0.1003	72.80
240	61x2.25	20.3	2209	0.0753	97.23
300	61x2.5	22.5	2725	0.0610	120.04
400	61x2.89	26	3640	0.0456	160.47
500	61x3.23	29.1	4545	0.0365	200.38
630	91x3	33.1	5475	0.0283	260.00

The above data is approximate and subjected to manufacturing tolerance

OVERHEAD CONDUCTORS

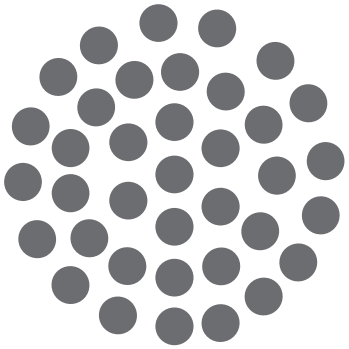
ALL-ALUMINIUM CONDUCTOR [AAC]

CONDUCTOR SECTIONS:

3 STRANDS

7 STRANDS

19 STRANDS



37 STRANDS

11.0 Overhead Transmission Lines (OHTL)

• All Aluminum Conductors (AAC)

All aluminum conductor are the most favored type for use in the construction of relatively short span distribution schemes and are in common use on lines for voltage up to 60 kV.

Another frequent application for all Aluminum Conductors is in flexible busbar connections.

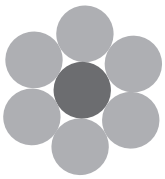
Although Aluminum to copper connections can be made, it is better to use aluminum conductors for service connections, as various forms of covered cable available for this purpose.

The data sheets show the most common sizes of conductor but other sizes, to any recognized standards or customer can also be supplied.

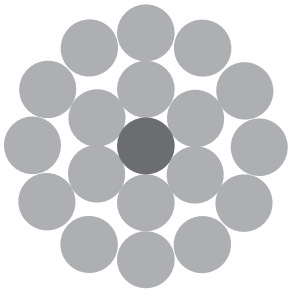
AAC insulated with XLPE or PVC can also be supplied as per customers requirements

CONDUCTOR SECTIONS

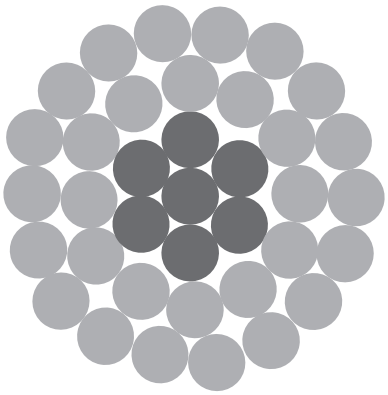
3 STRANDS



7 STRANDS



19 STRANDS



37 STRANDS

AAC as per BS 50182 Germany

Nominal Cross Sectional Area	Stranding & Wire Diameter	Conductor Diameter	DC Resistance At 20°C	Rated Strength	Mass Per Unit Length	Current carrying capacity
mm^2	mm	mm	Ω/Km	KN	Kg/Km	Amp
16	7X1.7	5.1	1.7986	3.02	43.4	110
25	7X2.1	6.3	1.1787	4.36	66.3	145
35	7X2.5	7.5	0.8317	6.01	93.9	180
50	7x3	9.0	0.5776	8.41	135.2	225
50	19X1.8	9.0	0.5944	8.94	132.9	225
70	19X2.1	10.5	0.4367	11.85	180.9	270
95	19X2.5	12.5	0.3081	16.32	256.3	340
120	19x2.8	14.0	0.2456	19.89	321.5	390
150	37X2.25	15.8	0.196	26.48	405.7	455
185	37X2.5	17.5	0.1588	31.78	500.9	520
240	61X2.25	20.3	0.1193	43.66	671.1	625
300	61X2.5	22.5	0.0966	52.4	828.5	710
400	61X2.89	26.0	0.0723	68.02	1107.1	855
500	61X3.23	29.1	0.0579	82.47	1382.9	990
625	91X2.96	32.6	0.0464	106.45	1739.7	1140
800	91x3.35	36.9	0.0362	132.34	2228.3	1340
1000	91X3.74	41.1	0.0291	159.95	2777.3	1540

Note!

Values of current rating are valid up to 60 Hz at a wind speed of 0.6 m/sec. and the effect of sun for ambient initial temperature of 35°C & an ultimate temperature of conductor 80°C

11.0 Overhead Transmission Lines (OHTL)

AAC as per BS 50182 UK

Code Name	Nominal Cross Sectional Area	Stranding & Wire Diameter	Conductor Diameter	Mass Per unit Length	Rated Strength	DC Resistance At 20°C
	mm^2	mm	mm	Kg/Km	KN	Ω/Km
MIDGE	23.3	7X2.06	6.18	63.8	4.2	1.2249
GNAT	26.9	7X2.21	6.63	73.4	4.83	1.0643
MOSQUITO	36.9	7X2.59	7.77	100.8	6.27	0.7749
LADYBIRD	42.8	7x79	8.37	117	7.28	0.6678
ANT	52.8	7x3.10	9.3	144.4	8.72	0.5409
FLY	63.6	7x3.40	10.2	173.7	10.49	0.4497
BLUEBOTTLE	73.6	7x3.66	11	201.3	11.78	0.388
EARWIG	78.6	7x3.78	11.3	214.7	12.57	0.3638
GRASSHOPPER	84.1	7x3.91	11.7	229.7	13.45	0.34
CLEGG	95.6	7x4.17	12.5	261.3	15.3	0.2989
WASP	106	7x4.39	13.2	289.6	16.95	0.2697
BEETLE	106.4	19x2.67	13.4	292.4	18.08	0.2701
BEE	132	7x4.90	14.7	360.8	21.12	0.2165
HORNET	157.6	19x3.25	16.3	433.2	26.01	0.1823
CATERPILLAR	185.9	19x3.53	17.7	511.1	29.75	0.1546
CHAFER	213.2	19x3.78	18.9	586	34.12	0.1348
SPIDER	237.6	19x3.99	20	652.9	38.01	0.121
COCKROACH	265.7	19x4.22	21.1	730	42.52	0.1081
BUTTERFLY	322.7	19x4.65	23.3	886.8	51.63	0.0891
MOTH	373.1	19x5.0	25	1025.3	59.69	0.077
DRONE	372.4	37x3.58	25.1	1027.1	59.59	0.0774
CENTIPEDE	415.2	37x3.78	26.5	1145.1	66.43	0.0695
MAYBUG	486.1	37x4.09	28.6	1340.6	77.78	0.0593
SCORPION	529.8	37x4.27	29.9	1461.2	84.77	0.0544
CICADA	628.3	37x4.65	32.6	1732.9	100.54	0.0459

• Aluminum Conductors Steel Reinforced (ACSR)

Construction

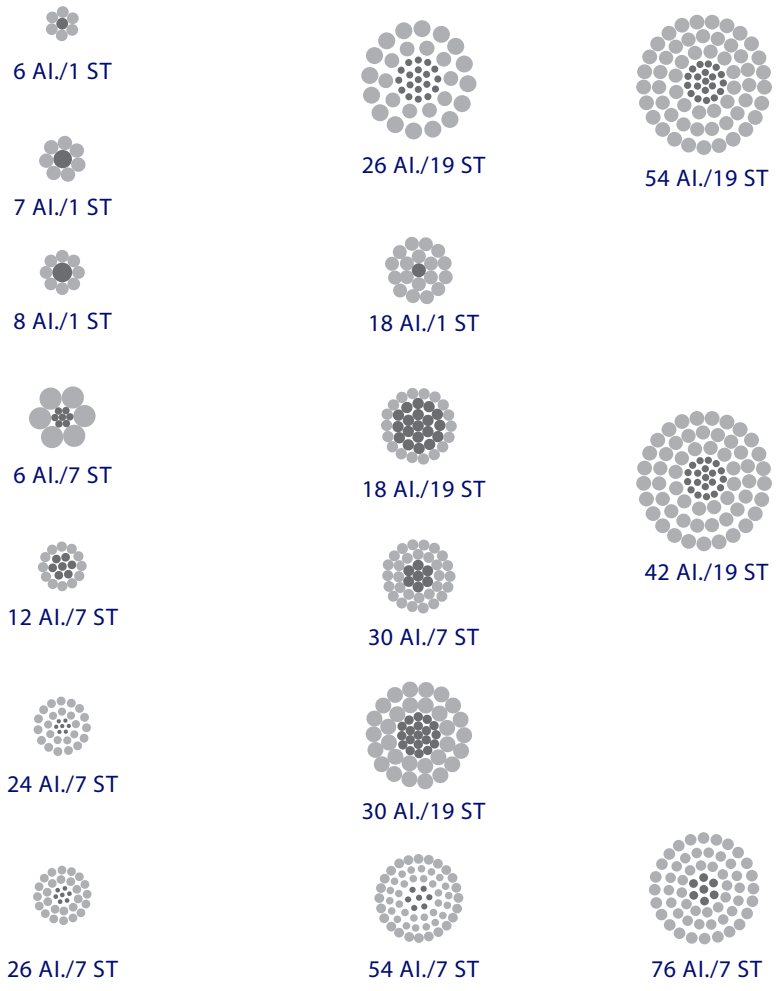
The mixed construction of ACSR makes it a very flexible medium from design point of view. By varying the relative proportion of aluminum (H14) And steel, the ideal conductor for any particular application can be produced generally, ACSR consists of a galvanized steel core of 1 wire, 7 wires or 19 wires surrounding by concentric layers of aluminum wire. When a conductor with a high current carrying capacity and comparatively Low strength required, special construction is available with a high aluminum content

Protection against corrosion

A coating of non- oxidizing grease is normally applied to steel cores of all conductors, in addition to the protection offered by the galvanizing of the steel wires. One or more layers of the aluminum wires can, if required, be supplied partially or fully greased.

BICC Cables ensures complete freedom from contamination by other metals during the entire manufacture of ACSR conductors

CONDUCTOR SECTIONS



11.0 Overhead Transmission Lines (OHTL)

ACSR as per BS 50182 GERMANY

Cross Sectional Area	Stranding & Wire Diameter		DC Resistance At 20°C	Rated Strength	Approximate Overall Diameter	Mass Per unit Length	Current carrying capacity
	AL	Steel					
mm^2	mm	mm	Ω/Km	KN	mm	Kg/km	Amp.
35/6	6 x 2.70	1x2.70	0.8342	12.37	8.1	138.7	170
50/8	6 x 3.20	1x3.20	0.5939	16.81	9.6	194.8	210
70/12	26 x 1.85	7x1.44	0.4132	26.27	11.7	282.2	290
95/15	26 x 2.15	7x1.67	0.306	34.93	13.6	380.6	350
120/20	26 x 2.44	7x1.90	0.2376	44.5	15.5	491	410
150/25	26 x 2.70	7x2.10	0.194	53.67	17.1	600.8	470
185/30	26 x 3.00	7x2.33	0.1571	65.27	19	741	535
210/35	26 x 3.20	7x2.49	0.1381	73.36	20.3	844.1	590
240/40	26 x 3.45	7x2.68	0.1188	85.12	21.8	980.1	645
380/50	54 x 3.00	7x3.00	0.0758	121.3	27	1442.5	840
490/65	54 x 3.40	7x3.40	0.059	150.81	30.6	1852.9	960

11.0 Overhead Transmission Lines (OHTL)

ACSR as per BS 50182 UK

Code Name	Stranding & Wire Diameter		Approximate Overall Diameter	DC Resistance At 20°C	Mass Per Unit length	Rated Strength	Current carrying capacity
	AL	Steel					
	mm	mm	mm	Ω/Km	Kg/Km	KN	Amp.
MOLE	6 x 1.50	1 x 1.50	4.5	2.7027	42.8	4.14	79
SQUIRREL	6 x 2.11	1 x 2.11	6.33	1.3659	84.7	7.87	122
GOPHER	6 x 2.36	1 x 2.36	7.08	1.0919	106	9.58	140
WEASEL	6 x 2.59	1 x 2.59	7.77	0.9065	127.6	11.38	158
FOX	6 x 2.79	1 x 2.79	8.37	0.7812	148.1	13.21	173
FERRET	6 x 3.00	1 x 3.00	9	0.6757	171.2	15.27	190
RABBIT	6 x 3.35	1 x 3.35	10.1	0.5419	213.5	18.42	219
MINK	6 x 3.66	1 x 3.66	11	0.454	254.9	21.67	245
SKUNK	12 x 2.59	7 x 2.59	13	0.4568	463	52.79	255
BEAVER	6 x 3.99	1 x 3.99	12	0.382	302.9	25.76	273
HORSE	12 x 2.79	7 x 2.79	14	0.3936	537.3	61.26	280
RACOON	6 x 4.09	1 x 4.09	12.3	0.3635	318.3	27.06	282
OTTER	6 x 4.22	1 x 4.22	12.7	0.3415	338.8	28.81	293
CAT	6 x 4.50	1 x 4.50	13.5	0.3003	385.3	32.76	318
HARE	6 x 4.72	1 x 4.72	14.2	0.273	423.8	36.04	338
DOG	6 x 4.72	7 x 1.57	14.2	0.2733	394	32.65	338
COYOTE	26 x 2.54	7 x 1.91	15.9	0.2192	520.7	45.86	417
COUGAR	18 x 3.05	1 x 3.05	15.3	0.2188	418.8	29.74	413
TIGER	30 x 2.36	7 x 2.36	16.5	0.2202	602.2	57.87	421
WOLF	30 x 2.59	7 x 2.59	18.1	0.1829	725.3	68.91	474
DINGO	18 x 3.35	1 x 3.35	16.8	0.1814	505.2	35.87	465
LYNX	30 x 2.79	7 x 2.79	19.5	0.1576	841.6	79.97	521
CARACAL	18 x 3.61	1 x 3.61	18.1	0.1562	586.7	40.74	512
PANTHER	30 x 3.00	7 x 3.00	21	0.1363	973.1	92.46	571
JAGUAR	18 x 3.86	1 x 3.86	19.3	0.1366	670.8	46.57	550
LION	30 x 3.18	7 x 3.18	22.3	0.1213	1093.4	100.47	616
BEAR	30 x 3.35	7 x 3.35	23.5	0.1093	1213.4	111.5	658
GOAT	30 x 3.71	7 x 3.71	26..0	0.0891	1488.2	135.13	749
SHEEP	30 x 3.99	7 x 3.99	27.9	0.0771	1721.3	156.3	822
ANTELOPE	54 x 2.97	7 x 2.97	26.7	0.0773	1413.8	118.88	795
BISON	54 x 3.00	7 x 3.00	27	0.0758	1442.5	121.3	806
DEER	30 x 4.27	7 x 4.27	29.9	0.0673	1971.4	179	897
ZEBRA	54 x 3.18	7 x 3.18	28.6	0.0674	1620.8	131.92	868
ELK	30 x 4.50	7 x 4.50	31.5	0.0606	2189.5	198.8	959
CAMEL	54 x 3.35	7 x 3.35	30.2	0.0608	1798.8	146.4	928
MOOSE	54 x 3.53	7 x 3.53	31.8	0.0547	1997.3	159.92	992

11.0 Overhead Transmission Lines (OHTL)

• Arial Bundle Cables (ABC)

Aerial bundled cables (also aerial bundled conductors or simply ABC) are overhead power lines using several insulated phase conductors bundled tightly together where Aluminum conductor insulated by XLPE + 2.5% Carbon Black.

This category is manufactured from Aluminum Conductor (H14 insulated by XLPE insulation and assembled together to form two (Duplex), three (Triplex), four (Quadruplex) or more conductors

DRAWING

ARIAL BUNDLE CABLES

Conductor				Insulation (XLPE)	Assembly	
Cross Sectional Area	Stranding & Wire Diameter	Conductor Diameter	DC Resistance At 20°C	Insulation Thickness	Outer Diameter	Approximate Weight
mm^2	mm	mm	Ω/Km	mm	mm	Kg/Km
Two Conductors (Duplex)						
16	7/1.7	5.1	1.7986	0.7	13	117
25	7/2.1	6.3	1.1787	0.9	16.2	180
35	7/2.5	7.5	0.8317	0.9	18.6	243
50	7/3.0	9	0.5776	1	22	344
50	19/1.8	9	0.5944	1	22	339
70	19/2.1	10.5	0.4367	1.1	25.4	456
95	19/2.5	12.5	0.3081	1.1	29.4	623
120	19/2.8	14	0.2456	1.2	32.8	778
Three Conductors (Triplex)						
16	7/1.7	5.1	1.7986	0.7	14.0	175
25	7/2.1	6.3	1.1787	0.9	17.5	270
35	7/2.5	7.5	0.8317	0.9	20.1	365
50	7/3.0	9	0.5776	1	23.8	516
50	19/1.8	9	0.5944	1	23.8	509
70	19/2.1	10.5	0.4367	1.1	27.4	684
95	19/2.5	12.5	0.3081	1.1	31.8	935
120	19/2.8	14	0.2456	1.2	35.4	1167
Four Conductors (Quadruplex)						
16	7/1.7	5.1	1.7986	0.7	15.7	233
25	7/2.1	6.3	1.1787	0.9	19.6	360
35	7/2.5	7.5	0.8317	0.9	22.5	487
50	7/3.0	9	0.5776	1	26.6	688
50	19/1.8	9	0.5944	1	26.6	679
70	19/2.1	10.5	0.4367	1.1	30.7	912
95	19/2.5	12.5	0.3081	1.1	35.6	1246
120	19/2.8	14	0.2456	1.2	39.7	1556

12.0 GLOSSARY

A

Abrasion Resistance:
Ability of a material or cable to resist surface wear.

A.C. Resistance
The total resistance offered by a device to alternating current circuit due to inductive and capacitive effects, as well as the direct current resistance.

Active current
In an alternating current, a component in phase with the voltage. The working component as distinguished from the idle or wattles component.

Aerial cable
A cable suspended in the air on poles or other overhead structure.

Alternating current (A.C.)
An electric current that continually reverses its direction giving a repetitive plus and minus wave form at fixed intervals.

Alternating voltage
The voltage developed across a resistance or impedance through which alternating current is flowing.

Ambient temperature
The romal temperature within a given area.

American wire gauge
A standard used in the determination of the physical size of a conductor determined by its circular mil area. Usually expressed as AWG. Also referred to as Brown and Sharpe (B&S) wire gauge.

Ampacity
The maximum current an insulated wire or cable can safely carry without exceeding either the insulation or jacket material limitations (Same as current carrying capacity).

Ampere
The unit current. One ampere is the current flowing through one ohm of resistance at one-volt potential.

Anneal To subject
to high heat with subsequent cooling. When annealing copper, the act of softening the metal by means of heat to render it less brittle expressed in Hertz.

Area of conductor
The size of conductor cross-section measured in circular miles,square inches, etc.

A

Armor
A braid or wrapping of metal, usually steel, used for mechanical protection.

Armored cable
A cable having a metallic covering for protection against mechanical injury.

ASTM
The American Society for Testing and Materials.

AWG
Abbreviation for American Wire Gauge.

B

Bare conductor
A conductor having no covering. A conductor with no coating or cladding on the copper.

Bedding
A layer of material applied to a cable immediately below the armoring.

Binder
A spirally served tape or thread used for holding assembled cable components in place awaiting subsequent manufacturing operations.

Braid
A fibrous or metallic group of filaments interwoven in cylindrical form to form a covering over one or more wires.

Breakdown of insulation
Failure of an insulated conductor resulting a flow of current through the insulation. It may be caused by the application of excess voltage or by defects or decay.

Break down voltage
The voltage at which the insulation between two conductors breaks down.

Bunched Strand
Any number of conductor strands twisted together in one direction with the same lay length.

Buried Cable
A cable installed directly in the ground without use of underground conduit. Also called “direct burial cable”.

12.0 GLOSSARY

C

Cable
A group of individually insulated conductors in twisted or parallel configuration, with or without an overall covering.

Cabling
The act of twisting together two or more insulated components by machine to form a cable.

Capacitance
Storage of electrically separated charges between two plates having different potentials.
The value depends on the surface area of the plates and the distance and material between them.
The quantity of electricity held statically in a capacitor or an insulated conductor.

Color Code
A color system for circuit identification by use of solid colors, tracers, braids, surface printing, etc.

Composite cable
A cable consisting of two or more different types or sizes of wires.

Concentricity
In a wire or cable, the measurement of the location of the center of the conductor with respect to the geometric center of the circular insulation.

Concentric Stranding
A group of wires twisted so as to contain a center core with one or more distinct layers of spirally wrapped, wires laid overall.

Conductance
The ability of a conductor to carry electric current.
It is the reciprocal of resistance and is measured in Mhos.

Conductivity
A term used in describing the capability of a material to carry an electrical charge. Usually expressed as a percentage of copper conductivity copper being one hundred (100%) percent.

Conductor
Any material capable of transferring electrical charge easily.

Core
In cables, a term used to denote a component or assembly of components, over which other materials are applied, such as additional components, shield, sheath, or armor.

Cross-Sectional Area
The area of the cut surface of an object cut at right angles to the length of the object.

Current
The rate of flow of electricity in a circuit, measured in amperes.

Current Carrying Capacity
The maximum current an insulated conductor or cable can continuously carry without exceeding its temperature rating. It is also called ampacity.

Current, Direct (D.C.)
Electrical current whose electrons flow in one direction only;
it may be constant or pulsating as long as their movement is in the same direction.

Cycle
The complete sequence of alternation or reversal of alternation or reversal of the flow of an alternating electric current. (See Hertz)

D

D.C.
Abbreviation for "Direct Current".

Dielectric Constant (K)
The ratio of the capacitance of a capacitor (or consoles) with dielectric between the electrodes to the capacitance with air is between the electrodes. Also called permittivity and specific inductive capacity.

Dielectric Strength
The voltage which an insulation can withstand before breakdown occurs. Usually expressed as a voltage gradient (Such as volts per mil).

Dielectric test
A test in which a higher than the rated voltage is applied for a specified time to determine the adequacy of the insulation under normal conditions.

Direct capacitance
The capacitance measured directly from conductor to conductor through a single insulation layer.

Direction of Lay
The direction, either clockwise or counterclockwise, of a conductor or group of conductors when looking axially down a cable length.

Drawing
in the manufacturing of wire, pulling the metal through a die or series dies for reduction of diameter to a specified size.

E

Eccentricity
Like concentricity, a measure of the center of a conductor's location with respect to the circular cross-section of the insulation; expressed as a percentage of center displacement of one circle within the other.

Embossing
A means of identification or lettering using heat and or pressure to leave raised lettering on the sheath material of the cable.

Extrusion
The process of continuously forcing a plastic or elastomer and a conductor core through a die, thereby applying a continuous coating of insulation or jacket to the core or conductor.

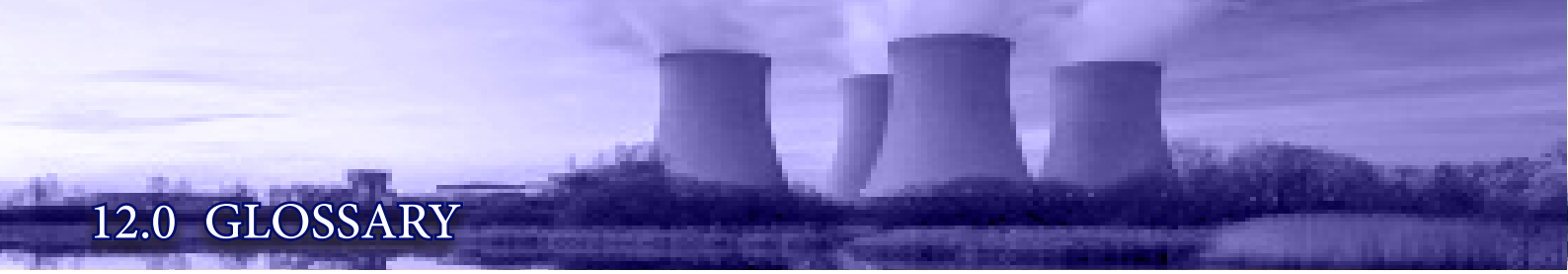
F

Farad
A unit of electrical capacity.

Filler
(1) A material used in the cable to fill large interstices between electrical components;
(2) A substance, often inert, added to a compound to improve propertied and / or decrease cost.

Flame Resistance
Ability of the material to extinguish flame once the source of heat is removed.

Flexible Cable
A cable containing one or more cores, each formed of a group of wires, the diameters of the wires, the diameters of the wires being sufficiently small to afford flexibility.



12.0 GLOSSARY

F

Flexibility
The ease with which a cable may be bent.

Frequency
Number of times an alternating current reverses itself in one second. Expressed in Hertz (Hz), which is one cycle per second.

G

Gauge
A term used to denote physical size.

H

Harness
An arrangement of wires and cables, usually with many breakouts, which have been tied together or pulled into a rubber or plastic sheath, used to interconnect electric circuit.

Heat Resistance
Ability of a substance to maintain physical chemical and electrical integrity under specified temperature conditions.

Henry
Unit of inductance such that the induced voltage in volts is numerically equal to the rate of change of current in amperes per second.

Hertz (Hz)
A term replacing cycles-per seconds as a unit of frequency.

High Temperature wire and cable
Those electrical wires and cable having thermal operating characteristics of 125°C and higher.

Hz
Abbreviation for Hertz.

I

ICEA
A Insulated Cable Engineers Association (formerly IPCEA) IEC International Electro technical Commission, Similar to the ISO in structure and scope.

IEEE
Institute of Electrical and Electronic Engineers.

impedance
The total opposition that a circuit offers to the flow of alternating current or any other varying current at particular frequency. It is a combination of resistance R and reactance X, measured in ohms.

impulse (Or pulse}
A surge of unidirectional polarity.

induced Current
An electric current set up in a circuit by interacting electrical fields a current caused by electromagnetic induction.

inductance
The property of a circuit element that opposes a change in current flow, thus causing current change to lag behind voltage changes. It is measured in Henrys.

induction
The phenomenon of a voltage, magnetic field or electrostatic charge being produced in an object by lines of force from the source of such fields.

Inductive coupling
Crosstalk resulting from the action of the electromagnetic field of one conductor on the other.

I

insulation
A non-conductive material usually surrounding or separating two conductive materials. Often called the dielectric in a radio frequency cable.

insulation Resistance
That property of an insulating material which resists electrical current flow through the insulating material when a potential difference is applied.

Insulation Thickness
The wall thickness of the applied insulation.

Interference
Any undesired electrical signal induced into a conductor by electrical or electromagnetic means (Noise).

ISO
International Standards Organization.

J

Jacket
A material covering over a wire insulation or an assembly of components. An overall jacket on a complex cable grouping is also often referred to as a sheath

K

Kilohertz
1.000 Hertz (cycles per second}.

Kilovolt
A term denoting 1000 volts.

Kilowatt
A term denoting 1000 watts.

L

Lay Direction
The direction in which the strands of a conductor run over the top of the conductor as they recede from and observer looking along the axis of the conductor.

Leakage Current
The undesirable flow of current through or over the surface of insulation.

M

Mega ohm
One million ohms.

Mho
The unit of conductivity. The reciprocal of an ohm.

MHz
Megahertz (one million cycles per second).

Moisture Resistance
The ability of a material to resist absorbing moisture from the air or when immersed in water.

Multi-Conductor
More than one conductor within a single cable.

Mutual inductance
The ratio of voltage induced in one conductor to the time rate of current change in the se arate conductor causing this induction.

Mylar
DuPont trademark for polyethylene terephthalate (polyester) film used in the form of a tape.

12.0 GLOSSARY

N

Next
Near end crosstalk

O

Ohm
Unit of resistance such that a constant current of one Ampere produces a force of one volt.

Overall Diameter
Finished diameter over wire or cable.

Over Current
The Current which causes and excessive temperature rise in a conductor.

Overload Capacity
The maximum level of current, voltage, or power which a device can withstand before it is damaged.

P

Polyester
Polyethylene terephthalate which is used extensively in the production of a high strength moisture resistant film used as cable core wrapping material.

Polyethylene
A family of insulating materials derived from polymerization of ethylene gas. They are basically pure hydrocarbon resins, with excellent dielectric properties.

Polyvinyl chloride (PVC).
A thermoplastic material composed of polymers of vinyl chloride which may be rigid or elastomeric, depending on specific formulation.

Power Factor
The ratio of resistance to impedance. The ratio of the actual power of an alternating current to apparent power. Mathematically, the cosine of the angle between the voltage applied and the current resulting.

Propagation time
Time required for an electrical wave to travel between two points on a transmission line.

Pulse
A current or voltage which changes abruptly from one value to another and back to the original value in a finite length of time.

Pulse Cable
A type of coaxial cable constructed to transmit repeated high voltage pulses without degradation.

Q

Quad
A four- wire unit of insulated conductors.

R

Rated Temperature
The maximum temperature at which an electric component can operate for extended periods without loss of its operating properties.

Rated Voltage
The maximum voltage at which an electric component can operate for extended periods without degradation of performance or safety hazard.

Reactance
The opposition offered to the flow of alternating current by the inductance or capacitance of a component or circuit.

Resistance
In D.C. circuits, the opposition a material offers to current, measured in ohms. In A.C. Circuits, resistance is the real component of impedance, and may be higher than the value measured at D.C.

Round Conductor
A conductor whose cross-section is substantially circular.

S

Sheath
The material, usually an extruded plastic or elastomer, applied outermost to a wire or cable. Very often referred to asa jacket.

Shield
A metallic layer around an insulated conductor or group of conductors to prevent electrostatic or electromagnetic interference between the enclosed wires and external fields. This shield can be braided or served wires, foil wrap, foil backed tape, a metallic tube, or conductors, the shielding effectiveness is in proportion to the amount of coverage, usually expressed in percentage.

Shield Coverage
The physical area of a cable that is actually covered by the shielding material and is expressed in percentage.

Signal
Current used to convey information, either digital, analogue, audio or video.

Single cable
A cable designed to carry current of usually less than one ampere per conductor.

Solid Conductor
A conductor consisting of a single wire.

Spark Test
A test designed to locate imperfections (usually pin- holes) in a wire insulation by application of an electrical potential across the material for a short period of time while the wire is drawn through an electrode field with one end of the wire grounded.

Stranded conductor
A conductor composed of individual groups of wires twisted together to form an entire unit.

Strand Lay length
A distance of advance of on strand of a spirally stranded conductor, in one turn ,measured axially.

T

Temperature Rating
The maximum temperature at which insulating material may be used in continuous operation without loss of its basic properties.

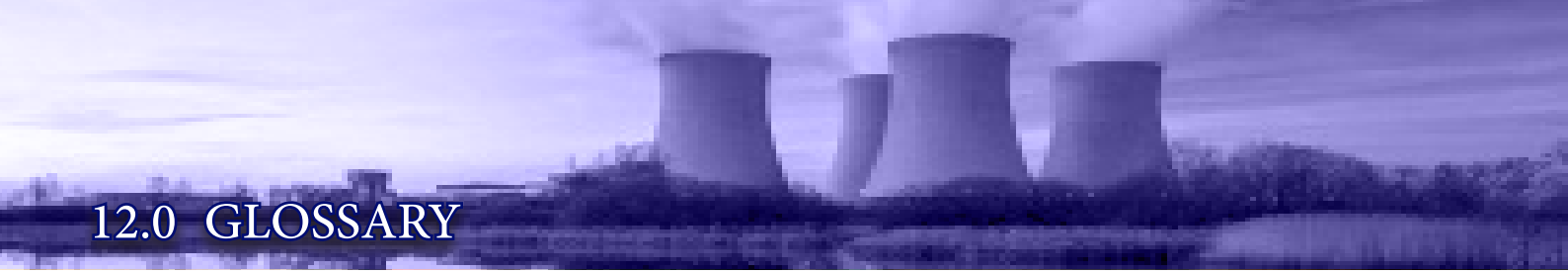
Tensile strength
A term denoting the greatest longitudinal tensile stress a substance can bear without mechanical failure.

Thermal Rating
The maximum and / or minimum temperature at which a material will perform its functions without undue degration .

Thermal Shock
A test to determine the ability of a material to withstand heat and cold by subjecting it to rapid and wide change in temperature.

Tinned Copper
Tin coating over copper to aid in soldering and inhibit corrosion.

Tinned wire
Copper wire that has been coated with a layer of tin or solder to simplify soldering.



12.0 GLOSSARY

V

Velocity of Propagation

The speed of an electric signal down a length of cable compared to speed in free space expressed as a percentage. It is the reciprocal of the square root of the dielectric constant of the cable insulation.

Volt (potential difference}

A unit of electrical pressure. One volt is the amount of pressure that will cause one ampere of current in one ohm of resistance.

Voltage

The term most often used in place of electromotive force, potential, potential difference, or voltage drop, to designate electric pressure that exists between two points and is capable of producing a flow of current when a circuit is connected between the two points.

Voltage Drop

The amount of voltage loss between two power in a circuit.

Voltage Rating

The highest voltage that may be continuously applied to a wire or cord in conformance with standards or specifications.

Volume Receptivity

The electrical resistance between opposite face of a 1 cm cube of insulating material commonly expressed in ohms/centimeter.

W

Watt

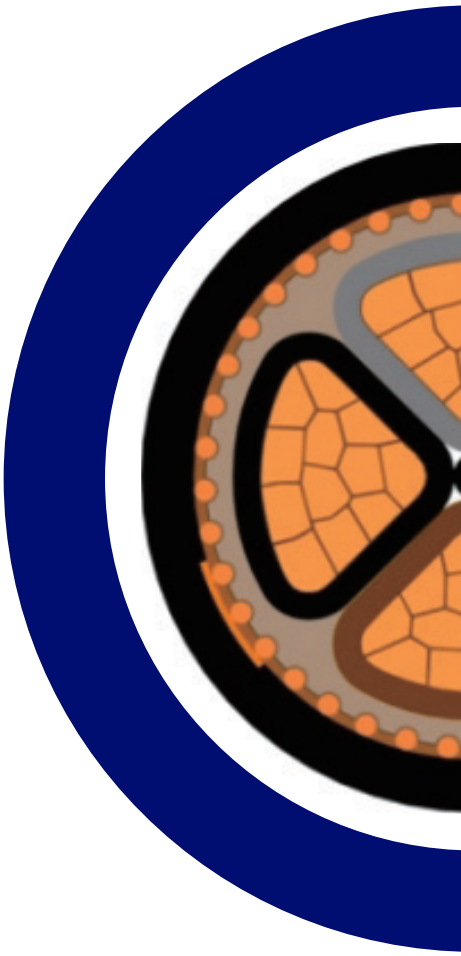
A unit of electrical power. One watt is equivalent to the power generated by one ampere of current under a pressure of one volt in a D.C. circuit.

We offer best service starting from customer's inquiry till the end of the delivery.

BICC CABLES

Connecting The Future

25 YEARS Anniversary



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