

LOW VOLTAGE POWER CABLES

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GENERAL

INTRODUCTION

Bahra Cables Company was established in 2008 to serve Saudi & GCC Markets. It is based in Bahra industrial city located 25km from Jeddah. Bahra Cables Factory occupies over 200,000 square meters of prime manufacturing space together with associated design offices, laboratories and storage area. It specializes in Manufacturing and Distributing Electric Cables.

Bahra Cables Company is committed to the production of the best product quality and service, utilizing cutting edge European Technology in its manufacturing. The core technologies in production processes, material applications and logistic procedures were provided by German experts with key functions being managed by German engineers.

The organization has a lean vertical management structure which is designed to integrate with a highly developed IT-based structure. This partnership allows the rapid flow of information through the management chain and facilitates timely response in the best traditions of 'hands on' management. Bahra Cables Company has the flexibility to provide a versatile product range to serve the construction, electric utilities, distribution, industrial, oil & gas and petrochemical sectors. The cables produced comply with both American standards (UL , ANSI and ICEA) and European standards (IEC, BS, NF and VDE specifications.)

The scope of this catalogue is to provide an in depth view of the technical information of the low voltage cables 0.6/1.0KV, with PVC or XLPE insulation to IEC 60502-1 and XLPE insulation to BS 5467.

Bahra Cables Company Catalogues is about Control & Auxiliary cables, Power and control Tray Cables to UL 1277, cables having low emission of smoke and corrosive gases (LSF) to IEC60502-1 or BS 6724 are available upon request.

AREA

Bahra Cables Company has a total land area of about 200,000sqm at disposal.

The built area, including offices and plant, of start up phase is more than 30,000sqm.

The factory extension under construction is more than 20,000sqm already.

The total available stock yard for storage is more than 20,000sqm

PRODUCT SCOPE

BAHRA CABLES COMPANY is committed to deliver the highest standard wires and power cables to the local market, GCC and for export.

To do so, Bahra Cables Company produces a versatile product range cover most of our customer needs:

- Flexible wires and cables up to 300 mm² to IEC 60227 , BS 6004 & BS 6500 .
- Building wires, THHN/THWN & THW to UL 8.3, with conductor sizes starting from 16 AWG.
- Thermosetting insulated wires types XHHW-2 , XHHW, XHH, RHW-2, RHW &RHH to UL44
- Building wires (NYA) to IEC 60227 and BS 6004, from 1.5 mm² and above.
- LV power Cables with PVC and XLPE insulation to IEC 60502-1, BS 5476, BS 7889 and UL 1277.
- MV cables to IEC 60502-2 up to 18/30 (36) kv and to BS 6622 up to 19/33 (36) kv.
- Low smoke and fume , zero halogen building wire (LSFZH) to BS 7211 , with thermo setting insulation which is alternative to wire type (NYA) , where the application requires higher standards of safety against the emission of smoke, fumes and toxic gases.
- LV cables with LSFZH, thermosetting insulation which under exposure of to fire generate low emission of smoke, fumes and toxic gases and zero halogens. The cables are produced according to BS 6724, IEC 60502-1 and tested to IEC 61034 , IEC 60754 & IEC 60332.
- MV cables with LSFZH to BS 7835.
- HV cables up to 69 kv to IEC 60840, and to ANSI / ICEA S-108-720, with conductor sizes up to 1200 mm².

The future product scope will be extended to Extra High Voltage cables up to 480 kv and conductor cross sections bigger than 2000 mm².

FACTORY MACHINERY

All production machines are top of the line of the cables machinery suppliers. From start up with wire drawing lines to extrusion lines, to assembly machines up to the laboratories and the final test fields, all technical equipment is provided with the highest European standards of electronic control equipment and measuring devices which insures that the requirements of different quality standards are met.

All machines/production lines are prepared for data communication and data exchange bottom up and top down using the most modern decentralized control software at the lines (PLC) combined with an efficient central steering and a planning system focused on the demand of cable manufacturers. This way, full traceability will be guaranteed from production start to end, by being able to follow up the machines involved and the material used.

LOGISTICS

All material flow in BCC from incoming raw material up to outgoing cables will be planned and controlled by a complete software system. Herein a classical ERP system will be enhanced and completed by the most modern MES (Manufacturing Executive System) which has a unique focus on the specific problematic issues of cables manufacturing with longitudinal products being wounded up and winded off.

The Manufacturing Executive System - MES - covers:

PLANNING

The planning system is active on several levels. For the proper function, all master data (material properties, dimensions, etc.) are saved and permanently maintained in the central database based on

- Cable design
- Planning of Sales Orders
- Planning of Production Orders

DATA COMMUNICATION

The exchange of data is important in several areas.

- Incoming inspection
- Raw Materials - Status quo of production orders
- Finished goods
- Shipping status



TECHNICAL INFORMATION

GENERAL

Bahra Cables Company is willing to provide advice and assistance on all matters concerning PVC and XLPE insulated power cables. Please contact the Technology Department for any query.

QUALITY IS OUR MAIN TARGET

Bahra Cables Company is born to be one of the leading Power Cables Manufacturers in Saudi Arabia and the GCC area. We are working in different axes to completely fulfill customers satisfaction which is the milestone of our business, such axes are:

1. Product quality complying with the local and international standards
2. Product Reliability is starting from the time of product design to fit for the intended application and environmental conditions, to the selection of the raw material from only the highest class suppliers with internationally trusted reputation. Our state of art testing equipments and the strict quality procedures ensure the product quality and integrity so we can guarantee that our cables are defect free and suitable for the intended application through the cable service lifetime.
3. High Performance of the product and service through cooperation between experienced staff from Germany and local experts who are aware of the local market requirements and the highest international standards of cables manufacturing. Such cooperation in knowhow is invested to provide our customer with the best service and support.
4. Bahra Cables Company's Quality Management System conforms to the ISO 9001: 2008 International Management Quality System Standard with scope of Design and Manufacturing of Electrical Power Cables and Wires. BCC is certified by American Systems Registrar (ASR), ANAB Accredited.
5. Bahra Cables Company has UL Registration for wire types such as THHN., THWN, THW, XHHW-2, XHW, XHH, RHW-2, RHW & RHH, cables Type TC (Low voltage control cables and Low Voltage Power Cables for tray and direct buried applications) with Registration No. E326088, E326089, & E326090 respectively, which only implies that Bahra Cables Company is committed to provide customer satisfaction through quality product and services.
6. Bahra Cables Company is frequently testing its products at internationally reputable labs, diversity of products have been tested and confirmed compliance to the international standard at KEMA, IPH, SAG(Berlin), BSI and BASEC Labs.



TECHNICAL INFORMATION

GENERAL

PRODUCT RANGE

Cables can be categorized with different criteria, for example the Voltage rate , Conductor Material, Insulation Material and Armouring type.

This Catalogue is intended for Low Voltage Power Cables, Aluminum and Copper conductors of voltage range:0.6/1.0 kV

CABLE TYPES

- 1) Copper Conductor Cables
- 2) Aluminum Conductor Cables
- 3) Thermoplastic / PVC insulated cables
- 4) Thermoset / XLPE insulated cables
- 5) Armoured / Nonarmoured Cables

Single core cables up to and including 1000 mm²

2 core cables up to and including 95 mm²

3, 4 core & 4 core with reduced neutral cables up to and including 500 mm²

APPLICABLE STANDARDS

IEC 60502 (Part 1)"PVC/ XLPE insulated cables" single core /multi-core

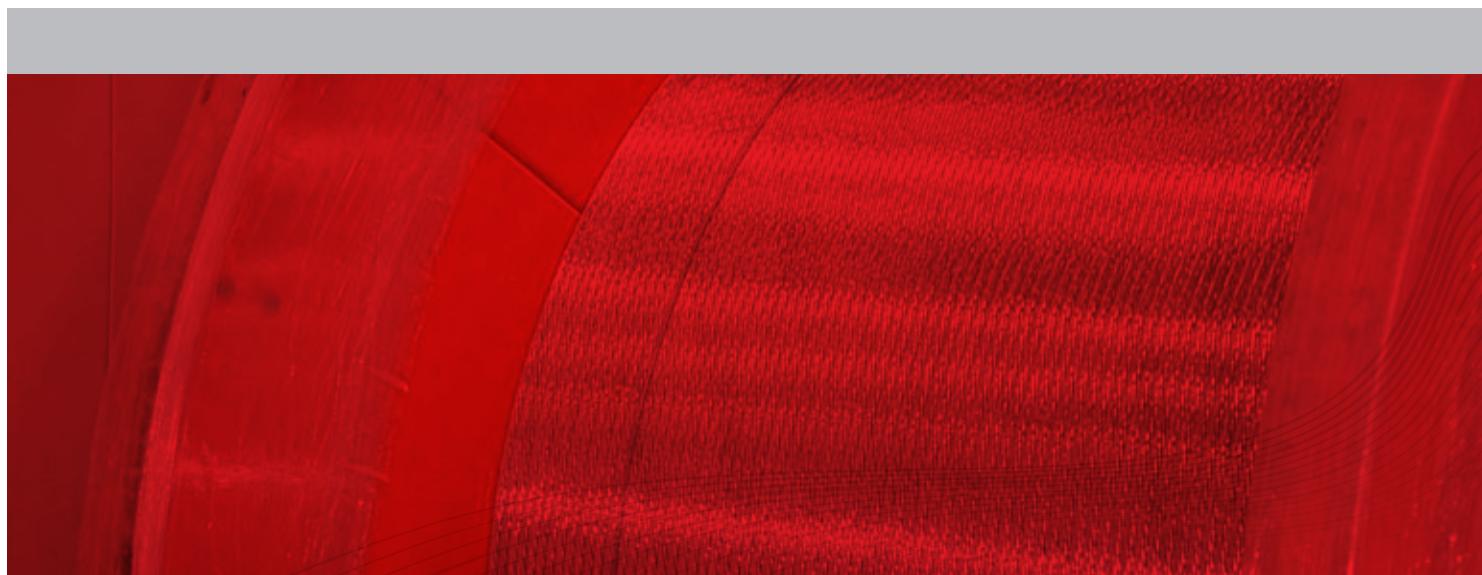
BS 5467 for XLPE insulated Armoured cables

BS 7889 for XLPE insulated single core unarmoured cables

UL 83, THW, THW-2, THHN/THWN,

UL 44 XHHW-2, XHHW, XHH, RHW-2, RHW & RHH wires

Any other customer or International standards e.g. ANSI/ACEA, VDE/DIN, NF , etc..



ELECTRICAL TECHNICAL INFORMATION

CABLE PARAMETERS CALCULATION GUIDE

1. NOMINAL VOLTAGE

The Nominal voltage is to be expressed with two values of alternative current U_o/U in V (volt)

U_o/U : Phase to earth voltage

U_o : Voltage between conductor and earth

U : Voltage between phases (conductors)

2. RESISTANCE

The Values of conductor DC resistance are dependent on temperature as given by :

$$R_t = R_{20} \times [1 + \alpha (t - 20)] \quad \Omega/\text{km}$$

$$R_t : \text{conductor DC resistance at } t^\circ \text{ C} \quad \Omega/\text{km}$$

$$R_{20} : \text{conductor DC resistance at } 20^\circ \text{ C} \quad \Omega/\text{km}$$

$$t : \text{operating temperature} \quad {}^\circ \text{C}$$

$$\alpha : \text{resistance temperature coefficient}$$

$$= 0.00393 \text{ for copper}$$

$$= 0.00403 \text{ for aluminum}$$

Generally DC resistance is based on IEC 60228 To calculate AC resistance of the conductor at the operating temperature as the following:

$$R_{AC} = R_t \times [1 + y_s + y_p]$$

y_s : skin effect factor

y_p : proximity effect

Generally AC resistance is based on IEC 60287

3. CAPACITANCE

$$C = \frac{\epsilon_r}{18 \ln \frac{D}{d}} \quad \mu\text{F}/\text{km}$$

$$C : \text{Operating capacitance} \quad \mu\text{F}/\text{km}$$

$$D : \text{Diameter over insulation} \quad \text{mm}$$

$$d : \text{Conductor diameter} \quad \text{mm}$$

$$\epsilon_r : \text{Relative permittivity of insulation material}$$

$$\epsilon_r = 4.8 \text{ for PVC}$$

$$\epsilon_r = 2.3 \text{ for XLPE}$$

4. INDUCTANCE

$$L = K + 0.2 \ln (2s/d) \quad \text{mH/km}$$

$$L : \text{Inductance} \quad \text{mH/km}$$

$$K : \text{Constant depends on number of wires of conductor}$$

$$d : \text{Conductor diameter}$$

$$S : \text{Axial spacing between cables (Trefoil formation)}$$

$$S : 1.26 \times \text{axial spacing between cables (Flat formation)}$$

5. REACTANCE

The inductive reactance per phase of a cable may be obtained by the formula:

$$X = 2 \pi f L \times 10^{-3} \quad \Omega/\text{km}$$

$$X : \text{Reactance} \quad \Omega/\text{km}$$

$$f : \text{Frequency} \quad \text{Hz}$$

$$L : \text{Inductance} \quad \text{mH/km}$$

6. IMPEDANCE

$$Z = \sqrt{R_{AC}^2 + X^2} \quad \Omega/\text{km}$$

$$Z : \text{Phase impedance of cable} \quad \Omega/\text{km}$$

$$R_{AC} : \text{AC resistance at operating temperature} \quad \Omega/\text{km}$$

$$X : \text{Reactance} \quad \Omega/\text{km}$$

ELECTRICAL TECHNICAL INFORMATION

CABLE PARAMETERS CALCULATION GUIDE

7. INSULATION RESISTANCE

$$R = \frac{1000}{2 * \pi} * \ln(D/d)$$

R : Insulation resistance at 20° C MΩ.km
D : Insulated conductor diameter mm
d : Conductor diameter mm

8. CHARGING CURRENT

$$I = U_o \times 2\pi f \times C \times 10^{-6}$$

I : Charging current A/km
U_o : voltage between phase and earth V
C : Capacitance to neutral μF/km

9. DIELECTRIC LOSSES

$$D = 2 \pi f C U_o^2 \tan \delta 10^{-6}$$

D : Dielectric losses watt/km/phase
U_o : Voltage between phase and earth V
C : Capacitance to neutral μF/km
tan δ : Dielectric power factor

10. CABLE SHORT CIRCUIT CAPACITY

$$ISC(t) = ISC(1) / \sqrt{t}$$

ISC(t): Short circuit for t second kA
ISC(1): Short circuit for 1 second kA

Data about short circuit are tabulated from table 28 to table 30

11. VOLTAGE DROP

When the current flows in conductor, there is a voltage drop between the ends of the conductor.
For low voltage cable network of normal operation, it is advisable of a voltage drop of 3-5 %.
To calculate voltage drop as the following:

1- for single phase circuit:

$$V_d = 2I_l (R \cos\phi + X \sin\phi)$$

2- for three phase circuit :

$$V_d = \sqrt{3} I_l (R \cos\phi + X \sin\phi)$$

V_d : Voltage drop V

I_l : Load current A

R : AC resistance Ω/km

X : Reactance Ω/km

l : Length km

cosφ : Power factor

- Relation between cosφ and sinφ as following:

cosφ	1.0	0.9	0.8	0.71	0.6	0.5
sinφ	0.0	0.44	0.6	0.71	0.8	0.87

LOW VOLTAGE CABLES TECHNICAL INFORMATION

CABLE STRUCTURE

1.0 CONDUCTORS

A conductor is the metallic part of cables that is carrying the electric current

Conductor materials are :

- 1.1 Plain annealed or tin coated copper conductor (to BS EN 1977, ASTM B3, ASTM B49 & ASTM B 33)
- 1.2 Aluminum (to ASTM B233)

The conductor structure is complying to the requirements of BS EN 60228 (IEC 60228) class 2 stranded, non Compacted , compacted or compacted sector shaped conductors. The shape codes are:

re, round solid
rm, round stranded
rmc, round compacted stranded
sm, sectoral stranded

2.0 INSULATION

- 2.1 Each core conductor is insulated by extruded plastic material as will follow; the insulation thickness is selected based on the designated voltage rate complying with IEC 60502-1 & BS 5467 suitable for 0.6/1.0 KV.
- 2.2 The insulation integrity is controlled online by an AC spark tester with test methods specified in BS EN 62230 and using test voltages specified in BS5099.
- 2.3 Insulation Material :
Insulation material is selected to match the desired customer requirements and customer specification.
 - 2.3.1 Standard Polyvinyl chloride type (PVC/A 70 oC) complying with IEC 60502-1 requirements or Types (TI1 70 oC) & heat resistant PVC type TI-3 (90 oC) complying with BS EN 50363-3.
 - 2.3.2 Cross Linked Polyethylene XLPE complying with IEC 60502. The XLPE is selected to comply with the requirements of GP8 evaluation as specified in BS 7655-1.3
 - 2.3.3 Bahra Cables' standard insulation color codes are described in Table-1 (i.e. used in the products of this catalogue), meanwhile the color code as per BS 5467 is offered to our customers upon their request.

LOW VOLTAGE CABLES TECHNICAL INFORMATION

CABLE STRUCTURE

Table 1: Insulated Core Color Codes

Number of Cores	Colors to IEC 60502-1	Colors to BS 5467 (A:2008)
1	Red or Black	Brown or Blue
2	Red & Black	Brown & Blue
3	Red, Yellow and Blue	Brown, Black and Grey
4	Red, Yellow, Blue and Black	Blue, Brown, Black and Grey
5	Red, Yellow, Blue, Black and Green / Yellow	Green / Yellow, Blue, Brown, Black and Grey

2.3.4 The insulation is covered by Ultra-violet (UV) resistant Masterbatch. This protects the insulation from deterioration when exposed to continuous sunlight, the UV resistance performance of the Insulation is assessed by using the Arc Xenon test as per UL 1581

3.0 CABLE ASSEMBLY

The Insulated cores are laid up together to form the laid up cable cores. Extruded suitable polymer compound or non-hygroscopic polypropylene filler is applied (when required) between laid up cores to provide a circular shape to the cable.

Polypropylene tape(s) or PETP (Polyester) tape(s) is used as a barrier tape over the laid up cores. Such tape(s) will bind the cores together and prevents them from opening out, acts as a separator between different polymers used in a cable and works as a heat barrier between the cores and the extruded bedding.

4.0 BEDDING

It could be also called inner sheath or inner jacket, which serves as a bedding under cable armouring to protect the laid up cores and as a separation sheath. The bedding is an extruded PVC Type 9 Compound as per BS 7655-4.2.

5.0 ARMOURING

The cable intended for tray application does not require armour in general , while it is recommended to have an armour for the cables intended for Direct Burial application. The armour provides mechanical protection against crushing forces. Armour also can serve as an Earth Continuity Conductor (ECC). The armouring type could be:

5.1 One layer of Galvanized Round Steel Wire to BS EN 10257 is applied helically over the bedding.

LOW VOLTAGE CABLES TECHNICAL INFORMATION

CABLE STRUCTURE

- 5.2 Double Galvanized Steel Tape applied over each other, with a suitable overlap, one layer covers the gap of the other layer.
- 5.3 Aluminum wire armouring for a single Core Cable acts as non magnetic armour.

6.0 OUTERSHEATH (OUTERJACKET)

- 6.1 It is the outer protection part of the cable against the surrounding environment.
- 6.2 Several materials can be used as oversheath based on the intended application.
 - 6.2.1 General purpose PVC Type ST2 compound as specified in IEC 60502-1, or its equivalent PVC Type 9 to BS 7655-4.2.
 - 6.2.2 High density Polyethylene HDPE compound fulfill and exceed the requirements of Type ST7 IEC 60502-1 for cables that require to be abrasion resistant, protected against water ingress and strong Environmental Stress Crack Resistant (ESCR).
 - 6.2.3 Halogen Free Flame Retardant (HFFR) compounds complying with ST8 to IEC 60502-1 or Types LTS 1 & LTS 4 to BS 7655: section 6 for cables installed in intrinsically safe locations and where the cables require to be low smoke, low fume and low toxic gas emitting in case of fire. Cables to this category are complying with the requirements of BS 6724.
 - 6.2.4 The standard sheath color is Black, meanwhile other colors such as Red and Light Blue can also be provided as per customer request and in this case suitable UV proved additive is added to the Master batch to ensure resistance to sunlight.
 - 6.2.5 When the cable is required to be antitermite / antivermin, a special additive is added to the sheathing compound.
 - 6.2.6 All cables produced at Bahra Cables Company with PVC or Halogen free jackets are complying with the flame retardant test to IEC 60332-1. Whenever a requirement for more severe tests as IEC 60332-3 is needed, a jacketing compound with Oxygen index value more than 30% will be used.

7.0 INSTALLATION

Low voltage cables with both PVC and XLPE insulation are suitable for indoor and outdoor applications. For more information customers may refer to BS 7671 IEE wiring regulation seventeenth edition

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CABLE STRUCTURE

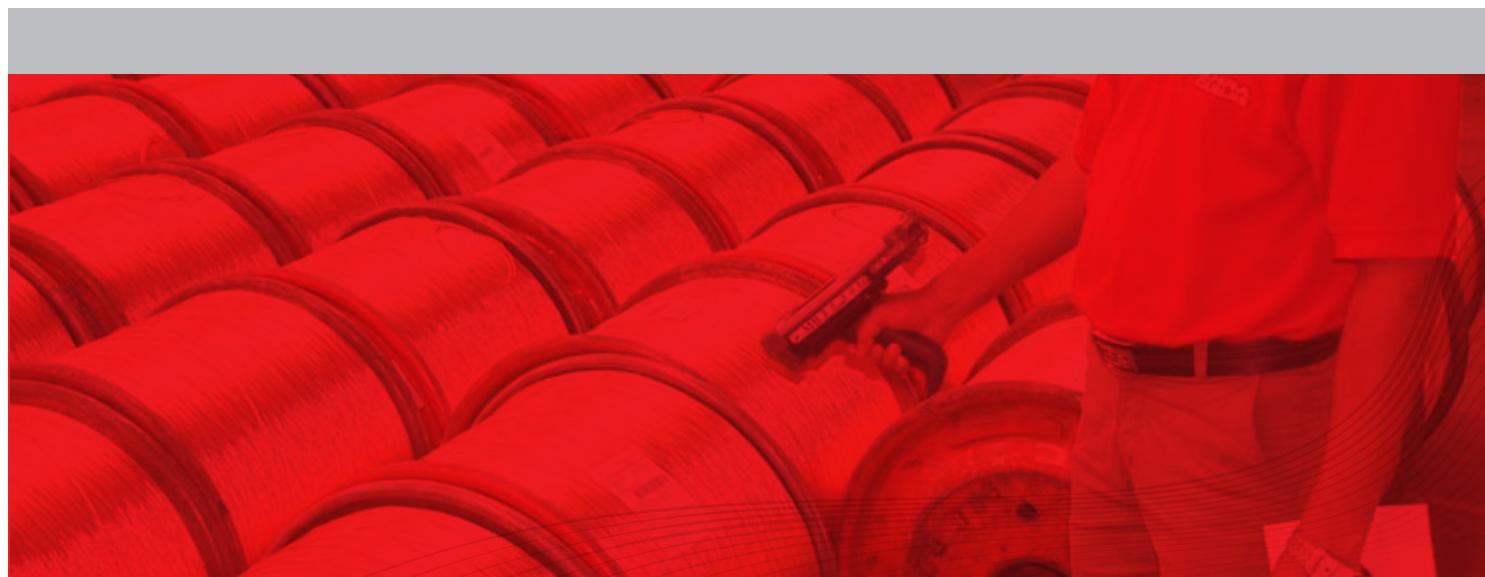
The following recommendations should be followed to achieve the optimal cable service

1. Armoured cables are not recommended for tray applications, as they are heavy in weight and extra loads are exerted on the tray.
2. Unarmoured cables are not recommended for direct buried applications, except if the quoted cables are designed and produced to pass direct burial test requirements (example, direct burial tests described in UL 1277 and UL 1581).
3. A PVC jacket is a very stable material against a wide range of chemicals, while HDPE jacketed cables can serve better in wet locations.
4. A recommended minimum bending radius is included in Table 2, the cable jacket may be damaged if the cable is bended in diameters less than these values.

Table 2 : Cables bending radius

Cable Type	Cable Minimum Bending Radius
Circular Copper Conductors Armoured / Unarmoured	6D
Shaped Copper or Aluminum Conductors, Armoured / Unarmoured	8D

D: Cable diameter



TECHNICAL INFORMATION

ELECTRICAL CHARACTERISTICS CURRENT RATING

1 CURRENT RATING ASSUMPTIONS

- 1.1 The calculation of the current ratings, Current rating equations (100% load factor) and calculation of losses are based on IEC 60287 series , and the values of Current ratings for under ground applications (In Duct or Direct Buried) are derived from the latest issue of ERA Report 'Current Rating Standards 69.30 Part V'. The ratings for a cable installed in Air are adopted from BS 7671 IEE Wiring Regulations, seventeenth edition.
- 1.2 Bahra Cables Company offers heat resistant PVC type TI-3 (90 °C) as insulation, which almost has the same current carrying capacity as XLPE 90 °C operating temperature.
- 1.3 The calculation is based on the standard dimensions of cables based on IEC 60502-1, which may have a slight difference from the applied cable dimension which are following the best common manufacturing practices.
- 1.4 The values given in the tables are for one circuit installed thermally isolated from other circuits or any other heat source.
- 1.5 The basis of the standard conditions is the climatic condition of the Kingdom of Saudi Arabia, which is:

Ambient Air Temperature:	40 °C
Ambient Ground Temperature:	35 °C
Depth of laying in ground:	0.50 m
Soil Thermal Resistivity	1.2 K.m/W
- 1.6 For other Installation conditions or any value of different air/ground temperature, depth of laying, different soil thermal resistivity the customer is advised to multiply the tabulated current rating by the de-rating factor values as in tables 3 to 7 for direct buried cables in ground and tables 9 to 12 for cables installed in ducts.

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ELECTRICAL CHARACTERISTICS CURRENT RATING

2 INSTALLATION CONDITIONS FOR DIRECT BURIAL CABLES

For a cable installed direct buried, the following tables will be used to calculate the current rates based on the actual soil thermal resistivity, Ground ambient temperature and the Depth of Laying.

Table 3 : Rating factors for ground temperature variation

Ground Temperature	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C
Cable Type									
PVC Insulated	1.18	1.15	1.1	1.04	1	0.95	0.88	0.83	0.77
XLPE Insulated	1.16	1.13	1.09	1.03	1	0.95	0.89	0.84	0.79

Table 4 : Rating factors for depth of laying (to center of cable or trefoil group of cables)

Depth of Laying (m)	upto 70mm ²	95mm ² to 240mm ²	Above 300mm 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

Table 5 : Rating factors for variation in thermal resistivity of soil (average values)

Size of Cables mm ²	Soil Thermal Resistivity (°C.m/W)						
	0.8	0.9	1.0	1.5	2.0	2.5	3.0
Single Core Cables							
Upto 150	1.16	1.12	1.07	0.91	0.81	0.73	0.66
From 185 to 300	1.17	1.12	1.07	0.91	0.80	0.73	0.66
From 400 to 1000	1.17	1.12	1.07	0.91	0.80	0.73	0.66
Multi Core Cables							
Upto 16	1.12	1.08	1.05	0.93	0.84	0.77	0.72
From 25 to 150	1.14	1.10	1.06	0.92	0.82	0.75	0.69
From 185 to 500	1.15	1.10	1.07	0.92	0.81	0.74	0.67

TECHNICAL INFORMATION

ELECTRICAL CHARACTERISTICS CURRENT RATING

Table 6 : Group rating factors for circuits of three single core cables in trefoil or laid flat touching, in horizontal formation

Number of Circuits	Trefoil		Flat Laying		Cable to Cable Clearance A	
	Nil (cables Touching)		Cable to Cable Clearance A			
	Trefoil	Flat Laying	0.15m	0.30m	0.45m	0.60m
2	0.78	0.81	0.83	0.88	0.91	0.93
3	0.66	0.7	0.73	0.79	0.84	0.87
4	0.61	0.64	0.68	0.73	0.79	0.85
5	0.56	0.6	0.64	0.73	0.79	0.85
6	0.53	0.57	0.61	0.71	0.78	0.82

Table 7 : Group rating factors for multicore cables in horizontal formation

Number of Cables in Group	Cable to Cable Clearance A				
	Touching	0.15m	0.30m	0.45m	0.60
		0.15m	0.30m	0.45m	0.60
2	0.81	0.87	0.91	0.93	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

TECHNICAL INFORMATION

ELECTRICAL CHARACTERISTICS CURRENT RATING

3 INSTALLATION CONDITIONS FOR CABLES IN DUCTS

A duct is an enclosure of metal or insulating material other than conduits or cable trunking, intended for the protection of cables which are drawn in after erection of the ducting.

The recommended relation between the cable size and duct size is as in table 8

Table 8 : Recommended duct dimensions and cable sizes

Number of Cables in Group	Duct	
	Inside Diameter (mm)	Outside Diameter (mm)
Up to and including 65	100	130
Above 65 up to and including 90	125	160

As the same principle of cables installed in direct burial methods above, the current carrying capacities of cables depends on the installed condition, the rating is calculated based on the values in section 1.5 page 10.

The de-rating factors of other conditions should be considered to calculate the actual possible maximum current carrying capacity of the cables.

Tables 9-13 are for the factors to be multiplied by the tabulated current.

Table 9 : Rating factors for ground temperature variation

Ground Temperature	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C
Cable Type									
PVC Insulated	1.18	1.15	1.1	1.04	1	0.95	0.88	0.83	0.77
XLPE Insulated	1.16	1.13	1.09	1.03	1	0.95	0.89	0.84	0.79

TECHNICAL INFORMATION

ELECTRICAL CHARACTERISTICS CURRENT RATING

Table 10 : Rating factors for variation in thermal resistivity of soil (average values)

Size of Cables mm ²	Soil Thermal Resistivity (°C.m/W)						
	0.8	0.9	1.0	1.5	2.0	2.5	3.0
Single Core Cables							
Upto 150	1.10	1.07	1.04	0.94	0.86	0.80	0.76
From 185 to 300	1.11	1.08	1.05	0.93	0.85	0.79	0.75
From 400 to 1000	1.12	1.08	1.05	0.93	0.84	0.78	0.74
Multi Core Cables							
Upto 16	1.04	1.03	1.02	0.97	0.92	0.88	0.86
From 25 to 150	1.06	1.04	1.03	0.95	0.90	0.85	0.81
From 185 to 500	1.07	1.05	1.03	0.95	0.88	0.83	0.78

Table 11 : Rating factors of depth of laying (to center of duct or trefoil group of ducts)

Depth of Laying (m)	Single Core		Multi Core
	0.50	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
3.00 or more	0.85		0.91

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Table 12 : Group rating factors for single core cables in trefoil Single way ducts, horizontal (average values)

Number of Circuits	Cable to Cable Clearance A		
	Touching	0.45m	0.60m
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

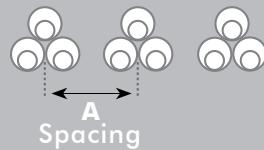
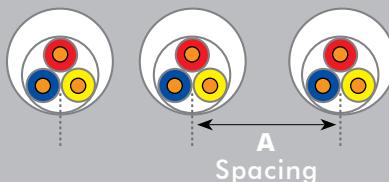


Table 13 : Group rating factors for multicore cables in single way ducts Horizontal formation (average values)

Number of Cables in Group	Cable to Cable Clearance A			
	Nil Cables Touching	0.30m	0.45m	0.60
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
2	0.88	0.91	0.93	0.94
3	0.80	0.85	0.88	0.90
4	0.76	0.81	0.85	0.88
5	0.72	0.78	0.83	0.86
6	0.69	0.76	0.81	0.85



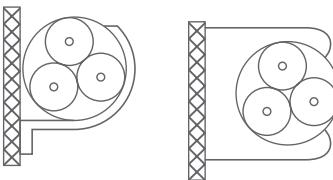
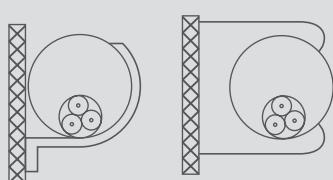
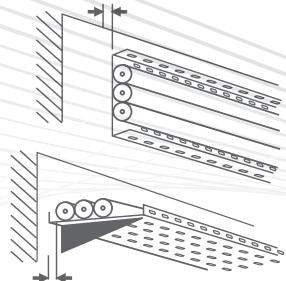
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4 INSTALLATION CONDITIONS FOR CABLES IN AIR

Cables installed in air could have many forms of installation methods as described in BS 7671 IEE wiring regulation 17th edition. Some of these methods are like C or B (for cables on Trefoil format laying as in table 14) or like E or F (For cables laid Flat vertically or horizontally as in table 14). It is assumed that the cables are not exposed to the direct sunlight and away from any external heat sources. The de-rating factors for cables laid in free air are as in tables 15 through 17. Additionally there are more de-rating factors tables for other methods of installation, the user has to review BS7671- IEE Wiring Regulations for Electrical Installations, 17th Edition for detailed information.

Table 14 : Installation methods for cables

Installation Method	Description	Current Carrying Capacity Reference
	Single Core or multi core cables: Fixed on (clipped direct) or spaced less than 0.3 times the cable diameter from a wall	C
	Multi core cable in conduit, spaced less than 0.3 x conduit diameter	B
	Cables run horizontally or vertically flat on perforated tray For multi core cable De = Cable diameter, And for 3 single core cables De = 3xcable diameter	E or F

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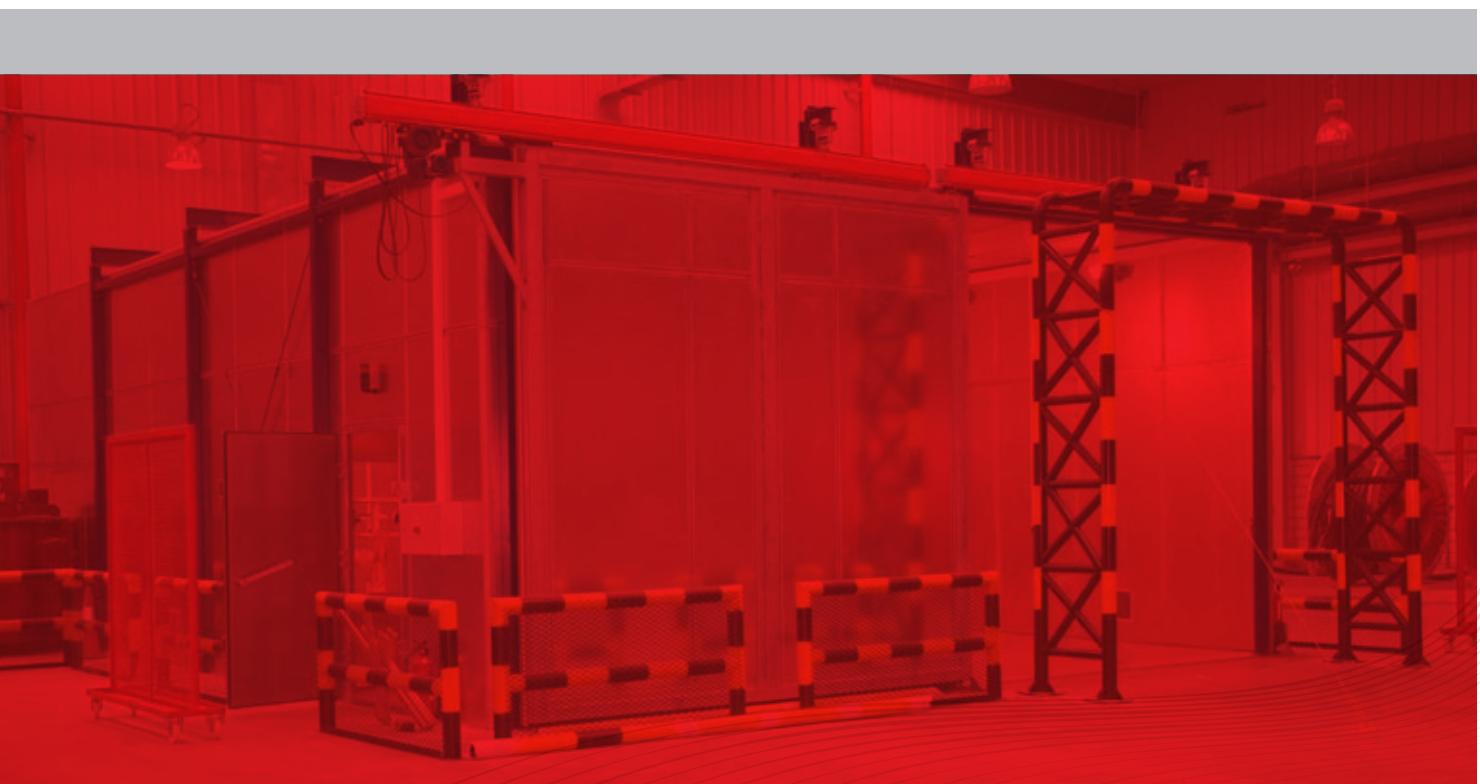
Important note for single core cables:

The conductors of an A.C. circuit installed in a ferromagnetic enclosure shall be arranged so that all line conductors and the neutral conductor, if any, and the appropriate protective conductor are contained in the same enclosure.

When such conductors enter a ferrous enclosure, they shall be arranged such that the conductors are only collectively surrounded by ferrous material.

Table 15 : Rating factors for other ambient air temperatures

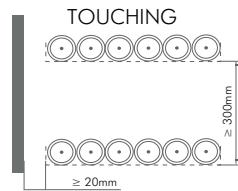
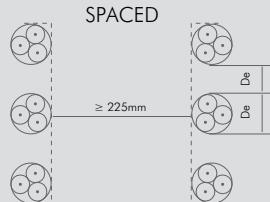
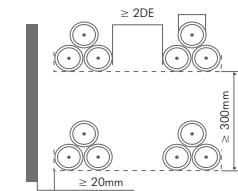
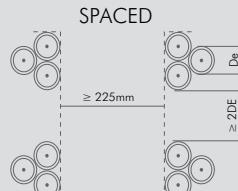
Air Temperature	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
Cable Type								
PVC Insulated	1.18	1.15	1.08	1.00	0.90	0.82	0.70	0.59
XLPE Insulated	1.12	1.10	1.055	1.00	0.96	0.90	0.835	0.78



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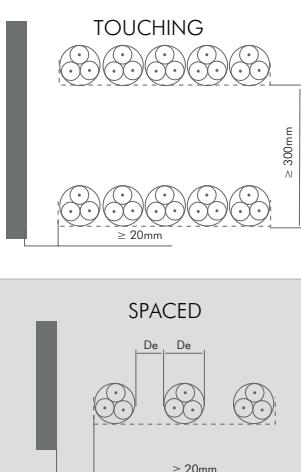
Table 16 : Rating factors of one or more circuits of single core cables laid in free air

Number of Trays	Number of three phases circuits			Installation form	Type	
	1	2	3			
1	0.98	0.91	0.87		Three cables in horizontal formation	
2	0.96	0.87	0.81			
3	0.95	0.85	0.78			
1	0.96	0.86	-		Three cables in vertical formation	
2	0.95	0.84	-			
1	1.00	0.98	0.96			Three cables in trefoil formation
2	0.97	0.93	0.89			
3	0.96	0.92	0.86			
1	1.00	0.91	0.89		Two cables in vertical formation	
2	1.00	0.90	0.86			

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Table 17 : Rating factors for groups of more than one multi core cable laid in free air

Number of Trays	Number of Cables			Installation form	Type
	1	2	3		
1	1.00	0.88	0.82		Cables in horizontal formation
2	1.00	0.87	0.80		
3	1.00	0.86	0.79		
1	1.00	1.00	0.98		
2	1.00	0.99	0.96		
3	1.00	0.98	0.95		
1	1.00	0.88	0.82		
2	1.00	0.88	0.81		
1	1.00	0.91	0.89		
2	1.00	0.91	0.88		

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5 CURRENT CARRYING CAPACITY

Table 18 : Single core cables with conductors PVC 70 °C insulated and PVC Sheathed. 0.6/1 KV

Conductor	Conductor Resistance				Current Carrying Capacity					
					In Ground			In Air		
Cross Sectional Area mm ²	DC at 20°C Maximum ohm/km	AC at 70°C in Flat Formation Approx ohm/km	AC at 70°C in Trefoil Formation Approx ohm/km	Direct Laid (Flat) Approx Amps	Direct Laid (Trefoil) Approx Amps	In Duct Approx Amps	Free (Flat) Approx Amps	Free (Trefoil) Approx Amps	In Pipes Approx Amps	
1.5	12.1	14.5	14.5	25	24	18	20	18	15	
2.5	7.41	8.87	8.87	33	31	24	27	23	19	
4	4.61	5.52	5.52	42	41	31	36	31	25	
6	3.08	3.69	3.69	53	51	39	46	40	32	
10	1.83	2.19	2.19	70	68	52	62	54	43	
16	1.15	1.38	1.38	91	87	67	83	71	56	
25	0.727	0.870	0.870	116	112	87	109	94	73	
35	0.524	0.627	0.627	140	134	104	135	116	89	
50	0.387	0.463	0.464	166	158	125	164	141	107	
70	0.268	0.321	0.322	204	194	154	208	179	134	
95	0.193	0.232	0.232	245	233	186	259	222	163	
120	0.153	0.184	0.185	279	264	212	301	258	188	
150	0.124	0.150	0.151	313	296	238	345	296	213	
185	0.0991	0.1200	0.1215	354	334	270	399	343	243	
240	0.0754	0.0922	0.0941	412	385	313	476	407	285	
300	0.0601	0.0743	0.0767	466	433	353	551	469	324	
400	0.0470	0.0593	0.0623	531	488	399	642	542	369	
500	0.0366	0.0476	0.0513	603	546	449	747	624	417	
630	0.0283	0.0386	0.0431	686	609	501	875	717	470	

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Table 19 : Three and four core cable with copper conductor, PVC 70°C insulated and PVC sheathed

Conductor Cross Sectional Area mm ²	Conductor Resistance		In Ground			In Air		
	DC at 20°C	AC at 70°C	Unarmoured		Armoured	Unarmoured		Armoured
			Direct Laid	Laid in Duct	Direct Laid	Free Approx Amps	In pipes Method C Approx Amps	Free Approx Amps
1.5	12.1	14.5	21	18	-	16	14	-
2.5	7.41	8.87	27	23	-	22	19	-
4	4.61	5.52	36	30	36	29	24	29
6	3.08	3.69	45	37	45	37	31	37
10	1.83	2.19	60	50	60	50	41	51
16	1.15	1.38	78	65	78	66	54	66
25	0.727	0.870	100	83	100	87	70	88
35	0.524	0.628	125	101	124	106	84	109
50	0.387	0.464	149	121	147	130	102	133
70	0.268	0.323	183	148	180	163	126	167
95	0.193	0.232	219	178	215	201	154	204
120	0.153	0.185	249	203	245	233	177	235
150	0.124	0.151	280	229	273	268	202	268
185	0.0991	0.121	315	259	306	308	230	305
240	0.0754	0.0939	364	301	349	364	269	355
300	0.0601	0.0764	409	339	387	417	306	401
400	0.0470	0.0619	465	386	428	485	352	454
500	0.0366	0.0507	520	441	468	554	406	506

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Table 20 : Single core cables with copper conductor, XLPE insulated and PVC sheathed, 0.6/1 kv

Conductor	Conductor Resistance				Current Carrying Capacity					
					In Ground			In Air		
	Cross Sectional Area mm ²	DC at 20°C Maximum ohm/km	AC at 90°C in Flat Formation Approx ohm/km	AC at 90°C in Trefoil Formation Approx ohm/km	Direct Laid (Flat) Approx Amps	Direct Laid (Trefoil) Approx Amps	In Duct Approx Amps	Free (Flat) Approx Amps	Free (Trefoil) Approx Amps	In Pipes Approx Amps
1.5	12.1	15.2	15.2	31	30	22	27	22	19	
2.5	7.41	9.45	9.45	40	39	29	36	29	24	
4	4.61	5.88	5.88	52	50	38	47	38	32	
6	3.08	3.93	3.93	65	63	47	60	49	40	
10	1.83	2.33	2.33	87	83	63	82	66	54	
16	1.15	1.47	1.47	112	107	82	109	88	70	
25	0.727	0.927	0.927	144	137	105	145	116	92	
35	0.524	0.668	0.669	172	165	127	178	143	112	
50	0.387	0.494	0.494	204	195	151	218	175	134	
70	0.268	0.342	0.343	251	238	187	277	222	168	
95	0.193	0.247	0.248	301	286	225	344	274	205	
120	0.153	0.196	0.197	345	327	258	409	326	237	
150	0.124	0.159	0.16	385	363	290	461	367	269	
185	0.0991	0.128	0.129	436	410	330	534	425	308	
240	0.0754	0.098	0.100	507	474	382	638	505	361	
300	0.0601	0.079	0.0815	573	532	431	740	583	411	
400	0.0470	0.0629	0.0661	645	600	489	865	676	469	
500	0.0366	0.0504	0.0543	744	673	550	1009	779	533	
630	0.0283	0.0407	0.0453	847	752	615	1184	900	603	

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ELECTRICAL CHARACTERISTICS CURRENT RATING

Table 21 : Three and four core cable with copper conductor, XLPE insulated and PVC sheathed, 0.6/1 kv

Conductor Cross Sectional Area mm ²	Conductor Resistance		In Ground			In Air		
	DC at 20°C	AC at 90°C	Unarmoured		Armoured	Unarmoured		Armoured
			Direct Laid	Laid in Duct	Direct Laid	Free	In pipes	Free
mm ²	Maximum ohm/km	Approx ohm/km	Approx Amps	Approx Amps	Approx Amps	Approx Amps	Approx Amps	Approx Amps
1.5	12.1	15.4	27	22	-	22	18	-
2.5	7.41	9.45	35	29	-	29	24	-
4	4.61	5.88	45	37	46	38	31	39
6	3.08	3.93	56	46	57	48	39	50
10	1.83	2.33	76	62	76	67	52	67
16	1.15	1.47	98	80	98	88	68	89
25	0.727	0.927	128	104	128	118	90	120
35	0.524	0.669	157	125	158	142	107	149
50	0.387	0.494	187	149	188	175	129	182
70	0.268	0.343	229	183	229	220	161	229
95	0.193	0.248	276	220	274	272	196	280
120	0.153	0.197	313	251	310	316	226	322
150	0.124	0.160	350	283	346	363	258	368
185	0.0991	0.129	395	321	387	418	295	420
240	0.0754	0.0998	458	372	444	496	346	491
300	0.0601	0.0812	516	420	494	571	394	557
400	0.0470	0.0656	584	478	549	665	454	635
500	0.0366	0.0536	655	538	597	760	515	705

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Table 22 : Single core cables with aluminum conductor, XLPE insulated and PVC sheathed, 0.6/1 kv

Conductor	Conductor Resistance				Current Carrying Capacity					
					In Ground			In Air		
	Cross Sectional Area mm ²	DC at 20°C Maximum ohm/km	AC at 90°C in Flat Formation Approx ohm/km	AC at 90°C in Trefoil Formation Approx ohm/km	Direct Laid (Flat) Approx Amps	Direct Laid (Trefoil) Approx Amps	In Duct Approx Amps	Free (Flat) Approx Amps	Free (Trefoil) Approx Amps	In Pipes Approx Amps
16	1.91	2.45	2.45	87	83	63	85	68	54	
25	1.20	1.54	1.54	111	107	82	112	90	71	
35	0.868	1.113	1.113	133	128	98	138	111	87	
50	0.641	0.822	0.822	158	151	117	169	135	104	
70	0.443	0.568	0.569	194	185	145	215	172	131	
95	0.320	0.411	0.411	233	222	175	266	213	159	
120	0.253	0.325	0.325	266	252	201	312	249	184	
150	0.206	0.265	0.265	298	282	226	357	285	209	
185	0.164	0.211	0.212	339	320	257	416	332	241	
240	0.125	0.161	0.163	395	371	300	497	396	283	
300	0.100	0.130	0.131	448	419	340	578	459	324	
400	0.0778	0.1016	0.1037	514	479	390	681	540	375	
500	0.0605	0.0799	0.0826	590	546	446	801	631	432	
630	0.0469	0.0632	0.0666	681	621	509	954	746	498	



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Table 23 : Three and four core cable with aluminum conductor, XLPE insulated and PVC sheathed, 0.6/1 kv

Conductor Cross Sectional Area mm ²	Conductor Resistance		In Ground		In Air			
	DC at 20°C	AC at 90°C	Unarmoured		Armoured	Unarmoured		Armoured
			Direct Laid (Flat) Approx Amps	Laid in Duct (Trefoil) Approx Amps	Direct Laid Approx Amps	Free Approx Amps	In pipes Approx Amps	Free Approx Amps
16	1.91	2.45	76	62	76	68	53	69
25	1.20	1.54	99	81	99	92	70	93
35	0.868	1.113	121	96	122	110	83	115
50	0.641	0.822	145	116	146	136	100	141
70	0.443	0.569	178	142	178	171	125	178
95	0.320	0.411	214	171	213	211	152	218
120	0.253	0.325	243	195	242	246	176	252
150	0.206	0.265	272	220	270	282	200	288
185	0.164	0.212	309	250	305	326	230	331
240	0.125	0.163	359	282	352	388	271	390
300	0.100	0.131	406	331	395	449	310	445
400	0.0778	0.1034	466	381	447	530	362	516
500	0.0605	0.0822	529	434	497	614	416	586



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ELECTRICAL CHARACTERISTICS VOLTAGE DROP

According to BS 7671 IEE wiring regulation 17th edition, under normal service conditions the voltage at the terminals of any fixed current-using equipment shall be greater than the lower limit corresponding to the product standard relevant to the equipment and where fixed current-using equipment is not the subject of a product standard the voltage at the terminals shall be such as not to impair the safe functioning of the equipment. This infers the importance of the voltage drop calculation for the low voltage cables which is covered by this catalogue.

Table 24 : Approximate voltage drop at 60 HZ for single core stranded plain copper/aluminum conductors, PVC insulated, PVC sheathed

Nominal Area of Conductor mm ²	Copper Conductor mV/Amp/m		Aluminum Conductor mV/Amp/m	
	PVC Rated 90°C Flat	PVC Rated 90°C Trefoil	PVC Rated 90°C Flat	PVC Rated 90°C Trefoil
1.5	22.6	22.5	-	-
2.5	13.9	13.8	-	-
4	8.7	8.7	-	-
6	5.80	5.8	-	-
10	3.50	3.50	-	-
16	2.30	2.20	3.70	3.70
25	1.50	1.50	2.40	2.30
35	1.10	1.10	1.70	1.70
50	0.83	0.82	1.30	1.30
70	0.61	0.60	0.94	0.92
95	0.47	0.45	0.71	0.69
120	0.39	0.38	0.58	0.56
150	0.34	0.33	0.49	0.48
185	0.29	0.28	0.41	0.40
240	0.25	0.24	0.34	0.33
300	0.22	0.21	0.29	0.28
400	0.20	0.18	0.25	0.24
500	0.18	0.17	0.22	0.21
630	0.16	0.15	0.19	0.18

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ELECTRICAL CHARACTERISTICS VOLTAGE DROP

Table 25 : Approximate voltage drop at 60 HZ for three and four core stranded plain copper/aluminum conductors, PVC insulated, PVC sheathed

Nominal Area of Conductor mm ²	Copper Conductor mV/Amp/m	Aluminum Conductor mV/Amp/m
	PVC Rated 90°C	PVC Rated 90°C
1.5	22.6	-
2.5	13.8	-
4	8.6	-
6	5.80	-
10	3.50	-
16	2.20	3.60
25	1.40	2.30
35	1.10	1.70
50	0.80	1.30
70	0.58	0.91
95	0.44	0.68
120	0.37	0.55
150	0.32	0.47
185	0.27	0.39
240	0.23	0.32
300	0.20	0.27
400	0.18	0.23
500	0.15	0.20



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ELECTRICAL CHARACTERISTICS VOLTAGE DROP

Table 26 : Approximate voltage drop at 60 HZ for single core stranded plain copper/aluminum conductors, XLPE insulated, PVC sheathed

Nominal Area of Conductor mm ²	Copper Conductor mV/Amp/m		Aluminum Conductor mV/Amp/m	
	XLPE Rated 90°C Flat	XLPE Rated 90°C Trefoil	XLPE Rated 90°C Flat	XLPE Rated 90°C Trefoil
1.5	22.9	22.8	-	-
2.5	14.1	14.1	-	-
4	8.8	8.7	-	-
6	5.90	5.90	-	-
10	3.60	3.60	-	-
16	2.30	2.30	3.70	3.70
25	1.50	1.50	2.40	2.40
35	1.10	1.10	1.80	1.70
50	0.84	0.83	1.30	1.30
70	0.61	0.60	0.95	0.93
95	0.47	0.46	0.71	0.70
120	0.39	0.38	0.58	0.57
150	0.34	0.33	0.50	0.48
185	0.29	0.28	0.42	0.40
240	0.25	0.24	0.34	0.33
300	0.22	0.21	0.29	0.28
400	0.19	0.18	0.25	0.24
500	0.17	0.16	0.22	0.21
630	0.16	0.15	0.19	0.18

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ELECTRICAL CHARACTERISTICS VOLTAGE DROP

Table 27 : Approximate voltage drop at 60 HZ for three and four core stranded plain copper/aluminum conductors, XLPE insulated, PVC sheathed

Nominal Area of Conductor mm ²	Copper Conductor mV/Amp/m	Aluminum Conductor mV/Amp/m
	XLPE Rated 90°C	XLPE Rated 90°C
1.5	22.8	-
2.5	14	-
4	8.7	-
6	5.90	-
10	3.50	-
16	2.20	3.70
25	1.50	2.40
35	1.10	1.70
50	0.81	1.30
70	0.58	0.92
95	0.44	0.68
120	0.37	0.56
150	0.31	0.47
185	0.27	0.39
240	0.23	0.32
300	0.20	0.27
400	0.18	0.23
500	0.15	0.20



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ELECTRICAL CHARACTERISTICS

SHORT CIRCUIT RATING - CONDUCTORS

Short circuit characteristics is based on IEC 60724 , for an insulated conductor with operating temperature of 70 °C for PVC and 90 °C for XLPE cable , the maximum temperature during the fault is 140 °C or 160 °C for PVC insulated cables , small sizes and big sizes respectively , and up to 250 °C for XLPE insulated cables

Table 28 Max. Short Circuit temperature for cable components

Material	Item	Temp. °C
Insulation	PVC insulation	140 For C.S.A. <300 mm ²
		160 For C.S.A. ≥300 mm ²
	XLPE insulation	250
Sheathing	PVC sheathing	200
	LDPE sheathing	150
	HDPE sheathing	180

Tables 29 and 30 represent the short circuit current rating at duration of fault time equal to 1 second. For any other values Graphs 1,2,3 and 4 will be used

Table 29 : PVC (based on 70 °C type TI-1 or 90 °C type TI-3) cables copper and aluminum conductor

Conductor Size	Short Circuit Ratings for 1 second in k Amp	
	Copper Conductor	Aluminum Conductor
10	1.20	0.86
16	1.80	1.10
25	2.85	1.80
35	3.55	2.55
50	5.00	3.40
70	6.90	4.90
95	10.9	6.80
120	11.80	8.50
150	15.30	11.00
185	18.70	13.00
240	23.60	16.50
300	30.10	22.50
400	41.20	29.50
500	51.50	36.00
630	64.90	45.50
800	82.40	62.00
1000	103.0	78.00

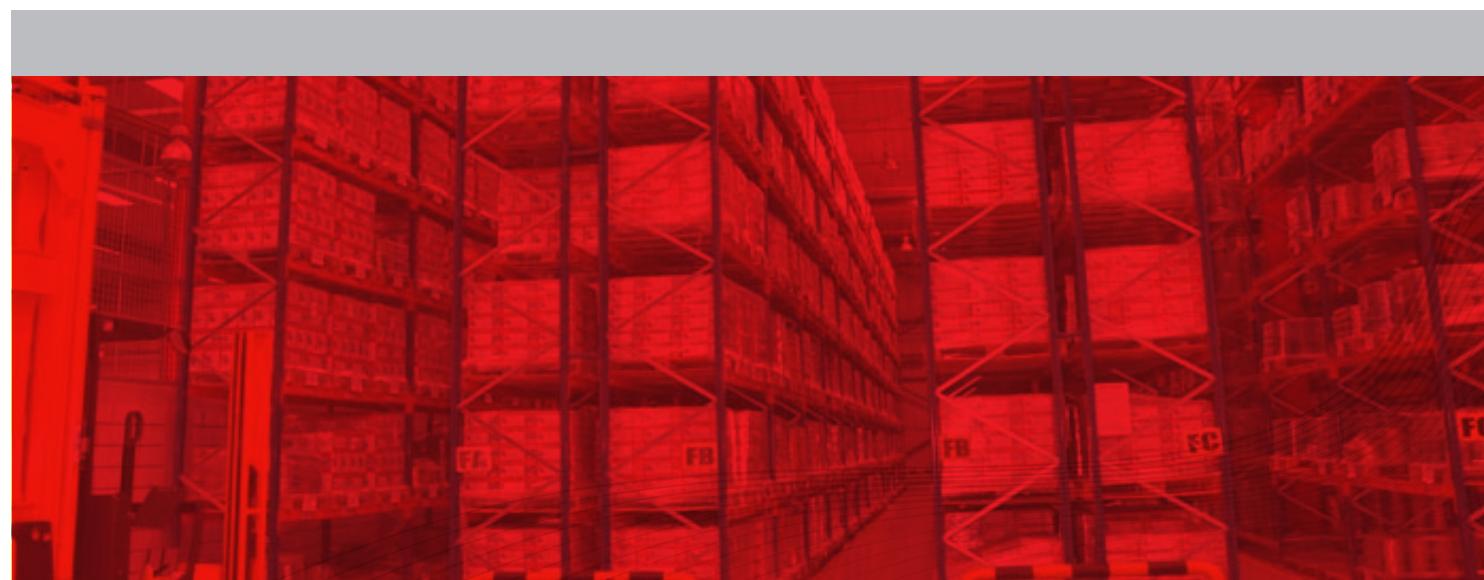
TECHNICAL INFORMATION

ELECTRICAL CHARACTERISTICS

SHORT CIRCUIT RATING - CONDUCTORS

Table 30 : XLPE cables copper and aluminum conductor

Conductor Size	Short Circuit Ratings for 1 second in k Amp	
	Copper Conductor	Aluminum Conductor
10	1.43	0.94
16	2.29	1.50
25	3.58	2.35
35	5.00	3.29
50	7.15	4.70
70	10.01	6.58
95	13.59	8.93
120	17.16	11.28
150	21.45	14.10
185	26.46	17.39
240	34.32	22.56
300	42.90	28.20
400	57.20	37.60
500	71.5	46.09
630	90.09	59.22
800	114.40	75.20
1000	143.00	94.00

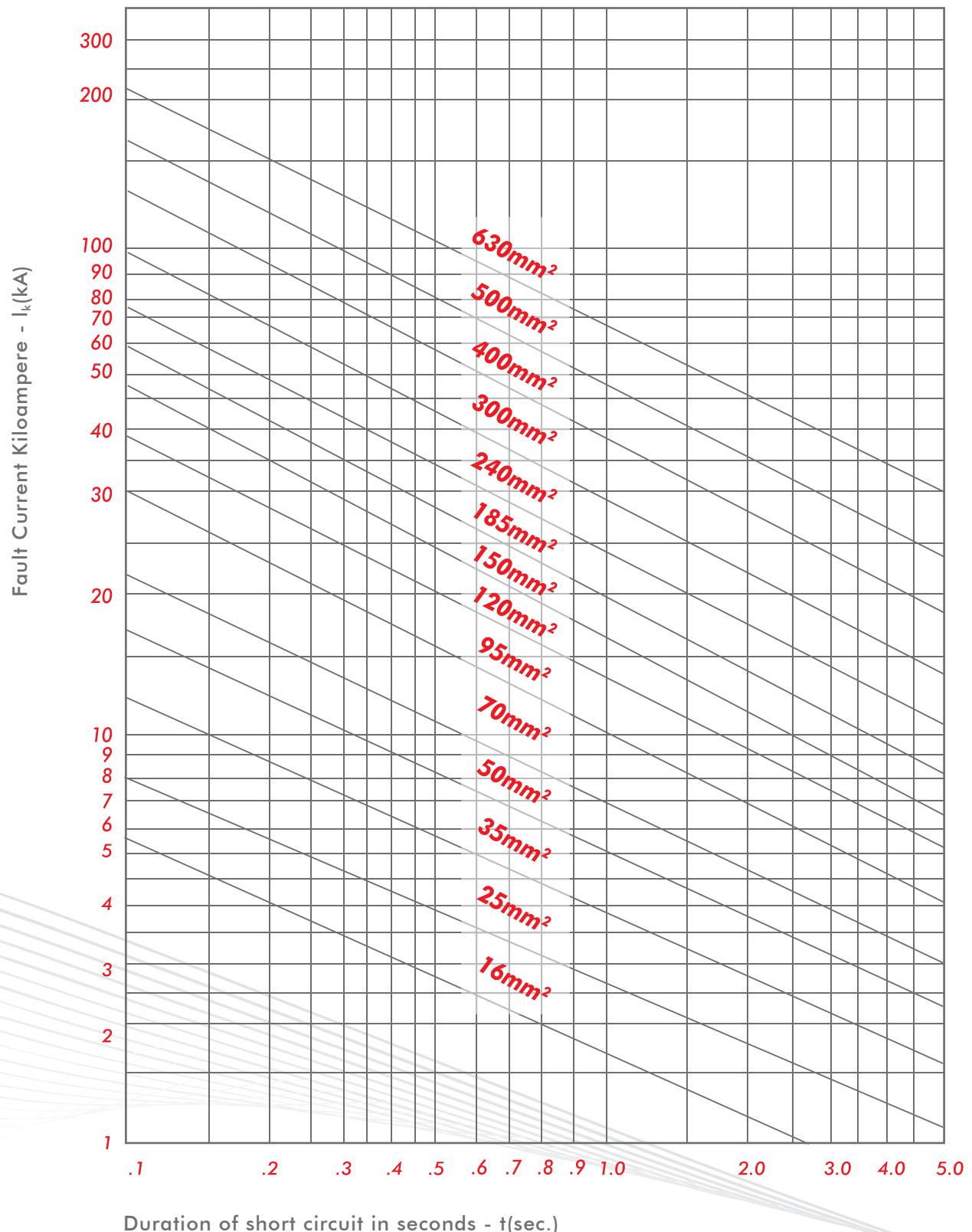


TECHNICAL INFORMATION

ELECTRICAL CHARACTERISTICS

SHORT CIRCUIT RATING - CONDUCTORS

Graph 1 : PVC (90 °C type) insulated cables short circuit (Copper Conductor)

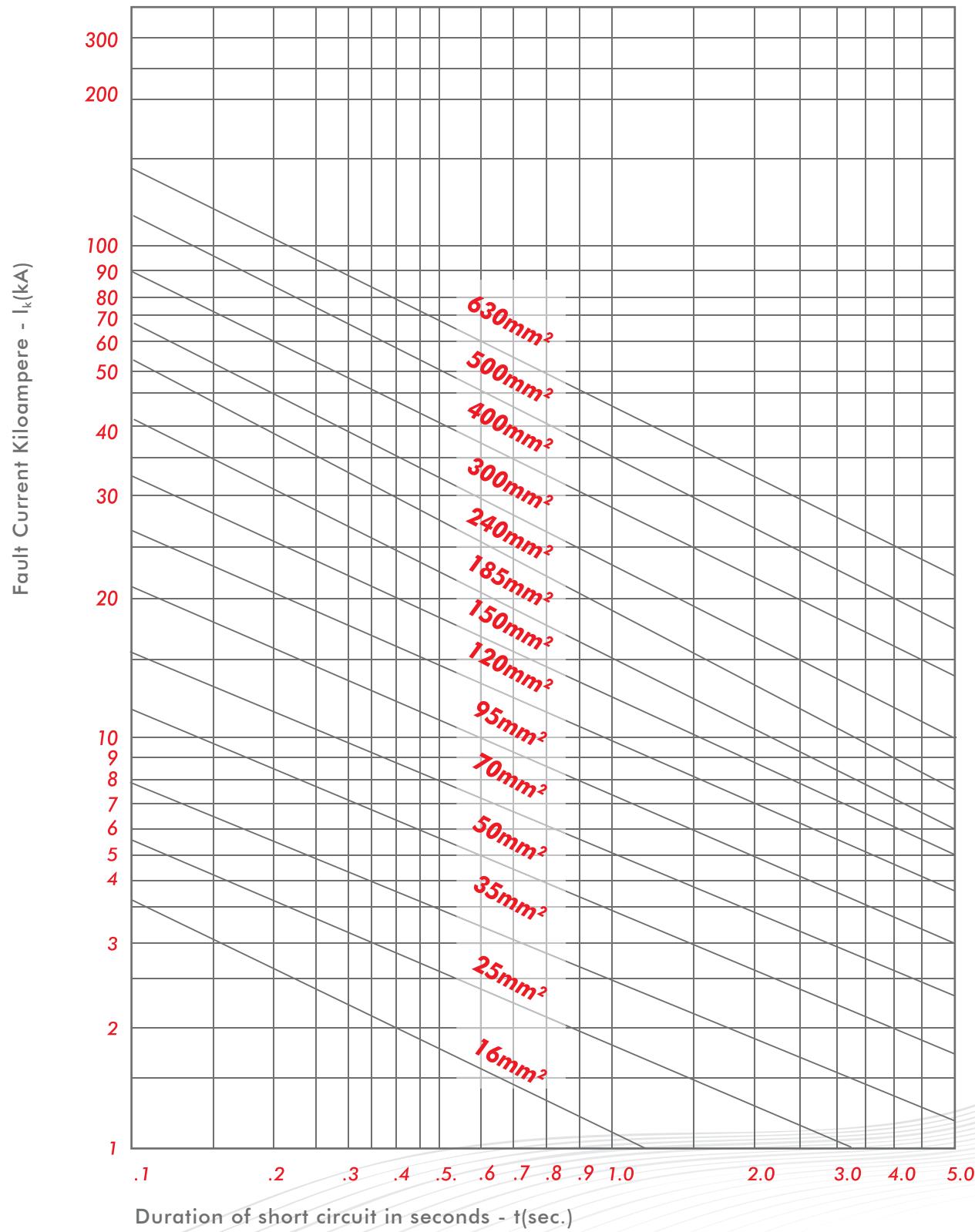


TECHNICAL INFORMATION

ELECTRICAL CHARACTERISTICS

SHORT CIRCUIT RATING - CONDUCTORS

Graph 2 : PVC (90 °C type) insulated cables short circuit (Aluminum Conductor)

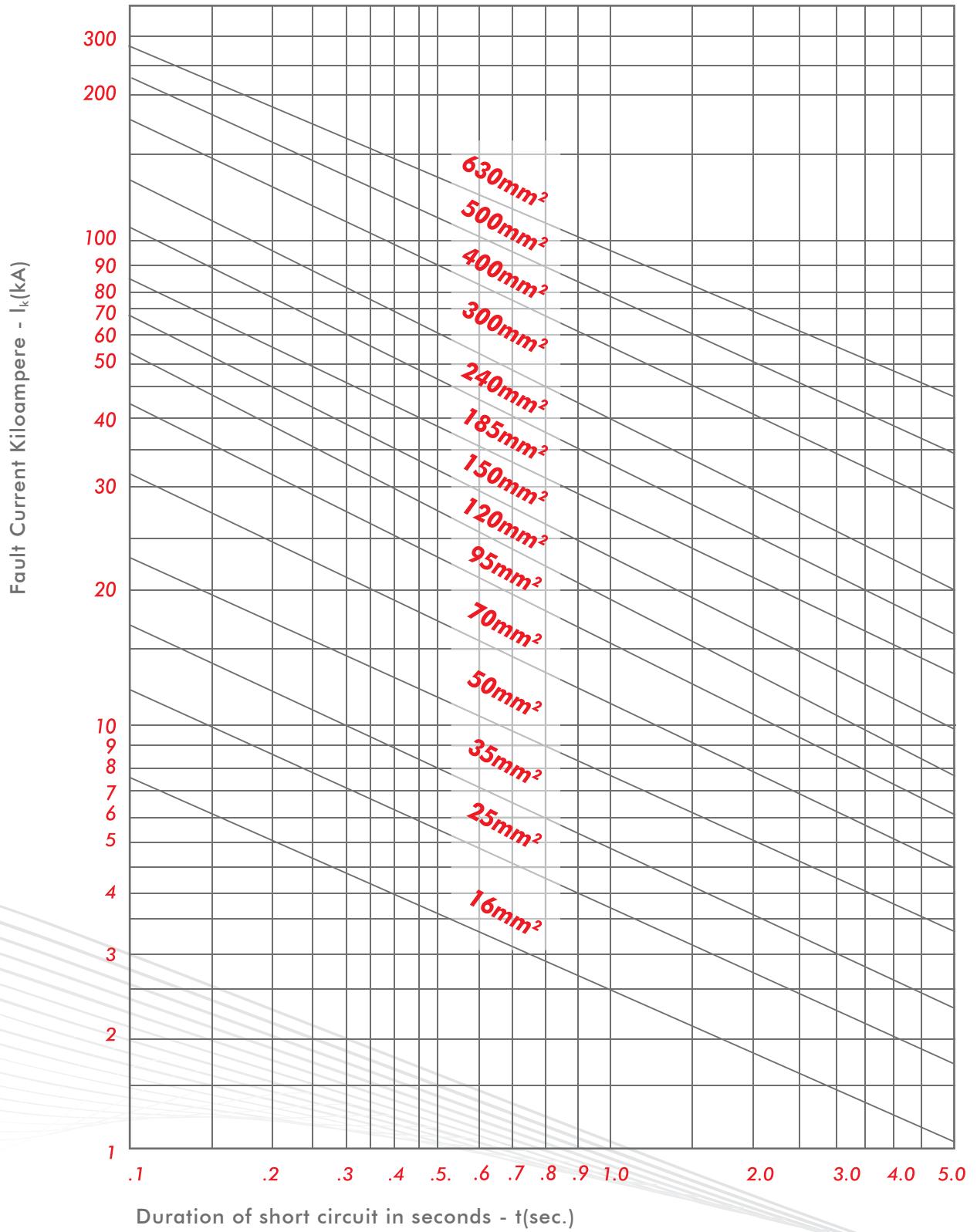


TECHNICAL INFORMATION

ELECTRICAL CHARACTERISTICS

SHORT CIRCUIT RATING - CONDUCTORS

Graph 3 : XLPE Insulated cables short circuit (Copper Conductor)

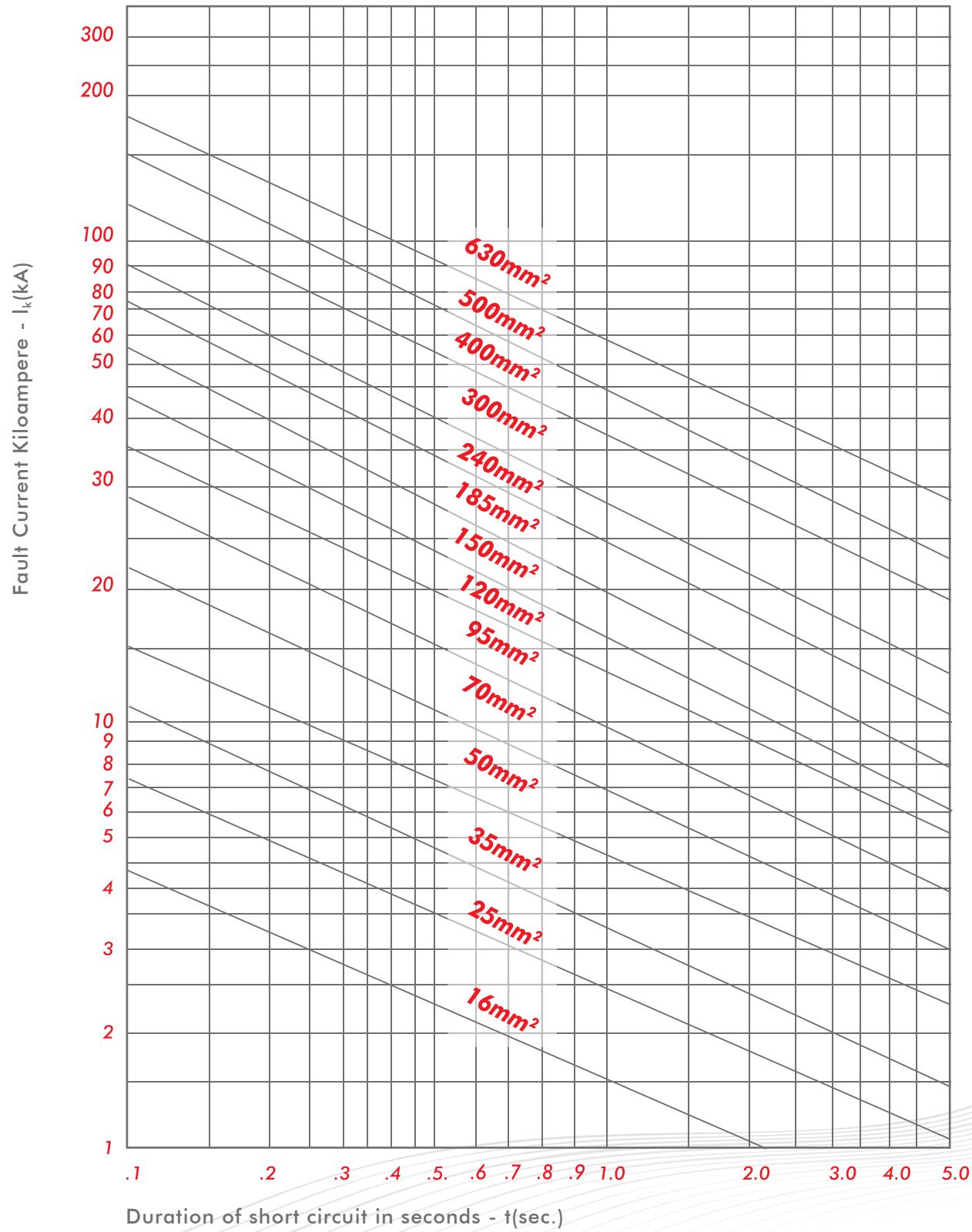


TECHNICAL INFORMATION

ELECTRICAL CHARACTERISTICS

SHORT CIRCUIT RATING - CONDUCTORS

Graph 4 : XLPE Insulated cables short circuit (Aluminum Conductor)



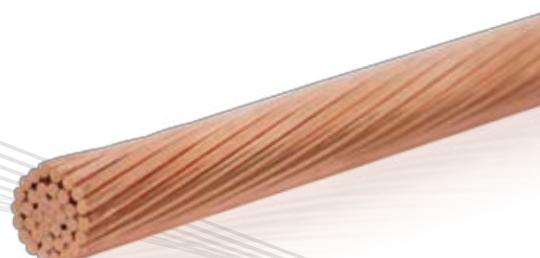
BARE SOFT DRAWN STRANDED CONDUCTOR

COPPER CONDUCTOR
CU



Copper Conductor

Item Numbers	Conductor				Packaging	
	Cross Sectional Area Nominal mm ²	Number and Nominal Diameter of Wires mm	Overall Diameter Approx mm	Max. DC Resistance at 20°C ohm/km	Net Weight Approx kg/km	Standard Package m +/-5%
14110020	2.5 rm	7x0.66	2.0	7.4100	21	2000
14110030	4 rm	7x0.84	2.5	4.6100	34	2000
14110040	6 rm	7x1.02	3.1	3.0800	51	2000
14110050	10 rm	7x1.33	4.0	1.8300	86	2000
14110060	16 rm	7x1.68	5.1	1.1500	137	2000
14110070	25 rm	7x2.11	6.4	0.7270	217	2000
14110080	35 rm	7x2.48	7.5	0.5240	312	2000
14110090	50 rm	19x1.75	8.8	0.3870	408	1000
14110100	70 rm	19x2.11	10.6	0.2680	589	1000
14110110	95 rm	19x2.48	12.4	0.1930	818	1000
14110120	120 rm	37x2.00	14.0	0.1530	1032	1000
14110130	150 rm	37x2.22	15.5	0.1240	1273	1000
14110140	185 rm	37x2.48	17.4	0.0991	1593	1000
14110150	240 rm	61x2.22	20.3	0.0754	2094	1000
14110160	300 rm	61x2.48	22.9	0.0601	2650	1000
14110170	400 rm	61x2.81	25.7	0.0470	3400	500
14110180	500 rm	61x3.18	28.8	0.0366	4314	500
14110190	630 rmc	61x3.75	30.5	0.0283	5650	500



PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | UNARMOURED | 0.6/1 kV
CU/PVC/PVC



Single core

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires		Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14010002	1.5 rm	7	0.8	1.4	5.9	53	1000/2000
14010004	2.5 rm	7	0.8	1.4	6.3	66	1000/2000
14010006	4 rm	7	1.0	1.4	7.3	91	1000/2000
14010008	6 rm	7	1.0	1.4	7.8	115	1000/2000
14010010	10 rm	7	1.0	1.4	8.8	165	1000/2000
14010011	16 rm	7	1.0	1.4	9.9	226	1000/2000
14010012	25 rm	7	1.2	1.4	11.6	334	500/1000
14010013	35 rm	7	1.2	1.4	12.7	443	500/1000
14010014	50 rm	19	1.4	1.4	14.5	573	500/1000
14010015	70 rm	19	1.4	1.4	16.2	776	500/1000
14010016	95 rm	19	1.6	1.5	18.6	1051	1000
14010017	120 rm	37	1.6	1.5	20.3	1298	1000
14010018	150 rm	37	1.8	1.6	22.3	1582	1000
14010019	185 rm	37	2.0	1.7	24.8	1993	1000
14010020	240 rm	61	2.2	1.8	28.2	2580	1000
14010021	300 rm	61	2.4	1.9	31.4	3240	1000
14010022	400 rm	61	2.6	2.0	34.6	4097	500
14010023	500 rm	61	2.8	2.1	38.3	5155	500
14010024	630 rmc	61	2.8	2.2	40.5	6535	500

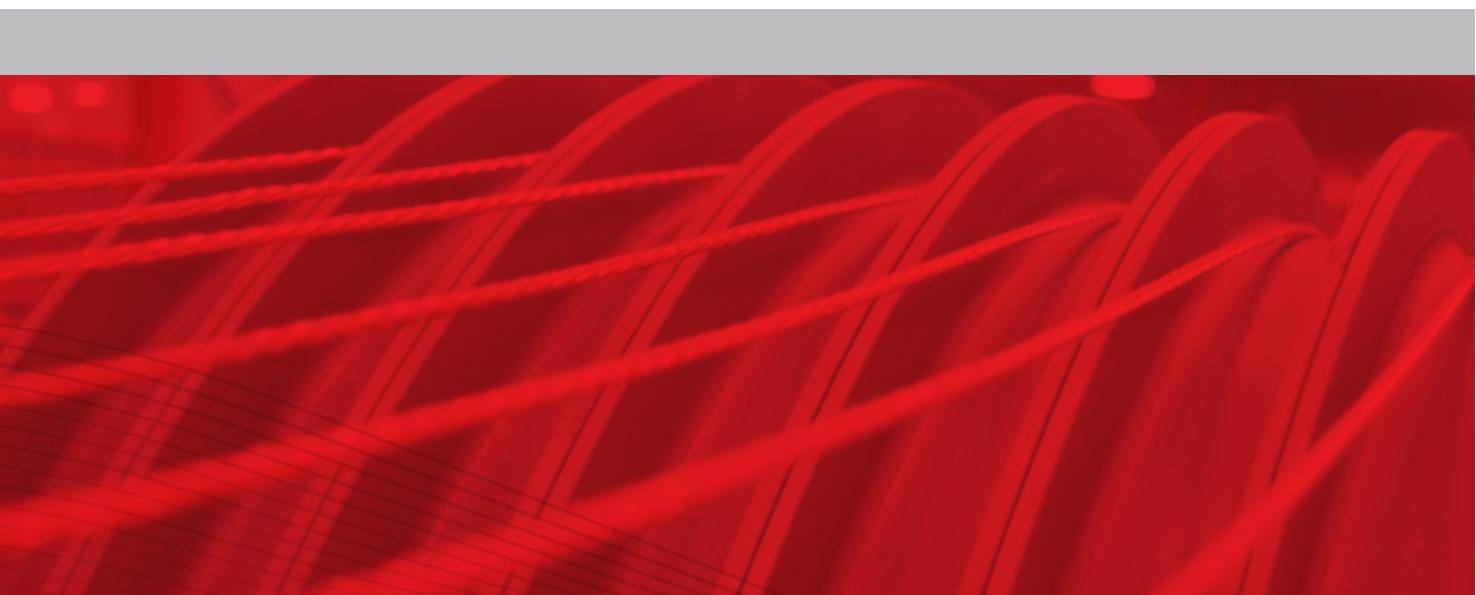


PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | UNARMOURED | 0.6/1 kV
CU/PVC/PVC

Two cores

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires		Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14010101	1.5rm	7	0.8	1.8	11.1	181	1000
14010103	2.5rm	7	0.8	1.8	11.9	219	1000
14010105	4rm	7	1.0	1.8	13.9	306	1000
14010107	6rm	7	1.0	1.8	14.9	374	1000
14010109	10rm	7	1.0	1.8	16.9	521	1000
14010110	16rm	7	1.0	1.8	19.1	703	1000
14010111	25rm	7	1.2	1.8	22.5	1023	1000
14010112	35rm	7	1.2	1.8	23.9	977	1000



PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | UNARMOURED | 0.6/1 kV
CU/PVC/PVC

Three cores

Cable Code	Conductor		Insulation	Outer Sheath			Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires		Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/- 2%
14010201	1.5rm	7	0.8	1.8	1.1	225	1000	
14010203	2.5rm	7	0.8	1.8	12.6	256	1000	
14010205	4rm	7	1.0	1.8	14.6	356	1000	
14010207	6rm	7	1.0	1.8	15.7	442	1000	
14010209	10rm	7	1.0	1.8	17.9	628	1000	
14010210	16rm	7	1.0	1.8	20.2	852	1000	
14010211	25rm	7	1.2	1.8	23.9	1256	1000	
14010212	35rm	7	1.2	1.8	25.5	1356	1000	
14010213	50rm	19	1.4	1.8	29.4	1768	1000	
14010214	70rm	19	1.4	1.9	33.2	2425	1000	
14010215	95rm	19	1.6	2.1	38.4	3293	1000	
14010216	120rm	37	1.6	2.2	42.3	4061	500	
14010217	150rm	37	1.8	2.3	46.4	4942	500	
14010218	185rm	37	2.0	2.5	51.8	6197	250/500	
14010219	240rm	61	2.2	2.7	59.1	8020	250/500	
14010220	300rm	61	2.4	2.9	65.8	10011	250	
14010221	400rm	61	2.6	3.1	72.8	12650	250	
14010222	500rm	61	2.8	3.4	80.5	16250	250	



PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | UNARMOURED | 0.6/1 kV
CU/PVC/PVC



Four cores

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires		Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14010305	4rm	7	1.0	1.8	15.8	422	1000
14010307	6rm	7	1.0	1.8	17.0	529	1000
14010309	10rm	7	1.0	1.8	19.4	758	1000
14010310	16rm	7	1.0	1.8	22.0	1039	1000
14010311	25rm	7	1.2	1.8	26.1	1541	1000
14010312	35sm	7	1.2	1.8	24.3	1687	1000
14010313	50sm	19	1.4	1.9	27.9	2175	1000
14010314	70sm	19	1.4	2.0	31.4	3022	1000
14010315	95sm	19	1.6	2.2	36.4	4155	500
14010316	120sm	37	1.6	2.3	39.6	5177	500
14010317	150sm	37	1.8	2.5	43.9	6391	250
14010318	185sm	37	2.0	2.6	40.6	7843	250
14010319	240sm	61	2.2	2.9	55.1	10323	250
14010320	300sm	61	2.4	3.1	62.3	12891	250
14010321	400sm	61	2.6	3.4	68.8	16507	250
14010322	500sm	61	2.8	3.6	76.2	20680	250



PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | UNARMOURED | 0.6/1 kV
CU/PVC/PVC

Four cores with reduced neutral

Cable Code	Conductor			Insulation		Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²		Number of Wires	Thickness Nominal mm		Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%
	Ph	Ne	Ph	Ne	Ph	Ne			
14010350	10rm	6rm	7	7	1.0	1.0	1.8	18.8	700 500/1000
14010351	16rm	10rm	7	7	1.0	1.0	1.8	21.4	970 500/1000
14010352	25rm	16rm	7	7	1.2	1.0	1.8	25.1	1413 1000
14010353	35sm	16rm	7	7	1.2	1.0	1.8	24.3	1491 1000
14010354	50sm	25rm	19	7	1.4	1.2	1.9	27.9	1975 1000
14010355	70sm	35rm	19	7	1.4	1.2	2.0	31.4	2718 1000
14010356	95sm	50rm	19	19	1.6	1.4	2.2	36.2	3691 500
14010357	120sm	70rm	37	19	1.6	1.4	2.3	39.4	4676 500
14010358	150sm	70rm	37	19	1.8	1.4	2.4	43.7	5617 250
14010359	185sm	95rm	37	19	2.0	1.6	2.6	48.4	6983 250
14010360	240sm	120rm	61	37	2.2	1.6	2.8	54.7	9088 250
14010361	300sm	150rm	61	37	2.4	1.8	3.0	61.9	11298 250
14010362	400sm	185rm	61	37	2.6	2.0	3.2	68.4	14605 250
14010363	500sm	240rm	61	61	2.8	2.2	3.5	75.8	18012 250



PVC INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | UNARMOURED | 0.6/1 kV
AL/PVC/PVC



Single core

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires		Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14210001	16rmc	7	1.0	1.4	9.7	132	1000/2000
14210002	25rmc	7	1.2	1.4	11.3	181	500/1000
14210003	35rmc	7	1.2	1.4	12.3	219	500/1000
14210004	50rmc	7	1.4	1.4	14.2	302	500/1000
14210005	70rmc	7	1.4	1.4	15.9	364	500/1000
14210006	95rmc	19	1.6	1.5	18.3	488	500/1000
14210007	120rmc	19	1.6	1.5	19.5	574	500/1000
14210008	150rmc	19	1.8	1.6	22.0	709	500/1000
14210009	185rmc	37	2.0	1.7	24.6	874	1000
14210010	240rmc	37	2.2	1.8	27.4	1101	1000
14210011	300rmc	37	2.4	1.9	30.5	1354	1000
14210012	400rmc	61	2.6	2.0	34.0	1696	1000
14210013	500rmc	61	2.8	2.1	37.6	2124	1000
14210014	630rmc	61	2.8	2.2	41.6	2587	1000



PVC INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | UNARMOURED | 0.6/1 kV
AL/PVC/PVC

Two cores

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/- 2%
14210100	16rmc	7	1.0	1.8	18.7	500	1000
14210101	25rmc	7	1.2	1.8	21.9	691	1000
14210102	35rmc	7	1.2	1.8	23.1	514	1000

Three cores

14210200	16rmc	7	1.0	1.8	19.8	560	1000
14210201	25rmc	7	1.2	1.8	23.3	779	1000
14210202	35rmc	7	1.2	1.8	24.6	683	1000
14210203	50rmc	7	1.4	1.8	28.7	953	1000
14210204	70rmc	19	1.4	1.9	32.6	1185	1000
14210205	95rmc	19	1.6	2.1	37.7	1598	1000
14210206	120rmc	19	1.6	2.2	40.5	1882	1000
14210207	150rmc	19	1.8	2.3	45.6	2314	1000
14210208	185rmc	37	2	2.5	51.2	2832	500
14210209	240rmc	37	2.2	2.7	57.2	3566	500
14210210	300rmc	37	2.4	2.9	63.9	4362	500
14210211	400rmc	61	2.6	3.1	71.4	5423	300
14210212	500rmc	61	2.8	3.4	77.3	7035	300



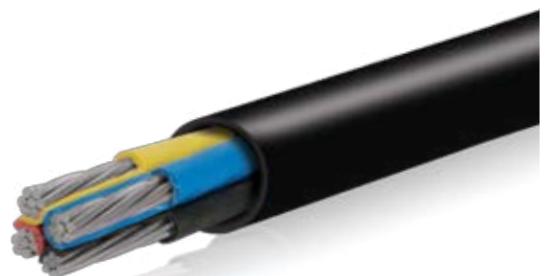
PVC INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | UNARMOURED | 0.6/1 kV
AL/PVC/PVC



Four cores

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m+/-2%
14210300	16rmc	7	1.0	1.8	21.6	662	1000/2000
14210301	25rmc	7	1.2	1.8	25.4	919	500/1000
14210302	35sm	7	1.2	1.8	27.8	905	500/1000
14210303	50sm	7	1.4	1.9	27.9	1063	1000
14210304	70sm	19	1.4	2.0	31.4	1380	1000
14210305	95sm	19	1.6	2.2	36.4	1869	1000
14210306	120sm	19	1.6	2.3	39.6	2275	1000
14210307	150sm	19	1.8	2.5	43.9	2745	1000
14210308	185sm	37	2.0	2.7	48.8	3404	500
14210309	240sm	37	2.2	2.9	55.1	4356	500
14210310	300sm	37	2.4	3.1	62.3	4209	500
14210311	400sm	61	2.6	3.4	68.8	6797	500
14210312	500sm	61	2.8	3.6	76.2	8574	300



PVC INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | UNARMOURED | 0.6/1 kV
AL/PVC/PVC

Four cores with reduced neutral

Cable Code	Conductor			Insulation		Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²		Number of Wires	Thickness Nominal mm		Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m+/-2%	
	Ph	Ne	Ph	Ne	Ph	Ne				
14210350	25rmc	16rmc	7	7	1.2	1.0	1.8	25	897	1000/2000
14210351	35sm	16rmc	7	7	1.2	1.0	1.8	243	726	1000
14210352	50sm	25rmc	7	7	1.4	1.2	1.9	27.9	986	1000
14210353	70sm	35rmc	19	7	1.4	1.2	2.0	31.4	1258	1000
14210354	95sm	50rmc	19	7	1.6	1.4	2.1	36.2	1706	1000
14210355	120sm	70rmc	19	19	1.6	1.4	2.3	39.6	2103	1000
14210356	150sm	70rmc	19	19	1.8	1.4	2.4	43.7	2467	1000
14210357	185sm	95rmc	37	19	2.0	1.6	2.6	48.4	3067	500
14210358	240sm	120rmc	37	19	2.2	1.6	2.8	54.7	3889	500
14210359	300sm	150rmc	37	19	2.4	1.8	3.0	61.9	3911	500
14210360	400sm	185rmc	61	37	2.6	2.0	3.2	68.4	6197	500
14210361	500sm	240rmc	61	61	2.8	2.2	3.4	75.8	7460	300

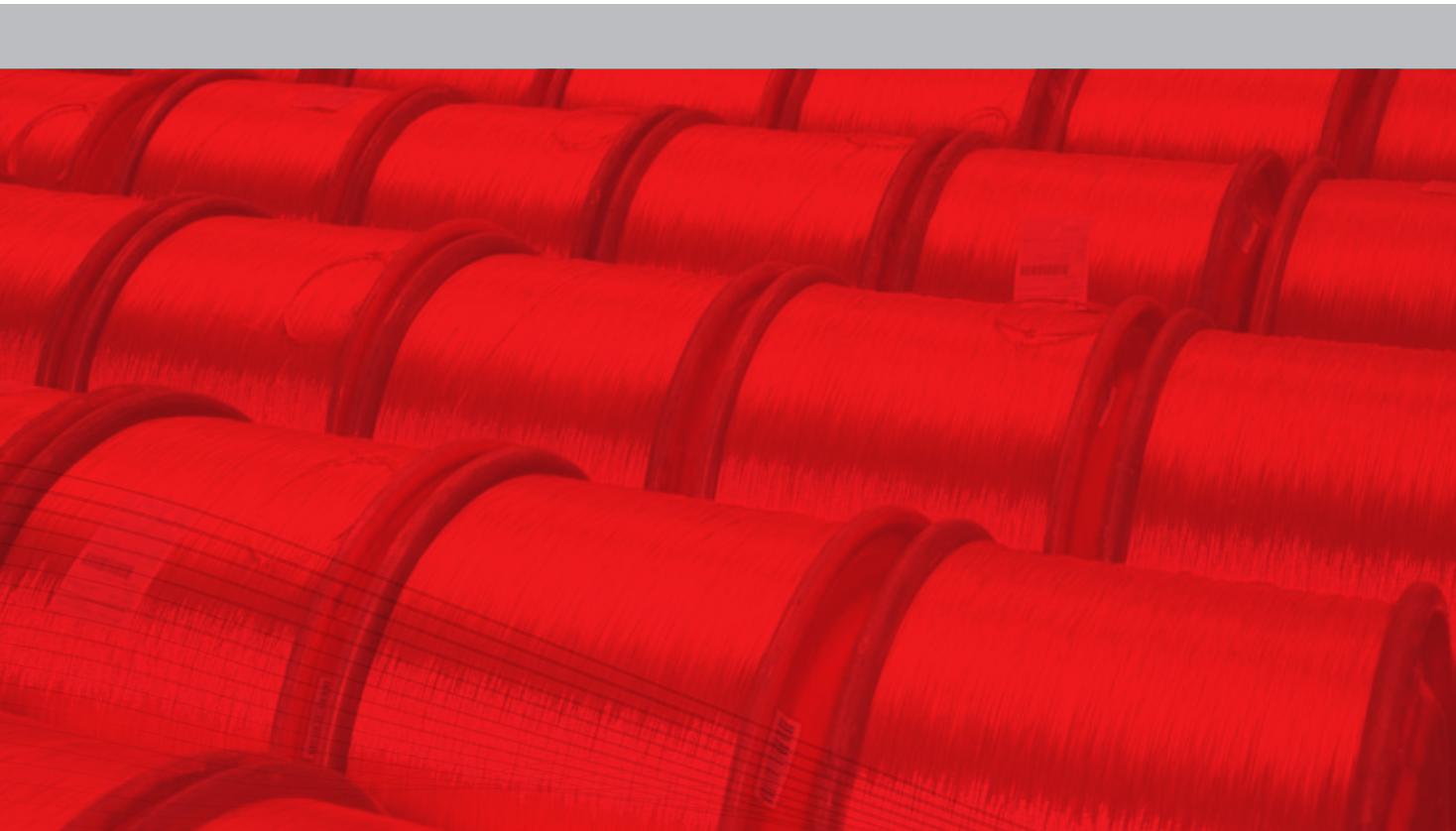


PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
CU/PVC/STA/PVC

Two cores

Cable Code	Conductor		Insulation	Outer Sheath			Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires		Thickness of Insulation Nominal mm	Thickness of Steel Tape Nominal mm	Thickness of Sheath Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14020003	4rm	7	1.0	0.2	1.8	15.4	400	1000
14020004	6rm	7	1.0	0.2	1.8	16.4	473	1000
14020005	10rm	7	1.0	0.2	1.8	18.4	630	1000
14020006	16rm	7	1.0	0.2	1.8	20.6	823	1000
14020007	25rm	7	1.2	0.2	1.8	24.0	1157	1000
14020008	35rm	7	1.2	0.2	1.8	26.7	1267	1000



PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
CU/PVC/STA/PVC

Three cores

Cable Code	Conductor		Insulation	Outer Sheath			Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires		Thickness of Insulation Nominal mm	Thickness of Steel Tape Nominal mm	Thickness of Sheath Nominal mm	Net Weight Approx kg/km	Standard Drum m +/-2%
14020102	4rm	7	1.0	0.2	1.8	16.2	458	1000
14020104	6rm	7	1.0	0.2	1.8	17.2	550	1000
14020106	10rm	7	1.0	0.2	1.8	19.4	749	1000
14020107	16rm	7	1.0	0.2	1.8	21.8	987	1000
14020108	25rm	7	1.2	0.2	1.8	25.5	1409	1000
14020109	35rm	7	1.2	0.2	1.8	28.3	1666	1000
14020110	50rm	19	1.4	0.2	1.9	32.4	2142	1000
14020111	70rm	19	1.4	0.2	2.0	36.7	2830	1000
14020112	95rm	19	1.6	0.5	2.2	43.0	4225	500
14020113	120rm	37	1.6	0.5	2.3	46.9	5087	500
14020114	150rm	37	1.8	0.5	2.5	51.4	6122	500
14020115	185rm	37	2.0	0.5	2.6	56.8	7498	250
14020116	240rm	61	2.2	0.5	2.8	64.5	9565	250
14020117	300rm	61	2.4	0.5	3.0	71.2	11730	250
14020118	400rm	61	2.6	0.5	3.3	78.6	14633	250
14020119	500rm	61	2.8	0.8	3.5	91.0	18095	250



PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
CU/PVC/STA/PVC



Four cores

Cable Code	Conductor		Insulation	Outer Sheath			Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness of Insulation Nominal mm	Thickness of Steel Tape Nominal mm	Thickness of Sheath Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m+/-2%
14020202	4 rm	7	1.0	0.2	1.8	17.3	532	1000
14020204	6 rm	7	1.0	0.2	1.8	18.5	649	1000
14020206	10 rm	7	1.0	0.2	1.8	20.9	898	1000
14020207	16 rm	7	1.0	0.2	1.8	23.5	1203	1000
14020208	25 rm	7	1.2	0.2	1.8	27.6	1729	1000
14020209	35 sm	7	1.2	0.2	1.9	27.1	1981	1000
14020210	50 sm	19	1.4	0.2	2.0	31.3	2560	1000
14020211	70 sm	19	1.4	0.5	2.1	36.0	3788	500
14020212	95 sm	19	1.6	0.5	2.3	41.0	5036	500
14020213	120 sm	37	1.6	0.5	2.4	44.6	6183	300
14020214	150 sm	37	1.8	0.5	2.6	48.9	7499	300
14020215	185 sm	37	2.0	0.5	2.7	54.0	9125	250
14020216	240 sm	61	2.2	0.5	3.0	60.5	11766	250
14020217	300 sm	61	2.4	0.5	3.2	67.7	14516	250
14020218	400 sm	61	2.6	0.5	3.5	74.6	18374	250
14020219	500 sm	61	2.8	0.8	3.8	83.4	23583	250

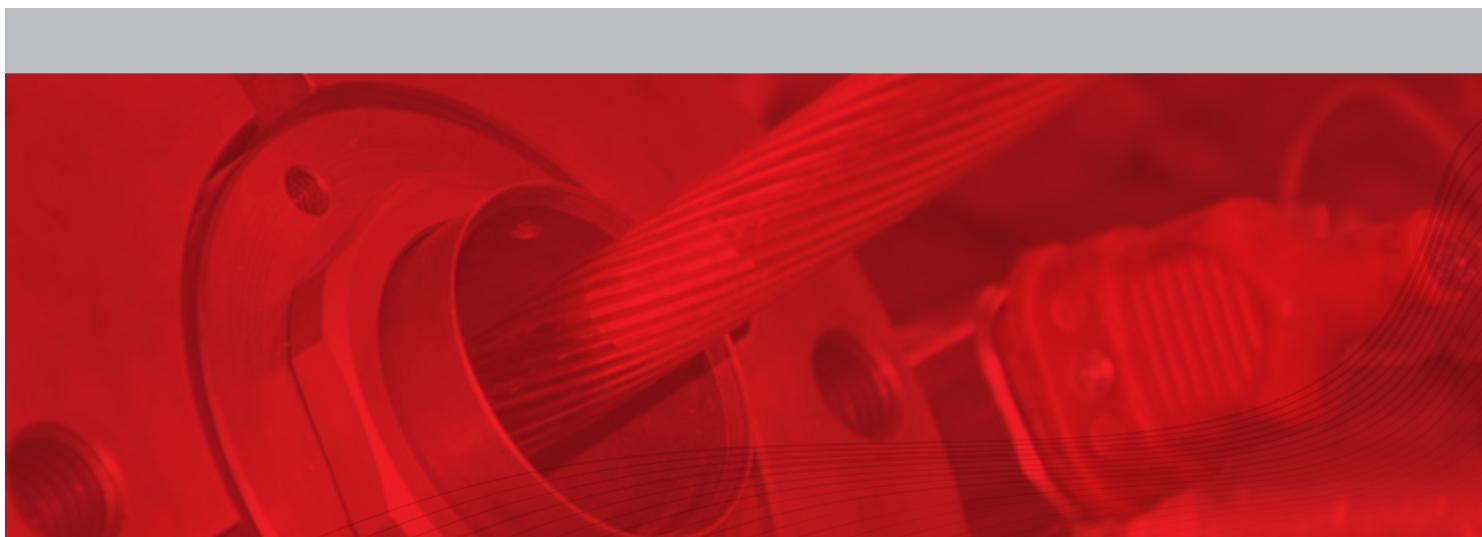


PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
CU/PVC/STA/PVC

Four cores with reduced neutral

Cable Code	Conductor			Insulation		Armouring	Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²		Number of Wires	Thickness Nominal mm		Thickness of Steel Tape Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%	
	Ph	Ne	Ph	Ne	Ph	Ne					
14020250	10rm	6 rm	7	7	1.0	1.0	0.2	1.8	20.3	830	1000
14020251	16rm	10 rm	7	7	1.0	1.0	0.2	1.8	22.9	1116	1000
14020252	25rm	16 rm	7	7	1.2	1.0	0.2	1.8	26.6	1580	1000
14020253	35sm	16 rm	7	7	1.2	1.0	0.2	1.8	27.1	1785	1000
14020254	50sm	25 rm	19	7	1.4	1.2	0.2	1.9	30.7	2312	1000
14020255	70sm	35 rm	19	7	1.4	1.2	0.2	2.0	34.6	3132	500
14020256	95sm	50 rm	19	19	1.6	1.4	0.5	2.2	40.8	4571	500
14020257	120sm	70 rm	37	19	1.6	1.4	0.5	2.3	44.4	5679	500
14020258	150sm	70 rm	37	19	1.8	1.4	0.5	2.5	48.7	6723	500
14020259	185sm	95 rm	37	19	2.0	1.6	0.5	2.6	53.4	8204	300
14020260	240sm	120rm	61	37	2.2	1.6	0.5	2.8	60.1	10526	300
14020261	300sm	150rm	61	37	2.4	1.8	0.5	3.0	67.3	12918	250
14020262	400sm	185rm	61	37	2.6	2.0	0.5	3.3	74.2	16466	250
14020263	500sm	240rm	61	61	2.8	2.2	0.8	3.6	83.0	20909	250



PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | ALUMINUM WIRE ARMOURED | 0.6/1 kV
CU/PVC/AWA/PVC



Single core

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires			Thickness Nominal mm	Dia. of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm
			mm	mm		mm	mm	kg/km
14100004	95rm	19	1.6	1.6	1.7	24.1	1395	1000
14100005	120rm	37	1.6	1.8	1.7	26.3	1672	1000
14100006	150rm	37	1.8	1.8	1.8	28.3	1991	1000
14100007	185rm	37	2.0	1.8	1.8	30.6	2433	1000
14100008	240rm	61	2.2	1.8	1.9	34.0	3075	500
14100009	300rm	61	2.4	2.0	2.0	37.6	3829	500
14100010	400rm	61	2.6	2.0	2.1	41.2	4785	500
14100011	500rm	61	2.8	2.0	2.2	44.9	5913	500
14100012	630rmc	61	2.8	2.0	2.4	47.3	7358	500



PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
CU/PVC/SWA/PVC

Two cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Dia. of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m+/-2%
14030004	6rm	7	1.0	1.25	1.8	18.1	683	1000
14030005	10rm	7	1.0	1.25	1.8	20.1	867	1000
14030006	16rm	7	1.0	1.25	1.8	22.3	1094	1000
14030007	25rm	7	1.2	1.60	1.8	26.4	1632	1000
14030008	35rm	7	1.2	1.60	1.8	29.1	1789	1000

Three cores

14030103	6rm	7	1.0	1.25	1.8	18.9	766	1000
14030104	10rm	7	1.0	1.25	1.8	21.1	999	1000
14030105	16rm	7	1.0	1.25	1.8	23.5	1280	1000
14030106	25rm	7	1.2	1.6	1.8	27.9	1906	1000
14030107	35rm	7	1.2	1.6	1.8	30.7	2226	1000
14030108	50rm	19	1.4	1.6	2.0	35.0	2808	1000
14030109	70rm	19	1.4	2.0	2.1	40.1	3914	500
14030110	95rm	19	1.6	2.0	2.2	45.0	4959	500
14030111	120rm	37	1.6	2.0	2.3	48.9	5911	500
14030112	150rm	37	1.8	2.5	2.5	54.6	7522	500
14030113	185rm	37	2.0	2.5	2.7	60.0	9019	500
14030114	240rm	61	2.2	2.5	2.9	67.7	11327	300
14030115	300rm	61	2.4	2.5	3.1	74.6	13700	300
14030116	400rm	61	2.6	3.15	3.4	83.3	17753	300
14030117	500rm	61	2.8	3.15	3.6	91.3	21700	300

PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
CU/PVC/SWA/PVC



Four cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Dia. of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m+/-2%
14030202	4rm	7	1.0	1.25	1.8	19.0	757	1000
14030203	6rm	7	1.0	1.25	1.8	20.2	885	1000
14030204	10rm	7	1.0	1.25	1.8	22.6	1177	1000
14030205	16rm	7	1.0	1.6	1.8	25.9	1665	1000
14030206	25rm	7	1.2	1.6	1.8	30.0	2277	1000
14030207	35sm	7	1.2	1.6	1.9	29.7	2531	1000
14030208	50sm	19	1.4	2.0	2.1	34.7	3424	500
14030209	70sm	19	1.4	2.0	2.2	38.2	4426	500
14030210	95sm	19	1.6	2.5	2.4	44.2	6125	500
14030211	120sm	37	1.6	2.5	2.5	47.8	7377	500
14030212	150sm	37	1.8	2.5	2.7	52.1	8790	250
14030213	185sm	37	2.0	2.5	2.9	57.4	10603	300
14030214	240sm	61	2.2	2.5	3.1	63.7	13403	300
14030215	300sm	61	2.4	2.5	3.3	70.9	16363	250
14030216	400sm	61	2.6	3.15	3.6	79.1	21284	250
14030217	500sm	61	2.8	3.15	3.9	86.7	25961	250

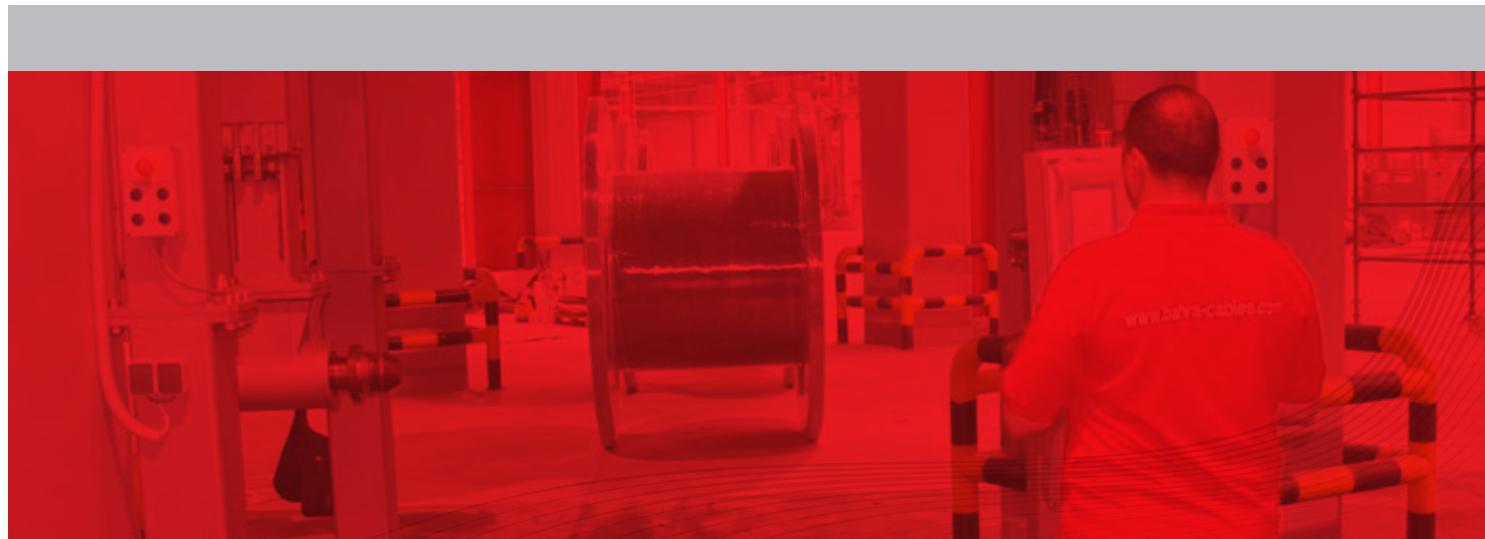


PVC INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
CU/PVC/SWA/PVC

Four cores with reduced neutral

Cable Code	Conductor			Insulation		Armouring	Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²		Number of Wires	Thickness Nominal mm		Dia. of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m+/-2%	
	Ph	Ne	Ph	Ne	Ph	Ne					
14030250	16rm	10rm	7	7	1.0	1.0	1.25	1.8	24.6	1422	1000
14030251	25rm	16rm	7	7	1.2	1.0	1.6	1.8	29.0	2103	1000
14030252	35sm	16rm	7	7	1.2	1.0	1.6	1.9	29.7	2335	1000
14030253	50sm	25rm	19	7	1.4	1.2	2.0	2.0	34.1	3152	500
14030254	70sm	35rm	19	7	1.4	1.2	2.0	2.1	38.0	4103	500
14030255	95sm	50rm	19	19	1.6	1.4	2.0	2.3	43.0	5286	500
14030256	120sm	70rm	37	19	1.6	1.4	2.5	2.4	47.8	6895	500
14030257	150sm	70rm	37	19	1.8	1.4	2.5	2.6	51.9	8013	500
14030258	185sm	95rm	37	19	2.0	1.6	2.5	2.7	56.6	9620	500
14030259	240sm	120rm	61	37	2.2	1.6	2.5	2.9	63.3	12160	300
14030260	300sm	150rm	61	37	2.4	1.8	2.5	3.1	70.5	14761	250
14030261	400sm	185rm	61	37	2.6	2.0	3.15	3.4	78.7	19372	250
14030262	500sm	240rm	61	61	2.8	2.2	3.15	3.7	86.3	23284	250



PVC INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
AL/PVC/STA/PVC

Two cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires			Thickness Nominal mm	Dia. of Steel Tape Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm
14220001	16rmc	7	1	0.2	1.8	20.2	616	1000
14220002	25rmc	7	1.2	0.2	1.8	23.4	822	1000
14220003	35rmc	7	1.2	0.2	1.8	25.9	794	1000

Three cores

14220100	16rmc	7	1.0	0.2	1.8	21.3	692	1000
14220101	25rmc	7	1.2	0.2	1.8	24.7	928	1000
14220102	35rmc	7	1.2	0.2	1.8	27.4	984	1000
14220103	50rmc	7	1.4	0.2	1.9	31.7	1319	1000
14220104	70rmc	19	1.4	0.2	2.0	35.9	1630	1000
14220105	95rmc	19	1.6	0.5	2.2	42.3	2517	1000
14220106	120rmc	19	1.6	0.5	2.3	45.1	2855	1000
14220107	150rmc	19	1.8	0.5	2.5	50.6	3469	500
14220108	185rmc	37	2.0	0.5	2.6	56.2	4122	500
14220109	240rmc	37	2.2	0.5	2.8	62.6	5073	500
14220110	300rmc	37	2.4	0.5	3.0	69.2	6027	500
14220111	400rmc	61	2.6	0.5	3.3	77.1	7358	500
14220112	500rmc	61	2.8	0.8	3.5	88.0	8810	500

PVC INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
AL/PVC/STA/PVC



Four cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Dia. of Steel Tape Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%
14220200	16rmc	7	1.0	0.2	1.8	23.1	809	1000
14220201	25rmc	7	1.2	0.2	1.8	26.9	1087	1000
14220202	35sm	7	1.2	0.2	1.8	27.1	1089	1000
14220203	50sm	7	1.4	0.2	2.0	31.3	1452	1000
14220204	70sm	19	1.4	0.5	2.1	36.0	2144	1000
14220205	95sm	19	1.6	0.5	2.2	41.0	2753	500
14220206	120sm	19	1.6	0.5	2.4	44.6	3279	500
14220207	150sm	19	1.8	0.5	2.6	48.9	3856	500
14220208	185sm	37	2.0	0.5	2.8	54.2	4691	500
14220209	240sm	37	2.2	0.5	3.0	60.5	5803	500
14220210	300sm	37	2.4	0.5	3.2	67.7	5827	500
14220211	400sm	61	2.6	0.5	3.5	74.6	8666	500
14220212	500sm	61	2.8	0.8	3.8	83.4	11469	300



PVC INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
AL/PVC/STA/PVC

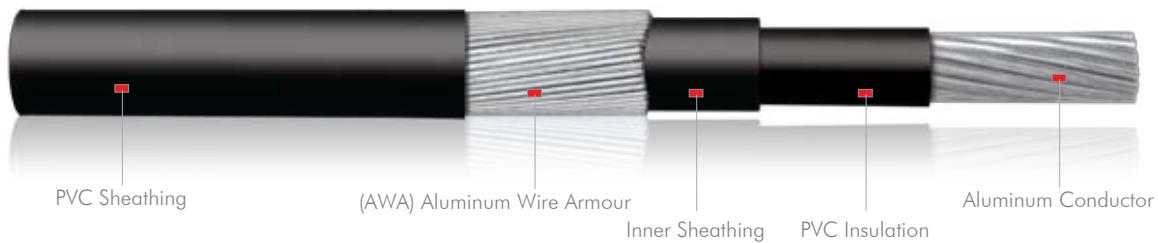
Four cores with reduced neutral

Cable Code	Conductor				Insulation		Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²		Number of Wires		Thickness Nominal mm		Dia. of Steel Tape Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%
	Ph	Ne	Ph	Ne	Ph	Ne					
14220250	25rmc	16rmc	7	7	1.2	1.0	0.2	1.8	26.5	1060	1060
14220251	35sm	16rmc	7	7	1.2	1.0	0.2	1.8	27.1	1021	1000
14220252	50sm	25rmc	7	7	1.4	1.2	0.2	1.9	30.7	1326	1000
14220253	70sm	35rmc	19	7	1.4	1.2	0.2	2.0	34.6	1672	1000
14220254	95sm	50rmc	19	7	1.6	1.4	0.5	2.2	40.8	2587	1000
14220255	120sm	70rmc	19	19	1.6	1.4	0.5	2.4	44.6	3108	500
14220256	150sm	70rmc	19	19	1.8	1.4	0.5	2.5	48.7	3574	500
14220257	185sm	95rmc	37	19	2.0	1.6	0.5	2.7	53.6	4315	500
14220258	240sm	120rmc	37	19	2.2	1.6	0.5	2.8	60.1	5330	500
14220259	300sm	150rmc	37	19	2.4	1.8	0.5	3.0	67.3	5526	500
14220260	400sm	185rmc	61	37	2.6	2.0	0.5	3.3	74.2	8060	500
14220261	500sm	240rmc	61	37	2.8	2.2	0.8	3.6	83.1	10328	300



PVC INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | ALUMINUM WIRE ARMOURED | 0.6/1 kV
AL/PVC/AWA/PVC



Single core

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²	Number of Wires			Thickness Nominal mm	Dia. of Aluminum Wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14300004	95 rmc	19	1.6	1.6	1.8	1.6	24	825	1000
14300005	120 rmc	19	1.6	1.6	1.8	1.6	26	1000	1000
14300006	150 rmc	19	1.8	1.6	1.8	1.6	28	1150	1000
14300007	185 rmc	37	2.0	1.6	1.8	1.6	31	1350	1000
14300008	240 rmc	37	2.2	1.6	1.9	1.6	34	1625	500
14300009	300 rmc	37	2.4	2.0	2.0	2.0	37	2050	500
14300010	400 rmc	61	2.6	2.0	2.1	2.0	41	2500	500
14300011	500 rmc	61	2.8	2.0	2.2	2.0	45	3050	500
14300012	630 rmc	61	2.8	2.0	2.4	2.0	50	3650	500



PVC INSULATED PVC SHEATHED CABLES

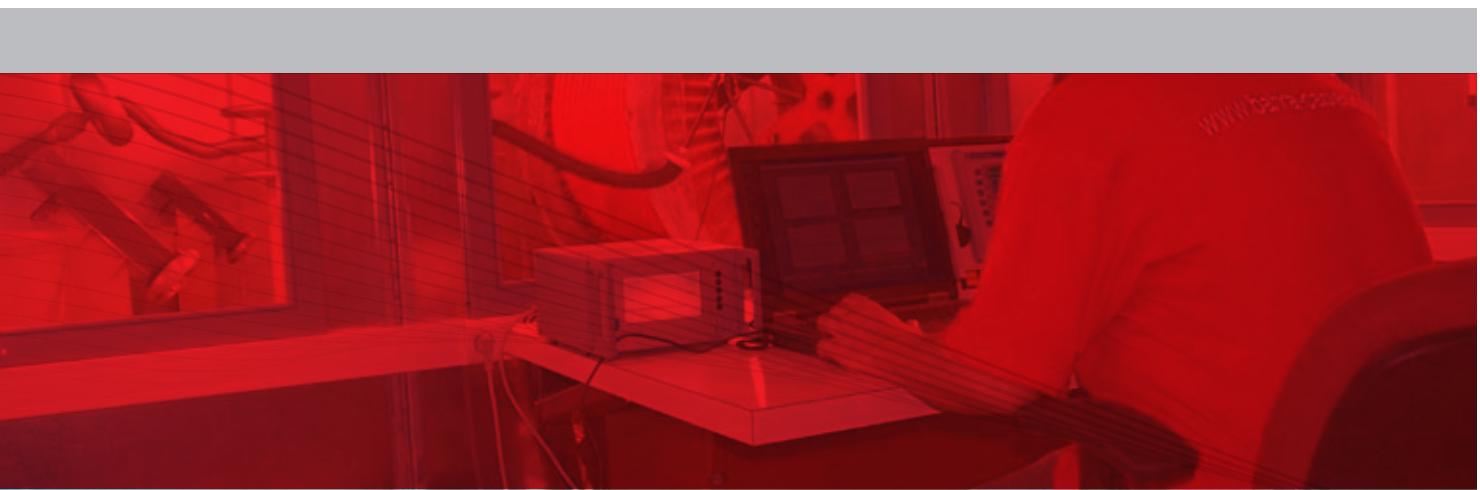
ALUMINUM CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
AL/PVC/SWA/PVC

Two cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Dia. of Steel Wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/- 2%
14230001	25 rm	7	1.2	1.6	1.8	25.8	1268	1000
14230002	35 rm	7	1.2	1.6	1.8	28.3	1305	1000

Three cores

14240100	25 rmc	7	1.2	1.6	1.8	28	1525	1000
14240101	35 rmc	7	1.2	1.6	1.8	31	1650	1000
14240102	50 rmc	7	1.4	1.6	2.0	35	2025	1000
14240103	70 rmc	19	1.4	2.0	2.1	40	2800	1000
14240104	95 rmc	19	1.6	2.0	2.2	45	3450	1000
14240105	120 rmc	19	1.6	2.0	2.3	49	3900	500
14240106	150 rmc	19	1.8	2.5	2.5	55	5075	500
14240107	185 rmc	37	2.0	2.5	2.7	60	5975	500
14240108	240 rmc	37	2.2	2.5	2.9	67	7225	500
14240109	300 rmc	37	2.4	2.5	3.1	74	8475	500
14240110	400 rmc	61	2.6	3.15	3.4	83	11150	500
14240111	500 rmc	61	2.8	3.15	3.6	92	13325	300



PVC INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
AL/PVC/SWA/PVC



Four cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Dia. of Steel Wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/- 2%
14230205	16 rmc	7	1.0	1.6	1.8	25.5	1257	500
14230206	25 rmc	7	1.2	1.6	1.8	29.3	1624	500
14230207	35 sm	7	1.2	1.6	1.9	29.7	1639	500
14230208	50 sm	7	1.4	2.0	2.1	34.7	2315	500
14230209	70 sm	19	1.4	2.0	2.2	38.2	2782	500
14230210	95 sm	19	1.6	2.5	2.4	44.2	3842	500
14230211	120 sm	19	1.6	2.5	2.5	47.8	4473	500
14230212	150 sm	19	1.8	2.5	2.7	52.1	5147	250
14230213	185 sm	37	2.0	2.5	2.9	57.4	6143	250
14230214	240 sm	37	2.2	2.5	3.1	63.7	7440	250
14230215	300 sm	37	2.4	3.15	3.3	72.2	8455	250
14230216	400 sm	61	2.6	3.15	3.6	79.1	11575	250
14230217	500 sm	61	2.8	3.15	3.9	86.7	13847	250

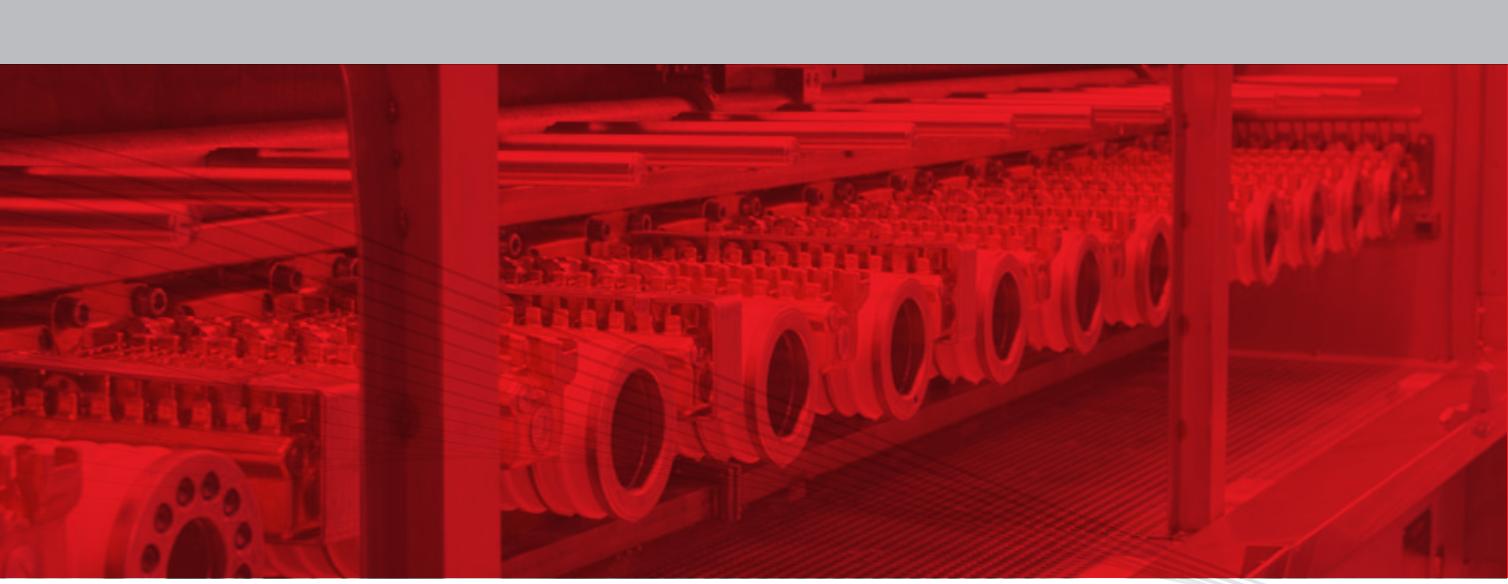


PVC INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
AL/PVC/SWA/PVC

Four cores with reduced neutral

Cable Code	Conductor			Insulation		Armouring	Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²		Number of Wires	Thickness Nominal mm			Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/- 2%	
	Ph	Ne		Ph	Ne						
14230250	25rmc	16rmc	7	7	1.2	1.0	1.6	1.8	30	1675 1000	
14230251	35sm	16rmc	7	7	1.2	1.0	1.6	1.9	30	1650 1000	
14230252	50sm	25rmc	7	7	1.4	1.2	2.0	2.0	35	2250 1000	
14230253	70sm	35rmc	19	7	1.4	1.2	2.0	2.1	39	2725 1000	
14230254	95sm	50rmc	19	7	1.6	1.4	2.0	2.3	44	3400 500	
14230255	120sm	70rmc	19	19	1.6	1.4	2.5	2.5	48	4375 500	
14230256	150sm	70rmc	19	19	1.8	1.4	2.5	2.6	52	4975 500	
14230257	185sm	95rmc	37	19	2.0	1.6	2.5	2.7	57	5800 500	
14230258	240sm	120rmc	37	19	2.2	1.6	2.5	2.9	63	7075 500	
14230259	300sm	150rmc	37	19	2.4	1.8	2.5	3.1	70	8275 500	
14230260	400sm	185rmc	61	37	2.6	2.0	3.15	3.5	79	11000 300	
14230261	500sm	240rmc	61	37	2.8	2.2	3.15	3.7	87	13050 300	



XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | UNARMOURED | 0.6/1 kV
CU/XLPE/PVC



Single core

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires		Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14510006	4rm	7	0.7	1.4	6.8	79	1000
14510008	6rm	7	0.7	1.4	7.2	99	1000
14510009	10rm	7	0.7	1.4	8.3	149	1000
14510010	16rm	7	0.7	1.4	9.3	206	1000
14510011	25rm	7	0.9	1.4	11.0	307	1000
14510012	35rm	7	0.9	1.4	11.7	412	1000
14510013	50rm	19	1	1.4	13.7	527	1000
14510014	70rm	19	1.1	1.4	15.7	733	1000
14510015	95rm	19	1.1	1.5	17.7	986	1000
14510016	120rm	37	1.2	1.5	19.6	1228	1000
14510017	150rm	37	1.4	1.6	21.6	1500	1000
14510018	185rm	37	1.6	1.6	24.0	1886	1000
14510019	240rm	61	1.7	1.7	27.2	2535	1000
14510020	300rm	61	1.8	1.8	30.2	3059	500
14510021	400rm	61	2.0	1.9	33.4	3887	500
14510022	500rm	61	2.2	2.0	37.1	4912	500
14510023	630rmc	61	2.4	2.2	39.9	6306	500

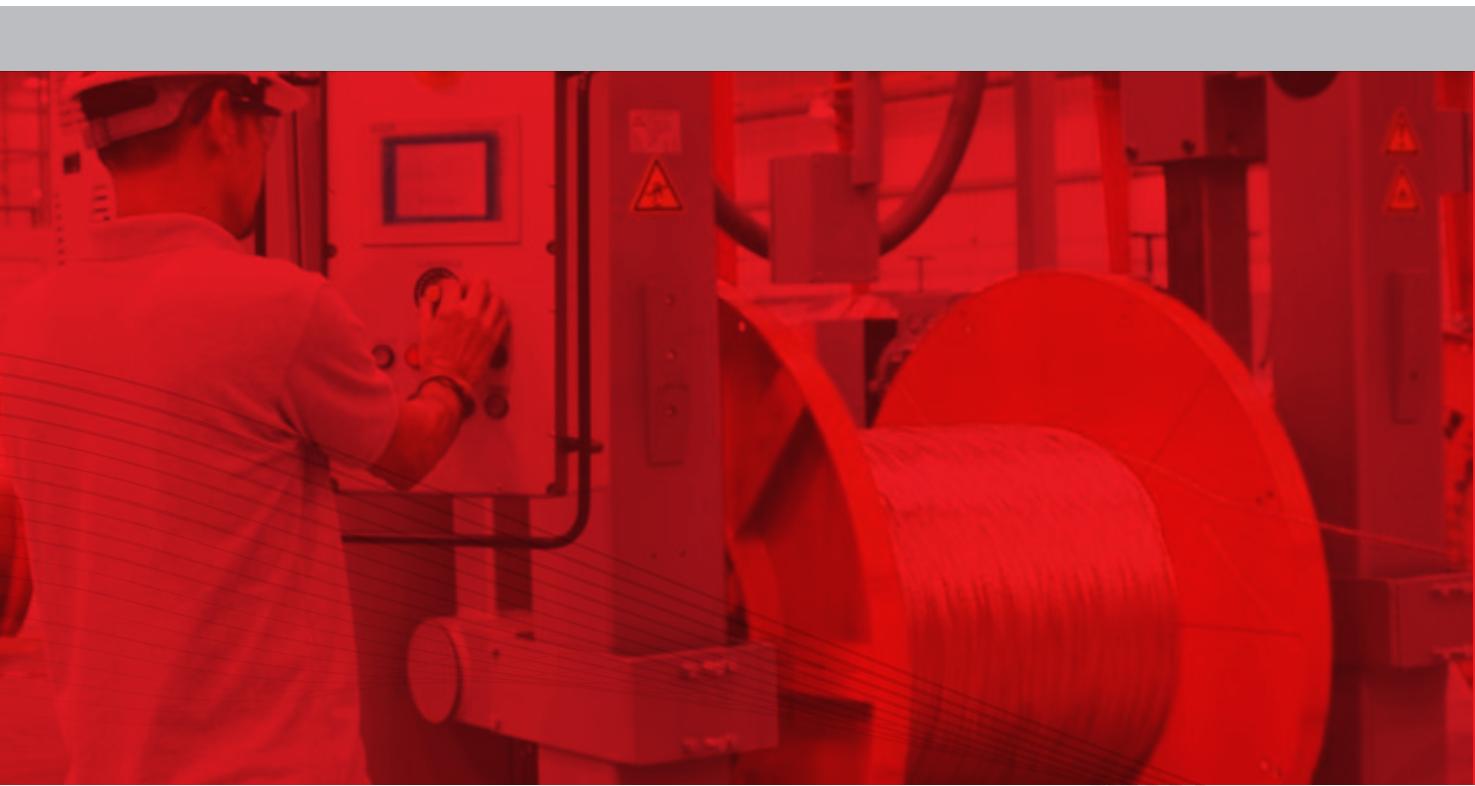


XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | UNARMOURED | 0.6/1 kV
CU/XLPE/PVC

Two cores

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/- 2%
14510101	1.5rm	7	0.7	1.8	10.7	165	1000
14510103	2.5rm	7	0.7	1.8	11.7	207	1000
14510105	4rm	7	0.7	1.8	12.9	264	1000
14510107	6rm	7	0.7	1.8	13.7	321	1000
14510108	10rm	7	0.7	1.8	15.9	467	1000
14510109	16rm	7	0.7	1.8	17.9	631	1000
14510110	25rm	7	0.9	1.8	21.3	932	1000
14510111	35rm	7	0.9	1.8	21.9	896	500

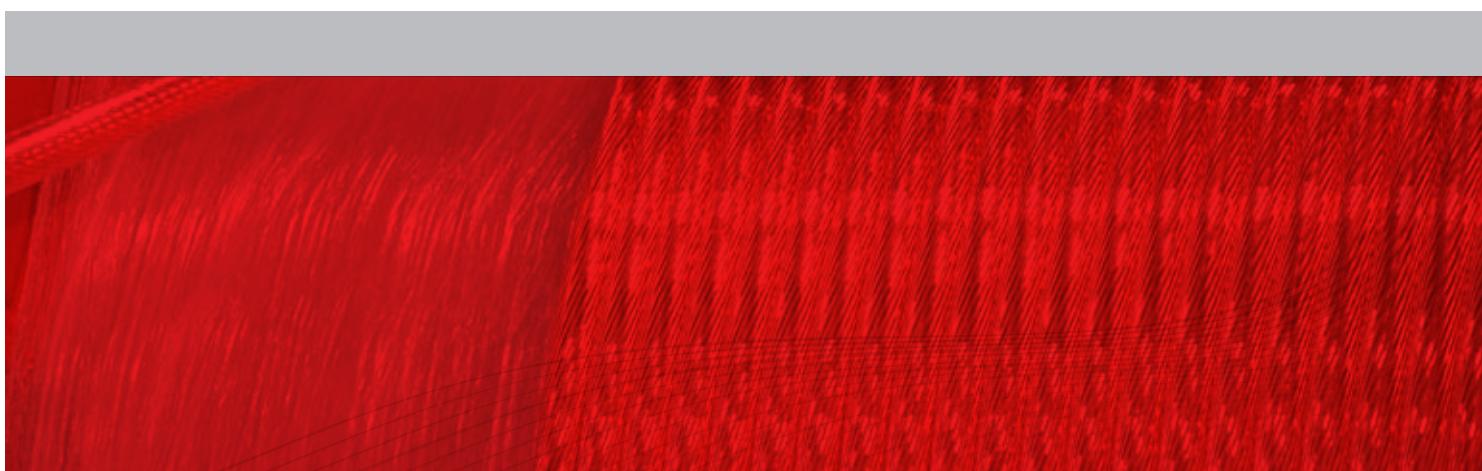


XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | UNARMOURED | 0.6/1 kV
CU/XLPE/PVC

Three cores

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires		Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14510201	1.5rm	7	0.7	1.8	11.2	185	1000
14510203	2.5rm	7	0.7	1.8	12.3	234	1000
14510205	4rm	7	0.7	1.8	13.6	303	1000
14510207	6rm	7	0.7	1.8	14.4	378	1000
14510208	10rm	7	0.7	1.8	16.8	563	1000
14510209	16rm	7	0.7	1.8	19.0	770	1000
14510210	25rm	7	0.9	1.8	22.7	1151	1000
14510211	35rm	7	0.9	1.8	23.4	1262	1000
14510212	50rm	19	1.0	1.8	27.7	1630	1000
14510213	70rm	19	1.1	1.9	32.2	2296	1000
14510214	95rm	19	1.1	2.0	36.3	3079	1000
14510215	120rm	37	1.2	2.1	40.6	3830	500
14510216	150rm	37	1.4	2.3	44.9	4694	500
14510217	185rm	37	1.6	2.4	50.3	5885	500
14510218	240rm	61	1.7	2.6	57.2	7592	500
14510219	300rm	61	1.8	2.8	63.4	9475	500
14510220	400rm	61	2.0	3.0	70.5	12028	300
14510221	500rm	61	2.2	3.3	78.0	15500	300



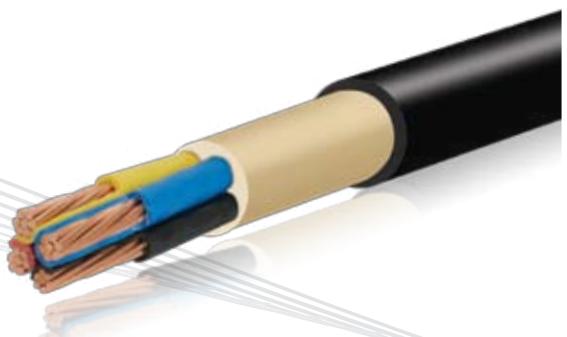
XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | UNARMOURED | 0.6/1 kV
CU/XLPE/PVC



Four cores

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%
14510301	1.5rm	7	0.7	1.8	11.9	211	1000
14510303	2.5rm	7	0.7	1.8	13.1	272	1000
14510305	4rm	7	0.7	1.8	14.5	355	1000
14510307	6rm	7	0.7	1.8	15.5	450	1000
14510308	10rm	7	0.7	1.8	18.2	680	1000
14510309	16rm	7	0.7	1.8	20.6	955	1000
14510310	25rm	7	0.9	1.8	24.7	1416	1000
14510311	35sm	7	0.9	1.8	22.9	1567	1000
14510312	50sm	19	1.0	1.9	25.7	2000	1000
14510313	70sm	19	1.1	2.0	30.0	2855	1000
14510314	95sm	19	1.1	2.1	33.7	3860	500
14510315	120sm	37	1.2	2.3	37.7	4900	500
14510316	150sm	37	1.4	2.4	41.7	6035	500
14510317	185sm	37	1.6	2.6	46.6	7441	500
14510318	240sm	61	1.7	2.8	52.4	9773	500
14510319	300sm	61	1.8	3	59.2	12209	300
14510320	400sm	61	2.0	3.3	65.7	15693	300
14510321	500sm	61	2.2	3.5	73.1	19716	300

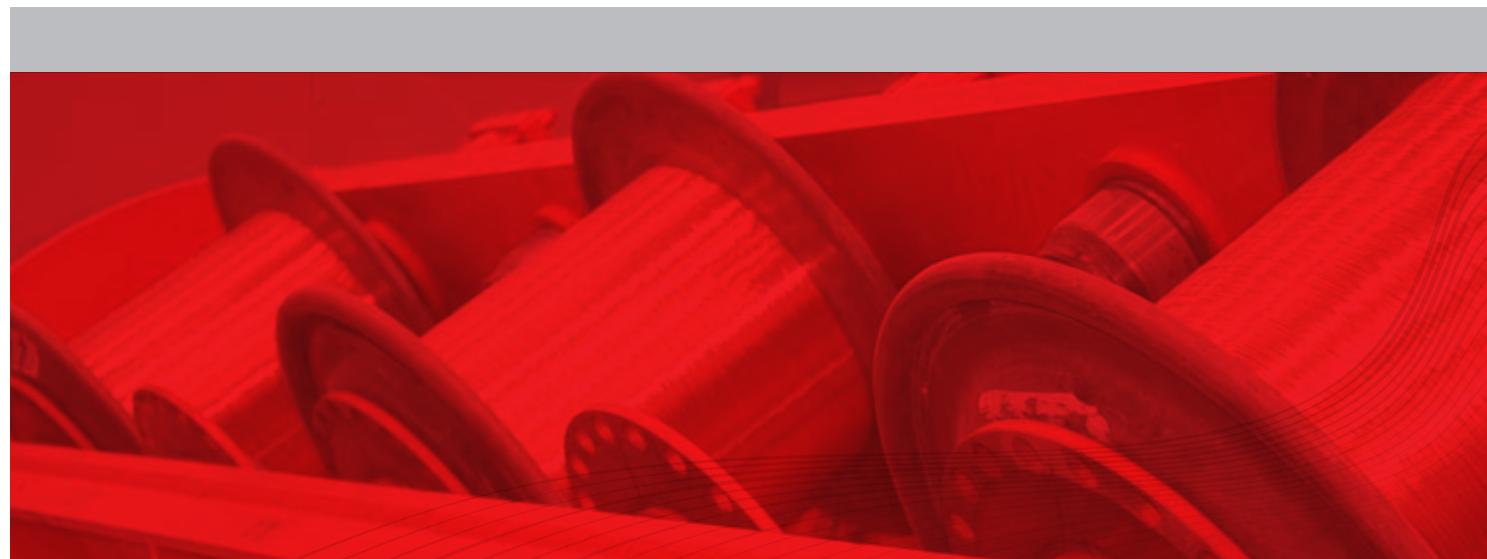


XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | UNARMOURED | 0.6/1 kV
CU/XLPE/PVC

Four cores with reduced neutral

Cable Code	Conductor			Insulation		Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²		Number of Wires	Thickness Nominal mm		Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%	
	Ph	Ne		Ph	Ne	Ph	Ne	mm	kg/km	
14510358	10rm	6rm	7	7	0.7	0.7	1.8	17.5	619	500/1000
14510359	16rm	10rm	7	7	0.7	0.7	1.8	200	895	500/1000
14510360	25rm	16rm	7	7	0.9	0.7	1.8	237	1295	500
14510361	35sm	16rm	7	7	0.9	0.7	1.8	22.9	1478	500
14510362	50sm	25rm	19	7	1.0	0.9	1.8	25.7	1810	500
14510363	70sm	35rm	19	7	1.1	0.9	1.9	29.8	2545	500
14510364	95sm	50rm	19	19	1.1	1.0	2.1	33.7	3434	500
14510365	120sm	70rm	37	19	1.2	1.1	2.2	37.5	4425	500
14510366	150sm	70rm	37	19	1.4	1.1	2.3	41.5	5295	500
14510367	185sm	95rm	37	19	1.6	1.1	2.5	46.4	6610	500
14510368	240sm	120rm	61	37	1.7	1.2	2.7	52.0	8594	250
14510369	300sm	150rm	61	37	1.8	1.4	2.9	58.8	10692	250
14510370	400sm	185rm	61	37	2.0	1.6	3.1	65.3	13883	250
14510371	500sm	240rm	61	61	2.2	1.7	3.4	72.7	17148	250



XLPE INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | UNARMOURED | 0.6/1 kV
AL/XLPE/PVC



Single core

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires		Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14710001	16rmc	7	0.7	1.4	9.1	115	1000
14710002	25rmc	7	0.9	1.4	10.7	153	1000
14710003	35rmc	7	0.9	1.4	11.7	187	1000
14710004	50rmc	7	1.0	1.4	13.4	260	1000
14710005	70rmc	19	1.1	1.4	15.4	340	1000
14710006	95rmc	19	1.1	1.5	17.3	417	1000
14710007	120rmc	19	1.2	1.5	18.7	504	1000
14710008	150rmc	19	1.4	1.6	21.2	621	1000
14710009	185rmc	37	1.6	1.6	23.6	758	1000
14710010	240rmc	37	1.7	1.7	26.2	955	1000
14710011	300rmc	37	1.8	1.8	29.1	1185	1000
14710012	400rmc	61	2.0	1.9	32.6	1484	1000
14710013	500rmc	61	2.2	2.0	36.2	1875	1000
14710014	630rmc	61	2.4	2.2	40.8	2353	1000



XLPE INSULATED PVC SHEATHED CABLES

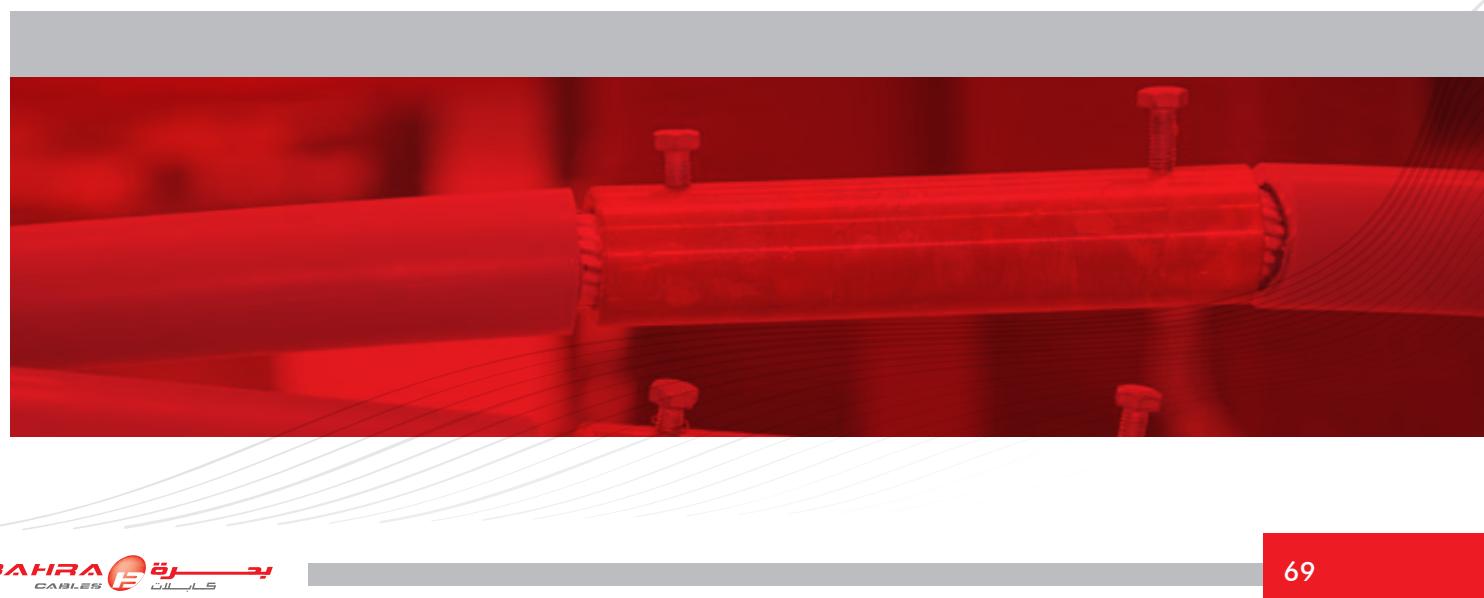
ALUMINUM CONDUCTOR | UNARMOURED | 0.6/1 kV
AL/XLPE/PVC

Two cores

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires		Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14710100	16rmc	7	0.7	1.8	17.5	428	1000
14710101	25rmc	7	0.9	1.8	20.7	604	1000
14710102	35rmc	7	0.9	1.8	21.9	447	1000

Three cores

14710200	16rmc	7	0.7	1.8	18.5	476	1000
14710201	25rmc	7	0.9	1.8	22.0	670	1000
14710202	35rmc	7	0.9	1.8	23.3	585	1000
14710203	50rmc	7	1.0	1.8	27.0	813	1000
14710204	70rmc	19	1.1	1.9	31.5	1053	1000
14710205	95rmc	19	1.1	2.0	35.4	1366	1000
14710206	120rmc	19	1.2	2.1	38.6	1655	1000
14710207	150rmc	19	1.4	2.3	43.9	2049	1000
14710208	185rmc	37	1.6	2.4	49.3	2487	1000
14710209	240rmc	37	1.7	2.6	54.9	3135	500
14710210	300rmc	37	1.8	2.8	60.9	3834	500
14710211	400rmc	61	2.0	3.0	68.6	4792	500
14710212	500rmc	61	2.2	3.3	76.5	6290	500



XLPE INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | UNARMOURED | 0.6/1 kV
AL/XLPE/PVC



Four cores

Cable Code	Conductor		Insulation	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%
14710300	16rmc	7	0.7	1.8	20.1	570	1000
14710301	25rmc	7	0.9	1.8	24.1	815	1000
14710302	35smc	7	0.9	1.8	22.9	667	1000
14710303	50smc	7	1.0	1.9	25.7	87.5	1000
14710304	70smc	19	1.1	2.0	30.0	1195	1000
14710305	95smc	19	1.1	2.1	33.7	1561	1000
14710306	120smc	19	1.2	2.3	37.7	1963	1000
14710307	150smc	19	1.4	2.4	41.7	2372	1000
14710308	185smc	37	1.6	2.6	46.6	2955	500
14710309	240smc	37	1.7	2.8	52.4	3773	500
14710310	300smc	37	1.8	3.0	59.2	4691	500
14710311	400smc	61	2.0	3.3	65.7	5951	500
14710312	500smc	61	2.2	3.5	73.1	7573	500

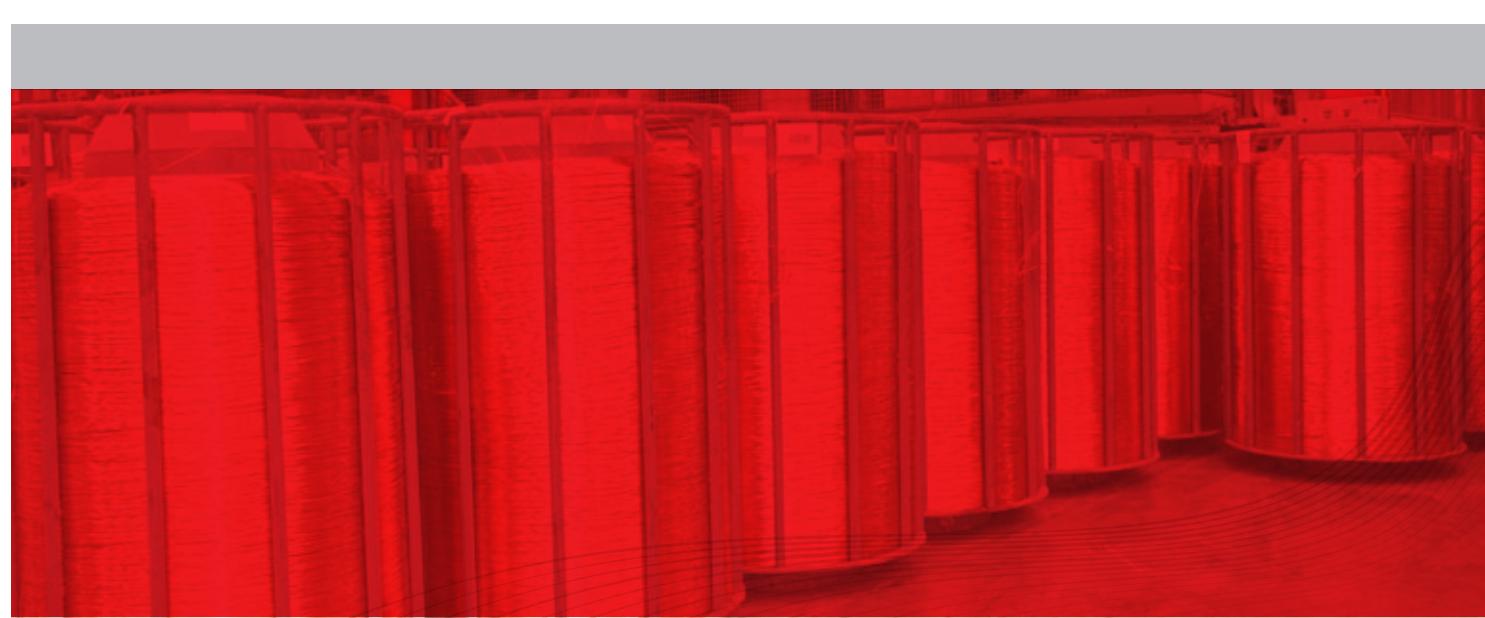


XLPE INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | UNARMOURED | 0.6/1 kV
AL/XLPE/PVC

Four cores with reduced neutral

Cable Code	Conductor			Insulation		Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²		Number of Wires	Thickness Nominal mm		Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/- 2%	
	Ph	Ne		Ph	Ne	mm	mm	kg/km	m +/- 2%	
14710350	25rmc	16rmc	7	7	0.9	0.7	1.8	23.6	775	1000
14710351	35sm	16rmc	7	7	0.9	0.7	1.8	22.9	610	1000
14710352	50sm	25rmc	7	7	1.0	0.9	1.8	25.7	813	1000
14710353	70sm	35rmc	19	7	1.1	0.9	1.9	29.8	1075	1000
14710354	95sm	50rmc	19	7	1.1	1.0	2.1	33.7	1440	1000
14710355	120sm	70rmc	19	19	1.2	1.1	2.2	37.7	1805	1000
14710356	150sm	70rmc	19	19	1.4	1.1	2.3	41.5	2137	1000
14710357	185sm	95rmc	37	19	1.6	1.1	2.5	46.4	2678	1000
14710358	240sm	120rmc	37	19	1.7	1.2	2.6	52.0	3375	500
14710359	300sm	150rmc	37	19	1.8	1.4	2.8	58.8	4176	500
14710360	400sm	185rmc	61	37	2.0	1.6	3.1	65.3	5447	500
14710361	500sm	240rmc	61	37	2.2	1.7	3.4	72.7	6565	500



XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
CU/XLPE/STA/PVC

Two cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires			Thickness Nominal mm	Dia. of Steel Stape Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm
14520003	4rm	7	0.7	0.2	1.8	14.4	350	1000
14520004	6rm	7	0.7	0.2	1.8	15.2	410	1000
14520005	10rm	7	0.7	0.2	1.8	17.4	568	1000
14520006	16rm	7	0.7	0.2	1.8	19.4	765	1000
14520007	25rm	7	0.9	0.2	1.8	22.8	1075	1000
14520008	35rm	7	0.9	0.2	1.8	24.7	1162	1000

Three cores

14520103	4rm	7	0.7	0.2	1.8	15.1	396	1000
14520104	6rm	7	0.7	0.2	1.8	15.9	476	1000
14520105	10rm	7	0.7	0.2	1.8	18.3	674	1000
14520106	16rm	7	0.7	0.2	1.8	20.5	893	1000
14520107	25rm	7	0.9	0.2	1.8	24.2	1291	1000
14520108	35rm	7	0.9	0.2	1.8	26.2	1544	1000
14520109	50rm	19	1.0	0.2	1.9	30.5	1963	1000
14520110	70rm	19	1.1	0.2	2.0	35.6	2705	1000
14520111	95rm	19	1.1	0.5	2.2	41.1	3985	500
14520112	120rm	37	1.2	0.5	2.3	45.2	4819	500
14520113	150rm	37	1.4	0.5	2.4	49.9	5826	500
14520114	185rm	37	1.6	0.5	2.6	55.3	7149	500
14520115	240rm	61	1.7	0.5	2.8	62.5	9094	500
14520116	300rm	61	1.8	0.5	2.9	69.0	11177	300
14520117	400rm	61	2.0	0.5	3.2	75.9	13860	300
14520118	500rm	61	2.2	0.5	3.4	82.0	17505	250

XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
CU/XLPE/STA/PVC



Four cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires			Thickness Nominal mm	Dia. of Steel Stape Nominal mm	Net Weight Approx kg/km	Standard Drum m +/- 2%
14520202	4rm	7	0.7	0.2	1.8	16.1	461	1000
14520203	6rm	7	0.7	0.2	1.8	17.0	558	1000
14520204	10rm	7	0.7	0.2	1.8	19.7	806	1000
14520205	16rm	7	0.7	0.2	1.8	22.1	1086	1000
14520206	25rm	7	0.9	0.2	1.8	26.2	1577	1000
14520207	35sm	7	0.9	0.2	1.8	25.7	1844	1000
14520208	50sm	19	1.0	0.2	1.9	28.7	2326	1000
14520209	70sm	19	1.1	0.2	2.1	33.2	3251	500
14520210	95sm	19	1.1	0.5	2.3	38.3	4679	500
14520211	120sm	37	1.2	0.5	2.4	42.7	5863	500
14520212	150sm	37	1.4	0.5	2.6	46.7	7090	500
14520213	185sm	37	1.6	0.5	2.7	51.6	8613	500
14520214	240sm	61	1.7	0.5	2.9	57.8	11188	300
14520215	300sm	61	1.8	0.5	3.1	64.6	13756	300
14520216	400sm	61	2.0	0.5	3.4	71.5	17479	250
14520217	500sm	61	2.2	0.8	3.7	80.3	22506	250

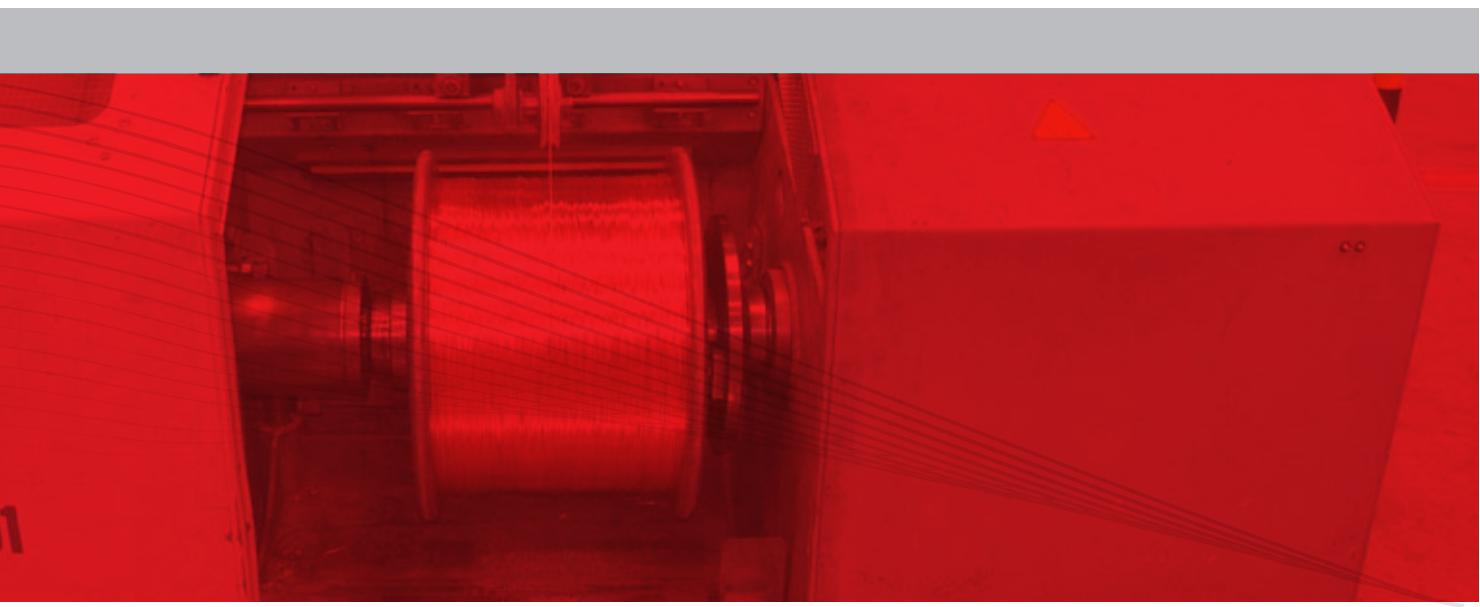


XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
CU/XLPE/STA/PVC

Four cores with reduced neutral

Cable Code	Conductor				Insulation		Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²		Number of Wires		Thickness Nominal mm		Thickness Steel Tape Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%
	Ph	Ne	Ph	Ne	Ph	Ne					
14520250	10 rm	6 rm	7	7	0.7	0.7	0.2	1.8	19.0	739	1000
14520251	16 rm	10 rm	7	7	0.7	0.7	0.2	1.8	21.5	1008	1000
14520252	25 rm	16 rm	7	7	0.9	0.7	0.2	1.8	25.2	1448	1000
14520253	35 sm	16 rm	7	7	0.9	0.7	0.2	1.8	25.7	1658	1000
14520254	50 sm	25 rm	19	7	1.0	0.9	0.2	1.9	28.5	2122	1000
14520255	70 sm	35 rm	19	7	1.1	0.9	0.2	2.0	33.2	2955	500
14520256	95 sm	50 rm	19	19	1.1	1.0	0.5	2.1	38.1	4235	500
14520257	120sm	70 rm	37	19	1.2	1.1	0.5	2.3	42.1	5333	500
14520258	150sm	70 rm	37	19	1.4	1.1	0.5	2.4	46.5	6348	500
14520259	185sm	95 rm	37	19	1.6	1.1	0.5	2.6	51.4	7780	500
14520260	240sm	120rm	61	37	1.7	1.2	0.5	2.8	57.6	9992	300
14520261	300sm	150rm	61	37	1.8	1.4	0.5	2.9	64.2	12234	300
14520262	400sm	185rm	61	37	2.0	1.6	0.5	3.2	70.7	15587	300
14520263	500sm	240rm	61	61	2.2	1.7	0.8	3.4	78.5	19123	250



XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | ALUMINUM WIRE ARMOURED | 0.6/1 kV
CU/XLPE/AWA/PVC



Single core

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Dia. of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%
14600004	95rm	19	1.1	1.8	1.8	23.5	1300	1000
14600005	120rm	37	1.2	1.8	1.8	25.6	1565	1000
14600006	150rm	37	1.4	1.8	1.8	27.4	1870	1000
14600007	185rm	37	1.6	1.8	1.8	30.0	2327	1000
14600008	240rm	61	1.7	1.8	1.9	33.2	2930	1000
14600009	300rm	61	1.8	1.8	2.0	36.2	3603	500
14600010	400rm	61	2.0	2.0	2.1	40.2	4575	500
14600011	500rm	61	2.2	2.0	2.2	43.9	5660	500
14600012	630rmc	61	2.4	2.0	2.3	46.5	7106	500



XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
CU/XLPE/SWA/PVC

Two cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Dia. of Steel Wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/- 2%
14530004	6rm	7	0.7	0.9	1.8	16.2	514	1000
14530005	10rm	7	0.7	1.25	1.8	19.1	790	1000
14530006	16rm	7	0.7	1.25	1.8	21.1	990	1000
14530007	25rm	7	0.9	1.6	1.8	25.2	1487	1000
14530008	35rm	7	0.9	1.6	1.8	27.1	1648	1000

Three cores

14530103	6rm	7	0.7	1.25	1.8	16.9	590	1000
14530104	10rm	7	0.7	1.25	1.8	20.0	911	1000
14530105	16rm	7	0.7	1.25	1.8	22.2	1166	1000
14530106	25rm	7	0.9	1.6	1.8	26.5	1765	1000
14530107	35rm	7	0.9	1.6	1.8	28.6	2053	1000
14530108	50rm	19	1.0	1.6	1.9	33.1	2590	1000
14530109	70rm	19	1.1	2.0	2.0	38.7	3714	500
14530110	95rm	19	1.1	2.0	2.2	43.1	4700	500
14530111	120rm	37	1.2	2.0	2.3	47.4	5640	500
14530112	150rm	37	1.4	2.5	2.5	53.1	7172	500
14530113	185rm	37	1.6	2.5	2.6	58.5	8650	500
14530114	240rm	61	1.7	2.5	2.8	65.7	10800	300
14530115	300rm	61	1.8	2.5	3.0	72.2	13069	300
14530116	400rm	61	2.0	2.5	3.2	79.1	15965	300
14530117	500rm	61	2.2	3.15	3.5	88.5	20380	250

XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
CU/XLPE/SWA/PVC



Four cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Dia. of Steel Wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/- 2%
14530202	4rm	7	0.7	1.25	1.8	17.1	574	1000
14530203	6rm	7	0.7	1.25	1.8	18.7	774	1000
14530204	10rm	7	0.7	1.25	1.8	21.4	1064	1000
14530205	16rm	7	0.7	1.6	1.8	24.5	1508	1000
14530206	25rm	7	0.9	1.6	1.8	28.6	2085	1000
14530207	35sm	7	0.9	1.6	1.9	28.3	2370	1000
14530208	50sm	19	1.0	1.6	2.0	31.3	2918	500
14530209	70sm	19	1.1	2.0	2.2	36.8	4198	500
14530210	95sm	19	1.1	2.0	2.3	40.5	5359	500
14530211	120sm	37	1.2	2.5	2.5	45.9	6969	500
14530212	150sm	37	1.4	2.5	2.6	49.9	8333	500
14530213	185sm	37	1.6	2.5	2.8	54.8	9985	500
14530214	240sm	61	1.7	2.5	3.0	57.8	12141	300
14530215	300sm	61	1.8	2.5	3.2	67.8	15545	250
14530216	400sm	61	2.0	3.15	3.5	76.0	20244	250
14530217	500sm	61	2.2	3.15	3.8	83.6	24834	250



XLPE INSULATED PVC SHEATHED CABLES

COPPER CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
CU/XLPE/SWA/PVC

Four cores with reduced neutral

Cable Code	Conductor			Insulation		Armouring	Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²		Number of Wires		Thickness Nominal mm			Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%
	Ph	Ne	Ph	Ne	Ph	Ne					
14530250	16rm	10rm	7	7	0.7	0.7	1.25	1.8	23.2	1275	1000
14530251	25rm	16rm	7	7	0.9	0.7	1.6	1.8	27.6	1947	1000
14530252	35sm	16rm	7	7	0.9	0.7	1.6	1.8	28.1	2170	1000
14530253	50sm	25rm	19	7	1.0	0.9	1.6	1.9	31.1	2712	500
14530254	70sm	35rm	19	7	1.1	0.9	2.0	2.1	36.6	3883	500
14530255	95sm	50rm	19	19	1.1	1.0	2.0	2.2	40.3	4914	500
14530256	120sm	70rm	37	19	1.2	1.1	2.0	2.3	44.3	6082	500
14530257	150sm	70rm	37	19	1.4	1.1	2.5	2.5	49.7	7590	500
14530258	185sm	95rm	37	19	1.6	1.1	2.5	2.7	54.6	9150	500
14530259	240sm	120rm	61	37	1.7	1.2	2.5	2.9	60.8	11547	300
14530260	300sm	150rm	61	37	1.8	1.4	2.5	3.0	67.4	13964	300
14530261	400sm	185rm	61	37	2.0	1.6	3.15	3.3	75.2	18354	250
14530262	500sm	240rm	61	61	2.2	1.7	3.15	3.6	83.2	22256	250



XLPE INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
AL/XLPE/STA/PVC

Two cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²	Number of Wires			Thickness Nominal mm	Dia. of Steel Tape Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14720001	16rmc	7	0.7	0.2	1.8	19.0	536	1000	
14720002	25rmc	7	0.9	0.2	1.8	22.2	724	1000	
14720003	35rmc	7	0.9	0.2	1.8	24.7	712	1000	

Three cores

14720100	16rmc	7	0.7	0.2	1.8	20.0	597	1000
14720101	25rmc	7	0.9	0.2	1.8	23.4	808	1000
14720102	35rmc	7	0.9	0.2	1.8	26.1	870	1000
14720103	50rmc	7	1.0	0.2	1.9	29.6	1140	1000
14720104	70rmc	19	1.1	0.2	2.0	34.7	1473	1000
14720105	95rmc	19	1.1	0.2	2.2	38.7	1849	1000
14720106	120rmc	19	1.2	0.5	2.3	43.1	2581	1000
14720107	150rmc	19	1.4	0.5	2.4	48.9	3163	500
14720108	185rmc	37	1.6	0.5	2.6	54.3	3737	500
14720109	240rmc	37	1.7	0.5	2.8	60.2	4575	500
14720110	300rmc	37	1.8	0.5	2.9	66.4	5455	500
14720111	400rmc	61	2.0	0.5	3.2	74.0	6592	500
14720112	500rmc	61	2.2	0.8	3.4	81.0	8370	500



XLPE INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
AL/XLPE/STA/PVC



Four cores

Cable Code	Conductor		Insulation Thickness Nominal mm	Armouring Dia. of Steel Tape Nominal mm	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires			Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14720200	16rmc	7	0.7	0.2	1.8	21.6	690	1000
14720201	25rmc	7	0.9	0.2	1.8	25.4	936	1000
14720202	35sm	7	0.9	0.2	1.8	25.7	947	1000
14720203	50sm	7	1.0	0.2	1.9	28.7	1200	1000
14720204	70sm	19	1.1	0.2	2.0	33.2	1593	1000
14720205	95sm	19	1.1	0.5	2.2	38.3	2378	1000
14720206	120sm	19	1.2	0.5	2.4	42.7	2923	500
14720207	150sm	19	1.4	0.5	2.6	46.7	3425	500
14720208	185sm	37	1.6	0.5	2.7	51.6	4124	500
14720209	240sm	37	1.7	0.5	2.9	57.8	5145	500
14720210	300sm	37	1.8	0.5	3.1	64.6	6246	500
14720211	400sm	61	2.0	0.5	3.2	71.5	7742	500
14720212	500sm	61	2.2	0.8	3.7	80.3	10359	500



XLPE INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | STEEL TAPE ARMOURED | 0.6/1 kV
AL/XLPE/STA/PVC

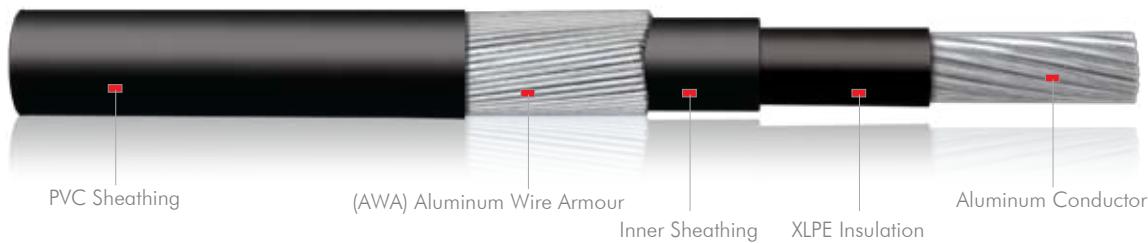
Four cores with reduced neutral

Cable Code	Conductor			Insulation		Armouring	Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²		Number of Wires	Thickness Nominal mm		Thickness Steel Tape Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%	
	Ph	Ne	Ph	Ne	Ph	Ne					
14720250	25rmc	16rmc	7	7	0.9	0.7	0.2	1.8	25.1	921	1000
14720251	35sm	16rmc	7	7	0.7	0.7	0.2	1.8	25.7	890	1000
14720252	50sm	25rmc	7	7	1.0	0.9	0.2	1.8	28.5	1124	1000
14720253	70sm	35rmc	19	7	1.1	0.9	0.2	2.0	33.2	1487	1000
14720254	95sm	50rmc	19	7	1.1	1.0	0.5	2.1	38.1	2238	1000
14720255	120sm	70rmc	19	19	1.2	1.1	0.5	2.3	42.1	2716	500
14720256	150sm	70rmc	19	19	1.4	1.1	0.5	2.4	46.5	3187	500
14720257	185sm	95rmc	37	19	1.6	1.1	0.5	2.6	51.4	3844	500
14720258	240sm	120rmc	37	19	1.7	1.2	0.5	2.8	57.6	4769	500
14720259	300sm	150rmc	37	19	1.8	1.4	0.5	2.9	64.2	5716	500
14720260	400sm	185rmc	61	37	2.0	1.6	0.5	3.2	70.7	7156	500
14720261	500sm	240rmc	61	37	2.2	1.7	0.8	3.4	78.5	8537	500



XLPE INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | ALUMINUM WIRE ARMoured | 0.6/1 kV
AL/XLPE/AWA/PVC



Single core

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²	Number of Wires			Thickness Nominal mm	Dia. of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km
14800004	95 rmc	19	1.1	1.8	1.8	1.8	21.1	690	1000
14800005	120 rmc	19	1.2	1.8	1.8	1.8	22.7	822	1000
14800006	150 rmc	19	1.4	1.8	1.8	1.8	25.2	982	1000
14800007	185 rmc	37	1.6	1.8	1.8	1.8	27.6	1162	1000
14800008	240 rmc	37	1.7	1.8	1.8	1.9	30.2	1411	500
14800009	300 rmc	37	1.8	2.0	1.9	1.9	33.5	1725	500
14800010	400 rmc	61	2.0	2.0	2.0	2.1	37.2	2275	500
14800011	500 rmc	61	2.2	2.0	2.0	2.2	40.8	2612	500
14800012	630 rmc	61	2.4	2.5	2.5	2.3	46.2	3350	500



XLPE INSULATED PVC SHEATHED CABLES

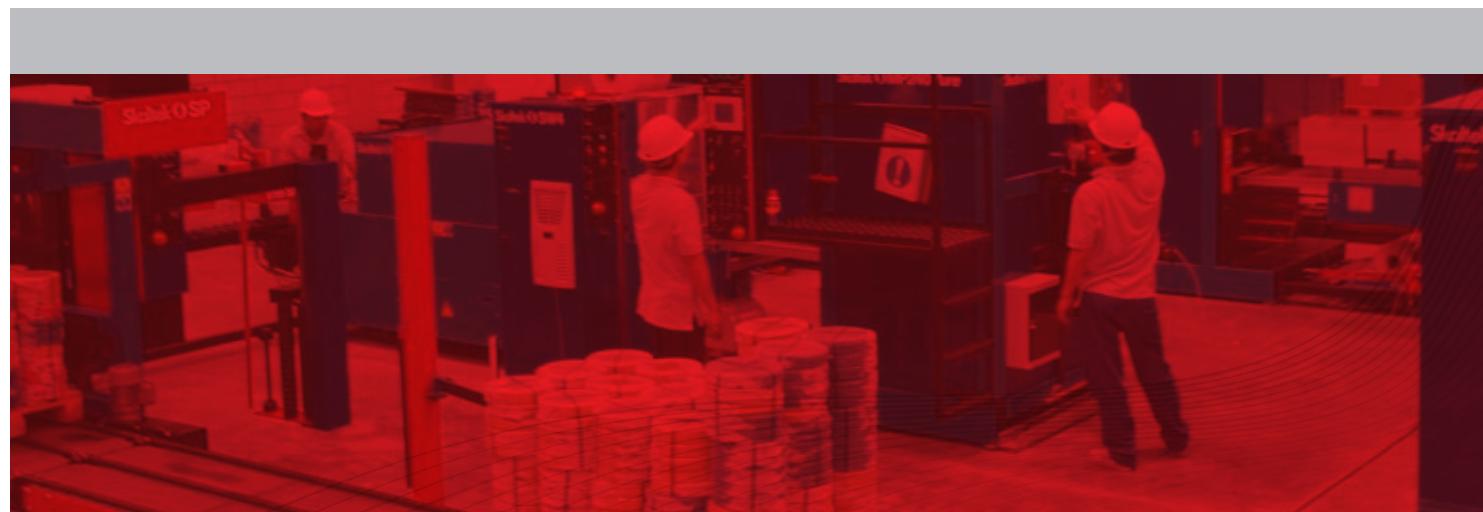
ALUMINUM CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
AL/XLPE/SWA/PVC

Two cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Dia. of Steel Wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/-2%
14730001	25rmc	7	0.9	1.6	1.8	24.6	1145	1000
14730002	35rmc	7	0.9	1.6	1.8	27.1	1199	1000

Three cores

14730100	25rmc	7	0.9	1.6	1.8	25.9	1270	1000
14730101	35rmc	7	0.9	1.6	1.8	28.5	1380	1000
14730102	50rmc	7	1.0	1.6	1.9	32.4	1755	1000
14730103	70rmc	19	1.1	2.0	2.0	38.1	2440	1000
14730104	95rmc	19	1.1	2.0	2.2	42.2	2925	1000
14730105	120rmc	19	1.2	2.0	2.3	45.4	3360	500
14730106	150rmc	19	1.4	2.5	2.5	52.1	4485	500
14730107	185rmc	37	1.6	2.5	2.6	57.5	5214	500
14730108	240rmc	37	1.7	2.5	2.8	63.5	6202	500
14730109	300rmc	37	1.8	2.5	3.0	69.7	7270	500
14730110	400rmc	61	2.0	2.5	3.2	77.2	8606	500
14730111	500rmc	61	2.2	3.15	3.5	83.7	11045	300



XLPE INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
AL/XLPE/SWA/PVC



Four cores

Cable Code	Conductor		Insulation	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm ²	Number of Wires	Thickness Nominal mm	Dia. of Steel Wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m +/- 2%
14730200	16rmc	7	0.7	1.6	1.8	24.0	1099	500
14730201	25rmc	7	0.9	1.6	1.8	27.9	1439	500
14730202	35sm	7	0.9	1.6	1.9	28.3	1473	500
14730203	50sm	7	1.0	1.6	2.0	31.3	1792	500
14730204	70sm	19	1.1	2.0	2.2	36.8	2540	500
14730205	95sm	19	1.1	2.0	2.3	40.5	3057	500
14730206	120sm	19	1.2	2.5	2.5	45.7	4029	500
14730207	150sm	19	1.4	2.5	2.6	49.9	4669	250
14730208	185sm	37	1.6	2.5	2.8	54.8	5495	250
14730209	240sm	37	1.7	2.5	3.0	61.0	6702	250
14730210	300sm	37	1.8	2.5	3.2	67.8	7969	250
14730211	400sm	61	2.0	3.15	3.5	76.0	10507	250
14730212	500sm	61	2.2	3.15	3.8	83.6	12687	250



XLPE INSULATED PVC SHEATHED CABLES

ALUMINUM CONDUCTOR | STEEL WIRE ARMOURED | 0.6/1 kV
AL/XLPE/SWA/PVC

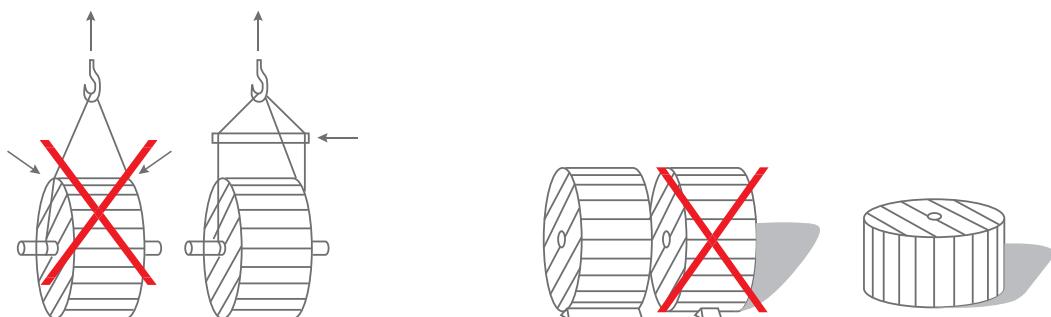
Four cores with reduced neutral

Cable Code	Conductor			Insulation		Armouring	Outer Sheath		Packaging		
	Cross Sectional Area Nominal mm ²		Number of Wires	Thickness Nominal mm			Thickness Steel Wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Drum m+/-2%
	Ph	Ne	Ph	Ne	Ph	Ne					
14730250	25rmc	16rmc	7	7	0.9	0.7	1.6	1.8	27.5	1404	1000
14730251	35sm	16rmc	7	7	0.9	0.7	1.6	1.8	28.1	1401	1000
14730252	50sm	25rmc	7	7	1.0	0.9	1.6	1.9	31.1	1714	1000
14730253	70sm	35rmc	19	7	1.1	0.9	2.0	2.1	36.6	2415	1000
14730254	95sm	50rmc	19	7	1.1	1.0	2.0	2.2	40.4	2917	500
14730255	120sm	70rmc	19	19	1.2	1.1	2.0	2.3	44.3	3465	500
14730256	150sm	70rmc	19	19	1.4	1.1	2.5	2.5	49.7	4429	500
14730257	185sm	95rmc	37	19	1.6	1.1	2.5	2.7	54.7	5214	500
14730258	240sm	120rmc	37	19	1.7	1.2	2.5	2.9	60.9	6325	500
14730259	300sm	150rmc	37	19	1.8	1.4	2.5	3.0	67.5	7445	500
14730260	400sm	185rmc	61	37	1.7	1.6	2.5	3.3	75.1	9922	300
14730261	500sm	240rmc	61	37	2.2	1.7	3.15	3.6	83.2	11670	300



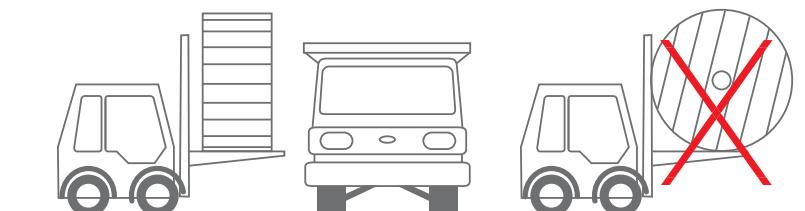
DRUM HANDLING INSTRUCTIONS

Cables and Conductors should be installed by trained personnel in accordance with good engineering practices, recognized codes of practise, statutory local requirements, IEE wiring regulations and where relevant, in accordance with any specific instructions issued by the company. Cables are often supplied in heavy cable reels and handling these reels can constitute a safety hazard. In particular, dangers may arise during the removal of steel binding straps and during the removal of retaining battens and timbers which may expose projecting nails.

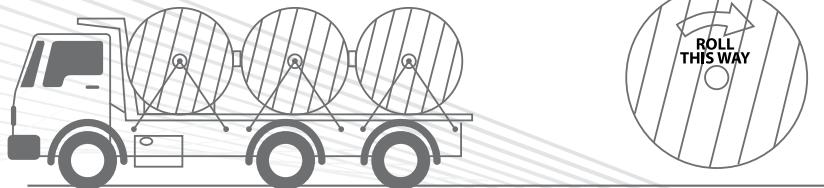


Lifting cable drums using crane.

Do not lay drums flat on their sides, use proper stops to prevent drums rolling.



Lift drums on fork trucks correctly.



Secure drums adequately before transportation.

Roll in the direction shown by the arrow.

RECOMMENDATIONS FOR CABLES INSTALLATION

PRODUCT LIFE DATA

Low Voltage cables is not subjected to high electric stress, the XLPE insulating material has a dielectric strength voltage of about 22 KV, with the best manufacturing and testing practice applied in Bahra Cables Company to ensure good quality insulation . As Insulation treeing is uncommon problem for LV cables, the chance of electric break down is very minor. The PVC or PE jacketing material is very stable against most of the Chemical traces could be existing at the soil, these material with Black colour Master batch up to 2.5 % have a strong resistance against UV and Environmental conditions.

The cables have to be selected and installed as per the recommendation mentioned below.

By keeping such standard of installation and operation, Low Voltage cables can survive in service for a time of 25 years or more without failure.

RECOMMENDATIONS FOR THE SELECTION, INSTALLATIONS AND OPERATION OF CABLES

- The cables are intended to be installed in air, or for burial in free draining soil Conditions. Where the cables are to be laid in any other environment, reference should be made to the cable Bahra Cables Company.
- The rated voltage of the cable for a given application should be suitable for the operating conditions in the system in which the cable is used. To facilitate the selection of the cable, systems are divided into three categories as follows.

a) Category A

This category comprises those systems in which any phase conductor that comes in contact with earth or
an earth conductor is disconnected from the system within 1 min.

b) Category B

This category comprises those systems which, under fault conditions, are operated for a short time with
one phase earthed. This period, according to IEC 60183, should not exceed 1 h. For cables specified in
this standard, a longer period, not exceeding 8 h on any occasion, can be tolerated. The total duration of
earth faults in any year should not exceed 125 h.

c) Category C

This category comprises all systems which do not fall into categories A and B.

The nominal system voltage U , (up to 1.0 KV) is the nominal voltage between phases, The maximum sustained system voltage, U_m (1.2 KV) is the highest voltage between phases that can be sustained under normal operating conditions at any time and at any point in the system. It excludes transient voltage variations, due, for example, to lightning impulses, fault conditions and rapid connection of loads.

Single-core cables are suitable for d.c. systems operating at up to 1 000 V to earth and two-core 600/1 000 V cables at up to 1 500 V between conductors.

CABLES INSTALLED IN HAZARDOUS AREAS

Where cables are required to be installed in areas classified as hazardous, i.e. potentially explosive gas atmospheres, reference should be made to IEC 60079-14.

CURRENT RATINGS

The current rates introduced previously in this catalogue have to be followed.

- Cables should be installed and used in association with other equipment in accordance with BS7671 and/or the Electricity Safety, Quality and Continuity Regulations, as appropriate.

In special environments, the appropriate regulations and codes of practice should be observed.

- Minimum temperature during installation

It is recommended that the cables be installed only when both the cable and ambient temperatures are above 0 °C and have been so for the previous 24 h, or where special precautions have been taken to maintain the cable above this temperature.

MINIMUM INSTALLATION RADIUS

None of the cables specified in this catalogue should be bent during installation to a radius smaller than that given in BCC product Catalogues and the offered data sheets, wherever possible, larger installation radii should be used.

PREVENTION OF MOISTURE INGRESS

Care should be exercised during installation to avoid any damage to cable coverings. This is important in wet or other aggressive environments. The protective cable end cap should not be removed from the ends of the cable until immediately prior to termination or jointing, especially for cables that do not have extruded bedding. When the end caps have been removed the unprotected ends of the cable should not be exposed to any kind of moisture.

TEST AFTER INSTALLATION

A voltage test after installation should be performed with direct current of 3.5 KV DC between conductor phases and the same value between each conductor and armouring.

During the test, the voltage should be increased gradually to the full value and maintained continuously for 15 min. The test should be made between conductors and between each conductor and armour.

The requirement is : No breakdown should occur.

The test voltages given above are intended for cables immediately after installation and not for cables that have been in service. When testing is required after cables have been in service, regardless of service duration, Bahra Cables Company- Technology Department should be consulted for the appropriate test conditions, which depend on the individual circumstances.

CABLES FAULTS PREVENTION

The Low Voltage Cables faults are possible due to different reasons:

1. Physical damage due to mishandling or misuse
2. Physical Damage during operations.
3. Over current.
4. Fire or excessive temperature at the cables location.
5. Manufacturing malfunction, which Bahra Cables Company guarantees its product against any defect or wrong workmanship, meanwhile in case of damage due to this reason, the action will be taken as per the submitted warranty letter, and the company will apply the required corrective and preventive actions.

Recommendation for failures:

Insulation failure, the defected section is recommended to be replaced , the replacement should be from joint to joint.

Serving/ jacketing failure, if the water did not ingress through the cable, the jacket will be repaired using proper repairing techniques carried out by skilled technician. If the water came inside the cables to insulation, for cables suitable for wet location, practically dry the defected portion before repair.

If the cable is not suitable for wet applications and the underground water engrossed inside it, replacing the defected section from joint to joint is the recommend solution.

ORDERING INFORMATION

To serve our customer in minimum time and high efficiency, our valuable customers are requested to provide the following details along with their enquiries and orders:

1. Number of phases/cores.
2. Conductor required cross sectional area (conductor size along with size of neutral phase).
3. System Voltage Rate .
4. Applicable customer specification or International Standard / Norm.
5. Conductor material (Copper/Aluminum).
6. Insulation Material (PVC/XLPE/LSZH).
7. Bedding / Inner Sheathing (Inner Jacketing (PVC/PE, ..).
8. Armouring Type (SWA, AWA or STA).
9. Cable jacketing material (PVC/MDPE/LSZH).
10. Cable special features required, e.g. circular conductors, Flame Retardant Type to IEC 60332-3, Anti-termite
11. Required length of cables (drum schedules)



LOCATION MAP

