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Unite To Light

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Introduction :

Union Electric Group is amongst the biggest establishments of its kind, originally found to meet the rising demand for energy in the local and regional markets.

It is considered as a leading establishment in the electrical industry and represents an extremely important role in the reconstruction process that Syria is currently undergoing.

Union Electric Group is built on an area of 155.000 m² located in the industrial city of ADRA, and has the capability of producing :

- 1500 tons of copper & aluminum per month.
- 1000 tons PVC per month.
- 500 units of transformers monthly.
- 1200 tons of 8mm copper rod.

The factories are supplied with the latest developed machinery and use the latest technology to deliver high quality products.

Union Electric Group has five main manufacturers that are specialized mainly in power cables (LV, MV, HV and XHV), control cables, overhead lines, special cables, bare copper, copper rod, winding wires, meters, PVC materials and transformers from 25 KVA to 5,000 KVA.

Our products outstand for their quality and safety due to the international standards followed throughout the production process.

Union Electric Group adopted a policy that assures maximum effectiveness and efficiency throughout processes and systems ensuring that customer needs are met without wasting efforts and cost.

We are heading towards being national and international, expert in our domain, with a high professional team and experts working to be first choice worldwide.





General Information

Selecting a Power Cable

The following factors are important when selecting a suitable cable construction which is required to transport electrical energy from the power station to the consumer:

- Maximum operating voltage.
- Insulation level.
- Frequency.
- Load to be carried.
- Magnitude and duration of possible overload.
- Magnitude and duration of short-circuit current.
- Voltage drop.
- Length of line.
- Type of installation.
 - Underground (direct or in ducts).
 - In air.
- Chemical and physical properties of soil.
- Max. and min. ambient air temperatures and soil temperature.
- Specification and requirements to be met.

Voltage

The standard rated voltage of a cable is denoted by $U_0/U (U_m)$,

where

U_0 : is the rated power-frequency voltage between conductor and earth or metallic screen.

U : is the rated power-frequency voltage between conductors.

U_m : is the maximum continuously permissible operating voltage of a cable at time or in any part of the network.

U_0/U (kV)	0.6/1	1.8/3	3.6/6	6/10	8.7/15	12/20	18/30	38/66	76/132	127/220
U_m (kV)	1.2	3.6	7.2	12	17.5	24	36	72.5	145	245

Note: Cable design for 6/10, 12/20 and 18/30 kV is applicable for 6.35/11, 12.7/22 and 19/33 kV respectively.

Standards

Cables described in this catalogue are standard types, and their performance has been proved in operation.

Construction and tests are in accordance with the recommendation of IEC publications where ever applicable.

Power cables in accordance to other standard (e.g. BS, HD, NEMA) can be manufactured upon customer's request.

Weight and Dimension

Weight and dimension are approximate.

The deviations are due to manufacturing tolerance.

Jacket Marking

Standard embossed outer Jacket Marking consisting of:

- 1- Name of manufacturer. " UNION CABLES "
- 2- Type designation, size of conductor, rated voltage.
- 3- Continuous length marking every meter.
- 4- Year of manufacture.
- 5- Any special part no. on request.

Standards Related to Power Cables

IEC Standard

S/N	No. of IEC	Subject
1.	60028	International Standard of Resistance for Copper.
2.	60060-1	High-Voltage Test Techniques
3.	60104	Aluminum-Magnesium-Silicon Alloy Wire for Overhead Line Conductors
4.	60121	Recommendation for commercial annealed aluminum electrical conductor wire.
5.	60137	Insulated bushings for alternating voltage above 1000 V.
6.	60173	Colours of the cores of flexible cables and cores.
7.	60183	Guide to the selection of high voltage cables.
8.	60227	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V
9.	60228	Conductors of insulated cables.
10.	60229	Tests on cable over-sheaths which have a special protection function and are applied by extrusion.
11.	60230	Impulse tests on cables and their accessories.
12.	60270	Partial discharge measurements
13.	60287	Current rating equations (100% load factor) and calculation of losses
14.	60331	Tests for electric cables under fire conditions circuit integrity.
15.	60332	Test on electric cables under fire conditions.
16.	60502	Cables for rated voltages of 0.6 kV ($U_m=1\text{kV}$) up to and including 30kV ($U_m=36\text{kV}$).
17.	60719	Calculation of the lower and upper limits for the average outer dimensions of cables with circular copper conductors and of rated voltages up to and including 450/750 V.
18.	60724	Guide to the short-circuit temperature limits of electric cables with a rated voltage not exceeding 0.6/1 kV.
19.	60811	Common test methods for insulating and sheathing materials of electric cables
20.	60840	Test method and requirements Power cables with extruded insulation and their accessories for rated voltages above 30 kV ($U_m=36\text{kV}$) up to 150 kV ($U_m=170\text{kV}$).
21.	60853	Calculation of the cyclic and emergency current rating of cables.
22.	60885	Electrical test for electric cables

General Information

S/N	No. of IEC	Subject
23.	60888	Zinc-Coated steel wires for stranded conductors
24.	60889	Hard drawn aluminum wire for overhead line conductors
25.	60949	Calculation of thermally permissible short-circuit currents, taking into account non-adiabatic heating effects.
26.	60986	Guide to the short-circuit temperature limits of electric cables with a rated voltage from 1.8/3 (3.6) kV to 18/30 (36) kV.
27.	61089	Round wire concentric lay overhead electrical stranded conductors.
28.	61232	Aluminum - clad steel wires for electrical purposes.
29.	61597	Overhead electrical conductors - calculation methods for stranded bare conductors.
30.	61443	Short circuit temperature limits of electric cables with rated voltages above 30 kV ($U_m=36$ kV).
31.	62067	Power cable with extruded insulation and their accessories for rated voltages above 150 kV ($U_m=170$ kV) up to 500kV ($U_m=550$ kV) - Test methods and requirements

HD Standard

S/N	No. of HD	Subject
1.	HD 21.1 S4	Cables of rated voltages up to and including 450/750 V and having thermoplastic insulation
2.	HD 21.3 S3	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V
3.	HD 603	Electric Power distribution, electric cable, insulated cable, polyvinyl chloride. Specification, dimension, test, marking
4.	HD 620	Distribution cables with extruded insulation for rated voltages from 3.6/6(7.2)kV to 20.8/36(42)kV
5.	HD 626	Overhead distribution cables of rated voltage $U_0 / U (U_m)$:0.6/1 (1.2)kV
6.	HD 632	Power cables with extruded insulation and their accessories for rated voltages above 36 kV ($U_m = 42$ kV) up to 150 kV ($U_m = 170$ kV)

▶ cont'd

BS Standard

S/N	No. of BS	Subject
1.	BS 215-1	Aluminum conductors and Aluminum conductors, steel-reinforced for overhead power transmission. Part1: Aluminum stranded conductors.
2.	BS 215-2	Aluminum conductors and Aluminum conductors, steel-reinforced for overhead power transmission. Part2: Aluminum stranded conductors, steel reinforced.
3.	BS 2627	Wrought aluminum for electrical purposes Wire.
4.	BS 5099	Spark testing of electric cables.
5.	BS 5467	600/1000 V and 1900/3300 V armoured electric cables having thermosetting insulation.
6.	BS 6004	Electric cables - PVC insulation, non-armoured cables for voltages up to and including 450/750 V for electric power, lighting and internal wiring.
7.	BS 6007	Electric cables - single core unsheathed heat resisting cables for voltages up to and including 450/750V for internal wiring.
8.	BS 6346	600/1000 V and 1900/3300 V armoured electric cables having PVC insulation.
9.	BS 6360	Conductors in insulated cables and cords.
10.	BS 6387	Performance requirements for cables required to maintain circuit integrity under fire conditions.
11.	BS 6485	PVC- covered conductors for overhead power lines.
12.	BS 6500	Electric cables - Flexible cords rated up to 300/500 V, for use with appliances and equipment intended for domestic, office and similar environments.
13.	BS 6622	Cables with extruded cross-linked polyethylene or ethylene propylene rubber insulation for rated voltages from 3.8/6.6KV up to 19/33 KV
14.	BS 7655	Insulation and sheathing materials for cables.
15.	BS 7884	Copper and copper-cadmium stranded conductors for overhead electric traction and power transmission systems.
16.	BS 7889	Electric cables - Thermosetting insulated, unarmoured cables for avoltage of 600/1000V.
17.	BS 7919	Electric cables - Flexible cables rated up to 450/750 V, for use with appliances and equipment intended for industrial and similar environments.

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Standards Related to Power Cables

S/N	No. of BS	Subject
1.	BS EN 10218-1	Steel wire and products- Part1: Test Methods
2.	BS EN 10218-2	Steel wire and products- Part2: wire dimensions and tolerances
3.	BS EN 10244-2	Steel wire and products- Non-ferrous metallic coating on steel wire-part2: Zinc or zinc alloy coating
4.	BS EN 10257	Zinc or zinc alloy coated non-alloy steel wire for armouring either power cables or telecommunication cables.
5.	BS EN 12548	Lead and lead alloys - lead alloy ingots for electric cable sheathing and for sleeves
6.	BS EN 12659	Lead and lead alloys - lead
7.	BS EN 13601	Copper and copper alloys - Copper rod, bar and wire for general electrical purposes
8.	BS EN 13602	Copper and copper alloys - Drawn, round copper wire for the manufacture of electrical conductors
9.	BS EN 50182	Conductors for overhead lines - Round wire concentric lay stranded conductors.
10.	BS EN 50183	Conductors for overhead lines - Aluminum - magnesium - silicon alloy wires
11.	BS EN 50189	Conductors for overhead lines - Zinc coated steel wires
12.	BS EN 50266	Common test methods for cables under fire conditions - Test for vertical flame spread of vertically mounted bunched wires or cables.
13.	BS EN 50356	Method for spark testing of cables
14.	BS EN 50395	Electrical test methods for low voltage energy cables (Supersedes HD 21.2)
15.	BS EN 60811	Insulating and sheathing materials of electric cables. common test methods.

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Definitions of dimensional values

1. Nominal value

Value by which a quantity is designated and which is often used in tables. Usually, in IEC standard, nominal values give rise to values to be checked by measurements taking into account specified tolerances.

2. Approximate value

Value which is neither guaranteed nor checked; it is used, for example, for the calculation of other dimensional values.

3. Median value

When several test results have been obtained and ordered in an increasing (or decreasing) succession, the median value is the middle value if the number of available values is odd, and the mean of the two middle values if the number is even.

4. Fictitious value

Value calculated according to the “fictitious method” described in annex A in IEC 60502.

Definitions concerning Tests

1. Routine tests

Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

2. Sample tests

Tests made by the manufacturer on samples of completed cable or components taken from a completed cable, at a specified frequency, so as to verify that the finished product meets the specified requirements.

3. Type tests

Test made before supplying, on a general commercial basis, a type of cable covered by this standard, in order to demonstrate satisfactory performance characteristics to meet the intended application. These tests are of such a nature that, after they have been made, they need not be repeated, unless changes are made in the cable materials or design or manufacturing process, which might change the performance characteristics.

4. Electrical test after installation

Tests made to demonstrate the integrity of the cable and its accessories as installed.

1. Resistance

The values of conductor DC resistance given in the following tables are based on 20 °C. In case the DC resistance is required at any other temperature the following formula is used

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

Where

R_{θ} : Conductor DC resistance at θ °C Ω/km
 R_{20} : Conductor DC resistance at 20 °C Ω/km
 θ : Operating temperature °C
 α : Resistance temperature coefficient 1 / °C
 = 0.00393 for Copper
 = 0.00403 for Aluminium

To get AC resistance of the conductor at its operating temperature the following formula is used

$$R_{AC} = R_{\theta} (1 + y_p + y_s)$$

Where

y_p and y_s are proximity and skin effect factors respectively which depend on operation frequency and cable spacing.

2. Inductance

The self and mutual inductance are formulated as follow:

$$L = K + 0.2 \ln \left(\frac{2S}{d} \right) \quad \text{mh/km}$$

Where

L : Inductance mh/km
 K : Constant depends on the conductor's number of wires
 d : Conductors diameter mm
 S : Axial spacing between cables in trefoil formation mm
 S : 1.26 x axial spacing between cables in flat formation mm

3. Capacitance

The capacitance is formulated as follow

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

Where

C : Capacitance $\mu\text{f/km}$
 ϵ_r : Relative permittivity of insulation material
 D : Diameter over insulation mm
 d : Conductor diameter mm

4. Insulation Resistance

The Insulation Resistance is formulated as follow

$$R = K \ln \left(\frac{D}{d} \right)$$

Where

R : Insulation resistance M Ω /km
 K : Constant depends on the insulation material
 d : Diameter of the conductor (including the semiconducting layer) mm
 D : Diameter of the insulated core mm

5. Charging Current

The charging current is the capacitive current which flows when AC voltage is applied to the cables as a result of the capacitance between the conductor and earth, and for a multicore cable in which cores are not screened, between conductors. The value can be derived from the following equation.

$$I_C = U_o \omega C 10^{-6} \quad \text{A/km}$$

Where

I_C : Charging current A/km
 U_o : Voltage between phase and earth. V
 ω : $2 \pi f$
 f : Frequency Hz
 C : Capacitance to neutral $\mu\text{f/km}$

6. Dielectric Losses

The dielectric losses of an AC cable are proportional to the capacitance, the frequency, the phase voltage and the power factor. The value can be derived from the following equation.

$$W_D = 2 \pi f C U_o^2 \tan \delta 10^{-6} \quad \text{watt/km/phase}$$

Where

W_D : Dielectric losses watt/km/phase
 f : Frequency Hz
 C : Capacitance to neutral $\mu\text{f/km}$
 U_o : Voltage between phase and earth V
 $\tan \delta$: Dielectric power factor

7. Cable Ampacity

Cable ampacity or current carrying capacity is defined as the continuous maximum current the cable can carry at its maximum operating temperature.

In the technical information tables the following installation conditions were assumed during the current calculation:

- Ambient air temperature = 40 °C
- Ground temperature = 35 °C
- Ground thermal resistivity = 120 °C.cm/Watt
- Burial depth = 0.5 mt.

- In case of installation conditions are different from the stated, derating factors tabulated in tables 2 to 10 must be used for calculating the new current carrying capacity.

- All cable ampacities are based on IEC 60287

8. Cable Short Circuit Capacity

Tables 12-16 give the short circuit current for conductor and screen based on the following conditions

- A- Short circuit starts from the maximum operating conductor/screen temperature.
- B- Maximum temperature during short circuit
- C- Maximum short circuit current duration is 5 seconds.

If the short circuit current is required at duration not mentioned in the catalogue, it is obtained by dividing the short circuit current for 1 second by the square root of the required duration as follows:

$$I_{s.c.t} = \frac{I_{s.c.1}}{\sqrt{t}}$$

Where

- $I_{s.c.t}$: Short circuit current for t second kA
- $I_{s.c.1}$: Short circuit current for 1 second kA
- t : Duration Sec.

9. Voltage Drop

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

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

A. Single phase circuit.

$$V_d = 2 I \ell (R \cos \phi + X \sin \phi) \quad V$$

B. Three phase circuit.

$$V_d = \sqrt{3} I \ell (R \cos \phi + X \sin \phi) \quad V$$

Where

- V_d : Voltage drop V
- I : Load current A
- R : AC Resistance Ω /km
- X : Reactance Ω /km
- $\cos \phi$: Power factor
- ℓ : Length km
- $X = \omega L 10^{-3}$ Ω /km
- $\omega = 2 \pi f$
- L = from tables mh/km

Relation between $\cos \phi$ and $\sin \phi$

Cos ϕ	1.0	0.9	0.8	0.71	0.6	0.5
------------	-----	-----	-----	------	-----	-----

Sin ϕ	0.0	0.44	0.6	0.71	0.8	0.87
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* L.V. cable systems should be planned so as not to exceed voltage drop 3-5 % in normal operating conditions.

* Voltage drop data for L.V. Cable (Single & Multi Core) are tabulated in Tables 17 & 18.

Metals Used for Cables

Table 1

Electrical Properties

Metal	Relative Conductivity Copper 100%	Electrical Resistivity at 20 °C ohm. m (10^{-8})	Temperature Coefficient of Resistance per °C
Copper (annealed)	100	1.7241	0.00393
Copper (hard drawn)	97	1.777	0.00393
Tinned copper	95 - 97	1.741 - 1.814	0.00393
Aluminium	61	2.8264	0.00403
Lead	8	21.40	0.00400

Physical Properties

Property	Unit	Copper	Aluminium	Lead
Density at 20 °C	kg / m ³	8890.0	2703.0	11340.00
Coeff. thermal expansion	Per °C x 10^{-6}	17.0	23.0	29.00
Melting point	°C	1083.0	659.0	327.00
Thermal conductivity	W/cm °C	3.8	2.4	0.34
Ultimate tensile strength	Mn/m ²	225.0	70-90	-

Derating Factors

Table 2

Ground Temperature Derating Factor

Ground Temperature °C	15	20	25	30	35	40	45	50	55
PVC cables rated 70 °C	1.25	1.19	1.13	1.07	1.00	0.93	0.85	0.76	0.65
XLPE cables rated 90 °C	1.16	1.13	1.09	1.04	1.00	0.95	0.90	0.85	0.80

Table 3

Air Temperature Derating Factor

Air temperature °C	20	25	30	35	40	45	50	55
PVC cables rated 70 °C	1.29	1.22	1.15	1.08	1.00	0.95	0.82	0.71
XLPE cables rated 90 °C	1.18	1.14	1.10	1.05	1.00	0.90	0.89	0.84

Table 4

Burial Depth Derating Factor

Depth of Laying mt.	Cables Cross Section		
	Up to 70 mm ²	95 up to 240 mm ²	300 mm ² & above
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

Table 5

Soil Thermal Resistivity Derating Factor

Soil Thermal Resistivity in °C. cm/Watt	80	90	100	120	150	200	250	300
Rating factor	1.17	1.12	1.07	1.0	0.91	0.80	0.73	0.67

Table 6

PVC Rated Temperature Derating Factor

Type of PVC Rated Temperature °C	70	85
Rating factor	1.000	1.195

Table 7

Trefoil or Flat Formation Derating Factors for Three Single Core Cables Laid Direct in Ground

Number of Circuits	Trefoil formation			Flat formation		
	Touching		Spacing = 0.15 M		Spacing = 0.30 M	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
nr						
2	0.77	0.80	0.82	0.85	0.88	0.91
3	0.66	0.69	0.73	0.76	0.80	0.83
4	0.60	0.63	0.68	0.71	0.74	0.77
5	0.56	0.59	0.64	0.67	0.72	0.75
6	0.53	0.57	0.61	0.64	0.70	0.73

* L = Spacing

Table 8

Trefoil Formation Derating Factors for Multi-core Core Cables Laid Direct in Ground

Number of Circuits	Trefoil Formation		Flat Formation			
	Touching		Spacing = 0.15 M		Spacing = 0.30 M	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
nr						
2	0.81	0.81	0.87	0.87	0.91	0.91
3	0.69	0.70	0.76	0.78	0.82	0.84
4	0.62	0.63	0.72	0.74	0.77	0.81
5	0.58	0.60	0.66	0.70	0.73	0.78
6	0.54	0.56	0.63	0.67	0.70	0.76

* L = Spacing

Table 9

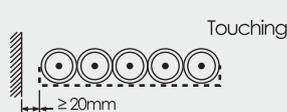
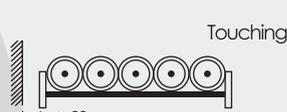
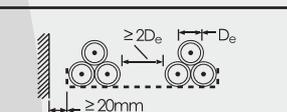
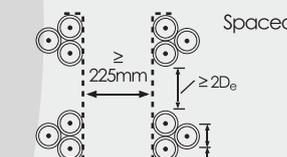
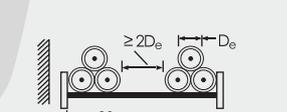
Reduction factors for groups of more than one multi-core cable in air To be applied to the current-carrying capacity for one multi-core cable in free air

Number of Trays	Number of Cables						Method of installation
	1	2	3	4	6	9	
1	1.00	0.88	0.82	0.79	0.76	0.73	
2	1.00	0.87	0.80	0.77	0.73	0.68	
3	1.00	0.86	0.79	0.76	0.71	0.66	
1	1.00	1.00	0.98	0.95	0.91	-	
2	1.00	0.99	0.96	0.92	0.87	-	
3	1.00	0.98	0.95	0.91	0.85	-	
1	1.00	0.88	0.82	0.78	0.73	0.72	
2	1.00	0.88	0.81	0.76	0.71	0.70	
1	1.00	0.91	0.89	0.88	0.87	-	
2	1.00	0.91	0.88	0.87	0.85	-	
1	1.00	0.87	0.82	0.80	0.79	0.78	
2	1.00	0.86	0.80	0.78	0.76	0.73	
3	1.00	0.85	0.79	0.76	0.73	0.70	
1	1.00	1.00	1.00	1.00	1.00	-	
2	1.00	0.99	0.98	0.97	0.96	-	
3	1.00	0.98	0.97	0.96	0.93	-	

- NOTE 1 Values given are averages for the cable types and range of conductor sizes considered. The spread of values is generally less than 5%
- NOTE 2 Factors apply to single layer groups of cables as shown above and do not apply when cables are installed in more than one layer touching each other. Values for such installations may be significantly lower and must be determined by an appropriate method.
- NOTE 3 Values are given for vertical spacing between trays of 300 mm and at least 20 mm between trays and wall. For closer spacing, the factors should be reduced.
- NOTE 4 Values are given for horizontal spacing between trays of 225 mm with trays mounted back to back. For closer spacing the factors should be reduced.

Table 10

Reduction factors for groups of more than one circuit of single-core cables (Note 2)
To be applied to the current-carrying capacity for one circuit of single-core cables in free air

Number of Trays	Number of Cables			Use as a multiplier to rating for	Method of installation
	1	2	3		
1	0.98	0.91	0.87	Three cables in horizontal formation	Perforated trays (Note 3) 
2	0.96	0.87	0.81		
3	0.95	0.85	0.78		
1	1.00	0.97	0.96	Three cables in horizontal formation	Ladder supports, cleats, etc. (Note 3) 
2	0.98	0.93	0.89		
3	0.97	0.90	0.86		
1	1.00	0.98	0.96	Three cables in trefoil formation	Perforated trays (Note 3) 
2	0.97	0.93	0.89		
3	0.96	0.92	0.86		
1	1.00	0.91	0.89		Vertical perforated trays (Note 4) 
2	1.00	0.90	0.86		
3	1.00	0.90	0.86		
1	1.00	1.00	1.00		Ladder supports, cleats, etc. (Note 3) 
2	0.97	0.95	0.93		
3	0.96	0.94	0.90		

NOTE 1 Values given are averages for the cable types and range of conductor sizes considered. The spread of values is generally less than 5%

NOTE 2 Factors are given for single layers of cables (or trefoil groups) as shown in the table and do not apply when cables are installed in more than one layer touching each other. Values for such installations may be significantly lower and should be determined by an appropriate method.

NOTE 3 Values are given for vertical spacings between trays of 300 mm. For closer spacing, the factors should be reduced.

NOTE 4 Values are given for horizontal spacing between trays of 225 mm with trays mounted back to back. For closer spacing, the factors should be reduced.

NOTE 5 For circuits having more than one cable in parallel per phase, each three phase set of conductors should be considered as a circuit for the purpose of this table.

Short Circuit Current

Table 11

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
Jacket	PVC sheathing	200
	LLDPE sheathing	150
	HDPE sheathing	180
Metal	Lead sheath	170
	Lead sheath - alloy	200*
	Copper	250
	Aluminum	250

* Temp. = 210 °C for cables with rated voltages above 30kV ($U_m=36$ kV),

Table 12

kA Short Circuit Current - Copper Conductor - PVC Insulated

C.S.A. mm ²	Duration sec.									
	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
16	5.8	4.1	3.4	2.9	2.6	1.8	1.3	1.1	0.9	0.8
25	9.1	6.4	5.2	4.5	4.1	2.9	2.0	1.7	1.4	1.3
35	12.7	9.0	7.3	6.4	5.7	4.0	2.8	2.3	2.0	1.8
50	18.2	12.9	10.5	9.1	8.1	5.8	4.1	3.3	2.9	2.6
70	25.5	18.0	14.7	12.7	11.4	8.1	5.7	4.6	4.0	3.6
95	34.5	24.4	19.9	17.3	15.5	10.9	7.7	6.3	5.5	4.9
120	43.6	30.9	25.2	21.8	19.5	13.8	9.8	8.0	6.9	6.2
150	54.5	38.6	31.5	27.3	24.4	17.3	12.2	10.0	8.6	7.7
185	67.3	47.6	38.8	33.6	30.1	21.3	15.0	12.3	10.6	9.5
240	87.3	61.7	50.4	43.6	39.0	27.6	19.5	15.9	13.8	12.3
300	109.1	77.1	63.0	54.5	48.8	34.5	24.4	19.9	17.3	15.4
400	130.0	91.9	75.1	65.0	58.2	41.1	29.1	23.7	20.6	18.4
500	162.5	114.9	93.8	81.3	72.7	51.4	36.3	29.7	25.7	23.0
630	204.8	144.8	118.2	102.4	91.6	64.8	45.8	37.4	32.4	29.0

Short Circuit Current

Table 13

kA Short Circuit Current - Aluminium Conductor - PVC Insulated

C.S.A. mm ²	Duration sec.									
	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
16	3.8	2.7	2.2	1.9	1.7	1.2	0.9	0.7	0.6	0.5
25	6.0	4.2	3.5	3.0	2.7	1.9	1.3	1.1	1.0	0.8
35	8.4	5.9	4.9	4.2	3.8	2.7	1.9	1.5	1.3	1.2
50	12.0	8.5	6.9	6.0	5.4	3.8	2.7	2.2	1.9	1.7
70	16.8	11.9	9.7	8.4	7.5	5.3	3.8	3.1	2.7	2.4
95	22.8	16.1	13.2	11.4	10.2	7.2	5.1	4.2	3.6	3.2
120	28.8	20.4	16.7	14.4	12.9	9.1	6.4	5.3	4.6	4.1
150	36.0	25.5	20.8	18.0	16.1	11.4	8.1	6.6	5.7	5.1
185	44.5	31.4	25.7	22.2	19.9	14.1	9.9	8.1	7.0	6.3
240	57.7	40.8	33.3	28.8	25.8	18.2	12.9	10.5	9.1	8.2
300	72.1	51.0	41.6	36.0	32.2	22.8	16.1	13.2	11.4	10.2
400	86.0	60.8	49.7	43.0	38.5	27.2	19.2	15.7	13.6	12.2
500	107.5	76.0	62.1	53.8	48.1	34.0	24.0	19.6	17.0	15.2
630	135.5	95.8	78.2	67.7	60.6	42.8	30.3	24.7	21.4	19.2

Table 14

kA Short Circuit Current - Copper Conductor - XLPE Insulated

C.S.A. mm ²	Duration sec.									
	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
16	7.2	5.1	4.2	3.6	3.2	2.3	1.6	1.3	1.1	1.02
25	11.3	8.0	6.5	5.7	5.1	3.6	2.5	2.1	1.8	1.60
35	15.8	11.2	9.1	7.9	7.1	5.0	3.5	2.9	2.5	2.24
50	22.6	16.0	13.1	11.3	10.1	7.2	5.1	4.1	3.6	3.20
70	31.7	22.4	18.3	15.8	14.2	10.0	7.1	5.8	5.0	4.5
95	43.0	30.4	24.8	21.5	19.2	13.6	9.6	7.8	6.8	6.1
120	54.3	38.4	31.3	27.1	24.3	17.2	12.1	9.9	8.6	7.7
150	67.8	48.0	39.2	33.9	30.3	21.5	15.2	12.4	10.7	9.6
185	83.7	59.2	48.3	41.8	37.4	26.5	18.7	15.3	13.2	11.8
240	108.5	76.7	62.7	54.3	48.5	34.3	24.3	19.8	17.2	15.3
300	135.7	95.9	78.3	67.8	60.7	42.9	30.3	24.8	21.5	19.2
400	180.9	127.9	104.4	90.4	80.9	57.2	40.4	33.0	28.6	25.6
500	226.1	159.9	130.5	113.1	101.1	71.5	50.6	41.3	35.8	32.0
630	284.9	201.4	164.5	142.4	127.4	90.1	63.7	52.0	45.0	40.3
800	361.8	255.8	208.9	180.9	161.8	114.4	80.9	66.0	57.2	51.2
1000	452.2	319.8	261.1	226.1	202.2	143.0	101.1	82.6	71.5	64.0
1200	542.6	383.7	313.3	271.3	242.7	171.6	121.3	99.1	85.8	76.7
1600	723.5	511.6	417.7	361.8	323.6	228.8	161.8	132.1	114.4	102.3
2000	904.4	639.5	522.2	452.2	404.5	286	202.2	165.1	143	127.9
2500	1130.5	799.4	652.7	565.3	505.6	357.5	252.8	206.4	178.8	159.9

Short Circuit Current

Table 15

kA Short Circuit Current - Aluminium Conductor - XLPE Insulated

C.S.A. mm ²	Duration Sec.									
	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
16	4.7	3.4	2.7	2.4	2.1	1.5	1.1	0.9	0.75	0.67
25	7.4	5.2	4.3	3.7	3.3	2.3	1.7	1.4	1.2	1.0
35	10.4	7.3	6.0	5.2	4.6	3.3	2.3	1.9	1.6	1.5
50	14.8	10.5	8.6	7.4	6.6	4.7	3.3	2.7	2.3	2.1
70	20.7	14.7	12.0	10.4	9.3	6.6	4.6	3.8	3.3	2.9
95	28.1	19.9	16.3	14.1	12.6	8.9	6.3	5.1	4.5	4.0
120	35.6	25.1	20.5	17.8	15.9	11.2	8.0	6.5	5.6	5.0
150	44.4	31.4	25.7	22.2	19.9	14.1	9.9	8.1	7.0	6.3
185	54.8	38.8	31.6	27.4	24.5	17.3	12.3	10.0	8.7	7.8
240	71.1	50.3	41.1	35.6	31.8	22.5	15.9	13.0	11.2	10.1
300	88.9	62.9	51.3	44.4	39.8	28.1	19.9	16.2	14.1	12.6
400	118.5	83.8	68.4	59.3	53.0	37.5	26.5	21.6	18.7	16.8
500	148.2	104.8	85.5	74.1	66.3	46.9	33.1	27.0	23.4	21.0
630	186.7	132.0	107.8	93.3	83.5	59.0	41.7	34.1	29.5	26.4
800	237.0	167.6	136.9	118.5	106.0	75.0	53.0	43.3	37.5	33.5
1000	296.3	209.5	171.1	148.2	132.5	93.7	66.3	54.1	46.9	41.9
1200	355.6	251.4	205.3	177.8	159.0	112.4	79.5	64.9	56.2	50.3
1600	474.1	335.2	273.7	237	212	149.9	106	86.6	75	67
2000	592.6	419	342.1	296.3	265	187.4	132.5	108.2	93.7	83.8
2500	741.2	524.1	427.9	370.6	331.5	234.4	165.7	135.3	117.2	104.8

Table 16

kA Short Circuit Current - Copper Screen

C.S.A. mm ²	Duration Sec.									
	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
16	7.5	5.3	4.3	3.7	3.3	2.4	1.7	1.4	1.2	1.1
25	11.7	8.3	6.8	5.9	5.2	3.7	2.6	2.1	1.9	1.7
35	16.4	11.6	9.5	8.3	7.3	5.2	3.7	3.0	2.6	2.3

Conductor temperature before short circuit = 90 °C
 Maximum conductor temperature during short circuit = 250 °C
 Maximum screen temperature before short circuit = 80 °C

Voltage Drop

Table 17

Voltage Drop for Single Core L.V Cables

C.S.A mm ²	Copper Conductor Voltage Drop (mv / AMP / Meter)			
	PVC Insulation & PVC Sheathed		XLPE Insulation & PVC Sheathed	
	Flat ○○○	Trefoil ⊙	Flat ○○○	Trefoil ⊙
4	7.830	7.770	8.337	8.277
6	5.287	5.226	5.628	5.568
10	3.184	3.124	3.401	3.341
16	2.068	2.008	2.203	2.142
25	1.357	1.297	1.440	1.380
35	1.034	0.971	1.085	1.024
50	0.793	0.732	0.836	0.776
70	0.595	0.534	0.624	0.564
95	0.469	0.408	0.490	0.430
120	0.410	0.349	0.417	0.357
150	0.354	0.294	0.366	0.305
185	0.312	0.252	0.322	0.262
240	0.272	0.211	0.278	0.218
300	0.247	0.187	0.253	0.192
400	0.224	0.164	0.220	0.159
500	0.208	0.148	0.211	0.150
630	0.194	0.134	0.191	0.131

C.S.A mm ²	Aluminium Conductor Voltage Drop (mv / AMP / Meter)			
	PVC Insulation & PVC Sheathed		XLPE Insulation & PVC Sheathed	
	Flat ○○○	Trefoil ⊙	Flat ○○○	Trefoil ⊙
16	3.343	3.283	3.561	3.500
25	2.161	2.100	2.296	2.235
35	1.602	1.542	1.700	1.640
50	1.222	1.162	1.291	1.230
70	0.890	0.830	0.937	0.877
95	0.686	0.623	0.719	0.655
120	0.569	0.509	0.594	0.534
150	0.490	0.430	0.511	0.451
185	0.420	0.360	0.437	0.377
240	0.353	0.293	0.367	0.307
300	0.312	0.252	0.322	0.262
400	0.274	0.214	0.278	0.218
500	0.245	0.185	0.260	0.199
630	0.222	0.162	0.223	0.163

The above data are based on:
 - Max. operating temp: 90 °C for XLPE & 70 °C for PVC
 - Power factor: 0.8 Rated frequency: 50 HZ
 - Cables are touched in flat formation

Voltage Drop

Table 18
Voltage Drop for Multi core L.V Cables

C.S.A mm ²	Copper Conductor Voltage Drop (mv / AMP / Meter)	
	PVC Insulation & PVC Sheathed	XLPE Insulation & PVC Sheathed
	1.5	20.345
2.5	12.397	13.197
4	7.741	7.731
6	5.199	5.191
10	3.101	3.094
16	1.988	1.982
25	1.280	1.276
35	0.959	0.955
50	0.720	0.715
70	0.524	0.520
95	0.398	0.394
120	0.341	0.337
150	0.285	0.282
185	0.244	0.241
240	0.204	0.201
300	0.180	0.177
400	0.157	0.155

C.S.A mm ²	Aluminium Conductor Voltage Drop (mv / AMP / Meter)	
	PVC Insulation & PVC Sheathed	XLPE Insulation & PVC Sheathed
	16	3.263
25	2.084	2.218
35	1.527	1.624
50	1.150	1.217
70	0.819	0.865
95	0.613	0.645
120	0.500	0.524
150	0.421	0.442
185	0.352	0.369
240	0.286	0.299
300	0.245	0.255
400	0.208	0.211

The above data are based on:
 Max operating temp: 90 °C for XLPE & 70 °C for PVC
 Power factor : 0.8 Rated frequency: 50 HZ
 Cables are touched in flat formation.

Conversion Table

Multiply	By	To obtain
Weight-Imperial		
Ounces	28.3495	grams
Pounds (Av)	453.59	grams
Pounds (Av)	0.45359	Kilograms
Tons (short)	907.19	Kilograms
Tons (long)	1016.05	Kilograms
Weight-Metric		
Grams	0.03527	Ounces
Grams	0.002205	Pounds
Kilograms	35.274	Ounces
Kilograms	2.2046	Pounds
Kilograms	0.001102	tons (short)
Kilograms	0.0009842	tons (long)
Miscellaneous-Imperial		
Pounds per 1000 feet	1.48816	Kg/Km
Pounds per mile	0.28185	Kg/Km
Pounds per square inch	0.0007031	Kg. per square mm.
Pounds per square inch	0.07031	Kg. per square cm.
Pounds per cubic	27.68	grams per cubic cm.
Feet per second	18.288	meters per minute.
Feet per second	1.09728	Kilometers per hour.
Miles per hour	1.60935	Kilometers per hour.
Ohms per 1000 feet	3.28083	ohms per Kilometer.
Ohms per mile	0.62137	ohms per Kilometer.
Decibels per 1000 feet	3.28083	decibels per Kilometer.
Decibels per mile	0.62137	decibels per Kilometer.
Decibels	0.1153	neper.
Miscellaneous-Metric		
Kg/Km	0.67197	pounds per 1000 feet.
Kg/Km	3.54795	pounds per mile.
Kg. per square mm	1422.34	pounds per square inch.
Kg. per square cm	14.2234	pounds per square inch.
Grams per cubic cm	0.03613	pounds per cubic inch.
Meters per minute	0.05468	feet per second.
Kilometers per hour	0.91134	feet per second.
Kilometer per hour	0.62137	miles per hour.
Ohms per Kilometer	0.3048	ohms per 1000 feet.
Ohms per Kilometer	1.6093	ohms per mile.
Decibels per kilometer	0.3048	decibels per 1000 feet.
Decibels per kilometer	1.6093	decibels per mile.
Temperature		
° Fahrenheit	5/9(°F)-32	°Celsius
° Celsius	9/5(°C)+32	°Fahrenheit
Length-Imperial		
Mils	0.001	inches.
Mils	0.0254	mm.
Inches	1000	mils.

Multiply	By	To obtain
Inches	25.40	mm.
Inches	2.54	cm.
Feet	30.48	cm.
Feet	0.3048	meters.
Feet (thousands of)	0.3048	kilometers.
Yards	0.9144	meters.
Miles	1.6093	kilometers
Length-Metric		
Millimeters	39.37	mils.
Millimeters	0.03937	inches.
Centimeters	0.3937	inches.
Centimeters	0.032808	feet.
Meters	39.37	inches.
Meters	3.2808	feet.
Meters	1.0936	yards.
Kilometers	3280.83	feet.
Kilometers	0.62137	miles.
Area-Imperial		
Square miles	1.2732	circular mils
Square miles	0.000001	square inches
Circular mils	0.7854	square mils
Circular mils	0.000007854	square inches
Square mils	0.0005067	square mm.
Square inches	1000000	square mils
Square inches	1273240	circulr mils
Square inches	645.16	square mm.
Square inches	6.4516	square cm.
Square feet	0.09290	square meters
Square yards	0.8361	square meters
Area-Metric		
Square millimeters	1973.52	circular mils
Square millimeters	0.00155	square inches
Square centimeters	0.155	square inches
Square meters	10.7638	square feet
Square meters	1.19599	square yards
Volume-Imperial		
Cubic inches	16.38716	cubic cm.
Cubic feet	0.028317	cubic meters
Volume-U.S.		
Quarts (liquid)	0.9463	liters
Gallons	3.7854	liters.
Volume-Metric		
Cubic cm	0.06102	cubic inches.
Cubic meters	35.3145	cubic feet.
Liters	1.05668	quarts (liquid U.S)
Liters	0.26417	gallons (U.S.)



Product Types

- 1- Bare hard drawn Copper
- 2- All Aluminium conductor (A.A.C)
- 3- All Aluminium alloy conductor (A.A.A.C.)
- 4- Aluminium conductor steel reinforced (A.C.S.R)
- 5- Service drop cables.

Cable Construction

1. Conductor

Copper, Aluminium or Aluminium alloy conductors consist of wires concentrically applied in successive layers in opposite direction. In case of A.C.S.R conductor a core of solid or stranded galvanized steel is applied first.

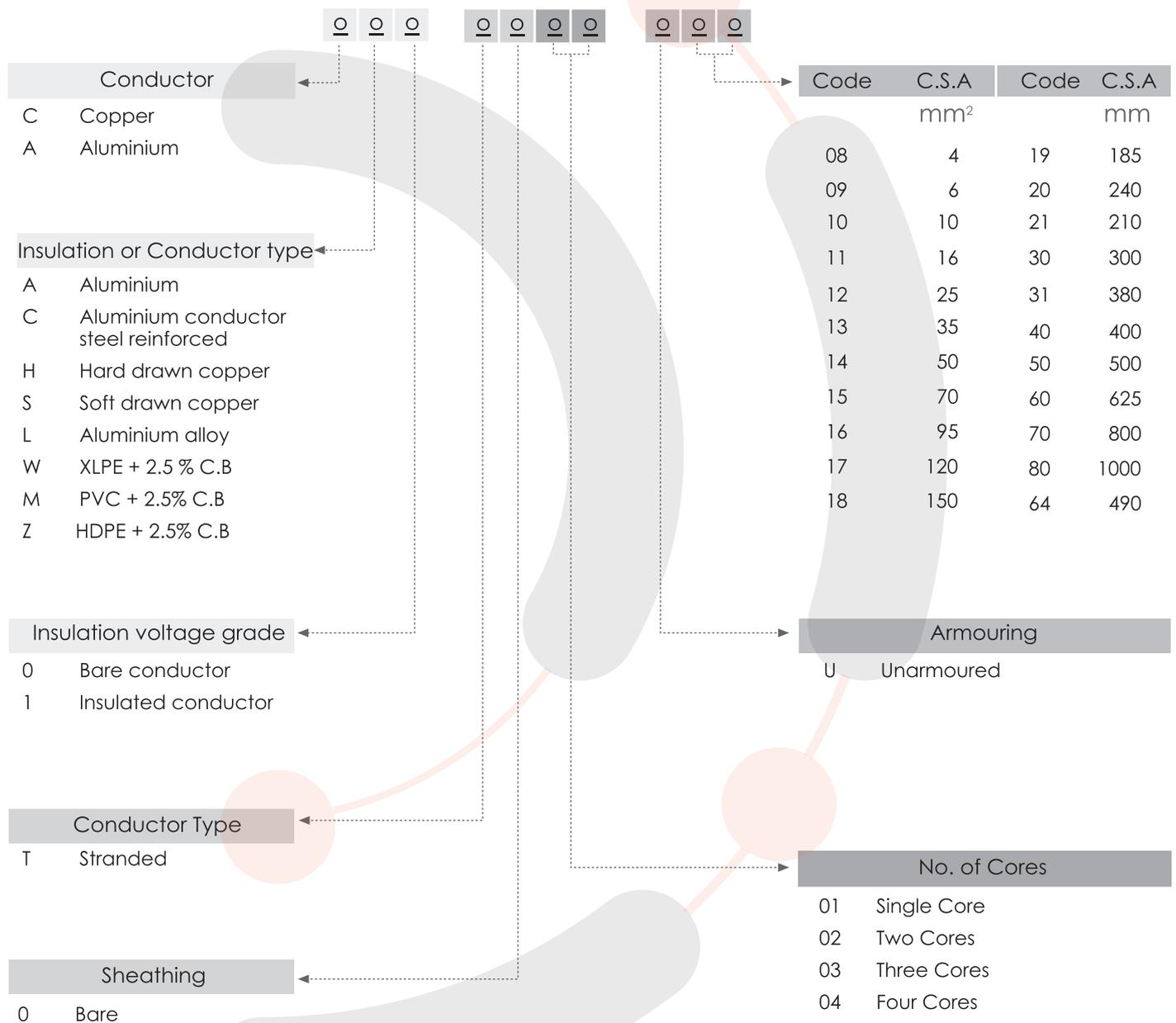
2. Insulation

In case of service drop cables, an extruded layer of PVC or XLPE or HDPE with 2.5% of Carbon black as UV protector is applied upon the conductor.

System Designation for Overhead Conductors

You can order our product by giving the following information:

1. Cable code as per the catalogue.
2. If your required cable/conductor is out of our catalogue range, you can use the following codes to determine your cable.



Copper Conductors



Description

- Plain bare soft drawn Copper conductors as per IEC 60228 class 2.
- Plain bare hard drawn Copper conductors as per DIN 48201.

Application

- Soft drawn Copper conductors are used for grounding electrical systems, where high conductivity and flexibility are required.
- Hard drawn Copper conductors are used in overhead electrical distribution networks.

Product - Code	Nominal Cross Sectional Area	Number and Nominal Diameter of Wires	Max. DC. resistance at 20 °C	Approx. Overall Diameter	Approx. Weight
	mm ²	No x ø (mm)	Ω/km	mm	kg/km
a - Bare soft drawn					
CS0-T001-U10	10	7 x 1.43	1.8300	3.7	86.5
CS0-T001-U11	16	7 x 1.75	1.1500	4.7	137
CS0-T001-U12	25	7 x 2.18	0.7270	5.8	217
CS0-T001-U13	35	7 x 2.65	0.5240	6.9	298
CS0-T001-U14	50	19 x 1.86	0.3870	8.2	410
CS0-T001-U15	70	19 x 2.16	0.2680	10.1	595
CS0-T001-U16	95	19 x 2.65	0.1930	11.3	820
CS0-T001-U17	120	19 x 3.05	0.1530	12.7	1040
CS0-T001-U18	150	19 x 3.38	0.1240	14.1	1277
CS0-T001-U19	185	37 x 2.63	0.0991	15.8	1610
CS0-T001-U20	240	34 x 3.23	0.0754	18.2	2120
CS0-T001-U30	300	61 x 2.64	0.0601	20.6	2630
CS0-T001-U40	400	61 x 2.98	0.0470	23.2	3390
CS0-T001-U50	500	61 x 3.33	0.0366	26.6	4420
b - Bare hard drawn					
CH0-T001-U10	10	7 x 1.35	1.8290	4.1	90
CH0-T001-U11	16	7 x 1.70	1.1540	5.1	143
CH0-T001-U12	25	7 x 2.10	0.7563	6.3	218
CH0-T001-U13	35	7 x 2.50	0.5337	7.5	310
CH0-T001-U14	50	7 x 3.00	0.3706	9.0	446
CH0-T001-U14	50	19 x 1.80	0.3819	9.0	437
CH0-T001-U15	70	19 x 2.10	0.2806	10.5	596
CH0-T001-U16	95	19 x 2.50	0.1980	12.5	845
CH0-T001-U17	120	19 x 2.80	0.1578	14.0	1060
CH0-T001-U18	150	37 x 2.25	0.1264	15.8	1337
CH0-T001-U19	185	37 x 2.50	0.1024	17.5	1649
CH0-T001-U20	240	61 x 2.25	0.07528	20.3	2209
CH0-T001-U30	300	61 x 2.50	0.06097	22.5	2725
CH0-T001-U40	400	61 x 2.89	0.0456	26.0	3640
CH0-T001-U50	500	61 x 3.23	0.0365	29.1	4545

The above data is approximate and subjected to manufacturing tolerance.

All Aluminium Conductors (A.A.C.)



Description

- Hard drawn Aluminium wires, stranded in successive layers, in opposite direction to form the Aluminium stranded A.A.C. conductor. As per BS EN 50182 or IEC 61089.

Application

- All Aluminium bare conductors are used for aerial distribution lines having relatively short spans, aerial feeders and bus bars of substations.

Product - Code	Nominal Cross Sectional Area	Number and Nominal Diameters of Wires	Max. DC. Resistance at 20 °C	Rated Strength	Approx. Overall Diameter	Approx. Weight
	mm ²	No x ø (mm)	Ω/km	kN	mm	kg/km
a - According to BS EN 50182 - Germany						
AA0-T001-U11	16	7 x 1.70	1.7986	3.02	5.10	43.4
AA0-T001-U12	25	7 x 2.10	1.1787	4.36	6.30	66.3
AA0-T001-U13	35	7 x 2.50	0.8317	6.01	7.50	93.9
AA0-T001-U14	50	7 x 3.00	0.5776	8.41	9.00	135.2
		19 x 1.80	0.5944	8.94	9.00	132.9
AA0-T001-U15	70	19 x 2.10	0.4367	11.85	10.5	180.9
AA0-T001-U16	95	19 x 2.50	0.3081	16.32	12.5	256.3
AA0-T001-U17	120	19 x 2.80	0.2456	19.89	14.0	321.5
AA0-T001-U18	150	37 x 2.25	0.1960	26.48	15.8	405.7
AA0-T001-U19	185	37 x 2.50	0.1588	31.78	17.5	500.9
AA0-T001-U20	240	61 x 2.25	0.1193	43.66	20.3	671.1
AA0-T001-U30	300	61 x 2.50	0.0966	52.40	22.5	828.5
AA0-T001-U40	400	61 x 2.89	0.0723	68.02	26.0	1107.1
AA0-T001-U50	500	61 x 3.23	0.0579	82.47	29.1	1382.9
AA0-T001-U60	625	91 x 2.96	0.0464	106.45	32.6	1739.7
AA0-T001-U70	800	91 x 3.35	0.0362	132.34	36.9	2228.3
AA0-T001-U80	1000	91 x 3.74	0.0291	159.95	41.1	2777.3

The above data is approximate and subjected to manufacturing tolerance.

▶ cont'd

All Aluminium Conductors (A.A.C.)



Name	Nominal Cross Sectional Area	Number and Nominal Diameters of Wires	Max. DC. Resistance at 20 °C	Rated Strength	Approx. Overall Diameter	Approx. Weight
	mm ²	No x ø (mm)	Ω/km	kN	mm	kg/km
b - According to BS EN 50182 - United Kingdom						
MIDGE	23.3	7 x 2.06	1.2249	4.20	6.18	63.8
GNAT	26.9	7 x 2.21	1.0643	4.83	6.63	73.4
MOSQUITO	36.9	7 x 2.59	0.7749	6.27	7.77	100.8
LADYBIRD	42.8	7 x 2.79	0.6678	7.28	8.37	117.0
ANT	52.8	7 x 3.10	0.5409	8.72	9.30	144.4
FLY	63.6	7 x 3.40	0.4497	10.49	10.2	173.7
BLUEBOTTLE	73.6	7 x 3.66	0.3880	11.78	11.0	201.3
EARWIG	78.6	7 x 3.78	0.3638	12.57	11.3	214.7
GRASSHOPPER	84.1	7 x 3.91	0.3400	13.45	11.7	229.7
CLEGG	95.6	7 x 4.17	0.2989	15.30	12.5	261.3
WASP	106.0	7 x 4.39	0.2697	16.95	13.2	289.6
BEE	106.4	19 x 2.67	0.2701	18.08	13.4	292.4
BEE	132.0	7 x 4.90	0.2165	21.12	14.7	360.8
HORNET	157.6	19 x 3.25	0.1823	26.01	16.3	433.2
CATERPILLAR	185.9	19 x 3.53	0.1546	29.75	17.7	511.1
CHAFER	213.2	19 x 3.78	0.1348	34.12	18.9	586.0
SPIDER	237.6	19 x 3.99	0.1210	38.01	20.0	652.9
COCKROACH	265.7	19 x 4.22	0.1081	42.52	21.1	730.4
BUTTERFLY	322.7	19 x 4.65	0.0891	51.63	23.3	886.8
MOTH	373.1	19 x 5.00	0.0770	59.69	25.0	1025.3
DRONE	372.4	37 x 3.58	0.0774	59.59	25.1	1027.1
CENTIPEDE	415.2	37 x 3.78	0.0695	66.43	26.5	1145.1
MAYBUG	486.1	37 x 4.09	0.0593	77.78	28.6	1340.6
SCORPION	529.8	37 x 4.27	0.0544	84.77	29.9	1461.2
CICADA	628.3	37 x 4.65	0.0459	100.54	32.6	1732.9

The above data is approximate and subjected to manufacturing tolerance.

All Aluminium Alloy Conductors (A.A.A.C.)



Description

- All Aluminium alloy (ALMELEC) conductors, stranded in successive layers to form the stranded A.A.A.C. conductor. As per IEC 61089 or BS EN 50182 or ASTM B 399.

Application

- A.A.A.C. are mainly used for overhead lines, in transmission and distribution electrical networks, having relatively long spans. They are also used a messenger to support overhead electrical cables.

Product - Code	Nominal Cross Sectional Area	Number and Nominal Diameters of Wires	Max. DC. Resistance at 20 °C	Rated Strength	Approx. Overall Diameter	Approx. Weight
	mm ²	No x ø (mm)	Ω/km	kN	mm	kg/km
α - According to BS EN 50182 - Germany						
ALO-T001-U11	16	7 x 1.70	2.0701	4.69	5.10	43.4
ALO-T001-U12	25	7 x 2.10	1.3566	7.15	6.30	66.2
ALO-T001-U13	35	7 x 2.50	0.9572	10.14	7.50	93.8
ALO-T001-U14	50	7 x 3.00	0.6647	14.60	9.00	135.1
	50	19 x 1.80	0.6841	14.26	9.00	132.7
ALO-T001-U15	70	19 x 2.10	0.5026	19.41	10.50	180.7
ALO-T001-U16	95	19 x 2.50	0.3546	27.51	12.50	256.0
ALO-T001-U17	120	19 x 2.80	0.2827	34.51	14.00	321.2
ALO-T001-U18	150	37 x 2.25	0.2256	43.40	15.80	405.3
ALO-T001-U19	185	37 x 2.50	0.1827	53.58	17.50	500.3
ALO-T001-U20	240	61 x 2.25	0.1373	71.55	20.30	670.3
ALO-T001-U30	300	61 x 2.50	0.1112	88.33	22.50	827.5
ALO-T001-U40	400	61 x 2.89	0.0832	118.04	26.00	1105.9
ALO-T001-U50	500	61 x 3.23	0.0666	147.45	29.10	1381.4
ALO-T001-U60	625	91 x 2.96	0.0534	184.73	32.60	1737.7
ALO-T001-U70	800	91 x 3.35	0.0417	236.62	36.90	2225.8
ALO-T001-U80	1000	91 x 3.74	0.0334	294.91	41.10	2774.3

The above data is approximate and subjected to manufacturing tolerance.

All Aluminium Alloy Conductors (A.A.A.C.)



Name	Nominal Cross Sectional Area	Number and Nominal Diameters of Wires	Max. DC. Resistance at 20 °C	Rated Strength	Approx. Overall Diameter	Approx. Weight
	mm ²	No x ø (mm)	Ω/km	kN	mm	kg/km
b - According to BS EN 50182 - United Kingdom						
BOX	18.8	7 x 1.85	1.7480	5.55	5.55	51.4
ACACIA	23.8	7 x 2.08	1.3828	7.02	6.24	64.9
ALMOND	30.1	7 x 2.34	1.0926	8.88	7.02	82.2
CEDAR	35.5	7 x 2.54	0.9273	10.46	7.62	96.8
DEODAR	42.2	7 x 2.77	0.7797	12.44	8.31	115.2
FIR	47.8	7 x 2.95	0.6875	14.11	8.85	130.6
HAZEL	59.9	7 x 3.30	0.5494	17.66	9.90	163.4
PINE	71.6	7 x 3.61	0.4591	21.14	10.8	195.6
HOLLY	84.1	7 x 3.91	0.3913	24.79	11.7	229.5
WILLOW	89.7	7 x 4.04	0.3665	26.47	12.1	245.0
OAK	118.9	7 x 4.65	0.2767	35.07	14.0	324.5
MULBERRY	150.9	19 x 3.18	0.2192	44.52	15.9	414.3
ASH	180.7	19 x 3.48	0.1830	53.31	17.4	496.1
ELM	211.0	19 x 3.76	0.1568	62.24	18.8	579.2
POPLAR	239.4	37 x 2.87	0.1387	70.61	20.1	659.4
SYCAMORE	303.2	37 x 3.23	0.1095	89.40	22.6	835.2
UPAS	362.1	37 x 3.53	0.0917	106.82	24.7	997.5
YEW	479.0	37 x 4.06	0.0693	141.31	28.4	1319.6
TOTARA	498.1	37 x 4.14	0.0666	146.93	29.0	1372.1
RUBUS	586.9	61 x 3.50	0.0567	173.13	31.5	1622.0
SORBUS	659.4	61 x 3.71	0.0505	194.53	33.4	1822.5
ARAUCARIA	821.1	61 x 4.14	0.0406	242.24	37.3	2269.4
REDWOOD	996.2	61 x 4.56	0.0334	293.88	41.0	2753.2

The above data is approximate and subjected to manufacturing tolerance.

Aluminium Conductor Steel Reinforced (A.C.S.R.)



Description

- An outer layer of Aluminium conductor concentrically stranded over the central core of galvanized solid or stranded steel wires to form Aluminium steel reinforced conductor. As per BS EN 50182 or ASTM B 232 or IEC 61089.

Application

- A.C.S.R. conductors are widely used for electrical power transmission over long distances, since they are ideal for long overhead lines spans. They are also used as a messenger for supporting overhead electrical cables.

Product - Code	Nominal Cross	Number and Nominal Diameters of Wires		Max. DC. Resistance at 20 °C	Rated Strength	Approx. Overall Diameter	Approx. Weight
	Sectional Area	Aluminium	Steel				
	mm ²	No x ø (mm)	No x ø (mm)				
a - According to BS EN 50182 - Germany							
AC0-T001-U11	16/2.5	6 x 1.80	1 x 1.80	1.8769	5.80	5.4	61.6
AC0-T001-U12	25/4	6 x 2.25	1 x 2.25	1.2012	8.95	6.75	96.3
AC0-T001-U13	35/6	6 x 2.70	1 x 2.70	0.8342	12.37	8.1	138.7
AC0-T001-U14	50/8	6 x 3.20	1 x 3.20	0.5939	16.81	9.6	194.8
AC0-T001-U15	70/12	26 x 1.85	7 x 1.44	0.4132	26.27	11.7	282.2
AC0-T001-U16	95/15	26 x 2.15	7 x 1.67	0.3060	34.93	13.6	380.6
AC0-T001-U17	120/20	26 x 2.44	7 x 1.90	0.2376	44.50	15.5	491.0
AC0-T001-U18	150/25	26 x 2.70	7 x 2.10	0.1940	53.67	17.1	600.8
AC0-T001-U19	185/30	26 x 3.00	7 x 2.33	0.1571	65.27	19.0	741.0
AC0-T001-U21	210/35	26 x 3.20	7 x 2.49	0.1381	73.36	20.3	844.1
AC0-T001-U20	240/40	26 x 3.45	7 x 2.68	0.1188	85.12	21.8	980.1
AC0-T001-U31	380/50	54 x 3.00	7 x 3.00	0.0758	121.30	27.0	1442.5
AC0-T001-U64	490/65	54 x 3.40	7 x 3.40	0.0590	150.81	30.6	1852.9

The above data is approximate and subjected to manufacturing tolerance.

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Aluminium Conductor Steel Reinforced (A.C.S.R.)



Name	Nominal Cross Sectional Area mm ²	Number and Nominal Diameters of Wires		Max. DC. Resistance at 20 °C Ω/km	Rated Strength kN	Approx. Overall Diameter mm	Approx. Weight kg/km
		Aluminium No x ø (mm)	Steel No x ø (mm)				
b - According to BS EN 50182 - United Kingdom							
MOLE	12.4	6 x 1.50	1 x 1.50	2.7027	4.14	4.50	42.8
SQUIRREL	24.5	6 x 2.11	1 x 2.11	1.3659	7.87	6.33	84.7
GOPHER	30.6	6 x 2.36	1 x 2.36	1.0919	9.58	7.08	106.0
WEASEL	36.9	6 x 2.59	1 x 2.59	0.9065	11.38	7.77	127.6
FOX	42.8	6 x 2.79	1 x 2.79	0.7812	13.21	8.37	148.1
FERRET	49.5	6 x 3.00	1 x 3.00	0.6757	15.27	9.00	171.2
RABBIT	61.7	6 x 3.35	1 x 3.35	0.5419	18.42	10.1	213.5
MINK	73.6	6 x 3.66	1 x 3.66	0.4540	21.67	11.0	254.9
SKUNK	100.1	12 x 2.59	7 x 2.59	0.4568	52.79	13.0	463.0
BEAVER	87.5	6 x 3.99	1 x 3.99	0.3820	25.76	12.0	302.9
HORSE	116.2	12 x 2.79	7 x 2.79	0.3936	61.26	14.0	537.3
RACCOON	92.0	6 x 4.09	1 x 4.09	0.3635	27.06	12.3	318.3
OTTER	97.9	6 x 4.22	1 x 4.22	0.3415	28.81	12.7	338.8
CAT	111.3	6 x 4.50	1 x 4.50	0.3003	32.76	13.5	385.3
HARE	122.5	6 x 4.72	1 x 4.72	0.2730	36.04	14.2	423.8
DOG	118.5	6 x 4.72	7 x 1.57	0.2733	32.65	14.2	394.0
COYOTE	151.8	26 x 2.54	7 x 1.91	0.2192	45.86	15.9	520.7
COUGAR	138.8	18 x 3.05	1 x 3.05	0.2188	29.74	15.3	418.8
TIGER	161.9	30 x 2.36	7 x 2.36	0.2202	57.87	16.5	602.2
WOLF	194.9	30 x 2.59	7 x 2.59	0.1829	68.91	18.1	725.3
DINGO	167.5	18 x 3.35	1 x 3.35	0.1814	35.87	16.8	505.2
LYNX	226.2	30 x 2.79	7 x 2.79	0.1576	79.97	19.5	841.6
CARACAL	194.5	18 x 3.61	1 x 3.61	0.1562	40.74	18.1	586.7
PANTHER	261.5	30 x 3.00	7 x 3.00	0.1363	92.46	21.0	973.1
JAGUAR	222.3	18 x 3.86	1 x 3.86	0.1366	46.57	19.3	670.8
LION	293.9	30 x 3.18	7 x 3.18	0.1213	100.47	22.3	1093.4
BEAR	326.1	30 x 3.35	7 x 3.35	0.1093	111.50	23.5	1213.4
GOAT	400.0	30 x 3.71	7 x 3.71	0.0891	135.13	26.0	1488.2
SHEEP	462.6	30 x 3.99	7 x 3.99	0.0771	156.30	27.9	1721.3
ANTELOPE	422.6	54 x 2.97	7 x 2.97	0.0773	118.88	26.7	1413.8
BISON	431.2	54 x 3.00	7 x 3.00	0.0758	121.30	27.0	1442.5
DEER	529.8	30 x 4.27	7 x 4.27	0.0673	179.00	29.9	1971.4
ZEBRA	484.5	54 x 3.18	7 x 3.18	0.0674	131.92	28.6	1620.8
ELK	588.5	30 x 4.50	7 x 4.50	0.0606	198.80	31.5	2189.5
CAMEL	538.7	54 x 3.35	7 x 3.35	0.0608	146.40	30.2	1798.8
MOOSE	597.0	54 x 3.53	7 x 3.53	0.0547	159.92	31.8	1997.3

The above data is approximate and subjected to manufacturing tolerance.

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Aluminium Conductor Steel Reinforced (A.C.S.R.)



Name	Nominal Cross Sectional Area mm ²	Number and Nominal Diameters of Wires		Calculated DC Resistance at 20 °C Ω/km	Calculated Rated Tensile Strength kN	Approx. Overall Diameter mm	Approx. Weight	
		Aluminium No x ø (mm)	Steel No x ø (mm)				Aluminium kg/km	Steel kg/km
c - According to ASTM B 232								
GROUSE	40.5	8 X 2.54	1 X 4.24	0.7112	23.1	9.3	112	110
PETREL	51.6	12 X 2.34	7 X 2.34	0.5614	46.2	11.7	143	235
MINORCA	56.1	12 x 2.44	7 x 2.44	0.5163	50.2	12.2	156	256
LEGHORN	68.2	12 x 2.69	7 x 2.69	0.4248	60.7	13.5	189	311
GUINEA	80.4	12 x 2.92	7 x 2.92	0.3605	71.1	14.6	223	367
DOTTEREL	89.4	12 x 3.08	7 x 3.08	0.3240	76.7	15.4	248	409
DORKING	96.5	12 x 3.20	7 x 3.20	0.3002	82.8	16.0	268	441
BRAHMA	102.8	16 x 2.86	19 x 2.48	0.2819	126.5	18.1	285	722
COCHIN	107.1	12 x 3.37	7 x 3.37	0.2707	91.8	16.9	297	488
TURKEY	13.3	6 x 1.68	1 x 1.68	2.1570	5.3	5.0	36	17
SWAN	21.2	6 x 2.12	1 x 2.12	1.3545	8.3	6.4	58	27
SWANATE	21.1	7 x 1.96	1 x 2.61	1.3583	10.5	6.5	58	42
SPARROW	33.6	6 x 2.67	1 x 2.67	0.8530	12.7	8.0	92	44
SPARATE	33.5	7 x 2.47	1 x 3.30	0.8553	16.1	8.3	92	67
ROBIN	42.4	6 x 3.00	1 x 3.00	0.6764	15.8	9.0	117	55
RAVEN	53.5	6 x 3.37	1 x 3.37	0.5364	19.5	10.1	147	69
QUAIL	67.4	6 x 3.78	1 x 3.78	0.4255	23.6	11.4	185	87
PIGEON	85.1	6 x 4.25	1 x 4.25	0.3370	29.5	12.7	233	110
PENGUIN	107.2	6 x 4.77	1 x 4.77	0.2676	37.1	14.3	294	139
WAXWING	135.0	18 x 3.09	1 x 3.09	0.2133	30.3	15.5	373	59
PARTRIDGE	134.9	26 x 2.57	7 x 2.00	0.2142	50.2	16.3	373	172
OSTRICH	152.2	26 x 2.73	7 x 2.12	0.1906	56.6	17.3	421	193
MERLIN	170.2	18 x 3.47	1 x 3.47	0.1692	38.2	17.4	470	74
LINNET	170.6	26 x 2.89	7 x 2.25	0.1699	62.8	18.3	472	217
ORIOLE	170.5	30 x 2.69	7 x 2.69	0.1704	77.4	18.8	473	311
CHICKADEE	200.9	18 x 3.77	1 x 3.77	0.1432	44.3	18.9	555	87
BRANT	201.6	24 x 3.27	7 x 2.18	0.1437	64.7	19.6	558	204
IBIS	201.3	26 x 3.14	7 x 2.44	0.1438	72.1	19.9	558	256
LARK	200.9	30 x 2.92	7 x 2.92	0.1442	88.7	20.5	559	367
PELICAN	242.3	18 x 4.14	1 x 4.14	0.1193	52.3	20.7	667	105
FLICKLER	241.6	24 x 3.58	7 x 2.39	0.1199	76.8	21.5	670	245
HAWK	241.7	26 x 3.44	7 x 2.67	0.1199	86.4	21.8	670	308
HEN	241.3	30 x 3.20	7 x 3.20	0.1202	105.9	22.4	672	440
OSPREY	282.5	18 x 4.47	1 x 4.47	0.1022	61.0	22.3	777	122
PARAKEET	282.3	24 x 3.87	7 x 2.58	0.1026	88.3	23.2	782	285
DOVE	282.6	26 x 3.72	7 x 2.89	0.1025	101.1	23.5	781	359
EAGLE	282.1	30 x 3.46	7 x 3.46	0.1030	122.9	24.2	783	514
PEACOCK	306.1	24 X 4.03	7 X 2.69	0.0945	95.9	24.2	850	311
SQUAB	305.8	26 X 3.87	7 X 3.01	0.0945	108.1	24.5	849	390
WOOD DUCK	307.1	30 x 3.61	7 x 3.61	0.0947	129.0	25.3	851	559
TEAL	307.1	30 x 3.61	19 x 2.16	0.0947	133.4	25.3	851	547
SWIFT	323.0	36 x 3.38	1 x 3.38	0.0893	60.7	23.7	888	70
KINGBIRD	323.0	18 x 4.78	1 x 4.78	0.0894	69.7	23.9	889	139
ROOK	323.1	24 x 4.14	7 x 2.76	0.0899	101.0	24.8	893	326

The above data is approximate and subjected to manufacturing tolerance.

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Aluminium Conductor Steel Reinforced (A.C.S.R.)



Name	Nominal Cross Sectional Area mm ²	Number and Nominal Diameters of Wires		Calculated DC Resistance at 20 °C Ω/km	Calculated Rated Tensile Strength kN	Approx. Overall Diameter mm	Approx. Weight	
		Aluminium	Steel				Aluminium	Steel
		No x ø (mm)	No x ø (mm)				kg/km	kg/km
c - According to ASTM B 232								
GROSBEAK	321.8	26 x 3.97	7 x 3.09	0.0900	111.9	25.2	893	409
SCOTER	322.6	30 x 3.70	7 x 3.70	0.0900	135.5	25.9	895	588
EGRET	322.6	30 x 3.70	19 x 2.22	0.0900	140.6	25.9	895	575
FLAMINGO	337.3	24 x 4.23	7 x 2.82	0.0859	105.5	25.4	936	342
GANNET	338.3	26 x 4.07	7 x 3.16	0.0857	117.3	25.8	936	429
STILT	363.3	24 x 4.39	7 x 2.92	0.0798	113.3	26.3	1005	367
STARLING	361.9	26 x 4.21	7 x 3.28	0.0800	126.0	26.7	1004	461
REDWING	362.1	30 x 3.92	19 x 2.35	0.0801	154.0	27.5	1006	646
CUCKOO	402.3	24 x 4.62	7 x 3.08	0.0720	124.5	27.7	1116	408
DRAKE	402.6	26 x 4.44	7 x 3.45	0.0720	139.7	28.1	1117	511
TERN	403.8	45 x 3.38	7 x 2.25	0.0720	97.5	27.0	1115	217
COOT	401.9	36 x 3.77	1 x 3.77	0.0717	74.7	26.4	1111	87
CONDOR	402.3	54 x 3.08	7 x 3.08	0.0720	124.3	27.7	1115	407
MALLARD	403.8	30 x 4.14	19 x 2.48	0.0721	171.2	29.0	1119	718
RUDDY	455.5	45 x 3.59	7 x 2.40	0.0636	109.4	28.7	1263	246
CANARY	456.3	54 x 3.28	7 x 3.28	0.0635	141.0	29.5	1263	461
RAIL	483.8	45 x 3.70	7 x 2.47	0.0599	116.1	29.6	1339	261
CATBIRD	484.6	36 x 4.14	1 x 4.14	0.0595	87.9	29.0	1335	105
CARDINAL	484.5	54 x 3.38	7 x 3.38	0.0599	149.7	30.4	1338	490
ORTLAN	523.9	45 x 3.85	7 x 2.57	0.0553	123.3	30.8	1450	283
TANAGER	522.8	36 x 4.30	1 x 4.30	0.0551	94.8	30.1	1444	113
CURLEW	522.5	54 x 3.51	7 x 3.51	0.0553	161.8	31.6	1450	529
BLUEJAY	565.5	45 x 4.00	7 x 2.66	0.0513	132.7	32.0	1562	304
FINCH	565.0	54 x 3.65	19 x 2.19	0.0516	174.6	32.8	1571	558
BUNTING	605.8	45 x 4.14	7 x 2.76	0.0479	142.4	33.1	1674	326
GRAKCLE	602.8	54 x 3.77	19 x 2.27	0.0483	186.9	34.0	1681	599
BITTERN	644.4	45 x 4.27	7 x 2.85	0.0450	151.6	34.2	1786	348
PHEASANT	645.1	54 x 3.90	19 x 2.34	0.0452	194.1	35.1	1795	639
SKYLARK	643.3	36 x 4.77	1 x 4.77	0.0448	116.7	33.4	1777	140
DIPPER	684.2	45 X 4.40	7 X 2.93	0.0423	160.7	35.2	1897	370
MARTIN	685.4	54 X 4.02	19 x 2.41	0.0425	206.1	36.2	1906	679
BOBOLINK	725.2	45 x 4.53	7 x 3.02	0.0399	170.5	36.3	2010	392
PLOVER	726.9	54 x 4.14	19 x 2.48	0.0401	218.4	37.2	2019	719
NUTHATCH	746.2	45 x 4.65	7 x 3.10	0.0379	177.6	37.2	2120	413
PARROT	766.1	54 x 4.25	19 x 2.55	0.0380	230.5	38.2	2129	758
LAPWING	807.5	45 x 4.77	7 x 3.18	0.0359	187.4	38.2	2232	435
FALCON	806.2	54 x 4.36	19 x 2.62	0.0361	243.0	39.2	2242	799

The above data is approximate and subjected to manufacturing tolerance.

Service Drop Cables

Copper Conductors & XLPE Insulated



Description

- They are composed of one or more insulated conductors and one neutral (bare or insulated) conductor. They are required as two (Duplex) or three (Triplex) or four (Quadru-plex) conductors, XLPE with 2.5 % Carbon black insulated.
- As per NEMA WC 7/IEC60228.

Application

- They are used for secondary over head lines (in circuits not exceeding 600 volts phase to phase) on poles or as feeders to residential premises.

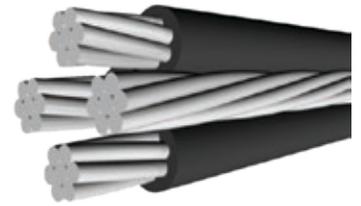
Copper conductors with bare neutral adopted from IEC 60228.

Product - code	Phase		Max. DC. resistance at 20 °C	Approx. overall diameter	Approx. weight
	Nominal cross sectional area	Insulation thickness			
	mm ²	mm	Ω/km	mm	kg/km
Two conductors (Duplex)					
CW1-T002-U10	10	1.2	1.830	10.7	198
CW1-T002-U11	16	1.2	1.150	12.8	307
CW1-T002-U12	25	1.2	0.727	15.3	469
CW1-T002-U13	35	1.2	0.524	17.6	650
CW1-T002-U14	50	1.5	0.387	21.2	898
CW1-T002-U15	70	1.5	0.268	24.5	1247
CW1-T002-U16	95	1.5	0.193	28.3	1736
CW1-T002-U17	120	1.7	0.153	31.8	2170
Three conductors (Triplex)					
CW1-T003-U10	10	1.2	1.830	13.7	305
CW1-T003-U11	16	1.2	1.150	15.8	471
CW1-T003-U12	25	1.2	0.727	18.5	719
CW1-T003-U13	35	1.2	0.524	20.7	991
CW1-T003-U14	50	1.5	0.387	25.0	1357
CW1-T003-U15	70	1.5	0.268	28.7	1900
CW1-T003-U16	95	1.5	0.193	32.4	2631
CW1-T003-U17	120	1.7	0.153	36.6	3285
Four conductors (Quadruplex)					
CW1-T004-U10	10	1.2	1.830	16.3	413
CW1-T004-U11	16	1.2	1.150	18.8	634
CW1-T004-U12	25	1.2	0.727	22.0	970
CW1-T004-U13	35	1.2	0.524	24.6	1332
CW1-T004-U14	50	1.5	0.387	29.8	1821
CW1-T004-U15	70	1.5	0.268	34.2	2553
CW1-T004-U16	95	1.5	0.193	38.6	3526
CW1-T004-U17	120	1.7	0.153	43.5	4579

The above data is approximate and subjected to manufacturing tolerance.

Service Drop Cables

Aluminium Conductors & XLPE Insulated



Description

- They are composed of one or more insulated conductors and one neutral (bare or insulated) conductor. They are required as two (Duplex) or three (Triplex) or four (Quadruplex) conductors, XLPE with 2.5 % Carbon black insulated.
- As per NEMA WC 7/IEC60228.

Application

- They are used for secondary over head lines (in circuits not-exceeding 600 volts phase to phase) on poles or as feeders to residential premises.

Aluminium conductors with bare neutral adopted from IEC 60228.

Product - code	Phase		Max. DC. resistance at 20 °C Ω/km	Approx. overall diameter mm	Approx. weight kg/km
	Nominal cross sectional area mm ²	Insulation thickness mm			
Two conductors (Duplex)					
AW1-T002-U11	16	1.2	1.910	12.9	115
AW1-T002-U12	25	1.2	1.200	15.3	168
AW1-T002-U13	35	1.2	0.868	17.7	229
AW1-T002-U14	50	1.5	0.641	21.4	322
AW1-T002-U15	70	1.5	0.443	24.4	428
AW1-T002-U16	95	1.5	0.320	28.4	626
AW1-T002-U17	120	1.7	0.253	31.8	734
Three conductors (Triplex)					
AW1-T003-U11	16	1.2	1.910	15.6	185
AW1-T003-U12	25	1.2	1.200	18.0	267
AW1-T003-U13	35	1.2	0.868	20.4	364
AW1-T003-U14	50	1.5	0.641	25.2	519
AW1-T003-U15	70	1.5	0.443	28.2	674
AW1-T003-U16	95	1.5	0.320	32.2	928
AW1-T003-U17	120	1.7	0.253	36.6	1245
Four conductors (Quadruplex)					
AW1-T004-U11	16	1.2	1.910	19.0	256
AW1-T004-U12	25	1.2	1.200	22.0	367
AW1-T004-U13	35	1.2	0.868	24.9	499
AW1-T004-U14	50	1.5	0.641	30.3	710
AW1-T004-U15	70	1.5	0.443	33.9	920
AW1-T004-U16	95	1.5	0.320	38.8	1263
AW1-T004-U17	120	1.7	0.253	43.5	1556

The above data is approximate and subjected to manufacturing tolerance.



Operating Voltage (Up to 0.6/1kV)

Cable Construction

1. Conductor

Copper or Aluminium conductors, solid, stranded or flexible with round or sectoral shaped conductors.

2. Insulation

An extruded layer of PVC or XLPE is applied over the conductor.

PVC insulated cables are suitable for maximum conductor operating temperature of 70°C or 85°C and 90°C for XLPE.

3. Assembly

In case of multicore cables' cores are assembled together using non hygroscopic filler (if needed) to fill space between cores, wrapped with suitable binder tape to form a round cable.

4. Bedding

In case of armoured cables an extruded layer of PVC is applied as bedding.

5. Armouring

a. Steel Tape: Double layers of steel tapes are applied helically.

b. Steel Wire: Galvanized steel wires are applied helically.

6. Sheath

An extruded layer of PVC is applied as an outer sheath, or according to the client special requirements.

Option

Lead sheath: Upon request a layer of lead is extruded over the bedding layer.

Armouring of Single Core Cable

1. Armouring by non-magnetic material either Aluminium Tape or Aluminium Wire armouring to reduce the magnetic losses.

2. If it is required for single core cable to be armoured by steel wire armouring, the magnetic circuit around the single core cable should be interrupted by inserting insulated copper wires between the steel wires as shown in the figure.

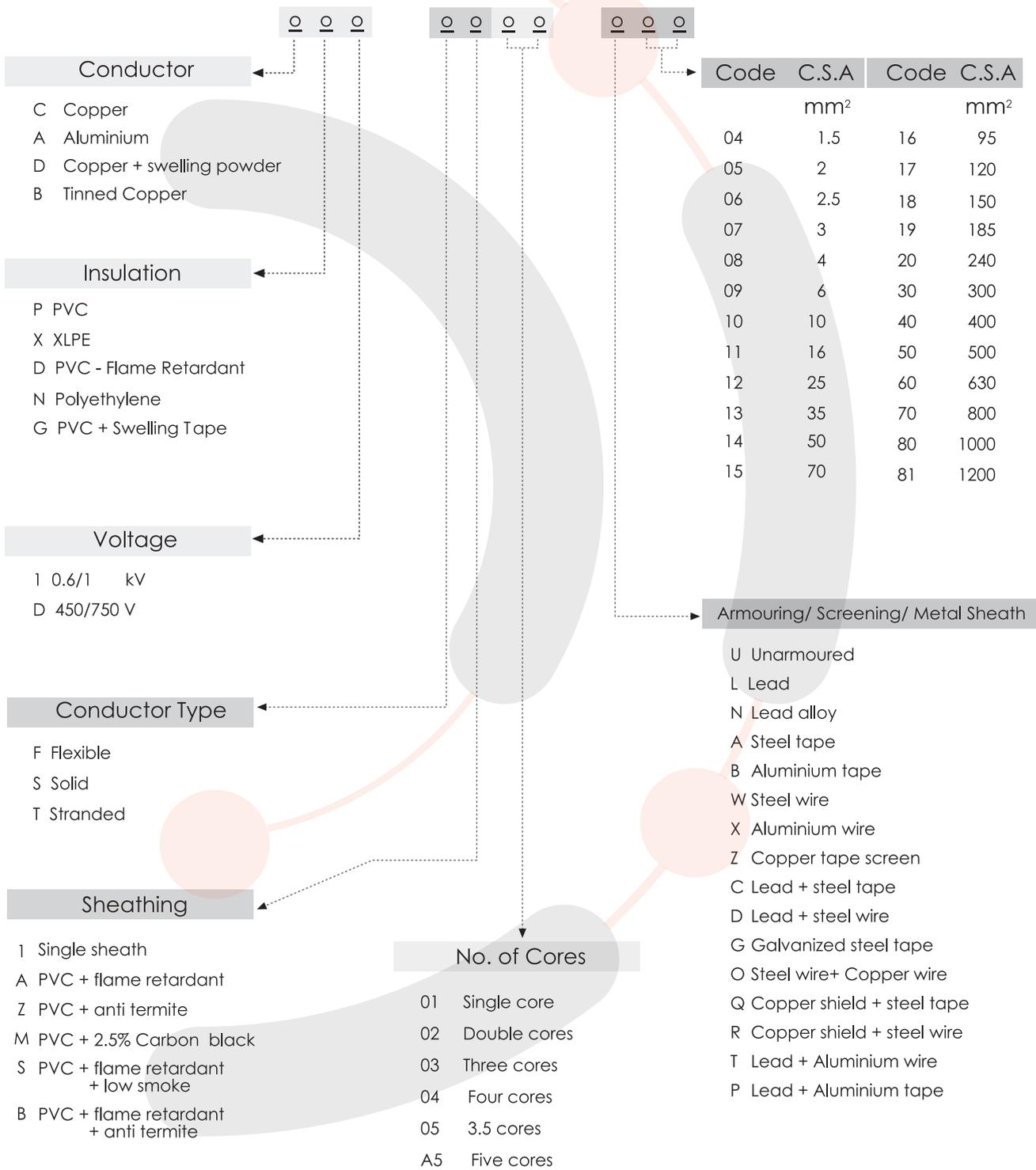


Armouring of Single Core Cable

System Designation for Low Voltage Cables

You can order our product by giving the following information:

1. Cable code as per the catalogue.
2. If your required cable/conductor is out of our catalogue range, you can use the following codes to determine your cable.





450/750 V

Single Core Cables with Solid or Stranded Copper Conductors and PVC Insulated



Description

- Soft annealed solid or stranded Copper conductors insulated with PVC compound rated 70 °C or 90 °C according to IEC 60227 & BS 6004.

Application

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

Cu / PVC

Product - code	Nominal Cross Sectional Area	Max. Conductor Resistance		Current Rating in Air		Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 70 °C	Free (Shaded)	In Pipes		
CPD-S001-U04	1.5 re	12.1000	14.6000	17	13	2.8	20
CPD-T001-U04	1.5 rm	12.1000	14.6000	17	13	3.0	21
CPD-S001-U05	2 re	9.1500	10.9000	19	15	3.2	27
CPD-T001-U05	2 rm	9.1500	10.9000	19	15	3.4	28
CPD-S001-U06	2.5 re	7.4100	8.8900	24	19	3.4	31
CPD-T001-U06	2.5 rm	7.4100	8.8900	24	19	3.6	33
CPD-S001-U07	3 re	6.1000	7.4100	27	21	3.6	37
CPD-T001-U07	3 rm	6.1000	7.4100	27	21	3.8	39
CPD-S001-U08	4 re	4.6100	5.5100	32	23	3.9	47
CPD-T001-U08	4 rm	4.6100	5.5100	32	23	4.2	50
CPD-S001-U09	6 re	3.0800	3.6800	40	29	4.4	68
CPD-T001-U09	6 rm	3.0800	3.6800	40	29	4.7	71
CPD-T001-U10	10 rm	1.8300	2.1700	57	41	6.1	117
CPD-T001-U11	16 rm	1.1500	1.3700	76	54	7.1	177
CPD-T001-U12	25 rm	0.7270	0.8600	103	70	8.8	278
CPD-T001-U13	35 rm	0.5240	0.6300	128	87	9.9	371
CPD-T001-U14	50 rm	0.3870	0.4600	156	106	11.8	514
CPD-T001-U15	70 rm	0.2680	0.3200	200	131	13.5	711
CPD-T001-U16	95 rm	0.1930	0.2300	251	166	15.7	967
CPD-T001-U17	120 rm	0.1530	0.1900	293	190	17.4	1240
CPD-T001-U18	150 rm	0.1240	0.1500	335	219	19.4	1500
CPD-T001-U19	185 rm	0.0991	0.1200	390	250	21.5	1852
CPD-T001-U20	240 rm	0.0754	0.0920	471	300	24.7	2457
CPD-T001-U30	300 rm	0.0601	0.0750	540	340	27.2	2977

The above data is approximate and subjected to manufacturing tolerance.

re : round, Solid
rm : round, Stranded

450/750 V

Single Core Cables with Flexible Copper Conductors and PVC Insulated



Description

- Soft annealed Copper fine wires, bunched together in subunits or stranded bunched groups into a main units, which forms the flexible conductor. Insulated with soft PVC 70 °C or 90 °C Compound.
- Cables are produced according to IEC 60227 or BS 6004.

Application

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

Cu / PVC

Product - Code	Nominal Cross Sectional Area	Maximum Diameter of Wires	Max. Conductor Resistance		Current Rating in Air		Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 70 °C	Free (Shaded)	In Pipes		
	mm ²	mm	Ω/km	Ω/km	A	A	mm	kg/km
CPD-F001-U04	1.5	0.26	13.3000	15.9500	17	13	3.0	21
CPD-F001-U06	2.5	0.26	7.9800	9.5600	24	19	3.7	34
CPD-F001-U08	4	0.31	4.9500	5.9300	32	23	4.5	50
CPD-F001-U09	6	0.31	3.3000	3.9500	40	29	5.1	71
CPD-F001-U10	10	0.41	1.9100	2.2900	57	41	6.9	120
CPD-F001-U11	16	0.41	1.2100	1.4500	76	54	7.6	179
CPD-F001-U12	25	0.41	0.7800	0.9400	103	70	9.5	276
CPD-F001-U13	35	0.41	0.5540	0.6630	128	87	11.0	375
CPD-F001-U14	50	0.41	0.3860	0.4620	156	106	12.6	542
CPD-F001-U15	70	0.51	0.2720	0.3260	200	131	14.6	733
CPD-F001-U16	95	0.51	0.2060	0.2470	251	166	16.8	957
CPD-F001-U17	120	0.51	0.1610	0.1930	293	190	18.9	1243
CPD-F001-U18	150	0.51	0.1290	0.1550	335	219	21.2	1548
CPD-F001-U19	185	0.51	0.1060	0.1270	390	250	23.4	1895
CPD-F001-U20	240	0.51	0.0801	0.0960	471	300	26.7	2400

The above data is approximate and subjected to manufacturing tolerance.

0.6/1 kV



Single core cable, with flexible copper conductor, PVC insulated and PVC sheathed

Description

- Soft annealed flexible copper conductor insulated with PVC compound rated 70° C and sheathed with PVC compound layer
- cable are produced according to IEC 60502

Application

- Commonly used in low voltage industrial installations.

Cu / PVC / PVC

Product-Code	Nominal cross section Area(mm ²)	Approx. Overall diameter	Max.Conductor Resistance		Approx. Weight (kg/kM)	Current Rating (A)		
			DC at 20°C	AC at 70°C		Laid in free air (Shaded) A	Laid in duct A	Laid direct in ground A
CP1-F101-U08	4	6,7	4,9500	5,9230	80	29	32	40
CP1-F101-U09	6	7,5	3,3000	3,9480	105	38	40	50
CP1-F101-U10	10	8,3	1,9100	2,2850	150	51	52	67
CP1-F101-U11	16	9,2	1,2100	1,4480	205	65	65	85
CP1-F101-U12	25	11,1	0,7800	0,9330	310	90	85	110
CP1-F101-U13	35	11,9	0,5540	0,6630	405	110	105	130
CP1-F101-U14	50	14,0	0,3860	0,4620	565	135	125	155
CP1-F101-U15	70	15,4	0,2720	0,3260	780	170	155	190
CP1-F101-U16	95	17,3	0,2060	0,2470	1025	210	185	225
CP1-F101-U17	120	19,7	0,1610	0,1940	1285	245	210	255
CP1-F101-U18	150	22,0	0,1290	0,1560	1600	280	235	285
CP1-F101-U19	185	25,0	0,1060	0,1290	1995	320	270	325
CP1-F101-U20	240	29,7	0,0801	0,0990	2550	385	310	375
CP1-F101-U30	300	32,6	0,0641	0,0800	3260	450	350	420
CP1-F101-U40	400	37,2	0,0486	0,0630	4245	520	390	475
CP1-F101-U50	500	42,1	0,0384	0,0520	5340	600	435	525
CP1-F101-U60	630	46,6	0,0287	0,0420	6890	680	495	590

The above data is approximate and subjected to manufacturing tolerance

▶ cont'd

0.6/1 kV



Multi-core cables, with flexible copper conductors, PVC insulated and PVC sheathed

Description

- soft annealed flexible copper conductor insulated with PVC compound rated 70° C and sheathed with PVC compound layer
- cable are produced according to IEC 60502

Application

- Commonly used in low voltage industrial installations.

Cu / PVC / PVC

Product-Code	Nominal cross section Area(mm ²)	Approx. Overall diameter	Max. Conductor Resistance		Approx. Weight (kg/kM)	Current Rating (A)		
			DC at 20°C	AC at 70°C		Laid in free air (Shaded) A	Laid in duct A	Laid direct in ground A
Two Cores								
CP1-F102-U04	1,5	9,0	13,3000	15,9135	125	20	19	24
CP1-F102-U06	2,5	10,0	7,9800	9,5481	160	28	25	30
CP1-F102-U08	4	11,8	4,9500	5,9227	225	39	32	40
CP1-F102-U09	6	13,4	3,3000	3,9485	295	50	40	50
CP1-F102-U10	10	15,5	1,9100	2,2854	345	66	55	65
CP1-F102-U11	16	17,3	1,2100	1,4480	470	88	65	85
CP1-F102-U12	25	21,1	0,7800	0,9336	710	116	85	110
CP1-F102-U13	35	22,7	0,5540	0,6633	920	143	105	130
Three cores								
CP1-F103-U04	1,5	9,5	13,3000	15,9135	145	18	18	21
CP1-F103-U06	2,5	10,6	7,9800	9,5481	190	22	23	27
CP1-F103-U08	4	12,5	4,9500	5,9227	270	31	30	35
CP1-F103-U09	6	14,2	3,3000	3,9485	355	39	36	45
CP1-F103-U10	10	16,5	1,9100	2,2854	460	53	48	60
CP1-F103-U11	16	18,4	1,2100	1,4480	635	72	60	75
CP1-F103-U12	25	22,5	0,7800	0,9336	965	94	80	100
CP1-F103-U13	35	24,3	0,5540	0,6633	1275	110	95	120

The above data is approximate and subjected to manufacturing tolerance

▶ cont'd

0.6/1 kV



Multi-core cables, with flexible copper conductors, PVC insulated and PVC sheathed

Cu / PVC / PVC

Product-Code	Nominal cross section Area(mm ²)	Approx. Overall diameter	Max.Conductor Resistance		Approx. Weight (kg/kM)	Current Rating (A)		
			DC at 20°C	AC at 70°C		Laid in free air (Shaded) A	Laid in duct A	Laid direct in ground A
Four cores								
CP1-F104-U04	1,5	10,3	13,3000	15,9135	175	18	18	21
CP1-F104-U06	2,5	11,5	7,9800	9,5481	225	22	23	27
CP1-F104-U08	4	13,7	4,9500	5,9227	330	31	30	35
CP1-F104-U09	6	15,6	3,3000	3,9485	435	39	36	45
CP1-F104-U10	10	18,1	1,9100	2,2854	580	53	48	60
CP1-F104-U11	16	20,2	1,2100	1,4480	810	72	60	75
CP1-F104-U12	25	24,8	0,7800	0,9336	1245	94	80	100
CP1-F104-U13	35	26,8	0,5540	0,6633	1645	110	95	120
CP1-F104-U14	50	32,1	0,3860	0,4625	2305	138	115	145
CP1-F104-U15	70	35,6	0,2720	0,3264	3220	171	145	175
CP1-F104-U16	95	40,2	0,2060	0,2477	4250	209	165	210
CP1-F104-U17	120	46,0	0,1610	0,1943	5320	242	195	240
CP1-F104-U18	150	51,4	0,1290	0,1565	6640	275	220	270
CP1-F104-U19	185	58,4	0,1060	0,1294	8275	314	245	300
CP1-F104-U20	240	70,2	0,0801	0,0993	10655	374	290	345
CP1-F104-U30	300	77,1	0,0641	0,0810	13630	440	320	390
CP1-F104-U40	400	88,2	0,0486	0,0638	17775	507	376	453
CP1-F104-U50	500	100,0	0,0384	0,0520	22400	566	429	510
Five-Cores								
CP1-F1A5-U13	35	29,7	0,5540	0,6633	2040	110	95	120
CP1-F1A5-U14	50	35,6	0,3860	0,4625	2865	138	115	145
CP1-F105-U15	70	39,7	0,2720	0,3264	4020	171	145	175
CP1-F1A5-U16	95	44,3	0,2060	0,2477	5270	209	165	210
CP1-F1A5-U17	120	51,2	0,1610	0,1943	6640	242	195	240
CP1-F1A5-U18	150	57,1	0,1290	0,1565	8260	275	220	270
CP1-F1A5-U19	185	64,8	0,1060	0,1294	10285	314	245	300
CP1-F1A5-U20	240	78,1	0,0801	0,0993	13270	374	290	345
CP1-F1A5-U30	300	85,6	0,0641	0,0810	16935	440	320	390
CP1-F1A5-U40	400	98,1	0,0486	0,0638	22140	507	376	453
CP1-F1A5-U50	500	111,2	0,0384	0,0520	27885	566	429	510

The above data is approximate and subjected to manufacturing tolerance

0.6/1 (1.2) kV

Single Core Cables, with Stranded Circular Copper Conductors, PVC Insulated and PVC Sheathed



Description

- Soft annealed stranded Copper or Aluminium conductor. Insulated with PVC compound rated 70 °C and sheathed with PVC Compound layer .
- Cables are produced according to IEC 60502.

Application

- For outdoor and indoor installations in damp and wet locations. They are normally used for power distribution in urban networks, industrial plants, as well as in thermopower and hydropower stations.

Cu / PVC / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating						Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 70 °C Ω/km	Laid in Ground			Laid in Free Air (Shaded)				
				○○○	○○○	○○○	○	○○○	○○○		
				A	A	A	A	A	A		
a - Copper Conductors											
CP1-T101-U08	4	4.6100	5.5100	42	40	32	37	33	29	7.0	86
CP1-T101-U09	6	3.0800	3.6800	52	50	40	48	42	38	7.9	115
CP1-T101-U10	10	1.8300	2.1700	70	67	52	66	58	51	8.9	165
CP1-T101-U11	16	1.1500	1.3700	90	85	65	80	75	65	9.9	231
CP1-T101-U12	25	0.7270	0.8600	115	110	85	105	95	90	11.6	343
CP1-T101-U13	35	0.5240	0.6300	135	130	105	130	125	110	12.7	445
CP1-T101-U14	50	0.3870	0.4600	160	155	125	160	150	135	14.6	600
CP1-T101-U15	70	0.2680	0.3200	200	190	155	200	190	170	16.3	805
CP1-T101-U16	95	0.1930	0.2300	235	225	185	250	240	210	18.7	1085
CP1-T101-U17	120	0.1530	0.1900	270	255	210	285	275	245	20.4	1350
CP1-T101-U18	150	0.1240	0.1500	300	285	235	330	320	280	22.6	1654
CP1-T101-U19	185	0.0991	0.1200	345	325	270	380	370	320	24.9	2030
CP1-T101-U20	240	0.0754	0.0920	400	375	310	480	460	385	28.3	2675
CP1-T101-U30	300	0.0601	0.0750	450	420	350	550	530	450	31.1	3280
CP1-T101-U40	400	0.0470	0.0590	515	475	390	630	615	520	35.3	4350
CP1-T101-U50	500	0.0366	0.0480	580	525	435	720	700	600	38.8	5355
CP1-T101-U60	630	0.0283	0.0390	660	590	495	830	810	680	42.7	6685
CP1-T101-U70	800	0.0221	0.0290	740	650	555	940	920	775	47.2	8600
CP1-T101-U80	1000	0.0176	0.0250	820	710	605	1030	1010	860	52.0	10500

The above data is approximate and subjected to manufacturing tolerance.

▶ cont'd

Low Voltage Cables

0.6/1 (1.2) kV

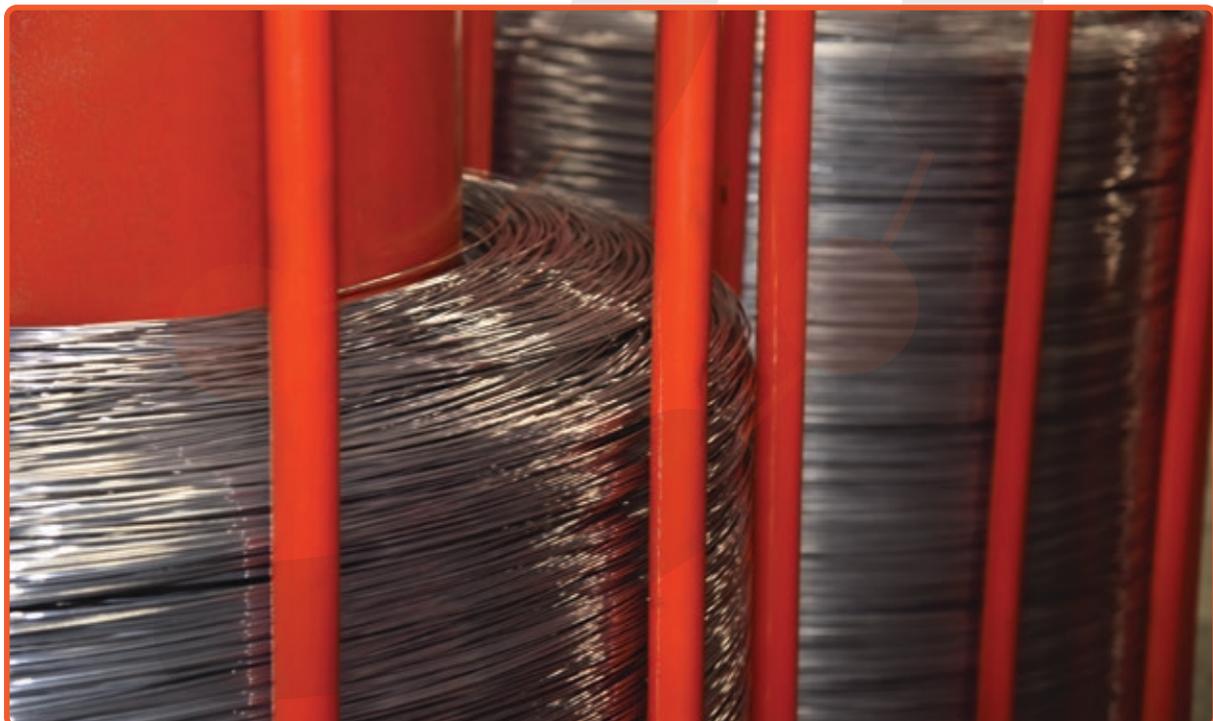
Single Core Cables, with Stranded Circular Aluminium Conductors, PVC Insulated and PVC Sheathed



Al / PVC / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating						Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 70 °C Ω/km	Laid in Ground			Laid in free air (Shaded)				
				⊙⊙⊙	⊙⊙	⊙	⊙	⊙⊙	⊙⊙		
b - Aluminium Conductors											
AP1-T101-U11	16	1.9100	2.2900	65	63	50	65	60	45	9.9	132
AP1-T101-U12	25	1.2000	1.4400	85	83	65	85	80	65	11.6	185
AP1-T101-U13	35	0.8680	1.0400	105	102	80	105	100	85	12.7	250
AP1-T101-U14	50	0.6410	0.7700	125	120	95	125	120	105	14.6	295
AP1-T101-U15	70	0.4430	0.5330	155	145	120	165	155	125	16.3	375
AP1-T101-U16	95	0.3200	0.3850	185	175	135	205	195	160	18.7	500
AP1-T101-U17	120	0.2530	0.3050	210	200	165	235	225	185	20.4	605
AP1-T101-U18	150	0.2060	0.2480	235	225	180	265	255	210	22.6	725
AP1-T101-U19	185	0.1640	0.1980	265	255	205	310	300	245	24.8	900
AP1-T101-U20	240	0.1250	0.1510	310	295	240	365	355	290	28.3	1150
AP1-T101-U30	300	0.1000	0.1220	355	335	270	420	405	335	31.1	1420
AP1-T101-U40	400	0.0778	0.0954	410	380	310	500	480	390	35.3	1750
AP1-T101-U50	500	0.0605	0.0751	465	430	355	580	560	460	38.8	2220
AP1-T101-U60	630	0.0469	0.0595	535	490	405	680	660	535	42.7	2750
AP1-T101-U70	800	0.0367	0.0470	600	530	450	765	745	620	47.2	3450
AP1-T101-U80	1000	0.0291	0.0370	665	585	495	840	820	690	52.0	4230

The above data is approximate and subjected to manufacturing tolerance.



0.6/1 (1.2) kV



Multicore Cables, with Stranded Copper Conductors PVC Insulated and PVC Sheathed

Description

- Multicore cables of stranded Copper conductors are insulated with PVC compound rated 70°C, assembled together, covered with overall jacket of PVC compound.
- Cables are produced according to IEC 60502.

Application

- For outdoor and indoor installations in damp and wet locations.

Cu / PVC / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 70 °C Ω/km	Laid Direct in Ground A	Laid in Ducts A	Laid in Free Air (Shaded) A		
Two Core Cables								
CP1-T102-U04	1.5 rm	12.1000	14.600	24	19	20	10.1	120
CP1-T102-U06	2.5 rm	7.4100	8.870	30	25	28	10.9	145
CP1-T102-U08	4 rm	4.6100	5.540	40	32	39	12.9	205
CP1-T102-U09	6 rm	3.0800	3.690	50	40	50	13.9	255
CP1-T102-U10	10 rm	1.8300	2.190	65	55	66	15.0	425
CP1-T102-U11	16 rm	1.1500	1.390	85	65	88	17.0	580
CP1-T102-U12	25 rm	0.7270	0.870	110	85	116	20.0	845
CP1-T102-U13	35 rm	0.5240	0.628	130	105	143	22.2	1090
Three Core Cables								
CP1-T103-U04	1.5 rm	12.1000	14.600	21	18	18	10.6	145
CP1-T103-U06	2.5 rm	7.4100	8.870	27	23	22	11.5	190
CP1-T103-U08	4 rm	4.6100	5.540	35	30	31	13.6	270
CP1-T103-U09	6 rm	3.0800	3.690	45	36	39	14.7	340
CP1-T103-U10	10 rm	1.8300	2.190	60	48	53	16.4	485
CP1-T103-U11	16 rm	1.1500	1.390	75	60	72	18.6	685
CP1-T103-U12	25 rm	0.7270	0.870	100	80	94	21.8	995
CP1-T103-U13	35 rm	0.5240	0.628	120	95	110	24.2	1300
Four Core Cables								
CP1-T104-U04	1.5 rm	12.1000	14.6000	21	18	18	11.4	180
CP1-T104-U06	2.5 rm	7.4100	8.8700	27	23	22	12.4	230
CP1-T104-U08	4 rm	4.6100	5.5400	35	30	31	14.8	335
CP1-T104-U09	6 rm	3.0800	3.6900	45	36	39	16.0	425
CP1-T104-U10	10 rm	1.8300	2.1900	60	48	53	17.9	635
CP1-T104-U11	16 rm	1.1500	1.3900	75	60	72	20.3	880
CP1-T104-U12	25 rm	0.7270	0.8700	100	80	94	23.9	1295
CP1-T104-U13	35 rm	0.5240	0.6280	120	95	110	26.6	1700
CP1-T104-U14	50 sm	0.3870	0.4640	145	115	138	29.3	2225
CP1-T104-U15	70 sm	0.2680	0.3220	175	145	171	32.9	3065
CP1-T104-U16	95 sm	0.1930	0.2320	210	165	209	37.8	4175
CP1-T104-U17	120 sm	0.1530	0.1850	240	195	242	41.2	5205
CP1-T104-U18	150 sm	0.1240	0.1510	270	220	275	45.9	6400
CP1-T104-U19	185 sm	0.0991	0.1210	300	245	314	50.7	7960
CP1-T104-U20	240 sm	0.0754	0.0840	345	290	374	57.0	10330
CP1-T104-U30	300 sm	0.0601	0.0770	390	320	440	63.3	12915
CP1-T104-U40	400 sm	0.047	0.0606	453	376	507	70.1	16500
CP1-T104-U50	500 sm	0.0366	0.0491	510	429	566	77.6	21085

▶ cont'd

Low Voltage Cables

0.6/1 (1.2) kV

Multicore Cables, with Stranded Copper Conductors, PVC Insulated and PVC Sheathed



Cu / PVC / PVC

Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 70 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables with Reduced Neutral									
CP1-T105-U13	35 sm	16 sm	0.5240/1.1500	0.6280/1.3900	120	95	110	25.0	1505
CP1-T105-U14	50 sm	25 sm	0.3870/0.7270	0.4640/0.8700	145	115	138	28.1	2115
CP1-T105-U15	70 sm	35 sm	0.2680/0.5240	0.3220/0.6280	175	145	171	31.4	2725
CP1-T105-U16	95 sm	50 sm	0.1930/0.3870	0.2320/0.4640	210	165	209	36.1	3690
CP1-T105-U17	120 sm	70 sm	0.1530/0.2680	0.1850/0.3220	240	195	242	39.5	4675
CP1-T105-U18	150 sm	70 sm	0.1240/0.2680	0.1510/0.3220	270	220	275	43.5	5580
CP1-T105-U19	185 sm	95 sm	0.0991/0.1930	0.1210/0.2320	300	245	314	48.2	7025
CP1-T105-U20	240 sm	120 sm	0.0754/0.1530	0.0840/0.1850	345	290	374	54.2	9060
CP1-T105-U30	300 sm	150 sm	0.0601/0.1240	0.0770/0.1510	390	320	440	60.0	11280
CP1-T105-U40	400 sm	185 sm	0.0470/0.0991	0.0606/0.1210	453	376	507	66.0	15270
CP1-T105-U50	500 sm	240 sm	0.0366/0.0754	0.0491/0.0840	510	429	566	73.3	19205

The above data is approximate and subjected to manufacturing tolerance.

sm : round, Stranded
sm : Sector, Stranded



0.6/1 (1.2) kV

Multicore Cables, with Stranded Aluminium Conductors, PVC Insulated and PVC Sheathed



Description

- Multicore cables of stranded Aluminium conductors are insulated with PVC compound rated 70°C, assembled together, covered with overall jacket of PVC compound.
- Cables are produced according to IEC 60502.

Application

- For outdoor and indoor installations in damp and wet locations.

Al / PVC / PVC

Product - Code	Nominal Cross Sectional Area	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 70 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
		mm ²	Ω/km	Ω/km	A	A		
Two Core Cables								
AP1-T102-U10	10 mm	3.080	3.300	46	39	46	15.0	295
AP1-T102-U11	16 mm	1.910	2.290	60	46	62	17.0	385
AP1-T102-U12	25 mm	1.200	1.440	77	60	81	20.0	540
AP1-T102-U13	35 mm	0.868	1.040	103	83	114	22.2	670
Three Core Cables								
AP1-T103-U10	10 mm	3.080	3.300	42	34	37	16.4	305
AP1-T103-U11	16 mm	1.910	2.290	53	42	50	18.6	400
AP1-T103-U12	25 mm	1.200	1.440	70	56	66	21.8	550
AP1-T103-U13	35 mm	0.868	1.040	95	75	88	24.2	680
Four Core Cables								
AP1-T104-U10	10 mm	3.0800	3.3000	42	34	37	17.9	395
AP1-T104-U11	16 mm	1.9100	2.2900	53	42	50	20.3	495
AP1-T104-U12	25 mm	1.2000	1.4400	70	56	66	23.9	700
AP1-T104-U13	35 mm	0.8680	1.0400	95	75	88	26.6	870
AP1-T104-U14	50 mm	0.6410	0.7710	115	85	105	29.3	1060
AP1-T104-U15	70 mm	0.4430	0.5330	135	110	132	32.9	1380
AP1-T104-U16	95 mm	0.3200	0.3850	165	130	160	37.8	1865
AP1-T104-U17	120 mm	0.2530	0.3050	185	150	187	41.2	2300
AP1-T104-U18	150 mm	0.2060	0.2490	210	170	215	45.9	2760
AP1-T104-U19	185 mm	0.1640	0.1990	235	195	248	50.7	3400
AP1-T104-U20	240 mm	0.1250	0.1510	275	225	292	57.0	4345
AP1-T104-U30	300 mm	0.1000	0.1230	310	260	347	63.3	5400
AP1-T104-U40	400 mm	0.0778	0.0962	361	300	405	70.1	6890
AP1-T104-U50	500 mm	0.0605	0.0761	413	348	459	77.6	8500

The above data is approximate and subjected to manufacturing tolerance.

▶ cont'd

Low Voltage Cables

0.6/1 (1.2) kV

Multicore Cables, with Stranded Aluminium Conductors, PVC Insulated and PVC Sheathed



Al / PVC / PVC

Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 70 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables with Reduced Neutral									
AP1-T105-U13	35 rm	16 rm	0.8680/1.9100	1.0430/2.2900	95	75	88	25.0	720
AP1-T105-U14	50 sm	25 sm	0.6410/1.2000	0.7710/1.4400	115	85	105	28.1	970
AP1-T105-U15	70 sm	35 sm	0.4430/0.8680	0.5330/1.0400	135	110	132	31.4	1240
AP1-T105-U16	95 sm	50 sm	0.3200/0.6410	0.3850/0.7710	165	130	160	36.1	1660
AP1-T105-U17	120 sm	70 sm	0.2530/0.4430	0.3050/0.5330	185	150	187	39.5	2040
AP1-T105-U18	150 sm	70 sm	0.2060/0.4430	0.2490/0.5330	210	170	215	43.5	2435
AP1-T105-U19	185 sm	95 sm	0.1640/0.3200	0.1990/0.3850	235	195	248	48.2	3025
AP1-T105-U20	240 sm	120 sm	0.1250/0.2530	0.1510/0.3050	275	225	292	54.2	3830
AP1-T105-U30	300 sm	150 sm	0.1000/0.2060	0.1230/0.2490	310	260	347	60.0	4720
AP1-T105-U40	400 sm	185 sm	0.0778/0.1640	0.0962/0.1990	361	300	405	66.0	5980
AP1-T105-U50	500 sm	240 sm	0.0605/0.1250	0.0761/0.1510	413	348	459	73.3	7460

The above data is approximate and subjected to manufacturing tolerance.

rm : round, Stranded
sm : Sector, Stranded



0.6/1 (1.2) kV



Single Core Cables, With Stranded Copper Conductors, PVC insulated, Aluminum Tape Armoured, and PVC Sheathed.

Description

- Soft annealed copper conductor, insulated with PVC compound rated 70 °C, Aluminum Tape Armoured and sheathed with PVC compound layer.
- Cables are produced according to IEC 60502 .

Application

- For outdoor and indoor installation in damp and wet locations where mechanical damages are expected to occur.

Cu / PVC / ATA / PVC

Product Code	Nominal Cross sectional area	Maximum Conductor Resistance		Current Rating						Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 70 °C	Laid in ground			Laid in free air (Shaded)				
				Flat	Trefoil	Duct	Flat Separated	Flat Touched	Trefoil Touched		
mm ²	Ω/Km	Ω/Km	A	A	A	A	A	A	mm	Kg/Km	
CP1-T101-B12	25	0.727	0.87	111	112	83	126	104	100	14.8	465
CP1-T101-B13	35	0.524	0.6272	133	135	101	155	126	123	15.9	565
CP1-T101-B14	50	0.387	0.4634	157	159	120	187	153	150	17.6	715
CP1-T101-B15	70	0.268	0.3212	192	195	148	235	193	188	19.2	935
CP1-T101-B16	95	0.193	0.2317	229	233	179	285	236	230	21.1	1220
CP1-T101-B17	120	0.153	0.1841	260	265	204	329	273	266	22.5	1470
CP1-T101-B18	150	0.124	0.1497	291	296	231	373	311	304	24.3	1770
CP1-T101-B19	185	0.0991	0.1203	328	334	265	427	358	349	26.4	2155
CP1-T101-B20	240	0.0754	0.0926	377	386	309	503	425	414	29.4	2765
CP1-T101-B30	300	0.0601	0.075	423	434	352	574	488	477	32.2	3385
CP1-T101-B40	400	0.047	0.0601	475	489	404	654	561	551	36	4330
CP1-T101-B50	500	0.0366	0.0488	530	549	459	746	645	635	40	5475
CP1-T101-B60	630	0.0283	0.0402	588	611	518	845	732	724	43.5	6800
CP1-T101-B70	800	0.0221	0.034	640	670	576	941	821	814	48.4	8770
CP1-T101-B80	1000	0.0176	0.0298	687	725	638	1038	915	913	55.9	10935

The above data is approximate and subjected to manufacturing tolerance.

0.6/1 (1.2) kV



Single Core Cables, With Stranded Aluminum Conductors, PVC insulated, Aluminum Tape Armoured, and PVC Sheathed.

Description

- Single Core Stranded Aluminum conductor, insulated with PVC compound rated 70 °C, Aluminum Tape Armoured and sheathed with PVC compound layer.
- Cables are produced according to IEC 60502 .

Application

- For outdoor and indoor installation in damp and wet locations where mechanical damages are expected to occur.

Al / PVC / ATA / PVC

Product Code	Nominal Cross sectional area	Maximum Conductor Resistance		Current Rating						Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 70 °C	Laid in ground			Laid in free air (Shaded)				
				Flat	Trefoil	Duct	Flat Separated	Flat Touched	Trefoil Touched		
				⊙⊙⊙	⊙⊙	⊙	⊙⊙⊙	⊙⊙	⊙		
mm ²	Ω/Km	Ω/Km	A	A	A	A	A	A	mm	Kg/Km	
AP1-T101-B11	16	1.91	2.2949	67	68	50	75	61	59	13.3	260
AP1-T101-B12	25	1.2	1.4419	86	87	64	99	80	78	14.8	315
AP1-T101-B13	35	0.868	1.043	103	105	78	120	98	95	15.9	360
AP1-T101-B14	50	0.641	0.7704	122	123	93	146	119	116	17.6	435
AP1-T101-B15	70	0.443	0.5326	149	152	115	183	150	146	19.2	525
AP1-T101-B16	95	0.32	0.385	178	181	139	222	183	178	21.1	645
AP1-T101-B17	120	0.253	0.3046	203	206	159	257	212	207	22.5	745
AP1-T101-B18	150	0.206	0.2483	227	231	180	292	242	236	24.3	880
AP1-T101-B19	185	0.164	0.1981	257	261	207	336	280	273	26.4	1040
AP1-T101-B20	240	0.125	0.1517	297	302	242	396	333	325	29.3	1295
AP1-T101-B30	300	0.1	0.1221	334	342	277	455	385	375	32.1	1555
AP1-T101-B40	400	0.0778	0.0959	380	390	322	525	449	439	36	1970
AP1-T101-B50	500	0.0605	0.0759	431	444	370	608	524	513	39.9	2415
AP1-T101-B60	630	0.0469	0.0606	486	503	424	699	605	594	43.4	2930
AP1-T101-B70	800	0.0367	0.0495	542	563	485	798	696	686	48.8	3680
AP1-T101-B80	1000	0.0291	0.0417	595	622	547	899	791	783	55.9	4540

The above data is approximate and subjected to manufacturing tolerance.

0.6/1 (1.2) kV



Single Core Cables, With Stranded Copper Conductors, PVC insulated, Aluminum Wire Armoured, and PVC Sheathed.

Description

- Soft annealed copper conductor, insulated with PVC compound rated 70 °C, Aluminum Wire Armoured and sheathed with PVC compound layer.
- Cables are produced according to IEC 60502 or BS 6346.

Application

- For outdoor and indoor installation in damp and wet locations where mechanical damages are expected to occur.

Cu / PVC / AWA / PVC

Product Code	Nominal Cross sectional area	Maximum Conductor Resistance		Current Rating						Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 70 °C	Laid in ground			Laid in free air (Shaded)				
				Flat	Trefoil	Duct	Flat Separated	Flat Touched	Trefoil Touched		
				⊙⊙⊙	⊙⊙	⊙	⊙⊙⊙	⊙⊙	⊙		
mm ²	Ω/Km	Ω/Km	A	A	A	A	A	A	mm	Kg/Km	
CP1-T101-X12	25	0.727	0.87	112	114	86	131	109	105	17.1	555
CP1-T101-X13	35	0.524	0.6272	134	136	103	159	132	129	18.2	670
CP1-T101-X14	50	0.387	0.4634	158	160	122	191	159	155	19.9	825
CP1-T101-X15	70	0.268	0.3212	193	196	151	237	199	194	21.5	1055
CP1-T101-X16	95	0.193	0.2316	228	233	182	285	241	236	23.4	1350
CP1-T101-X17	120	0.153	0.184	258	264	206	326	277	271	24.8	1620
CP1-T101-X18	150	0.124	0.1496	287	295	234	367	314	308	26.6	1930
CP1-T101-X19	185	0.0991	0.1202	320	330	264	414	358	352	28.7	2325
CP1-T101-X20	240	0.0754	0.0924	365	379	306	477	419	414	31.7	2955
CP1-T101-X30	300	0.0601	0.0747	401	420	344	529	472	471	34.8	3630
CP1-T101-X40	400	0.047	0.0598	442	467	387	587	534	536	38.4	4585
CP1-T101-X50	500	0.0366	0.0484	483	517	436	651	601	609	42.4	5740
CP1-T101-X60	630	0.0283	0.0397	523	565	481	714	666	682	46.1	7110
CP1-T101-X70	800	0.0221	0.0333	537	590	511	753	710	736	52	9290
CP1-T101-X80	1000	0.0176	0.0291	561	623	552	817	771	805	59.5	11530

The above data is approximate and subjected to manufacturing tolerance.

0.6/1 (1.2) kV



Single Core Cables, With Stranded Aluminium Conductors, PVC insulated, Aluminum Wire Armoured, and PVC Sheathed.

Description

- Single Core Stranded Aluminum conductor, insulated with PVC compound rated 70 °C, Aluminum Wire Armoured and sheathed with PVC compound layer.
- Cables are produced according to IEC 60502 or BS 6346.

Application

- For outdoor and indoor installation in damp and wet locations where mechanical damages are expected to occur.

Al / PVC / AWA / PVC

Product Code	Nominal Cross sectional area	Maximum Conductor Resistance		Current Rating						Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 70 °C	Laid in ground			Laid in free air (Shaded)				
				Flat	Trefoil	Duct	Flat Separated	Flat Touched	Trefoil Touched		
				⊙⊙⊙	⊙⊙⊙	⊙⊙⊙	⊙⊙⊙	⊙⊙⊙	⊙⊙⊙		
mm ²	Ω/Km	Ω/Km	A	A	A	A	A	A	mm	Kg/Km	
AP1-T101-X11	16	1.91	2.2949	68	68	51	78	64	63	15.6	330
AP1-T101-X12	25	1.2	1.4419	87	88	67	102	84	82	17.1	405
AP1-T101-X13	35	0.868	1.043	104	105	80	124	103	99	18.2	465
AP1-T101-X14	50	0.641	0.7703	122	125	95	149	124	120	19.9	545
AP1-T101-X15	70	0.443	0.5326	150	153	117	186	155	151	21.5	650
AP1-T101-X16	95	0.32	0.3849	178	182	142	225	188	183	23.4	780
AP1-T101-X17	120	0.253	0.3046	202	207	161	258	217	212	24.8	895
AP1-T101-X18	150	0.206	0.2483	225	231	183	291	246	241	26.6	1040
AP1-T101-X19	185	0.164	0.198	254	260	208	331	283	278	28.7	1210
AP1-T101-X20	240	0.125	0.1515	291	300	243	385	333	327	31.6	1485
AP1-T101-X30	300	0.1	0.1219	324	336	275	434	381	376	34.7	1800
AP1-T101-X40	400	0.0778	0.0957	363	379	315	491	438	435	38.4	2225
AP1-T101-X50	500	0.0605	0.0757	405	427	360	556	502	502	42.3	2680
AP1-T101-X60	630	0.0469	0.0603	448	476	406	621	569	573	46	3240
AP1-T101-X70	800	0.0367	0.049	476	514	446	677	628	640	52.4	4200
AP1-T101-X80	1000	0.0291	0.0411	508	555	492	746	695	714	59.5	5135

The above data is approximate and subjected to manufacturing tolerance.

0.6/1 (1.2) kV



Multicore Cables, with Stranded Copper Conductors,
PVC Insulated, Galvanized Double Steel Tape Armoured and PVC Sheathed

Description

- Multicore cables of stranded Copper conductors are insulated with PVC compound rated 70°C, assembled together, with a layer of PVC compound as bedding layer armoured with Galvanized Double steel tape and covered with overall jacket of PVC compound.
- Cables are produced according to IEC 60502.

Application

- For outdoor installations in damp and wet locations, where mechanical damages are expected to occur.

Cu /PVC / STA / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 70 °C Ω/km	Laid Direct in Ground A	Laid in Ducts A	Laid in Free Air (Shaded) A		
Two Core Cables								
CP1-T102-G09	6 rm	3.0800	3.6900	50	40	50	16.9	460
CP1-T102-G10	10 rm	1.8300	2.1900	65	55	66	17.0	560
CP1-T102-G11	16 rm	1.1500	1.3900	85	65	88	19.0	740
CP1-T102-G12	25 rm	0.7270	0.8700	110	85	116	22.0	1030
CP1-T102-G13	35 rm	0.5240	0.6280	130	105	143	24.2	1295
Three Core Cables								
CP1-T103-G08	4 rm	4.6100	5.5400	35	30	31	16.4	440
CP1-T103-G09	6 rm	3.0800	3.6900	45	36	39	17.5	525
CP1-T103-G10	10 rm	1.8300	2.1900	60	48	53	18.4	640
CP1-T103-G11	16 rm	1.1500	1.3900	75	60	72	20.6	860
CP1-T103-G12	25 rm	0.7270	0.8700	100	80	94	23.8	1200
CP1-T103-G13	35 rm	0.5240	0.6280	120	95	110	26.2	1530
Four Core Cables								
CP1-T104-G08	4 rm	4.6100	5.5400	35	30	31	17.6	520
CP1-T104-G09	6 rm	3.0800	3.6900	45	36	39	18.8	630
CP1-T104-G10	10 rm	1.8300	2.1900	60	48	53	19.9	805
CP1-T104-G11	16 rm	1.1500	1.3900	75	60	72	22.3	1070
CP1-T104-G12	25 rm	0.7270	0.8700	100	80	94	25.9	1520
CP1-T104-G13	35 rm	0.5240	0.6280	120	95	110	28.6	1950
CP1-T104-G14	50 sm	0.3870	0.4640	145	115	138	32.7	2640
CP1-T104-G15	70 sm	0.2680	0.3220	175	145	171	37.5	3915
CP1-T104-G16	95 sm	0.1930	0.2320	210	165	209	42.4	5140
CP1-T104-G17	120 sm	0.1530	0.1850	240	195	242	46.2	6310
CP1-T104-G18	150 sm	0.1240	0.1510	270	220	275	50.9	7615
CP1-T104-G19	185 sm	0.0991	0.1210	300	245	314	56.1	9365
CP1-T104-G20	240 sm	0.0754	0.0840	345	290	374	62.6	12790
CP1-T104-G30	300 sm	0.0601	0.0770	390	320	440	68.7	14645
CP1-T104-G40	400 sm	0.0470	0.0606	444	373	500	74.9	18510
CP1-T104-G50	500 sm	0.0366	0.0491	499	425	556	83.8	23700

▶ cont'd

Low Voltage Cables

0.6/1 (1.2) kV



Multicore Cables, with Stranded Copper Conductors,
PVC Insulated Galvanized Double Steel Tape Armoured and PVC Sheathed

Cu / PVC / STA / PVC

Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 70 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables with Reduced Neutral									
CP1-T105-G13	35 rm	16 rm	0.5240/1.1500	0.6280/1.3900	120	95	110	27.0	1740
CP1-T105-G14	50 sm	25 sm	0.3870/0.7270	0.4640/0.8700	145	115	138	30.9	2365
CP1-T105-G15	70 sm	35 sm	0.2680/0.5240	0.3220/0.6280	175	145	171	34.6	3155
CP1-T105-G16	95 sm	50 sm	0.1930/0.3870	0.2320/0.4640	210	165	209	40.7	4625
CP1-T105-G17	120 sm	70 sm	0.1530/0.2680	0.1850/0.3220	240	195	242	44.5	5730
CP1-T105-G18	150 sm	70 sm	0.1240/0.2680	0.1510/0.3220	270	220	275	48.5	6740
CP1-T105-G19	185 sm	95 sm	0.0991/0.1930	0.1210/0.2320	300	245	314	53.2	8300
CP1-T105-G20	240 sm	120 sm	0.0754/0.1530	0.0840/0.1850	345	290	374	59.6	10550
CP1-T105-G30	300 sm	150 sm	0.0601/0.1240	0.0770/0.1510	390	320	440	65.4	12920
CP1-T105-G40	400 sm	185 sm	0.0470/0.0991	0.0606/0.1210	444	373	500	70.8	16360
CP1-T105-G50	500 sm	240 sm	0.0366/0.0754	0.0491/0.0840	499	425	556	79.5	21000

The above data is approximate and subjected to manufacturing tolerance.

rm : round, Stranded
sm : Sector, Stranded



0.6/1 (1.2) kV



Multicore Cables, with Stranded Aluminium Conductors, PVC Insulated Galvanized Double Steel Tape Armoured and PVC Sheathed

Description

- Multicore cables of stranded Aluminium conductors are insulated with PVC compound rated 70°C, assembled together with a layer of PVC compound as bedding layer, armoured with Galvanized Double steel tape and covered with overall jacket of PVC compound.
- Cables are produced according to IEC 60502.

Application

- For outdoor installations in damp wet locations, where mechanical damages are expected to occur.

Al / PVC / STA / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C	AC at 70 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
		Ω/km	Ω/km	A	A	A		
Two Core Cables								
AP1-T102-G10	10 sm	3.080	3.300	46	39	46	17.0	435
AP1-T102-G11	16 sm	1.910	2.290	60	46	62	19.0	545
AP1-T102-G12	25 sm	1.200	1.440	77	60	81	22.0	730
AP1-T102-G13	35 sm	0.868	1.040	103	83	115	24.2	880
Three Core Cables								
AP1-T103-G10	10 sm	3.080	3.300	42	34	37	18.4	460
AP1-T103-G11	16 sm	1.910	2.290	53	42	50	20.6	570
AP1-T103-G12	25 sm	1.200	1.440	70	56	66	23.8	750
AP1-T103-G13	35 sm	0.868	1.040	95	75	88	26.2	905
Four Core Cables								
AP1-T104-G10	10 sm	3.0800	3.3000	42	34	37	19.9	560
AP1-T104-G11	16 sm	1.9100	2.2900	53	42	50	22.3	680
AP1-T104-G12	25 sm	1.2000	1.4400	70	56	66	25.9	920
AP1-T104-G13	35 sm	0.8680	1.0430	95	75	88	28.6	1120
AP1-T104-G14	50 sm	0.6410	0.7710	115	85	105	32.7	1475
AP1-T104-G15	70 sm	0.4430	0.5530	135	110	132	37.5	2225
AP1-T104-G16	95 sm	0.3200	0.3850	165	130	160	42.4	2830
AP1-T104-G17	120 sm	0.2530	0.3050	185	150	187	46.2	3360
AP1-T104-G18	150 sm	0.2060	0.2490	210	170	215	50.9	3975
AP1-T104-G19	185 sm	0.1640	0.1990	235	195	248	56.1	4815
AP1-T104-G20	240 sm	0.1250	0.1510	275	225	292	62.6	5925
AP1-T104-G30	300 sm	0.1000	0.1230	310	260	347	68.7	7125
AP1-T104-G40	400 sm	0.0778	0.0962	355	298	399	74.9	8950
AP1-T104-G50	500 sm	0.0605	0.0761	406	346	452	83.8	11390

▶ cont'd

0.6/1 (1.2) kV



Multicore Cables, with Stranded Aluminium Conductors,
PVC Insulated, Galvanized Double Steel Tape Armoured and PVC Sheathed

Al / PVC / STA / PVC

Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 70 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables with Reduced Neutral									
AP1-T105-G13	35 rm	16 rm	0.8680/1.9100	1.0430/2.2900	95	75	88	27.0	1020
AP1-T105-G14	50 sm	25 sm	0.6410/1.2000	0.7710/1.4400	115	85	105	30.9	1330
AP1-T105-G15	70 sm	35 sm	0.4430/0.8680	0.5330/1.0400	135	110	132	34.6	1675
AP1-T105-G16	95 sm	50 sm	0.3200/0.6410	0.3850/0.7710	165	130	160	40.7	2585
AP1-T105-G17	120 sm	70 sm	0.2530/0.4430	0.3050/0.5330	185	150	187	44.5	3100
AP1-T105-G18	150 sm	70 sm	0.2060/0.4430	0.2490/0.5330	210	170	215	48.5	3590
AP1-T105-G19	185 sm	95 sm	0.1640/0.3200	0.1990/0.3850	235	195	248	53.2	4300
AP1-T105-G20	240 sm	120 sm	0.1250/0.2530	0.1510/0.3050	275	225	292	59.6	5325
AP1-T105-G30	300 sm	150 sm	0.1000/0.2060	0.1230/0.2490	310	260	347	65.4	6365
AP1-T105-G40	400 sm	185 sm	0.0778/0.1640	0.0962/0.1990	355	298	399	70.8	8000
AP1-T105-G50	500 sm	240 sm	0.0605/0.1250	0.0761/0.1510	406	346	452	79.5	10250

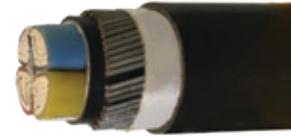
The above data is approximate and subjected to manufacturing tolerance.

rm : round, Stranded
sm : Sector, Stranded



0.6/1 (1.2) kV

Multicore Cables, with Stranded Copper Conductors, PVC Insulated, Steel Wire Armoured and PVC Sheathed



Description

- Multicore cables of stranded Copper conductors are insulated with PVC compound rated 70°C, assembled together, armoured with steel wires and covered with overall jacket of PVC compound.
- Cables are produced according to IEC 60502 or BS 6346.

Application

- For outdoor installations in damp wet locations where mechanical damages are expected to occur.

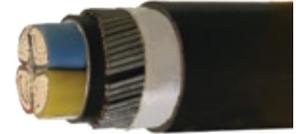
Cu / PVC / SWA / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 70 °C Ω/km	Laid Direct in Ground A	Laid in Ducts A	Laid in Free Air (Shaded) A		
Two Core Cables								
CP1-T102-W08	4 rm	4.6100	5.5400	40	32	39	17.8	645
CP1-T102-W09	6 rm	3.0800	3.6900	50	40	50	18.8	735
CP1-T102-W10	10 rm	1.8300	2.1900	65	55	66	19.2	815
CP1-T102-W11	16 rm	1.1500	1.3900	85	65	88	21.2	1030
CP1-T102-W12	25 rm	0.7270	0.8700	110	85	116	25.3	1535
CP1-T102-W13	35 rm	0.5240	0.6280	130	105	143	27.5	1790
Three Core Cables								
CP1-T103-W08	4 rm	4.6100	5.5400	35	30	31	18.5	730
CP1-T103-W09	6 rm	3.0800	3.6900	45	36	39	19.6	835
CP1-T103-W10	10 rm	1.8300	2.1900	60	48	53	20.6	920
CP1-T103-W11	16 rm	1.1500	1.3900	75	60	72	22.8	1175
CP1-T103-W12	25 rm	0.7270	0.8700	100	80	94	27.1	1765
CP1-T103-W13	35 rm	0.5240	0.6280	120	100	110	29.5	2145
Four Core Cables								
CP1-T104-W08	4 rm	4.6100	5.5400	37	29	29	19.7	840
CP1-T104-W09	6 rm	3.0800	3.6900	47	37	37	20.9	965
CP1-T104-W10	10 rm	1.8300	2.1900	63	50	50	22.1	1115
CP1-T104-W11	16 rm	1.1500	1.3900	79	68	68	25.6	1590
CP1-T104-W12	25 rm	0.7270	0.8700	105	89	89	29.2	2125
CP1-T104-W13	35 rm	0.5240	0.6280	120	95	116	32.1	2635
CP1-T104-W14	50 sm	0.3870	0.4640	145	115	143	37.1	3870
CP1-T104-W15	70 sm	0.2680	0.3220	175	145	176	40.7	4900
CP1-T104-W16	95 sm	0.1930	0.2320	210	165	215	46.6	6665
CP1-T104-W17	120 sm	0.1530	0.1850	240	195	248	50.6	7990
CP1-T104-W18	150 sm	0.1240	0.1510	270	220	281	55.1	9445
CP1-T104-W19	185 sm	0.0991	0.1210	300	245	319	60.5	11425
CP1-T104-W20	240 sm	0.0754	0.0840	345	290	380	66.8	14205
CP1-T104-W30	300 sm	0.0601	0.0770	390	320	446	72.9	17870
CP1-T104-W40	400 sm	0.0470	0.0606	427	361	490	80.0	21275
CP1-T104-W50	500 sm	0.0366	0.0491	472	403	536	87.7	26595

▶ cont'd

0.6/1 (1.2) kV

Multicore Cables with Stranded Copper Conductors,
PVC Insulated, Steel Wire Armoured and PVC Sheathed



Cu / PVC / SWA / PVC

Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 70 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables with Reduced Neutral									
CP1-T105-W13	35 sm	16 rm	0.5240/1.1500	0.6280/1.3900	120	95	116	28.7	2310
CP1-T105-W14	50 sm	25 rm	0.3870/0.7270	0.4640/0.8700	145	115	143	35.5	3550
CP1-T105-W15	70 sm	35 rm	0.2680/0.5240	0.3220/0.6280	175	145	176	39.2	4480
CP1-T105-W16	95 sm	50 sm	0.1930/0.3870	0.2320/0.4640	210	165	215	42.6	5475
CP1-T105-W17	120 sm	70 sm	0.1530/0.2680	0.1850/0.3220	240	195	248	48.9	7385
CP1-T105-W18	150 sm	70 sm	0.1240/0.2680	0.1510/0.3220	270	220	281	52.7	8505
CP1-T105-W19	185 sm	95 sm	0.0991/0.1930	0.1210/0.2320	300	245	319	57.6	10260
CP1-T105-W20	240 sm	120 sm	0.0754/0.1530	0.0840/0.1850	345	290	380	64.0	12755
CP1-T105-W30	300 sm	150 sm	0.0601/0.1240	0.0770/0.1510	390	320	446	69.8	15330
CP1-T105-W40	400 sm	185 sm	0.0470/0.0991	0.0606/0.1210	427	361	490	75.9	19260
CP1-T105-W50	500 sm	240 sm	0.0366/0.0754	0.0491/0.0840	472	403	536	83.4	23630

The above data is approximate and subjected to manufacturing tolerance.

rm : round, Stranded
sm : Sector, Stranded



0.6/1 (1.2) kV



Multicore Cables, with Stranded Aluminium Conductors, PVC Insulated, Steel Wire Armoured and PVC Sheathed

Description

- Multicore cables of stranded Aluminium conductors are insulated with PVC compound rated 70°C, assembled together, armoured with steel wires and covered with overall jacket of PVC compound.
- Cables are produced according to IEC 60502 or BS 6346.

Application

- For outdoor installations in damp wet locations where mechanical damages are expected to occur.

Al / PVC / SWA / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 70 °C Ω/km	Laid Direct in Ground A	Laid in Ducts A	Laid in Free Air (Shaded) A		
Two Core Cables								
AP1-T102-W10	10 rm	3.0800	3.3000	46	39	46	19.2	695
AP1-T102-W11	16 rm	1.9100	2.2900	60	46	62	21.2	835
AP1-T102-W12	25 rm	1.2000	1.4400	77	60	81	25.3	1235
AP1-T102-W13	35 rm	0.8680	1.0400	103	83	115	27.5	1370
Three Core Cables								
AP1-T103-W10	10 rm	3.0800	3.3000	42	34	37	20.6	740
AP1-T103-W11	16 rm	1.9100	2.2900	53	42	50	22.8	885
AP1-T103-W12	25 rm	1.2000	1.4400	70	56	66	27.1	1315
AP1-T103-W13	35 rm	0.8680	1.0400	95	75	88	29.5	1525
Four Core Cables								
AP1-T104-W10	10 rm	3.0800	3.3000	42	34	37	22.1	870
AP1-T104-W11	16 rm	1.9100	2.2900	53	42	50	25.6	1205
AP1-T104-W12	25 rm	1.2000	1.4400	70	56	66	29.2	1525
AP1-T104-W13	35 rm	0.8680	1.0430	95	75	88	32.1	1805
AP1-T104-W14	50 sm	0.6410	0.7710	115	85	105	37.1	3040
AP1-T104-W15	70 sm	0.4430	0.5530	135	110	138	40.7	3750
AP1-T104-W16	95 sm	0.3200	0.3850	165	130	165	46.6	4730
AP1-T104-W17	120 sm	0.2530	0.3050	185	150	193	50.6	5570
AP1-T104-W18	150 sm	0.2060	0.2490	210	170	220	55.1	6430
AP1-T104-W19	185 sm	0.1640	0.1990	235	195	253	60.5	7790
AP1-T104-W20	240 sm	0.1250	0.1510	275	225	297	66.8	9180
AP1-T104-W30	300 sm	0.1000	0.1230	310	260	352	72.9	10590
AP1-T104-W40	400 sm	0.0778	0.0962	348	294	397	80.0	11715
AP1-T104-W50	500 sm	0.0605	0.0761	392	335	443	87.7	14005

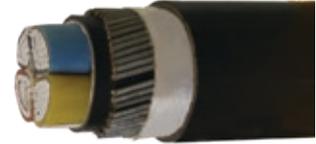
The above data is approximate and subjected to manufacturing tolerance.

rm : round, Stranded
sm : Sector, Stranded

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0.6/1 (1.2) kV

Multicore Cables, with Stranded Aluminium Conductors, PVC Insulated, Steel Wire Armoured and PVC Sheathed

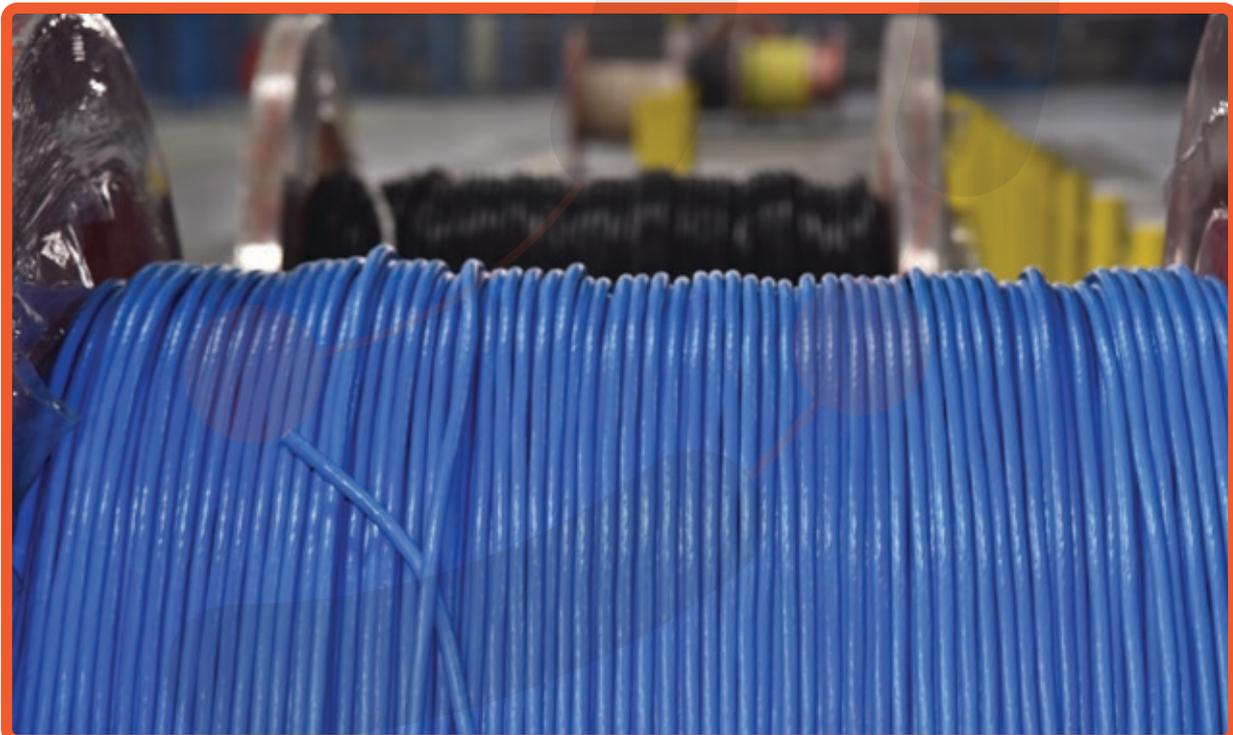


Al / PVC / SWA / PVC

Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 70 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables with Reduced Neutral									
AP1-T105-W13	35 rm	16 rm	0.8680/1.9100	1.0430/2.2900	95	75	94	28.7	1585
AP1-T105-W14	50 sm	25 rm	0.6410/1.2000	0.7710/1.4400	115	85	110	35.5	2300
AP1-T105-W15	70 sm	35 rm	0.4430/0.8680	0.5330/1.0400	135	110	138	39.2	2820
AP1-T105-W16	95 sm	50 sm	0.3200/0.6410	0.3850/0.7710	165	130	165	42.6	3410
AP1-T105-W17	120 sm	70 sm	0.2530/0.4430	0.3050/0.5330	185	150	193	48.9	4370
AP1-T105-W18	150 sm	70 sm	0.2060/0.4430	0.2490/0.5330	210	170	220	52.7	5080
AP1-T105-W19	185 sm	95 sm	0.1640/0.3200	0.1990/0.3850	235	195	253	57.6	5950
AP1-T105-W20	240 sm	120 sm	0.1250/0.2530	0.1510/0.3050	275	225	297	64.0	7230
AP1-T105-W30	300 sm	150 sm	0.1000/0.2060	0.1230/0.2490	310	260	352	69.8	8540
AP1-T105-W40	400 sm	185 sm	0.0778/0.1640	0.0962/0.1990	348	294	397	75.9	10870
AP1-T105-W50	500 sm	240 sm	0.0605/0.1250	0.0761/0.1510	392	335	443	83.4	12650

The above data is approximate and subjected to manufacturing tolerance.

rm : round, Stranded
sm : Sector, Stranded



0.6/1 (1.2) kV

Single Core Cables, with Stranded Circular Copper Conductors, XLPE Insulated and PVC Sheathed



Description

- Soft annealed stranded Copper or Aluminium conductor, Insulated with XLPE compound covered with a layer of PVC compound to form the overall jacket.
- Cables are according to IEC 60502 or BS 7889.

Application

- For outdoor and indoor installations in damp and wet locations. They are normally used for power distribution in urban networks, in industrial plants, as well as in Thermopower and Hydropower stations.

Cu / XLPE / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating						Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km	Laid in Ground			Laid in Free Air (Shaded)				
				⊙⊙⊙ A	⊙⊙ A	⊙ A	⊙⊙⊙ A	⊙⊙ A	⊙ A		
a - Copper Conductors											
CX1-T101-U08	4	4.6100	5.8800	55	51	40	53	47	40	6.8	
CX1-T101-U09	6	3.0800	3.9300	68	65	53	65	59	53	7.3	102
CX1-T101-U10	10	1.8300	2.3300	98	86	68	84	79	68	8.3	150
CX1-T101-U11	16	1.1500	1.4700	116	111	87	116	110	95	9.3	210
CX1-T101-U12	25	0.7270	0.9270	150	142	110	143	137	121	11.0	315
CX1-T101-U13	35	0.5240	0.6690	179	172	137	179	173	152	12.1	410
CX1-T101-U14	50	0.3870	0.4940	210	200	163	221	210	184	13.8	555
CX1-T101-U15	70	0.2680	0.3430	263	247	200	278	268	236	15.7	760
CX1-T101-U16	95	0.1930	0.2480	310	294	242	347	336	289	17.7	1015
CX1-T101-U17	120	0.1530	0.1970	357	336	273	404	394	341	19.6	1280
CX1-T101-U18	150	0.1240	0.1600	394	373	310	457	446	389	21.8	1570
CX1-T101-U19	185	0.0991	0.1290	452	425	352	530	520	441	23.9	1920
CX1-T101-U20	240	0.0754	0.0990	520	488	404	651	641	536	27.1	2530
CX1-T101-U30	300	0.0601	0.0810	588	546	457	824	756	620	29.7	3105
CX1-T101-U40	400	0.0470	0.0638	672	620	515	893	872	714	33.9	4135
CX1-T101-U50	500	0.0366	0.0517	761	693	572	1008	987	814	37.4	5110
CX1-T101-U60	630	0.0283	0.0425	872	777	651	1155	1134	956	41.9	6455
CX1-T101-U70	800	0.0221	0.0292	957	861	735	1313	1292	1092	46.8	8260
CX1-T101-U80	1000	0.0176	0.0234	1082	935	798	1449	1428	1208	51.5	10075

▶ cont'd

Low Voltage Cables

0.6/1 (1.2) kV

Single Core Cables, with Stranded Circular Aluminium Conductors, XLPE Insulated and PVC Sheathed



Al / XLPE / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating						Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km	Laid in Ground			Laid in Free Air (Shaded)				
				⊙⊙⊙	⊙⊙	⊙	⊙	⊙⊙⊙	⊙⊙		
b - Aluminium Conductors											
AX1-T101-U11	16	1.9100	2.4500	89	87	66	89	84	63	9.3	115
AX1-T101-U12	25	1.2000	1.5400	113	110	84	116	110	95	11.0	165
AX1-T101-U13	35	0.8680	1.1130	137	131	105	142	137	121	12.1	205
AX1-T101-U14	50	0.6410	0.8220	163	155	121	173	168	147	13.8	260
AX1-T101-U15	70	0.4430	0.5690	200	189	152	221	215	179	15.7	340
AX1-T101-U16	95	0.3200	0.4110	236	226	179	284	273	215	17.7	450
AX1-T101-U17	120	0.2530	0.3250	278	263	215	326	315	242	19.6	550
AX1-T101-U18	150	0.2060	0.2650	310	294	236	373	362	299	21.8	670
AX1-T101-U19	185	0.1640	0.2120	352	336	267	436	420	336	23.9	830
AX1-T101-U20	240	0.1250	0.1630	410	389	315	515	499	399	27.1	1050
AX1-T101-U30	300	0.1000	0.1310	467	436	357	578	567	462	29.7	1300
AX1-T101-U40	400	0.0778	0.1000	541	504	410	693	677	541	33.9	1610
AX1-T101-U50	500	0.0605	0.0870	609	567	467	809	788	630	37.4	2000
AX1-T101-U60	630	0.0469	0.0620	698	646	536	945	924	746	41.9	2520
AX1-T101-U70	800	0.0367	0.0560	788	704	599	1071	1050	851	46.8	3150
AX1-T101-U80	1000	0.0291	0.0470	872	767	651	1176	1155	966	51.5	3870

The above data is approximate and subjected to manufacturing to larence.



0.6/1 (1.2) kV

Multicore Cables, with Stranded, Copper Conductors, XLPE Insulated and PVC Sheathed



Description

- Multicore cables of stranded Copper conductors are insulated with XLPE compound, assembled together and covered with an overall jacket of PVC compound.
- Cables are produced according to IEC 60502.

Application

- For outdoor and indoor installations in damp and wet locations. They are normally used for power distribution in urban networks, in industrial plants, as well as in Thermopower and Hydropower Stations.

Cu / XLPE / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C	AC at 90 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
		Ω/km	Ω/km	A	A	A		
Two Core Cables								
CX1-T102-U04	1.5 rm	12.1000	15.4000	30	25	25	9.6	105
CX1-T102-U06	2.5 rm	7.4100	9.4500	37	32	34	10.5	135
CX1-T102-U08	4 rm	4.6100	5.8800	50	40	46	11.7	175
CX1-T102-U09	6 rm	3.0800	3.9300	63	52	60	12.7	225
CX1-T102-U10	10 rm	1.8300	2.3300	82	69	79	13.8	360
CX1-T102-U11	16 rm	1.1500	1.4700	106	83	105	15.8	505
CX1-T102-U12	25 rm	0.7270	0.9270	139	107	139	18.8	750
CX1-T102-U13	35 rm	0.5240	0.6690	166	134	166	21.0	980
Three Core Cables								
CX1-T103-U04	1.5 rm	12.1000	15.4000	26	23	22	10.1	130
CX1-T103-U06	2.5 rm	7.4100	9.4500	35	29	32	11.0	165
CX1-T103-U08	4 rm	4.6100	5.8800	45	36	41	12.3	225
CX1-T103-U09	6 rm	3.0800	3.9300	57	45	50	13.4	295
CX1-T103-U10	10 rm	1.8300	2.3300	75	60	68	15.1	430
CX1-T103-U11	16 rm	1.1500	1.4700	97	75	89	17.3	620
CX1-T103-U12	25 rm	0.7270	0.9270	128	102	120	20.5	910
CX1-T103-U13	35 rm	0.5240	0.6690	155	120	145	22.9	1205

▶ cont'd

0.6/1 (1.2) kV

Multicore Cables with Stranded, Copper Conductors, XLPE Insulated and PVC Sheathed



Cu / XLPE / PVC

Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 90 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables									
CX1-T104-U04	1.5	rm	12.1000	15.4000	26	23	22	10.6	150
CX1-T104-U06	2.5	rm	7.4100	9.4500	35	29	32	11.9	205
CX1-T104-U08	4	rm	4.6100	5.8800	45	36	41	13.4	280
CX1-T104-U09	6	rm	3.0800	3.9300	57	45	50	14.6	365
CX1-T104-U10	10	rm	1.8300	2.3300	75	60	68	16.4	565
CX1-T104-U11	16	rm	1.1500	1.4700	97	75	89	18.9	795
CX1-T104-U12	25	rm	0.7270	0.9270	128	102	120	22.5	1185
CX1-T104-U13	35	rm	0.5240	0.6690	155	120	145	25.2	1575
CX1-T104-U14	50	sm	0.3870	0.4940	185	145	179	27.1	2060
CX1-T104-U15	70	sm	0.2680	0.3430	220	180	225	31.4	2905
CX1-T104-U16	95	sm	0.1930	0.2480	265	210	268	35.1	3910
CX1-T104-U17	120	sm	0.1530	0.1970	305	245	310	39.2	4915
CX1-T104-U18	150	sm	0.1240	0.1600	335	275	352	43.7	6035
CX1-T104-U19	185	sm	0.0991	0.1290	375	310	404	48.7	7540
CX1-T104-U20	240	sm	0.0754	0.0990	435	365	483	54.5	9785
CX1-T104-U30	300	sm	0.0601	0.0810	490	405	562	60.1	12190
CX1-T104-U40	400	sm	0.0470	0.06420	579	476	660	66.9	15540
CX1-T104-U50	500	sm	0.0366	0.05190	653	546	762	74.4	20075
Four Core Cables with Reduced Neutral									
CX1-T105-U13	35	16 rm	0.5240/1.1500	0.6690/1.4700	155	120	142	23.6	1390
CX1-T105-U14	50	25 sm	0.3870/0.7270	0.4940/0.9270	185	145	179	25.9	1835
CX1-T105-U15	70	35 sm	0.2680/0.5240	0.3430/0.6690	220	180	215	29.7	2540
CX1-T105-U16	95	50 sm	0.1930/0.3870	0.2480/0.4940	265	210	268	33.6	3435
CX1-T105-U17	120	70 sm	0.1530/0.2680	0.1970/0.3430	305	245	310	37.5	4400
CX1-T105-U18	150	70 sm	0.1240/0.2680	0.1600/0.3430	335	275	352	41.3	5255
CX1-T105-U19	185	95 sm	0.0991/0.1930	0.1290/0.2480	375	310	404	46.2	6640
CX1-T105-U20	240	120 sm	0.0754/0.1530	0.0990/0.1970	435	365	483	51.5	8555
CX1-T105-U30	300	150 sm	0.0601/0.1240	0.0810/0.1600	490	405	562	56.8	10640
CX1-T105-U40	400	185 sm	0.0470/0.0991	0.0642/0.1290	579	476	660	62.8	14436
CX1-T105-U50	500	240 sm	0.0366/0.0754	0.0519/0.0990	653	546	762	70.1	18291

The above data is approximate and subjected to manufacturing tolerance.

rm : round, Stranded
sm : Sector, Stranded

0.6/1 (1.2) kV

Multicore Cables, with Stranded, Aluminum Conductors, XLPE Insulated and PVC Sheathed



Description

- Multicore cables of Stranded Aluminium conductors are insulated with XLPE compound, assembled together and covered with an overall jacket of PVC compound.
- Cables are produced according to IEC 60502.

Application

- For outdoor and indoor installations in damp and wet locations. They are normally used for power distribution in urban networks, in industrial plants, as well as in Thermopower and Hydropower Stations.

Al / XLPE / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km	Laid Direct in Ground A	Laid in Ducts A	Laid in Free Air (Shaded) A		
Two Core Cables								
AX1-T102-U10	10 rm	3.0800	3.9500	57	48	55	13.8	235
AX1-T102-U11	16 rm	1.9100	2.4500	74	58	73	15.8	310
AX1-T102-U12	25 rm	1.2000	1.5400	97	75	97	18.8	450
AX1-T102-U13	35 rm	0.8680	1.1130	128	106	120	21.0	565
Three Core Cables								
AX1-T103-U10	10 rm	3.0800	3.9500	52	42	48	15.1	250
AX1-T103-U11	16 rm	1.9100	2.4500	68	52	62	17.3	330
AX1-T103-U12	25 rm	1.2000	1.5400	90	71	84	20.5	460
AX1-T103-U13	35 rm	0.8680	1.1130	120	95	105	22.9	580
Four Core Cables								
AX1-T104-U10	10 rm	3.0800	3.9500	52	42	48	16.4	320
AX1-T104-U11	16 rm	1.9100	2.4500	68	52	62	18.9	405
AX1-T104-U12	25 rm	1.2000	1.5400	90	71	84	22.5	585
AX1-T104-U13	35 rm	0.8680	1.1130	120	95	110	25.2	745
AX1-T104-U14	50 sm	0.6410	0.8220	145	110	136	26.5	905
AX1-T104-U15	70 sm	0.4430	0.5690	175	140	168	30.8	1260
AX1-T104-U16	95 sm	0.3200	0.4110	210	165	205	33.5	1565
AX1-T104-U17	120 sm	0.2530	0.3250	235	190	236	37.6	1950
AX1-T104-U18	150 sm	0.2060	0.2650	265	215	278	42.1	2405
AX1-T104-U19	185 sm	0.1640	0.2120	290	240	315	47.1	2930
AX1-T104-U20	240 sm	0.1250	0.1630	340	280	378	52.9	3725
AX1-T104-U30	300 sm	0.1000	0.1310	390	325	446	58.5	4625
AX1-T104-U40	400 sm	0.0778	0.1025	461	379	526	66.9	5975
AX1-T104-U50	500 sm	0.0605	0.0809	527	441	615	74.4	7485

The above data is approximate and subjected to manufacturing tolerance.

▶ cont'd

0.6/1 (1.2) kV

Multicore Cables, with Stranded, Aluminum Conductors, XLPE Insulated and PVC Sheathed



Al / XLPE / PVC

Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 90 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables with Reduced Neutral									
AX1-T105-U13	35 sm	16 sm	0.8680/1.9100	1.1130/2.4500	120	95	110	23.6	720
AX1-T105-U14	50 sm	25 sm	0.6410/1.2000	0.8220/1.5400	145	110	136	25.3	970
AX1-T105-U15	70 sm	35 sm	0.4430/0.8680	0.5690/1.1130	175	140	168	29.1	1240
AX1-T105-U16	95 sm	50 sm	0.3200/0.6410	0.4110/0.8220	210	165	205	33.0	1660
AX1-T105-U17	120 sm	70 sm	0.2530/0.4430	0.3250/0.5690	235	190	236	35.9	2040
AX1-T105-U18	150 sm	70 sm	0.2060/0.4430	0.2650/0.5690	265	215	278	39.7	2435
AX1-T105-U19	185 sm	95 sm	0.1640/0.3200	0.2120/0.4110	290	240	315	44.6	3025
AX1-T105-U20	240 sm	120 sm	0.1250/0.2530	0.1630/0.3250	340	280	378	49.9	3830
AX1-T105-U30	300 sm	150 sm	0.1000/0.2060	0.1310/0.2650	390	325	446	55.2	4720
AX1-T105-U40	400 sm	185 sm	0.0778/0.1640	0.1025/0.2120	461	379	526	62.8	5980
AX1-T105-U50	500 sm	240 sm	0.0605/0.1250	0.0809/0.1630	527	441	615	70.1	7460

The above data is approximate and subjected to manufacturing tolerance.





0.6/1 (1.2) kV

Single Core Cables, With Stranded Copper Conductors, XLPE insulated, Aluminium Tape Armoured, and PVC Sheathed.

Description

- Soft annealed copper conductor, insulated with XLPE compound rated 90 °C, Aluminum Tape Armoured and sheathed with PVC compound layer.
- Cables are produced according to IEC 60502.

Application

- For outdoor and indoor installation in damp and wet locations where mechanical damages are expected to occur.

Cu / XLPE / ATA / PVC

Product Code	Nominal Cross sectional area	Maximum Conductor Resistance		Current Rating						Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C	Laid in ground			Laid in free air (Shaded)				
				Flat	Trefoil	Duct	Flat Separated	Flat Touched	Trefoil Touched		
				⊙⊙⊙	⊙⊙	⊙	⊙⊙⊙	⊙⊙	⊙		
mm ²	Ω/Km	Ω/Km	A	A	A	A	A	A	mm	Kg/Km	
CX1-T101-B12	25	0.727	0.9272	137	139	103	171	138	135	14.2	430
CX1-T101-B13	35	0.524	0.6684	164	167	123	209	169	164	15.3	525
CX1-T101-B14	50	0.387	0.4938	194	197	148	252	206	199	16.8	660
CX1-T101-B15	70	0.268	0.3423	237	240	182	316	258	251	18.6	880
CX1-T101-B16	95	0.193	0.2469	283	287	220	386	315	306	20.1	1140
CX1-T101-B17	120	0.153	0.1962	320	326	253	445	365	355	21.7	1395
CX1-T101-B18	150	0.124	0.1595	359	366	288	506	418	406	23.5	1680
CX1-T101-B19	185	0.0991	0.1281	404	412	327	581	482	469	25.6	2055
CX1-T101-B20	240	0.0754	0.0985	466	477	384	685	572	558	28.2	2615
CX1-T101-B30	300	0.0601	0.0797	524	537	436	784	658	643	31	3220
CX1-T101-B40	400	0.047	0.0638	588	605	501	897	761	745	34.6	4120
CX1-T101-B50	500	0.0366	0.0516	659	680	571	1026	877	861	38.6	5230
CX1-T101-B60	630	0.0283	0.0423	730	758	648	1161	999	984	42.7	6575
CX1-T101-B70	800	0.0221	0.0356	798	833	723	1295	1123	1112	48	8545
CX1-T101-B80	1000	0.0176	0.031	858	904	803	1432	1256	1251	55.5	10660

The above data is approximate and subjected to manufacturing tolerance.



0.6/1 (1.2) kV

Single Core Cables, With Stranded Aluminium Conductors, XLPE insulated, Aluminium Tape Armoured, and PVC Sheathed.

Description

- Single Core Stranded Aluminum conductor, insulated with XLPE compound rated 90 °C, Aluminum Tape Armoured and sheathed with PVC compound layer.
- Cables are produced according to IEC 60502.

Application

- For outdoor and indoor installation in damp and wet locations where mechanical damages are expected to occur.

Al / XLPE / ATA / PVC

Product Code	Nominal Cross sectional area	Maximum Conductor Resistance		Current Rating						Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C	Laid in ground			Laid in free air (Shaded)				
				Flat	Trefoil	Duct	Flat Separated	Flat Touched	Trefoil Touched		
				⊙⊙⊙	⊙⊙	⊙	⊙⊙⊙	⊙⊙⊙	⊙⊙		
mm ²	Ω/Km	Ω/Km	A	A	A	A	A	A	mm	Kg/Km	
AX1-T101-B11	16	1.91	2.4489	83	84	62	100	81	79	12.7	230
AX1-T101-B12	25	1.2	1.5386	106	108	80	133	108	104	14.2	280
AX1-T101-B13	35	0.868	1.113	127	129	95	162	131	127	15.3	320
AX1-T101-B14	50	0.641	0.822	150	153	114	196	159	154	16.8	380
AX1-T101-B15	70	0.443	0.5683	184	186	142	246	200	195	18.6	475
AX1-T101-B16	95	0.32	0.4108	220	223	171	299	244	238	20.1	570
AX1-T101-B17	120	0.253	0.325	249	253	196	347	284	277	21.7	670
AX1-T101-B18	150	0.206	0.2649	279	284	223	395	325	316	23.5	790
AX1-T101-B19	185	0.164	0.2113	316	322	256	455	377	367	25.6	940
AX1-T101-B20	240	0.125	0.1617	366	373	301	539	448	436	28.1	1145
AX1-T101-B30	300	0.1	0.1301	412	421	343	620	519	504	30.9	1390
AX1-T101-B40	400	0.0778	0.1022	469	481	399	718	607	592	34.6	1760
AX1-T101-B50	500	0.0605	0.0808	533	548	460	832	709	693	38.5	2165
AX1-T101-B60	630	0.0469	0.0643	601	621	530	957	821	805	42.6	2705
AX1-T101-B70	800	0.0367	0.0523	672	697	608	1092	946	931	48.4	3460
AX1-T101-B80	1000	0.0291	0.0438	739	772	686	1233	1080	1067	55.5	4265

The above data is approximate and subjected to manufacturing tolerance.



0.6/1 (1.2) kV

Single Core Cables, With Stranded Copper Conductors, XLPE insulated, Aluminum Wire Armoured, and PVC Sheathed.

Description

- Soft annealed copper conductor, insulated with XLPE compound rated 90 °C, Aluminum Wire Armoured and sheathed with PVC compound layer.
- Cables are produced according to IEC 60502 or BS 5467.

Application

- For outdoor and indoor installation in damp and wet locations where mechanical damages are expected to occur.

Cu / XLPE / AWA / PVC

Product Code	Nominal Cross sectional area	Maximum Conductor Resistance		Current Rating						Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C	Laid in ground			Laid in free air (Shaded)				
				Flat	Trefoil	Duct	Flat Separated	Flat Touched	Trefoil Touched		
CX1-T101-X12	25	0.727	0.9271	139	140	106	178	145	142	16.5	515
CX1-T101-X13	35	0.524	0.6684	166	168	128	216	177	172	17.6	625
CX1-T101-X14	50	0.387	0.4938	195	198	153	259	214	208	19.1	770
CX1-T101-X15	70	0.268	0.3422	238	242	188	322	267	260	20.9	1000
CX1-T101-X16	95	0.193	0.2468	282	288	225	387	324	315	22.4	1275
CX1-T101-X17	120	0.153	0.196	318	326	257	443	372	364	24	1530
CX1-T101-X18	150	0.124	0.1593	355	364	289	499	423	414	25.8	1830
CX1-T101-X19	185	0.0991	0.1279	397	409	328	565	484	476	27.9	2220
CX1-T101-X20	240	0.0754	0.0983	452	469	381	653	567	559	30.7	2810
CX1-T101-X30	300	0.0601	0.0794	502	524	432	732	645	639	33.5	3435
CX1-T101-X40	400	0.047	0.0635	551	581	485	808	728	729	37.2	4375
CX1-T101-X50	500	0.0366	0.0512	604	644	546	897	821	830	41.2	5510
CX1-T101-X60	630	0.0283	0.0418	655	707	610	987	917	934	45.1	6860
CX1-T101-X70	800	0.0221	0.0349	675	741	652	1036	979	1013	51.6	9055
CX1-T101-X80	1000	0.0176	0.0304	707	784	705	1123	1065	1111	59.1	11245

The above data is approximate and subjected to manufacturing tolerance.

0.6/1 (1.2) kV



Single Core Cables, With Stranded Aluminium Conductors, XLPE insulated, Aluminum Wire Armoured, and PVC Sheathed.

Description

- Single Core Stranded Aluminium conductor, insulated with XLPE compound rated 90 °C, Aluminum Wire Armoured and sheathed with PVC compound layer.
- Cables are produced according to IEC 60502.

Application

- For outdoor and indoor installation in damp and wet locations where mechanical damages are expected to occur.

Al / XLPE / AWA / PVC

Product Code	Nominal Cross sectional area mm ²	Maximum Conductor Resistance		Current Rating						Approx. Overall Diameter mm	Approx. Weight Kg/Km
		DC at 20 °C Ω/Km	AC at 90 °C Ω/Km	Laid in ground			Laid in free air (Shaded)				
				Flat ○○○	Trefoil ○○○	Duct ○○○	Flat Separated ○○○	Flat Touched ○○○	Trefoil Touched ○○○		
AX1-T101-X11	16	1.91	2.4489	84	85	63	106	86	83	15	295
AX1-T101-X12	25	1.2	1.5386	108	109	82	138	113	110	16.5	365
AX1-T101-X13	35	0.868	1.113	128	131	100	168	137	134	17.6	420
AX1-T101-X14	50	0.641	0.822	152	154	118	202	166	162	19.1	490
AX1-T101-X15	70	0.443	0.5683	185	188	146	252	207	202	20.9	595
AX1-T101-X16	95	0.32	0.4107	220	224	175	304	252	246	22.4	700
AX1-T101-X17	120	0.253	0.3249	249	254	201	350	292	285	24	805
AX1-T101-X18	150	0.206	0.2648	278	284	226	395	332	324	25.8	940
AX1-T101-X19	185	0.164	0.2112	313	321	257	450	382	373	27.9	1105
AX1-T101-X20	240	0.125	0.1616	360	370	301	526	450	441	30.6	1345
AX1-T101-X30	300	0.1	0.1299	402	416	343	596	515	507	33.4	1600
AX1-T101-X40	400	0.0778	0.102	451	469	393	674	594	589	37.2	2015
AX1-T101-X50	500	0.0605	0.0805	504	529	450	762	683	681	41.1	2445
AX1-T101-X60	630	0.0469	0.064	559	592	511	855	778	781	45	2990
AX1-T101-X70	800	0.0367	0.0518	593	640	564	927	859	874	52	3980
AX1-T101-X80	1000	0.0291	0.0432	637	694	624	1022	954	980	59.1	4850

The above data is approximate and subjected to manufacturing tolerance.

0.6/1 (1.2) kV



Multicore Cables, with Stranded Copper Conductors, XLPE Insulated, Galvanized Double Steel Tape Armoured and PVC Sheathed

Description

- Multicore cables of stranded Copper conductors are insulated with XLPE compound, assembled together with a layer of PVC compound as bedding layer, armoured with Galvanized Double steel tape and covered with an overall jacket of PVC compound.
- Cables are produced according to IEC 60502.

Application

- For outdoor installations in damp wet locations where mechanical damages are expected to occur.

Cu / XLPE / STA / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km	Laid Direct in Ground A	Laid in Ducts A	Laid in Free Air (Shaded) A		
Two Core Cables								
CX1-T102-G09	6 rm	3.0800	3.9300	62	51	59	15.5	405
CX1-T102-G10	10 rm	1.8300	2.3300	81	68	78	15.6	490
CX1-T102-G11	16 rm	1.1500	1.4700	105	82	103	17.8	655
CX1-T102-G12	25 rm	0.7270	0.9270	138	106	137	20.8	935
CX1-T102-G13	35 rm	0.5240	0.6690	164	132	164	23.0	1185
Three Core Cables								
CX1-T103-G09	6 rm	3.0800	3.9300	56	44	49	16.2	465
CX1-T103-G10	10 rm	1.8300	2.3300	74	59	67	17.1	575
CX1-T103-G11	16 rm	1.1500	1.4700	96	74	88	19.3	790
CX1-T103-G12	25 rm	0.7270	0.9270	127	100	120	22.5	1105
CX1-T103-G13	35 rm	0.5240	0.6690	153	119	143	24.9	1420
Four Core Cables								
CX1-T104-G09	6 rm	3.0800	3.9300	56	44	49	17.4	555
CX1-T104-G10	10 rm	1.8300	2.3300	74	59	67	18.4	720
CX1-T104-G11	16 rm	1.1500	1.4700	96	74	88	20.9	975
CX1-T104-G12	25 rm	0.7270	0.9270	127	100	120	24.5	1385
CX1-T104-G13	35 rm	0.5240	0.6690	153	119	143	27.2	1775
CX1-T104-G14	50 sm	0.3870	0.4940	185	145	178	30.1	2415
CX1-T104-G15	70 sm	0.2680	0.3430	220	180	215	34.6	3335
CX1-T104-G16	95 sm	0.1930	0.2480	265	210	268	39.7	4815
CX1-T104-G17	120 sm	0.1530	0.1970	305	245	310	43.8	5910
CX1-T104-G18	150 sm	0.1240	0.1600	335	275	352	48.7	7195
CX1-T104-G19	185 sm	0.0991	0.1290	375	310	404	53.7	8830
CX1-T104-G20	240 sm	0.0754	0.0990	435	365	483	60.0	11285
CX1-T104-G30	300 sm	0.0601	0.0810	490	405	562	65.5	13835
CX1-T104-G40	400 sm	0.0470	0.0642	567	472	645	71.7	17515
CX1-T104-G50	500 sm	0.0366	0.0519	614	524	746	80.6	22885

▶ cont'd

0.6/1 (1.2) kV



Multicore Cables, with Stranded Copper Conductors, XLPE Insulated, Galvanized Double Steel Tape Armoured and PVC Sheathed

Cu / XLPE / STA / PVC

Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 90 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables with Reduced Neutral									
CX1-T105-G13	35 sm	16 rm	0.5240/1.1500	0.6690/1.4700	153	119	143	25.6	1615
CX1-T105-G14	50 sm	25 rm	0.3870/0.7270	0.4940/0.9270	185	145	178	28.7	2160
CX1-T105-G15	70 sm	35 rm	0.2680/0.5240	0.3430/0.6690	220	180	215	33.1	2960
CX1-T105-G16	95 sm	50 sm	0.1930/0.3870	0.2480/0.4940	265	210	268	38.0	4280
CX1-T105-G17	120 sm	70 sm	0.1530/0.2680	0.1970/0.3430	305	245	310	42.1	5365
CX1-T105-G18	150 sm	70 sm	0.1240/0.2680	0.1600/0.3430	335	275	352	46.3	6355
CX1-T105-G19	185 sm	95 sm	0.0991/0.1930	0.1290/0.2480	375	310	404	51.2	7865
CX1-T105-G20	240 sm	120 sm	0.0754/0.1530	0.0990/0.1970	435	365	483	57.1	10000
CX1-T105-G30	300 sm	150 sm	0.0601/0.1240	0.0810/0.1600	490	405	562	62.2	12205
CX1-T105-G40	400 sm	185 sm	0.0470/0.0991	0.0642/0.1290	567	472	645	67.8	15505
CX1-T105-G50	500 sm	240 sm	0.0366/0.0754	0.0519/0.0990	614	524	746	75.3	19515

The above data is approximate and subjected to manufacturing tolerance.

rm : round, Stranded
sm : Sector, Stranded



0.6/1 (1.2) kV



Multicore Cables, with Stranded Aluminium Conductors, XLPE Insulated, Galvanized Double Steel Tape Armoured and PVC Sheathed

Description

- Multicore cables of stranded Aluminium conductors are insulated with XLPE compound, assembled together with a layer of PVC compound as bedding layer, armoured with Galvanized Double steel tape and covered with an overall jacket of PVC compound.
- Cables are produced according to IEC 60502.

Application

- For outdoor installations in damp wet locations where mechanical damages are expected to occur.

Al / XLPE / STA / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km	Laid Direct in Ground A	Laid in Ducts A	Laid in Free Air (Shaded) A		
Two Core Cables								
AX1-T102-G10	10 mm	3.0800	3.9500	56	47	55	15.8	370
AX1-T102-G11	16 mm	1.9100	2.4500	73	57	72	17.8	460
AX1-T102-G12	25 mm	1.2000	1.5400	96	74	96	20.8	630
AX1-T102-G13	35 mm	0.8680	1.1130	129	105	126	23.0	770
Three Core Cables								
AX1-T103-G10	10 mm	3.0800	3.9500	52	41	47	17.1	390
AX1-T103-G11	16 mm	1.9100	2.4500	67	52	62	19.3	495
AX1-T103-G12	25 mm	1.2000	1.5400	89	70	84	22.5	650
AX1-T103-G13	35 mm	0.8680	1.1130	120	95	110	24.9	795
Four Core Cables								
AX1-T104-G10	10 mm	3.0800	3.9500	52	41	47	18.4	475
AX1-T104-G11	16 mm	1.9100	2.4500	67	52	62	20.9	585
AX1-T104-G12	25 mm	1.2000	1.5400	89	70	84	24.5	780
AX1-T104-G13	35 mm	0.8680	1.1130	120	95	110	27.2	940
AX1-T104-G14	50 sm	0.6410	0.8220	145	110	136	30.1	1300
AX1-T104-G15	70 sm	0.4430	0.5690	175	140	168	34.6	1750
AX1-T104-G16	95 sm	0.3200	0.4110	210	165	205	39.7	2540
AX1-T104-G17	120 sm	0.2520	0.3250	235	190	236	43.8	3020
AX1-T104-G18	150 sm	0.2060	0.2650	265	215	278	48.7	3670
AX1-T104-G19	185 sm	0.1640	0.2120	290	240	315	53.7	4380
AX1-T104-G20	240 sm	0.1250	0.1630	340	280	378	60.0	4430
AX1-T104-G30	300 sm	0.1000	0.1310	390	325	446	65.5	6510
AX1-T104-G40	400 sm	0.0778	0.1025	453	377	515	71.7	7950
AX1-T104-G50	500 sm	0.0605	0.0809	498	425	604	80.6	10295

The above data is approximate and subjected to manufacturing tolerance.

▶ cont'd

0.6/1 (1.2) kV



Multicore Cables, with Stranded Aluminium Conductors, XLPE Insulated, Galvanized Double Steel Tape Armoured and PVC Sheathed

Al / XLPE / STA / PVC

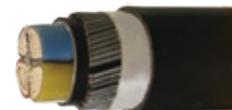
Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 90 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables with Reduced Neutral									
AX1-T105-G13	35 sm	16 sm	0.8680/1.9100	1.1130/2.4500	120	95	110	25.6	890
AX1-T105-G14	50 sm	25 sm	0.6410/1.2000	0.8220/1.5400	145	110	136	28.7	1200
AX1-T105-G15	70 sm	35 sm	0.4430/0.8680	0.5690/1.1130	175	140	168	33.1	1550
AX1-T105-G16	95 sm	50 sm	0.3200/0.6410	0.4110/0.8220	210	165	205	38.0	1970
AX1-T105-G17	120 sm	70 sm	0.2530/0.4430	0.3250/0.5690	235	190	236	42.1	2710
AX1-T105-G18	150 sm	70 sm	0.2060/0.4430	0.2650/0.5690	265	215	278	46.3	3290
AX1-T105-G19	185 sm	95 sm	0.1640/0.3200	0.2120/0.4110	290	240	315	51.2	3980
AX1-T105-G20	240 sm	120 sm	0.1250/0.2530	0.1630/0.3250	340	280	378	57.1	4910
AX1-T105-G30	300 sm	150 sm	0.1000/0.2060	0.1310/0.2650	390	325	446	62.2	5920
AX1-T105-G40	400 sm	185 sm	0.0778/0.1640	0.1025/0.2120	453	377	515	67.6	7110
AX1-T105-G50	500 sm	240 sm	0.0605/0.1250	0.0809/0.1630	498	425	604	74.9	8515

The above data is approximate and subjected to manufacturing to larence.



0.6/1 (1.2) kV

Multicore Cables, with Stranded Copper Conductors, XLPE Insulated, Steel Wire Armoured and PVC Sheathed



Description

- Multicore cables of stranded Copper conductors are insulated with XLPE compound, assembled together with a layer of PVC compound as bedding layer, armoured with steel wires and covered with an overall jacket of PVC compound.
- Cables are produced according to IEC 60502 or BS 5467

Application

- For outdoor installations in damp wet locations where mechanical damages are expected to occur.

Cu / XLPE / SWA / PVC

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km	Laid Direct in Ground A	Laid in Ducts A	Laid in Free Air (Shaded) A		
Two Core Cables								
CX1-T102-W08	4 rm	4.6100	5.8800	51	41	47	16.6	580
CX1-T102-W09	6 rm	3.0800	3.9300	64	53	61	17.6	660
CX1-T102-W10	10 rm	1.8300	2.3300	83	70	80	18.0	730
CX1-T102-W11	16 rm	1.1500	1.4700	107	84	106	20.0	925
CX1-T102-W12	25 rm	0.7270	0.9270	140	108	140	24.1	1410
CX1-T102-W13	35 rm	0.5240	0.6690	168	135	168	26.3	1715
Three Core Cables								
CX1-T103-W08	4 rm	4.6100	5.8800	46	37	42	17.2	650
CX1-T103-W09	6 rm	3.0800	3.9300	58	46	51	18.3	755
CX1-T103-W10	10 rm	1.8300	2.3300	76	61	69	19.3	825
CX1-T103-W11	16 rm	1.1500	1.4700	98	76	90	21.5	1070
CX1-T103-W12	25 rm	0.7270	0.9270	130	103	120	25.8	1620
CX1-T103-W13	35 rm	0.5240	0.6690	158	122	147	28.2	1990
Four Core Cables								
CX1-T104-W08	4 rm	4.6100	5.8800	46	37	42	18.3	740
CX1-T104-W09	6 rm	3.0800	3.9300	58	46	51	19.5	860
CX1-T104-W10	10 rm	1.8300	2.3300	76	61	69	20.6	990
CX1-T104-W11	16 rm	1.1500	1.4700	98	76	90	24.2	1450
CX1-T104-W12	25 rm	0.7270	0.9270	130	103	122	27.8	1975
CX1-T104-W13	35 rm	0.5240	0.6690	158	122	147	30.7	2465
CX1-T104-W14	50 sm	0.3870	0.4940	185	145	184	33.1	3200
CX1-T104-W15	70 sm	0.2680	0.3430	220	180	220	39.2	4645
CX1-T104-W16	95 sm	0.1930	0.2480	265	210	273	42.9	5870
CX1-T104-W17	120 sm	0.1530	0.1970	305	245	315	48.4	7555
CX1-T104-W18	150 sm	0.1240	0.1600	335	275	375	53.1	8985
CX1-T104-W19	185 sm	0.0991	0.1290	375	310	410	57.9	10760
CX1-T104-W20	240 sm	0.0754	0.0990	435	365	488	64.1	13480
CX1-T104-W30	300 sm	0.0601	0.0810	490	405	562	69.7	16215
CX1-T104-W40	400 sm	0.0470	0.0642	547	459	634	76.8	20190
CX1-T104-W50	500 sm	0.0366	0.0519	605	514	716	84.5	25375

The above data is approximate and subjected to manufacturing tolerance.

▶ cont'd

0.6/1 (1.2) kV

Multicore Cables, with Stranded Copper Conductors, XLPE Insulated, Steel Wire Armoured and PVC Sheathed



Cu / XLPE / SWA / PVC

Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 90 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables with Reduced Neutral									
CX1-T105-W13	35 rm	16 rm	0.5240/1.1500	0.6690/1.4700	158	122	147	28.9	2210
CX1-T105-W14	50 sm	25 sm	0.3870/0.7270	0.4940/0.9270	185	145	184	31.3	2860
CX1-T105-W15	70 sm	35 sm	0.2680/0.5240	0.3430/0.6690	220	180	220	37.5	4240
CX1-T105-W16	95 sm	50 sm	0.1930/0.3870	0.2480/0.4940	265	210	273	41.2	5290
CX1-T105-W17	120 sm	70 sm	0.1530/0.2680	0.1970/0.3430	305	245	315	45.3	6475
CX1-T105-W18	150 sm	70 sm	0.1240/0.2680	0.1600/0.3430	335	275	375	50.5	8055
CX1-T105-W19	185 sm	95 sm	0.0991/0.1930	0.1290/0.2480	375	310	410	55.4	9735
CX1-T105-W20	240 sm	120 sm	0.0754/0.1530	0.0990/0.1970	435	365	488	60.3	11780
CX1-T105-W30	300 sm	150 sm	0.0601/0.1240	0.0810/0.1600	490	405	562	66.4	14435
CX1-T105-W40	400 sm	185 sm	0.0470/0.0991	0.0642/0.1290	547	459	634	72.7	18500
CX1-T105-W50	500 sm	240 sm	0.0366/0.0754	0.0519/0.0990	605	514	716	80.2	22575

The above data is approximate and subjected to manufacturing tolerance.

rm : Round, Stranded
sm : Sector, Stranded



0.6/1 (1.2) kV

Multicore Cables, with Stranded, Aluminium Conductors, XLPE Insulated, Steel Wire Armoured and PVC Sheathed



Description

- Multicore cables of stranded Aluminium conductors are insulated with XLPE compound, assembled together with a layer of PVC compound as bedding layer, armoured with steel wire and covered with an overall jacket of PVC compound.
- Cables are produced according to IEC 60502 or BS 5467

Application

- For outdoor installations in damp wet locations where mechanical damages are expected to occur.

Al / XLPE / SWA / PVC

Product - Code	Nominal Cross Sectional Area	Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
		mm ²	Ω/km	Ω/km	A	A		
Two Core Cables								
AX1-T102-W10	10 rm	3.0800	3.9500	56	47	60	18.0	610
AX1-T102-W11	16 rm	1.9100	2.4500	73	57	79	20.0	735
AX1-T102-W12	25 rm	1.2000	1.5400	96	74	101	24.1	1110
AX1-T102-W13	35 rm	0.8680	1.1130	129	105	131	26.3	1300
Three Core Cables								
AX1-T103-W10	10 rm	3.0800	3.9500	52	41	52	19.3	645
AX1-T103-W11	16 rm	1.9100	2.4500	67	52	67	21.5	780
AX1-T103-W12	25 rm	1.2000	1.5400	89	70	89	25.8	1170
AX1-T103-W13	35 rm	0.8680	1.1130	120	95	115	28.2	1365
Four Core Cables								
AX1-T104-W10	10 rm	3.0800	3.9500	52	41	52	20.6	750
AX1-T104-W11	16 rm	1.9100	2.4500	67	52	67	24.2	1060
AX1-T104-W12	25 rm	1.2000	1.5400	89	70	89	27.8	1370
AX1-T104-W13	35 rm	0.8680	1.1130	120	95	115	30.7	1635
AX1-T104-W14	50 sm	0.6410	0.8220	145	110	141	33.1	2330
AX1-T104-W15	70 sm	0.4430	0.5690	175	140	173	39.2	2760
AX1-T104-W16	95 sm	0.3200	0.4110	210	165	210	42.9	3340
AX1-T104-W17	120 sm	0.2520	0.3250	235	190	241	48.4	4320
AX1-T104-W18	150 sm	0.2060	0.2650	265	215	283	53.1	5080
AX1-T104-W19	185 sm	0.1640	0.2120	290	240	320	57.9	5990
AX1-T104-W20	240 sm	0.1250	0.1630	340	280	383	64.1	7220
AX1-T104-W30	300 sm	0.1000	0.1310	390	325	451	69.7	8440
AX1-T104-W40	400 sm	0.0778	0.1025	444	373	513	76.8	10630
AX1-T104-W50	500 sm	0.0605	0.0809	500	426	591	84.5	12785

The above data is approximate and subjected to manufacturing tolerance.

▶ cont'd

0.6/1 (1.2) kV

Multicore Cables, with Stranded, Aluminium Conductors, XLPE Insulated, Steel Wire Armoured and PVC Sheathed



Al / XLPE / SWA / PVC

Product - Code	Nominal Cross Sectional Area		Max. Conductor Resistance		Current Rating			Approx. Overall Diameter	Approx. Weight
			DC at 20 °C	AC at 90 °C	Laid Direct in Ground	Laid in Ducts	Laid in Free Air (Shaded)		
	mm ²		Ω/km	Ω/km	A	A	A	mm	kg/km
Four Core Cables with Reduced Neutral									
AX1-T105-W13	35 sm	16 sm	0.8680/1.9100	1.1130/2.4500	120	95	115	28.9	1490
AX1-T105-W14	50 sm	25 sm	0.6410/1.2000	0.8220/1.5400	145	110	141	31.3	1870
AX1-T105-W15	70 sm	35 sm	0.4430/0.8680	0.5690/1.1130	175	140	173	37.5	2600
AX1-T105-W16	95 sm	50 sm	0.3200/0.6410	0.4110/0.8220	210	165	210	41.2	3090
AX1-T105-W17	120 sm	70 sm	0.2530/0.4430	0.3250/0.5690	235	190	241	45.3	3690
AX1-T105-W18	150 sm	70 sm	0.2060/0.4430	0.2650/0.5690	265	215	283	50.5	4700
AX1-T105-W19	185 sm	95 sm	0.1640/0.3200	0.2120/0.4110	290	240	320	55.4	5550
AX1-T105-W20	240 sm	120 sm	0.1250/0.2530	0.1630/0.3250	340	280	383	60.3	6560
AX1-T105-W30	300 sm	150 sm	0.1000/0.2060	0.1310/0.2650	390	325	451	66.4	7820
AX1-T105-W40	400 sm	185 sm	0.0778/0.1640	0.1025/0.2120	444	373	513	72.7	9845
AX1-T105-W50	500 sm	240 sm	0.0605/0.1250	0.0809/0.1630	500	426	591	80.2	11620

The above data is approximate and subjected to manufacturing tolerance.

rm : Round, Stranded
sm : Sector, Stranded





Operating Voltage

(from 6/10 kV up to 18/30 kV)

Cable Construction

1. Conductor

Stranded, round and compacted Copper or Aluminium conductors, according to IEC 60228 - class 2.

2. Conductor Screen

An extruded layer of semi conducting material applied over the conductor as voltage stress control layer.

3. Insulation

An extruded layer of cross linked polyethylene (XLPE) is applied over the inner semi conductor with thickness as specified in IEC 60502.

4. Insulation Screen

An extruded layer of strippable or firmly bonded to the insulation. Conductor screen, XLPE insulation and insulation screen are applied at the same time using triple head extruder.

5. Metallic Screen

a. Copper Tape: an annealed Copper tape is applied helically with a suitable overlap.

b. Copper Wire: helically applied and binded with a Copper tape to achieve electrical contact

6. Assembly

In case of three core cables, cores are assembled together with suitable lay length, non-hygroscopic filler is applied during assembly to fill spaces between cores then wrapped with suitable binder tape.

7. Bedding

in case of armoured cables an extruded layer of PVC or MDPE or LLDPE is applied as bedding.

8. Armouring

a. Steel Tape: double layers of steel tapes are applied helically.

b. Steel Wire: galvanized steel wires are applied helically.

9. Sheath

An extruded layer of PVC is applied with thickness as specified in IEC 60502.

Option

Lead Sheath: Upon request a layer of lead is extruded over the bedding layer.

Armouring of Single Core Cable

1. Armouring by non-magnetic material either Aluminium Tape armouring or Aluminium Wire armouring to reduce the magnetic losses.

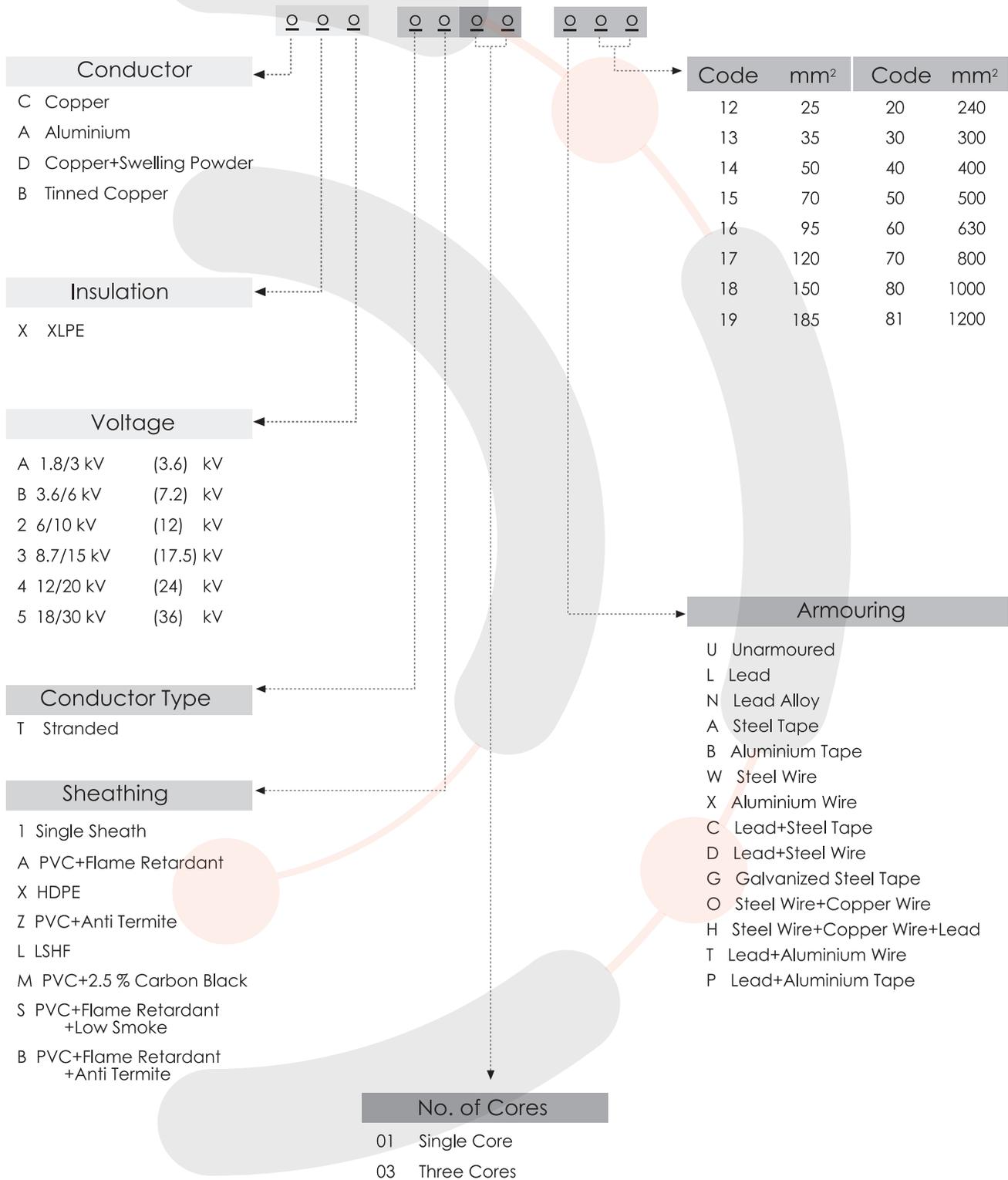
2. If it is required for single core cable to be armoured by steel wire armouring, the magnetic circuit around the single core cable should be interrupted by inserting insulated copper wires between the steel wires.



System Designation for Medium Voltage Cable

You can order our product by giving the following information:

1. Cable code as per the catalogue.
2. If your required cable/conductor is out of our catalogue range, you can use the following codes to determine your cable.



Medium Voltage Cables

6/10 (12) kV

Single & Three Cores Copper Conductors XLPE Insulated and PVC Sheathed



Description

- Stranded circular compacted Copper conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Operating Capacitance µf/km	Inductance		Current Rating				Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km		Trefoil mh/km	Flat mh/km	Laid in Ground		Laid in Free Air (Shaded)			
							Trefoil A	Flat A	Trefoil A	Flat A		
Single Core Cable												
CX2-T101-U12	25	0.7270	0.9271	0.200	0.450	0.635	139	145	143	173	20.0	665
CX2-T101-U13	35	0.5240	0.6683	0.224	0.426	0.611	166	174	174	211	21.1	770
CX2-T101-U14	50	0.3870	0.4937	0.251	0.393	0.578	197	206	209	255	22.5	905
CX2-T101-U15	70	0.2680	0.3420	0.291	0.370	0.554	242	252	262	319	24.3	1135
CX2-T101-U16	95	0.1930	0.2465	0.316	0.357	0.542	287	299	317	384	25.5	1390
CX2-T101-U17	120	0.1530	0.1956	0.345	0.344	0.529	326	339	366	443	26.9	1655
CX2-T101-U18	150	0.1240	0.1588	0.374	0.336	0.521	364	375	416	498	28.7	2015
CX2-T101-U19	185	0.0991	0.1272	0.409	0.322	0.507	411	422	478	570	30.4	2390
CX2-T101-U20	240	0.0754	0.0973	0.456	0.310	0.494	475	484	565	669	33.0	2950
CX2-T101-U30	300	0.0601	0.0781	0.512	0.301	0.487	535	542	650	765	35.8	3590
CX2-T101-U40	400	0.0470	0.0618	0.565	0.292	0.477	599	591	745	853	38.6	4510
CX2-T101-U50	500	0.0366	0.0490	0.635	0.282	0.467	674	659	859	975	42.2	5610
CX2-T101-U60	630	0.0283	0.0391	0.704	0.275	0.460	752	728	981	1103	45.9	6940
CX2-T101-U70	800	0.0221	0.0319	0.795	0.268	0.453	869	979	1160	1480	50.8	9195
CX2-T101-U80	1000	0.0176	0.0234	0.983	0.266	0.451	1084	1188	1515	1864	61.2	11105
Three Core Cables												
CX2-T103-U12	25	0.7270	0.9271	0.200	0.403	-	140	-	141	-	37.7	1795
CX2-T103-U13	35	0.5240	0.6684	0.224	0.382	-	167	-	171	-	40.3	2150
CX2-T103-U14	50	0.3870	0.4938	0.251	0.351	-	197	-	206	-	43.5	2655
CX2-T103-U15	70	0.2680	0.3423	0.291	0.330	-	241	-	257	-	47.2	3390
CX2-T103-U16	95	0.1930	0.2469	0.316	0.316	-	286	-	309	-	50.0	4165
CX2-T103-U17	120	0.1530	0.1961	0.345	0.309	-	325	-	356	-	53.6	5140
CX2-T103-U18	150	0.1240	0.1595	0.374	0.302	-	364	-	405	-	56.9	5965
CX2-T103-U19	185	0.0991	0.1282	0.409	0.290	-	410	-	463	-	60.9	7210
CX2-T103-U20	240	0.0754	0.0986	0.456	0.280	-	475	-	546	-	66.3	9020
CX2-T103-U30	300	0.0601	0.0799	0.512	0.271	-	535	-	626	-	71.9	11095

This data is applicable for 6.35 / 11 kV cables.

The ampacity for single core sizes 800 & 1000mm² was based on a single end bonding.

The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

6/10 (12) kV

Single & Three Cores Aluminium Conductors, XLPE Insulated and PVC Sheathed



Description

- Stranded circular compacted Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Operating Capacitance µf/km	Inductance		Current Rating				Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km		Trefoil mh/km	Flat mh/km	Laid in Ground		Laid in Free Air (Shaded)			
							Trefoil A	Flat A	Trefoil A	Flat A		
Single Core Cable												
AX2-T101-U12	25	1.2000	1.5390	0.200	0.450	0.635	108	113	111	135	20.0	510
AX2-T101-U13	35	0.8680	1.1130	0.224	0.426	0.611	129	135	135	164	21.1	560
AX2-T101-U14	50	0.6410	0.8220	0.251	0.393	0.578	153	160	162	198	22.4	610
AX2-T101-U15	70	0.4430	0.5681	0.291	0.370	0.554	188	196	204	248	24.0	715
AX2-T101-U16	95	0.3200	0.4105	0.316	0.357	0.542	222	233	246	299	25.5	815
AX2-T101-U17	120	0.2530	0.3247	0.345	0.344	0.529	254	265	284	346	26.9	915
AX2-T101-U18	150	0.2060	0.2645	0.374	0.336	0.521	283	295	324	391	28.7	1115
AX2-T101-U19	185	0.1640	0.2107	0.409	0.322	0.507	321	333	373	449	30.4	1250
AX2-T101-U20	240	0.1250	0.1610	0.456	0.310	0.494	372	385	443	530	32.9	1475
AX2-T101-U30	300	0.1000	0.1291	0.512	0.301	0.487	421	433	511	608	35.5	1700
AX2-T101-U40	400	0.0778	0.1009	0.565	0.292	0.477	478	483	593	693	38.6	2120
AX2-T101-U50	500	0.0605	0.0791	0.635	0.282	0.467	544	545	693	802	42.2	2505
AX2-T101-U60	630	0.0469	0.0621	0.704	0.275	0.460	617	612	803	921	45.8	3000
AX2-T101-U70	800	0.0367	0.0495	0.795	0.268	0.453	715	786	954	1188	50.8	3670
AX2-T101-U80	1000	0.0291	0.0376	0.983	0.266	0.451	862	937	1205	1468	61.2	4755
Three Core Cables												
AX2-T103-U12	25	1.2000	1.5390	0.200	0.403	-	108	-	110	-	37.7	1335
AX2-T103-U13	35	0.8680	1.1130	0.224	0.382	-	129	-	133	-	40.3	1530
AX2-T103-U14	50	0.6410	0.8220	0.251	0.351	-	153	-	160	-	42.9	1800
AX2-T103-U15	70	0.4430	0.5683	0.291	0.330	-	187	-	200	-	46.5	2100
AX2-T103-U16	95	0.3200	0.4107	0.316	0.316	-	222	-	240	-	50.0	2440
AX2-T103-U17	120	0.2530	0.3250	0.345	0.309	-	253	-	277	-	53.2	2780
AX2-T103-U18	150	0.2060	0.2649	0.374	0.302	-	283	-	314	-	56.9	3280
AX2-T103-U19	185	0.1640	0.2114	0.409	0.290	-	320	-	361	-	60.9	3790
AX2-T103-U20	240	0.1250	0.1618	0.456	0.280	-	371	-	427	-	66.1	4555
AX2-T103-U30	300	0.1000	0.1302	0.512	0.271	-	420	-	491	-	71.3	5360

This data is applicable for 6.35 / 11 kV cables

The ampacity for single core sizes 800 & 1000mm² was based on a single end bonding.

The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

6/10 (12) KV



Single Core Cables, with stranded circular copper or Aluminum conductors, XLPE insulated, aluminum tape armoured and PVC Sheath.

Description

- Stranded circular compacted copper or aluminum conductor, Semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, copper tape or wire as metallic insulation screen, covered with a layer of PVC compound as bedding layer, aluminum tape armoured and PVC sheath.
- Cables are produced according to IEC 60502.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product Code	Nominal Cross sectional area mm ²	Max. Conductor Resistance		Capacitance µf/km	Inductance mh/km		Current Rating				Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/Km	AC at 90 °C Ω/Km		Laid in ground		Laid in free air (Shaded)					
					Trefoil ⊙⊙⊙	Flat ⊙⊙⊙	Trefoil ⊙⊙⊙	Flat ⊙⊙⊙				
1 Core - Cu/XLPE/ATA/PVC												
CB2-T101-B12	25	0.727	0.9271	0.2094	0.4658	0.5120	137	137	148	145	21.6	715
CB2-T101-B13	35	0.524	0.6683	0.2341	0.4410	0.4872	164	164	180	176	22.7	835
CB2-T101-B14	50	0.387	0.4937	0.2630	0.4088	0.4550	194	195	216	212	24	990
CB2-T101-B15	70	0.268	0.3421	0.3051	0.3824	0.4286	238	239	261	264	25.9	1240
CB2-T101-B16	95	0.193	0.2467	0.3315	0.3704	0.4167	284	285	327	321	27.3	1520
CB2-T101-B17	120	0.153	0.1959	0.3623	0.3571	0.4033	321	323	377	370	28.7	1785
CB2-T101-B18	150	0.124	0.1591	0.3931	0.3470	0.3932	359	363	428	421	30.3	2085
CB2-T101-B19	185	0.0991	0.1277	0.4303	0.3338	0.3800	404	410	489	483	32.2	2495
CB2-T101-B20	240	0.0754	0.0980	0.4828	0.3199	0.3661	465	474	576	570	34.6	3090
CB2-T101-B30	300	0.0601	0.0791	0.5396	0.3093	0.3555	297	535	657	656	37.4	3715
CB2-T101-B40	400	0.047	0.0631	0.5963	0.3000	0.3462	583	605	751	756	40.2	4590
CB2-T101-B50	500	0.0366	0.0509	0.6703	0.2898	0.3360	650	682	857	872	43.8	5765
CB2-T101-B60	630	0.0283	0.0414	0.7455	0.2824	0.3287	715	762	966	996	47.7	7170
CB2-T101-B70	800	0.0221	0.0348	0.8401	0.2742	0.3204	775	839	1073	1125	52.4	9085
1 Core - AL/XLPE/ATA/PVC												
AB2-T101-B12	25	1.2	1.5386	0.2094	0.4658	0.5120	106	107	115	112	21.6	565
AB2-T101-B13	35	0.868	1.1130	0.2341	0.4410	0.4872	127	128	140	136	22.7	630
AB2-T101-B14	50	0.641	0.8220	0.2630	0.4088	0.4550	151	151	168	164	24	705
AB2-T101-B15	70	0.443	0.5682	0.2985	0.3861	0.4323	185	185	210	204	25.6	815
AB2-T101-B16	95	0.32	0.4106	0.3315	0.3704	0.4167	221	221	255	248	27.3	940
AB2-T101-B17	120	0.253	0.3248	0.3623	0.3571	0.4033	250	253	294	288	28.7	1055
AB2-T101-B18	150	0.206	0.2647	0.3931	0.3470	0.3932	280	281	333	326	30.3	1195
AB2-T101-B19	185	0.164	0.2111	0.4303	0.3338	0.3800	316	319	383	377	32.2	1365
AB2-T101-B20	240	0.125	0.1614	0.4806	0.3204	0.3667	366	370	452	445	34.5	1595
AB2-T101-B30	300	0.1	0.1297	0.5330	0.3101	0.3563	412	419	519	513	37.1	1860
AB2-T101-B40	400	0.0778	0.1018	0.5919	0.2990	0.3452	469	478	603	594	40	2215
AB2-T101-B50	500	0.0605	0.0803	0.6682	0.2910	0.3372	530	547	698	699	43.9	2675
AB2-T101-B60	630	0.0469	0.0637	0.7444	0.2832	0.3294	595	621	801	810	47.8	3250
AB2-T101-B70	800	0.0367	0.0517	0.8488	0.2734	0.3196	660	698	914	936	52.8	3990

The above data is approximate and subjected to manufacturing tolerance
this data is applicable also for 6.35/11 KV

Medium Voltage Cables

6/10 (12) KV



Single Core Cables, with stranded circular copper or Aluminum conductors, XLPE insulated, aluminum wire armoured and PVC Sheath.

Description

- Stranded circular compacted copper or aluminum conductor, Semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, copper tape or wire as metallic insulation screen, covered with a layer of PVC compound as bedding layer, aluminum wire armoured and PVC sheath.

Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for in

Product Code	Nominal Cross sectional area mm ²	Max. Conductor Resistance		Capacitance µf/km	Inductance mh/km		Current Rating				Approx. Overall Diameter mm	Approx. Weight Kg/Km
		DC at 20 °C Ω/Km	AC at 90 °C Ω/Km		Laid in ground		Laid in free air (Shaded)					
					Trefoil	Flat	Trefoil	Flat				
1 Core - Cu/XLPE/AWA/PVC												
CB2-T101-X12	25	0.727	0.9271	0.2094	0.4827	0.5289	138	138	151	147	23.5	825
CB2-T101-X13	35	0.524	0.6683	0.2341	0.4571	0.5033	165	165	182	179	24.6	955
CB2-T101-X14	50	0.387	0.4937	0.2630	0.4241	0.4703	194	195	218	215	25.9	1115
CB2-T101-X15	70	0.268	0.3421	0.3051	0.3980	0.4442	237	239	270	267	28	1390
CB2-T101-X16	95	0.193	0.2466	0.3315	0.3839	0.4301	281	283	325	323	29.2	1665
CB2-T101-X17	120	0.153	0.1958	0.3623	0.3744	0.4207	316	320	371	372	31.3	2000
CB2-T101-X18	150	0.124	0.1590	0.3931	0.3635	0.4097	352	357	418	421	32.9	2310
CB2-T101-X19	185	0.0991	0.1276	0.4303	0.3482	0.3944	393	402	472	480	34.6	2710
CB2-T101-X20	240	0.0754	0.0979	0.4828	0.3344	0.3806	444	460	544	561	37.2	3345
CB2-T101-X30	300	0.0601	0.0789	0.5396	0.3217	0.3680	488	514	612	639	39.8	3975
CB2-T101-X40	400	0.047	0.0628	0.5963	0.3171	0.3633	520	564	672	721	43.8	5025
CB2-T101-X50	500	0.0366	0.0505	0.6703	0.3056	0.3518	565	624	747	819	47.4	6225
CB2-T101-X60	630	0.0283	0.0410	0.7455	0.2970	0.3432	605	683	818	917	51.3	7680
CB2-T101-X70	800	0.0221	0.0343	0.8401	0.2875	0.3337	641	741	892	1017	56	9640
1 Core - AL/XLPE/AWA/PVC												
AB2-T101-X12	25	1.2	1.5386	0.2094	0.4827	0.5289	107	107	117	115	23.5	675
AB2-T101-X13	35	0.868	1.1130	0.2341	0.4571	0.5033	128	128	142	139	24.6	745
AB2-T101-X14	50	0.641	0.8220	0.2630	0.4241	0.4703	151	152	171	167	25.9	830
AB2-T101-X15	70	0.443	0.5682	0.2985	0.4018	0.4481	185	185	212	208	27.7	960
AB2-T101-X16	95	0.32	0.4106	0.3315	0.3839	0.4301	220	221	255	252	29.2	1085
AB2-T101-X17	120	0.253	0.3248	0.3623	0.3744	0.4207	249	251	294	291	31.3	1270
AB2-T101-X18	150	0.206	0.2647	0.3931	0.3635	0.4097	278	280	332	330	32.9	1415
AB2-T101-X19	185	0.164	0.2110	0.4303	0.3482	0.3944	313	316	378	378	34.6	1580
AB2-T101-X20	240	0.125	0.1613	0.4806	0.3350	0.3812	359	365	441	444	37.1	1850
AB2-T101-X30	300	0.1	0.1296	0.5330	0.3226	0.3688	401	409	499	509	39.5	2115
AB2-T101-X40	400	0.0778	0.1016	0.5919	0.3162	0.3624	439	459	563	586	43.6	2635
AB2-T101-X50	500	0.0605	0.0800	0.6682	0.3067	0.3530	485	516	636	675	47.5	3145
AB2-T101-X60	630	0.0469	0.0634	0.7444	0.2977	0.3439	532	577	714	770	51.4	3760
AB2-T101-X70	800	0.0367	0.0513	0.8488	0.2866	0.3328	577	639	797	876	56.4	4540

The above data is approximate and subjected to manufacturing tolerance this data is applicable also for 6.35/11 KV

Medium Voltage Cables

6/10 (12) kV



Three Cores Copper or Aluminium Conductors, XLPE Insulated, Galvanized Double Steel Tape Armoured and PVC Sheathed

Description

- Stranded circular compacted Copper or Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic polypropylene fillers, wrapped with binder tape, covered with a layer of PVC compound as a bedding, Galvanized Double steel tape armoured and PVC sheathed.
- Cables are produced according to IEC 60502.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Operating Capacitance µf/km	Inductance mh/km	Current Rating		Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km			Laid in ground A	Laid in free air (Shaded) A		
		Three Cores, Copper Conductor Cables							
CX2-T103-G12	25	0.7270	0.9271	0.200	0.403	132	133	41.9	2625
CX2-T103-G13	35	0.5240	0.6684	0.224	0.382	157	160	44.5	3035
CX2-T103-G14	50	0.3870	0.4938	0.251	0.352	185	192	47.9	3625
CX2-T103-G15	70	0.2680	0.3423	0.291	0.330	226	237	51.8	4470
CX2-T103-G16	95	0.1930	0.2469	0.316	0.316	269	286	54.6	5305
CX2-T103-G17	120	0.1530	0.1961	0.345	0.311	306	328	57.8	6205
CX2-T103-G18	150	0.1240	0.1595	0.374	0.302	342	371	61.7	7290
CX2-T103-G19	185	0.0991	0.1282	0.409	0.290	386	424	65.5	8595
CX2-T103-G20	240	0.0754	0.0986	0.456	0.280	446	497	71.3	10595
CX2-T103-G30	300	0.0601	0.0799	0.512	0.272	502	566	77.1	12835
Three Cores, Aluminium Conductor Cables									
AX2-T103-G12	25	1.2000	1.5390	0.200	0.403	102	103	41.9	2165
AX2-T103-G13	35	0.8680	1.1130	0.224	0.382	122	124	44.5	2410
AX2-T103-G14	50	0.6410	0.8220	0.251	0.351	144	149	47.3	2760
AX2-T103-G15	70	0.4430	0.5683	0.291	0.330	176	184	51.1	3170
AX2-T103-G16	95	0.3200	0.4107	0.316	0.316	209	222	54.6	3585
AX2-T103-G17	120	0.2530	0.3250	0.345	0.309	238	255	57.8	3995
AX2-T103-G18	150	0.2060	0.2649	0.374	0.302	266	288	61.7	4605
AX2-T103-G19	185	0.1640	0.2114	0.409	0.290	301	331	65.5	5175
AX2-T103-G20	240	0.1250	0.1618	0.456	0.280	349	389	71.1	6120
AX2-T103-G30	300	0.1000	0.1302	0.512	0.271	394	444	76.5	7085

This data is applicable for 6.35 / 11 kV cables

The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

6/10 (12) kV

Three Cores Copper or Aluminium Conductors, XLPE Insulated, Steel Wire Armoured and PVC Sheathed



Description

- Stranded circular compacted Copper or Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape, covered with a layer of PVC compound as a bedding, steel wire armoured and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area	Max. Conductor Resistance		Operating Capacitance	Inductance	Current Rating		Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C			Laid in ground	(Shaded) Laid in free air		
	mm ²	Ω/km	Ω/km	µf/km	mh/km	A	A	mm	kg/km
Three Cores, Copper Conductor Cables									
CX2-T103-W12	25	0.7270	0.9271	0.200	0.403	133	136	45.1	3910
CX2-T103-W13	35	0.5240	0.6684	0.224	0.382	158	164	47.7	4410
CX2-T103-W14	50	0.3870	0.4938	0.251	0.352	187	195	51.1	5085
CX2-T103-W15	70	0.2680	0.3423	0.291	0.330	227	241	55.0	6000
CX2-T103-W16	95	0.1930	0.2469	0.316	0.316	269	289	57.8	6920
CX2-T103-W17	120	0.1530	0.1961	0.345	0.311	305	331	61.4	8090
CX2-T103-W18	150	0.1240	0.1595	0.374	0.302	340	372	64.9	9130
CX2-T103-W19	185	0.0991	0.1282	0.409	0.290	381	423	68.9	10630
CX2-T103-W20	240	0.0754	0.0986	0.456	0.280	436	494	76.6	13700
CX2-T103-W30	300	0.0601	0.0799	0.512	0.272	485	556	82.2	16165
Three Cores, Aluminium Conductor Cables									
AX2-T103-W12	25	1.2000	1.5390	0.200	0.403	103	106	45.1	3415
AX2-T103-W13	35	0.8680	1.1130	0.224	0.382	123	127	47.7	3750
AX2-T103-W14	50	0.6410	0.8220	0.251	0.351	145	152	50.5	4185
AX2-T103-W15	70	0.4430	0.5683	0.291	0.330	177	188	54.3	4705
AX2-T103-W16	95	0.3200	0.4107	0.316	0.316	210	225	57.8	5195
AX2-T103-W17	120	0.2530	0.3250	0.345	0.309	238	259	61.0	5725
AX2-T103-W18	150	0.2060	0.2649	0.374	0.302	265	291	64.9	6445
AX2-T103-W19	185	0.1640	0.2114	0.409	0.290	300	332	68.9	7160
AX2-T103-W20	240	0.1250	0.1618	0.456	0.280	346	391	76.4	9130
AX2-T103-W30	300	0.1000	0.1302	0.512	0.271	387	442	81.6	10315

This data is applicable for 6.35 / 11 kV cables

The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

8.7/15 (17.5) kV

Single & Three Cores Copper Conductors,
XLPE Insulated and PVC Sheathed



Description

- Stranded circular compacted Copper conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area	Max. Conductor Resistance		Operating Capacitance	Inductance		Current Rating				Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C		Trefoil	Flat	Laid in Ground		Laid in Free Air (Shaded)			
							Trefoil	Flat	Trefoil	Flat		
mm ²	Ω/km	Ω/km	µf/km	mh/km	mh/km	A	A	A	A	mm	kg/km	
Single Core Cable												
CX3-T101-U12	25	0.7270	0.9271	0.165	0.469	0.654	139	145	143	173	22.0	729
CX3-T101-U13	35	0.5240	0.6683	0.183	0.446	0.631	166	174	174	211	23.3	846
CX3-T101-U14	50	0.3870	0.4937	0.204	0.412	0.597	197	206	209	255	24.7	999
CX3-T101-U15	70	0.2680	0.3420	0.234	0.387	0.572	242	252	262	319	26.5	1230
CX3-T101-U16	95	0.1930	0.2465	0.253	0.373	0.558	287	299	317	384	27.7	1479
CX3-T101-U17	120	0.1530	0.1956	0.275	0.361	0.546	326	339	366	443	29.3	1761
CX3-T101-U18	150	0.1240	0.1588	0.297	0.351	0.536	364	375	416	498	30.9	2111
CX3-T101-U19	185	0.0991	0.1272	0.324	0.338	0.522	411	422	478	570	32.8	2512
CX3-T101-U20	240	0.0754	0.0973	0.360	0.324	0.509	475	484	565	669	35.4	3083
CX3-T101-U30	300	0.0601	0.0781	0.402	0.313	0.498	535	542	650	765	38.0	3718
CX3-T101-U40	400	0.0470	0.0618	0.442	0.304	0.489	599	591	745	853	41.0	4661
CX3-T101-U50	500	0.0366	0.0490	0.495	0.293	0.478	674	659	859	975	44.6	5808
CX3-T101-U60	630	0.0283	0.0391	0.548	0.285	0.470	752	728	981	1103	48.3	7127
CX3-T101-U70	800	0.0221	0.0319	0.616	0.277	0.462	869	979	1160	1480	53.2	9010
CX3-T101-U80	1000	0.0176	0.0234	0.759	0.274	0.459	1084	1188	1515	1864	63.6	11341
Three Core Cables												
CX3-T103-U12	25	0.7270	0.9271	0.165	0.431	-	140	-	141	-	42.9	2105
CX3-T103-U13	35	0.5240	0.6684	0.183	0.408	-	167	-	171	-	45.5	2485
CX3-T103-U14	50	0.3870	0.4938	0.204	0.376	-	197	-	206	-	48.3	2990
CX3-T103-U15	70	0.2680	0.3423	0.234	0.354	-	241	-	257	-	52.3	3725
CX3-T103-U16	95	0.1930	0.2469	0.253	0.340	-	286	-	309	-	55.1	4505
CX3-T103-U17	120	0.1530	0.1961	0.275	0.329	-	325	-	356	-	58.4	5410
CX3-T103-U18	150	0.1240	0.1595	0.297	0.320	-	364	-	405	-	62.0	6415
CX3-T103-U19	185	0.0991	0.1282	0.324	0.308	-	410	-	463	-	65.9	7685
CX3-T103-U20	240	0.0754	0.0986	0.360	0.295	-	475	-	546	-	71.0	9540
CX3-T103-U30	300	0.0601	0.0799	0.402	0.288	-	535	-	626	-	76.9	11590

The ampacity for single core sizes 800 & 1000mm² was based on a single end bonding.
The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

8.7/15 (17.5) kV

Single & Three Cores Aluminium Conductors, XLPE Insulated and PVC Sheathed



Description

- Stranded circular compacted Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area	Max. Conductor Resistance		Operating Capacitance	Inductance		Current Rating				Approx. Overall Diameter	Approx. Weight	
		DC at 20 °C	AC at 90 °C		µf/km	Trefoil	Flat	Laid in Ground		Laid in Free Air			
								Trefoil	Flat	Trefoil ^(Shaded)			Flat
mm ²	Ω/km	Ω/km	µf/km	mh/km	mh/km	A	A	A	A	mm	kg/km		
Single Core Cable													
AX3-T101-U12	25	1.2000	1.5390	0.165	0.469	0.654	108	113	111	135	22.0	575	
AX3-T101-U13	35	0.8680	1.1130	0.183	0.446	0.631	129	135	135	164	23.3	635	
AX3-T101-U14	50	0.6410	0.8220	0.204	0.412	0.597	153	160	162	198	24.6	700	
AX3-T101-U15	70	0.4430	0.5681	0.234	0.387	0.572	188	196	204	248	26.2	800	
AX3-T101-U16	95	0.3200	0.4105	0.253	0.373	0.558	222	233	246	299	27.7	905	
AX3-T101-U17	120	0.2530	0.3247	0.275	0.361	0.546	254	265	284	346	29.3	1020	
AX3-T101-U18	150	0.2060	0.2645	0.297	0.351	0.536	283	295	324	391	30.9	1215	
AX3-T101-U19	185	0.1640	0.2107	0.324	0.338	0.522	321	333	373	449	32.8	1370	
AX3-T101-U20	240	0.1250	0.1610	0.360	0.324	0.509	372	385	443	530	35.3	1595	
AX3-T101-U30	300	0.1000	0.1291	0.402	0.313	0.498	421	433	511	608	37.7	1825	
AX3-T101-U40	400	0.0778	0.1009	0.442	0.304	0.489	478	483	593	693	41.0	2270	
AX3-T101-U50	500	0.0605	0.0791	0.495	0.293	0.478	544	545	693	802	44.6	2670	
AX3-T101-U60	630	0.0469	0.0621	0.548	0.288	0.470	617	612	803	921	48.2	3180	
AX3-T101-U70	800	0.0367	0.0495	0.616	0.277	0.462	715	786	954	1188	53.2	3870	
AX3-T101-U80	1000	0.0291	0.0376	0.759	0.274	0.459	862	937	1205	1468	63.6	4990	
Three Core Cables													
AX3-T103-U12	25	1.2000	1.5390	0.165	0.431	-	108	-	110	-	42.5	1605	
AX3-T103-U13	35	0.8680	1.1130	0.183	0.408	-	129	-	133	-	45.1	1815	
AX3-T103-U14	50	0.6410	0.8220	0.204	0.376	-	153	-	160	-	47.6	2040	
AX3-T103-U15	70	0.4430	0.5683	0.234	0.354	-	187	-	200	-	51.3	2375	
AX3-T103-U16	95	0.3200	0.4107	0.253	0.340	-	222	-	240	-	54.7	2730	
AX3-T103-U17	120	0.2530	0.3250	0.275	0.329	-	253	-	277	-	58.0	3120	
AX3-T103-U18	150	0.2060	0.2649	0.297	0.320	-	283	-	314	-	61.6	3645	
AX3-T103-U19	185	0.1640	0.2114	0.324	0.308	-	320	-	361	-	65.7	4205	
AX3-T103-U20	240	0.1250	0.1618	0.360	0.295	-	371	-	427	-	70.4	4975	
AX3-T103-U30	300	0.1000	0.1302	0.402	0.288	-	420	-	491	-	76.0	5775	

The ampacity for single core sizes 800 & 1000mm² was based on a single end bonding.
The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

8.7/15 (17.5) KV



Single Core Cables, with stranded circular copper or Aluminum conductors, XLPE insulated, aluminum tape armoured and PVC Sheath.

Description

- Stranded circular compacted copper or aluminum conductor, Semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, copper tape or wire as metallic insulation screen, covered with a layer of PVC compound as bedding layer, aluminum tape armoured and PVC sheath.
- Cables are produced according to IEC 60502.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product Code	Nominal Cross sectional area	Max. Conductor Resistance		Capacitance	Inductance		Current Rating				Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C		Laid in ground		Laid in free air (Shaded)					
					Trefoil	Flat	Trefoil	Flat				
		mm ²	Ω/Km		Ω/Km	μf/km	mh/km	A	A	A		
1 Core - Cu/XLPE/ATA/PVC												
CB3-T101-B12	25	0.727	0.9271	0.1699	0.4852	0.5314	137	137	150	148	23.8	810
CB3-T101-B13	35	0.524	0.6683	0.1886	0.4595	0.5057	164	164	182	179	24.9	930
CB3-T101-B14	50	0.387	0.4937	0.2104	0.4279	0.4741	194	194	217	215	26.4	1105
CB3-T101-B15	70	0.268	0.3421	0.2421	0.4001	0.4463	237	238	272	357	28.3	1360
CB3-T101-B16	95	0.193	0.2466	0.2620	0.3873	0.4335	283	285	330	323	29.7	1645
CB3-T101-B17	120	0.153	0.1958	0.2851	0.3732	0.4194	320	322	379	374	31.1	1920
CB3-T101-B18	150	0.124	0.1591	0.3081	0.3623	0.4085	358	362	431	423	32.7	2225
CB3-T101-B19	185	0.0991	0.1276	0.3360	0.3470	0.3933	403	410	492	486	34.4	2625
CB3-T101-B20	240	0.0754	0.0979	0.3752	0.3333	0.3796	465	475	578	573	37	3245
CB3-T101-B30	300	0.0601	0.0789	0.4177	0.3207	0.3670	515	535	660	657	39.6	3865
CB3-T101-B40	400	0.047	0.0629	0.4600	0.3116	0.3578	582	605	753	758	42.6	4765
CB3-T101-B50	500	0.0366	0.0506	0.5153	0.3013	0.3475	649	664	857	873	46.4	5980
CB3-T101-B60	630	0.0283	0.0411	0.5713	0.2923	0.3385	715	762	967	999	50.1	7375
CB3-T101-B70	800	0.0221	0.0344	0.6419	0.2839	0.3301	775	840	1074	1127	55	9340
1 Core - AL/XLPE/ATA/PVC												
AB3-T101-B12	25	1.2	1.5386	0.1699	0.4852	0.5314	106	107	117	114	23.8	660
AB3-T101-B13	35	0.868	1.1130	0.1886	0.4595	0.5057	126	128	141	138	24.9	725
AB3-T101-B14	50	0.641	0.8220	0.2104	0.4279	0.4741	150	151	170	166	26.4	820
AB3-T101-B15	70	0.443	0.5682	0.2371	0.4040	0.4502	184	185	212	207	28	935
AB3-T101-B16	95	0.32	0.4106	0.2620	0.3873	0.4335	221	221	257	251	29.7	1070
AB3-T101-B17	120	0.253	0.3248	0.2851	0.3732	0.4194	250	252	296	290	31.1	1190
AB3-T101-B18	150	0.206	0.2647	0.3081	0.3623	0.4085	279	280	335	329	32.7	1335
AB3-T101-B19	185	0.164	0.2110	0.3360	0.3470	0.3933	316	319	386	379	34.4	1495
AB3-T101-B20	240	0.125	0.1613	0.3736	0.3339	0.3801	366	374	454	447	36.9	1750
AB3-T101-B30	300	0.1	0.1296	0.4128	0.3216	0.3678	411	419	521	515	39.3	2010
AB3-T101-B40	400	0.0778	0.1016	0.4568	0.3106	0.3569	468	478	604	600	42.4	2390
AB3-T101-B50	500	0.0605	0.0801	0.5137	0.3025	0.3487	528	548	698	700	46.5	2890
AB3-T101-B60	630	0.0469	0.0635	0.5705	0.2930	0.3392	594	622	802	812	50.2	3460
AB3-T101-B70	800	0.0367	0.0514	0.6484	0.2830	0.3292	662	698	914	937	55.4	4240

The above data is approximate and subjected to manufacturing tolerance

Medium Voltage Cables

8.7/15 (17.5) KV



Single Core Cables, with stranded circular copper or Aluminum conductors, XLPE insulated, aluminum wire armoured and PVC Sheath.

Description

- Stranded circular compacted copper or aluminum conductor, Semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, copper tape or wire as metallic insulation screen, covered with a layer of PVC compound as bedding layer, aluminum wire armoured and PVC sheath.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product Code	Nominal Cross sectional area mm ²	Max. Conductor Resistance		Capacitance µf/km	Inductance		Current Rating				Approx. Overall Diameter mm	Approx. Weight Kg/Km
		DC at 20 °C Ω/Km	AC at 90 °C Ω/Km		Trefoil	Flat	Laid in ground		Laid in free air (Shaded)			
							Trefoil ⊙⊙	Flat ○○○	Trefoil ⊙⊙	Trefoil ⊙⊙⊙		
1 Core - Cu/XLPE/AWA/PVC												
CB3-T101-X12	25	0.727	0.9271	0.1699	0.5006	0.5468	137	138	152	149	25.7	935
CB3-T101-X13	35	0.524	0.6683	0.1886	0.4757	0.5219	164	164	184	181	27	1075
CB3-T101-X14	50	0.387	0.4937	0.2104	0.4418	0.4880	194	194	220	217	28.3	1245
CB3-T101-X15	70	0.268	0.3421	0.2421	0.4144	0.4606	236	237	272	270	30.4	1525
CB3-T101-X16	95	0.193	0.2466	0.2620	0.4028	0.4491	280	283	328	327	32.1	1850
CB3-T101-X17	120	0.153	0.1958	0.2851	0.3892	0.4354	316	320	374	375	33.7	2150
CB3-T101-X18	150	0.124	0.1590	0.3081	0.3764	0.4227	352	356	421	423	35.1	2450
CB3-T101-X19	185	0.0991	0.1275	0.3360	0.3616	0.4078	392	400	474	482	37	2880
CB3-T101-X20	240	0.0754	0.0978	0.3752	0.3459	0.3921	443	459	548	565	39.4	3495
CB3-T101-X30	300	0.0601	0.0788	0.4177	0.3325	0.3787	488	513	615	642	42	4125
CB3-T101-X40	400	0.047	0.0627	0.4600	0.3278	0.3740	520	564	674	724	46.2	5220
CB3-T101-X50	500	0.0366	0.0503	0.5153	0.3163	0.3625	564	624	751	821	50	6465
CB3-T101-X60	630	0.0283	0.0407	0.5713	0.3061	0.3524	607	685	824	920	53.7	7900
CB3-T101-X70	800	0.0221	0.0340	0.6419	0.2959	0.3421	644	742	896	1022	58.4	9895
1 Core - AL/XLPE/AWA/PVC												
AB3-T101-X12	25	1.2	1.5386	0.1699	0.5006	0.5468	107	107	118	116	25.7	785
AB3-T101-X13	35	0.868	1.1130	0.1886	0.4757	0.5219	127	127	144	141	27	870
AB3-T101-X14	50	0.641	0.8220	0.2104	0.4418	0.4880	151	151	171	169	28.3	960
AB3-T101-X15	70	0.443	0.5682	0.2371	0.4185	0.4647	185	185	214	210	30.1	1100
AB3-T101-X16	95	0.32	0.4106	0.2620	0.4028	0.4491	220	221	258	255	32.1	1275
AB3-T101-X17	120	0.253	0.3248	0.2851	0.3892	0.4354	248	251	296	293	33.7	1420
AB3-T101-X18	150	0.206	0.2646	0.3081	0.3764	0.4227	277	280	333	332	35.1	1555
AB3-T101-X19	185	0.164	0.2110	0.3360	0.3616	0.4078	312	315	379	379	37	1750
AB3-T101-X20	240	0.125	0.1613	0.3736	0.3465	0.3927	358	364	441	422	39.3	2005
AB3-T101-X30	300	0.1	0.1295	0.4128	0.3334	0.3797	400	410	502	511	41.7	2265
AB3-T101-X40	400	0.0778	0.1015	0.4568	0.3269	0.3731	438	459	565	587	46	2845
AB3-T101-X50	500	0.0605	0.0799	0.5137	0.3174	0.3636	485	517	640	676	50.1	3375
AB3-T101-X60	630	0.0469	0.0632	0.5705	0.3068	0.3531	533	578	718	772	53.8	3985
AB3-T101-X70	800	0.0367	0.0511	0.6484	0.2949	0.3412	578	640	801	878	58.8	4795

The above data is approximate and subjected to manufacturing tolerance

Medium Voltage Cables

8.7/15 (17.5) kV



Three Cores Copper or Aluminium Conductors, XLPE Insulated, Galvanized Double Steel Tape Armoured and PVC Sheathed

Description

- Stranded circular compacted Copper or Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape, covered with a layer of PVC compound as a bedding, Galvanized Double steel tape armoured and PVC sheathed.
- Cables are produced according to IEC 60502.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Operating Capacitance µf/km	Inductance mh/km	Current Rating		Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km			Laid in ground A	(Shaded) Laid in free air A		
Three Cores, Copper Conductor Cables									
CX3-T103-G12	25	0.7270	0.9271	0.165	0.431	140	141	47.3	3070
CX3-T103-G13	35	0.5240	0.6684	0.183	0.408	167	171	49.7	3475
CX3-T103-G14	50	0.3870	0.4938	0.204	0.376	197	206	52.7	4055
CX3-T103-G15	70	0.2680	0.3423	0.234	0.354	241	257	56.7	4875
CX3-T103-G16	95	0.1930	0.2469	0.253	0.340	286	309	59.9	5790
CX3-T103-G17	120	0.1530	0.1961	0.275	0.330	325	356	63.4	6790
CX3-T103-G18	150	0.1240	0.1595	0.297	0.320	364	405	67.0	7865
CX3-T103-G19	185	0.0991	0.1282	0.324	0.308	410	463	70.9	9220
CX3-T103-G20	240	0.0754	0.0986	0.360	0.296	475	546	76.2	11225
CX3-T103-G30	300	0.0601	0.0799	0.402	0.288	535	626	83.7	14265
Three Cores, Aluminium Conductor Cables									
AX3-T103-G12	25	1.2000	1.5390	0.165	0.431	102	103	47.3	2610
AX3-T103-G13	35	0.8680	1.1130	0.183	0.408	122	124	49.7	2850
AX3-T103-G14	50	0.6410	0.8220	0.204	0.376	144	149	52.4	3160
AX3-T103-G15	70	0.4430	0.5683	0.234	0.354	176	184	56.1	3575
AX3-T103-G16	95	0.3200	0.4107	0.253	0.340	209	222	59.7	4040
AX3-T103-G17	120	0.2530	0.3250	0.275	0.329	238	255	63.2	4530
AX3-T103-G18	150	0.2060	0.2649	0.297	0.320	266	288	67.0	5180
AX3-T103-G19	185	0.1640	0.2114	0.324	0.308	301	331	70.9	5800
AX3-T103-G20	240	0.1250	0.1618	0.360	0.295	349	389	76.0	6755
AX3-T103-G30	300	0.1000	0.1302	0.402	0.288	394	444	83.0	8500

The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

8.7/15 (17.5) kV

Three Cores Copper or Aluminium XLPE Insulated,
Steel Wire Armoured and PVC Sheathed



Description

- Stranded circular compacted Copper or Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape, covered with a layer of PVC compound as a bedding, steel wire armoured and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area	Max. Conductor Resistance		Operating Capacitance	Inductance	Current Rating		Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C			Laid in ground	(Shaded) Laid in free air		
	mm ²	Ω/km	Ω/km	µf/km	mh/km	A	A	mm	kg/km
Three Cores, Copper Conductor Cables									
CX3-T103-W12	25	0.7270	0.9271	0.165	0.431	133	136	50.5	4530
CX3-T103-W13	35	0.5240	0.6684	0.183	0.408	158	164	52.9	5010
CX3-T103-W14	50	0.3870	0.4938	0.204	0.376	187	195	55.9	5715
CX3-T103-W15	70	0.2680	0.3423	0.234	0.354	227	241	59.9	6650
CX3-T103-W16	95	0.1930	0.2469	0.253	0.340	269	289	63.1	7655
CX3-T103-W17	120	0.1530	0.1961	0.275	0.330	305	331	66.6	8765
CX3-T103-W18	150	0.1240	0.1595	0.297	0.320	340	372	72.3	10935
CX3-T103-W19	185	0.0991	0.1282	0.324	0.308	381	423	76.2	12450
CX3-T103-W20	240	0.0754	0.0986	0.360	0.296	436	494	81.5	14735
CX3-T103-W30	300	0.0601	0.0799	0.402	0.288	485	556	87.6	17230
Three Cores Aluminium Conductor Cables									
AX3-T103-W12	25	1.2000	1.5390	0.165	0.431	103	106	50.5	4030
AX3-T103-W13	35	0.8680	1.1130	0.183	0.408	123	127	52.9	4325
AX3-T103-W14	50	0.6410	0.8220	0.204	0.376	145	152	55.6	4715
AX3-T103-W15	70	0.4430	0.5683	0.234	0.354	177	188	59.3	5245
AX3-T103-W16	95	0.3200	0.4107	0.253	0.340	210	225	62.9	5825
AX3-T103-W17	120	0.2530	0.3250	0.275	0.329	238	259	66.4	6400
AX3-T103-W18	150	0.2060	0.2649	0.297	0.320	265	291	72.3	8095
AX3-T103-W19	185	0.1640	0.2114	0.324	0.308	300	332	76.2	8865
AX3-T103-W20	240	0.1250	0.1618	0.360	0.295	346	391	81.1	9850
AX3-T103-W30	300	0.1000	0.1302	0.402	0.288	387	442	86.9	11135

The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

12/20 (24) kV

Single & Three Cores Copper Conductors, XLPE Insulated and PVC Sheathed



Description

- Stranded circular compacted Copper conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Operating Capacitance µf/km	Inductance		Current Rating				Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km		Trefoil mh/km	Flat mh/km	Laid in Ground		Laid in Free Air (Shaded)			
							Trefoil A	Flat A	Trefoil A	Flat A		
Single Core Cable												
CX4-T101-U13	35	0.5240	0.6683	0.159	0.463	0.648	166	174	174	211	25.3	915
CX4-T101-U14	50	0.3870	0.4937	0.177	0.428	0.613	197	206	209	255	26.7	1070
CX4-T101-U15	70	0.2680	0.3420	0.202	0.403	0.588	242	252	262	319	28.7	1320
CX4-T101-U16	95	0.1930	0.2465	0.217	0.389	0.573	287	299	317	384	29.9	1575
CX4-T101-U17	120	0.1530	0.1956	0.236	0.376	0.561	326	339	366	443	31.5	1860
CX4-T101-U18	150	0.1240	0.1588	0.254	0.365	0.550	364	375	416	498	33.1	2220
CX4-T101-U19	185	0.0991	0.1272	0.276	0.350	0.535	411	422	478	570	35.0	2625
CX4-T101-U20	240	0.0754	0.0973	0.305	0.335	0.520	475	484	565	669	37.4	3185
CX4-T101-U30	300	0.0601	0.0781	0.340	0.325	0.510	535	542	650	765	40.2	3845
CX4-T101-U40	400	0.0470	0.0618	0.373	0.313	0.498	599	591	745	853	43.0	4780
CX4-T101-U50	500	0.0366	0.0490	0.417	0.302	0.487	674	659	859	975	46.6	5930
CX4-T101-U60	630	0.0283	0.0391	0.460	0.293	0.478	752	728	981	1103	50.3	7265
CX4-T101-U70	800	0.0221	0.0319	0.516	0.285	0.470	869	979	1160	1480	55.4	9200
CX4-T101-U80	1000	0.0176	0.0234	0.633	0.281	0.466	1084	1188	1515	1864	65.8	11570
Three Core Cables												
CX4-T103-U13	35	0.5240	0.6684	0.159	0.427	-	167	-	171	-	49.5	2745
CX4-T103-U14	50	0.3870	0.4938	0.177	0.394	-	197	-	206	-	52.8	3255
CX4-T103-U15	70	0.2680	0.3423	0.202	0.370	-	241	-	257	-	56.9	4035
CX4-T103-U16	95	0.1930	0.2469	0.217	0.357	-	286	-	309	-	59.7	4865
CX4-T103-U17	120	0.1530	0.1961	0.236	0.345	-	325	-	356	-	63.1	5800
CX4-T103-U18	150	0.1240	0.1595	0.254	0.336	-	364	-	405	-	66.7	6835
CX4-T103-U19	185	0.0991	0.1282	0.276	0.321	-	410	-	463	-	70.2	8110
CX4-T103-U20	240	0.0754	0.0986	0.305	0.308	-	475	-	546	-	75.6	9960
CX4-T103-U30	300	0.0601	0.0799	0.340	0.299	-	535	-	626	-	81.6	12085

This data is applicable for 12.7/22kV cables.
The ampacity for single core sizes 800 & 1000mm² was based on a single end bonding.
The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

12/20 (24) kV

Single & Three Cores Aluminium Conductors, XLPE Insulated and PVC Sheathed



Description

- Stranded circular compacted Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Operating Capacitance µf/km	Inductance		Current Rating				Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km		Trefoil mh/km	Flat mh/km	Laid in Ground		Laid in Free Air (Shaded)			
							Trefoil A	Flat A	Trefoil A	Flat A		
Single Core Cable												
AX4-T101-U13	35	0.8680	1.1130	0.159	0.463	0.648	129	135	135	164	25.3	705
AX4-T101-U14	50	0.6410	0.8220	0.177	0.428	0.613	153	160	162	198	26.6	775
AX4-T101-U15	70	0.4430	0.5681	0.202	0.403	0.588	188	196	204	248	28.4	890
AX4-T101-U16	95	0.3200	0.4105	0.217	0.389	0.573	222	233	246	299	29.9	1000
AX4-T101-U17	120	0.2530	0.3247	0.236	0.376	0.561	254	265	284	346	31.5	1125
AX4-T101-U18	150	0.2060	0.2645	0.254	0.365	0.550	283	295	324	391	33.1	1320
AX4-T101-U19	185	0.1640	0.2107	0.276	0.350	0.535	321	333	373	449	35.0	1475
AX4-T101-U20	240	0.1250	0.1610	0.305	0.335	0.520	372	385	443	530	37.3	1700
AX4-T101-U30	300	0.1000	0.1291	0.340	0.325	0.510	421	433	511	608	39.9	1945
AX4-T101-U40	400	0.0778	0.1009	0.373	0.313	0.498	478	483	593	693	43.0	2390
AX4-T101-U50	500	0.0605	0.0791	0.417	0.302	0.487	544	545	693	802	46.6	2800
AX4-T101-U60	630	0.0469	0.0621	0.460	0.293	0.478	617	612	803	921	50.2	3325
AX4-T101-U70	800	0.0367	0.0495	0.516	0.285	0.470	715	786	954	1188	55.4	4060
AX4-T101-U80	1000	0.0291	0.0376	0.633	0.281	0.466	862	937	1205	1468	65.8	5220
Three Core Cables												
AX4-T103-U13	35	0.8680	1.1130	0.159	0.427	-	129	-	133	-	48.9	2050
AX4-T103-U14	50	0.6410	0.8220	0.177	0.394	-	153	-	160	-	52.0	2295
AX4-T103-U15	70	0.4430	0.5683	0.202	0.370	-	187	-	200	-	55.6	2650
AX4-T103-U16	95	0.3200	0.4107	0.217	0.357	-	222	-	240	-	59.1	3060
AX4-T103-U17	120	0.2530	0.3250	0.236	0.345	-	253	-	277	-	62.3	3470
AX4-T103-U18	150	0.2060	0.2649	0.254	0.336	-	283	-	314	-	65.9	4025
AX4-T103-U19	185	0.1640	0.2114	0.276	0.321	-	320	-	361	-	70.0	4605
AX4-T103-U20	240	0.1250	0.1618	0.305	0.308	-	371	-	427	-	75.2	5420
AX4-T103-U30	300	0.1000	0.1302	0.340	0.299	-	420	-	491	-	80.3	6175

This data is applicable for 12.7/22kV cables.

The ampacity for single core sizes 800 & 1000mm² was based on a single end bonding.

The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

12/20 (24) KV



Single Core Cables, with stranded Circular copper or Aluminum conductors, XLPE insulated, aluminum tape armoured and PVC Sheath.

Description

- Stranded circular compacted copper or aluminum conductor, Semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, copper tape or wire as metallic insulation screen, covered with a layer of PVC compound as bedding layer, aluminum tape armoured and PVC sheath.
- Cables are produced according to IEC 60502.

Application

- These cables are generally suitable for direct burial or for in

Product Code	Nominal Cross sectional area	Max. Conductor Resistance		Capacitance	Inductance		Current Rating				Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C		Trefoil	Flat	Laid in ground		Laid in free air (Shaded)			
							Trefoil	Flat	Trefoil	Trefoil		
		mm ²	Ω/Km		Ω/Km	µf/km	mh/km	A	A	A		
1 Core - Cu/XLPE/ATA/PVC												
CB4-T101-B13	35	0.524	0.6683	0.1632	0.4764	0.5227	165	164	184	180	27.1	1040
CB4-T101-B14	50	0.387	0.4937	0.1812	0.4425	0.4887	193	194	219	216	28.4	1205
CB4-T101-B15	70	0.268	0.3421	0.2072	0.4151	0.4613	236	237	274	269	30.5	1485
CB4-T101-B16	95	0.193	0.2466	0.2235	0.4003	0.4466	282	284	332	324	31.7	1760
CB4-T101-B17	120	0.153	0.1958	0.2424	0.3868	0.4330	320	322	381	376	33.3	2050
CB4-T101-B18	150	0.124	0.1590	0.2612	0.3741	0.4204	357	362	432	426	34.7	2345
CB4-T101-B19	185	0.0991	0.1275	0.2839	0.3594	0.4057	402	409	494	488	36.6	2770
CB4-T101-B20	240	0.0754	0.0978	0.3159	0.3439	0.3901	464	474	581	575	39	3375
CB4-T101-B30	300	0.0601	0.0788	0.3505	0.3325	0.3787	518	534	661	657	42	4045
CB4-T101-B40	400	0.047	0.0628	0.3850	0.3216	0.3679	582	604	754	759	44.8	4940
CB4-T101-B50	500	0.0366	0.0504	0.4300	0.3106	0.3568	648	681	858	875	48.6	6165
CB4-T101-B60	630	0.0283	0.0409	0.4755	0.3016	0.3478	713	761	967	1000	52.5	7600
CB4-T101-B70	800	0.0221	0.0342	0.5329	0.2910	0.3373	775	840	1076	1130	57	9525
1 Core - AL/XLPE/ATA/PVC												
AB4-T101-B13	35	0.868	1.1130	0.1632	0.4764	0.5227	126	127	143	139	27.1	835
AB4-T101-B14	50	0.641	0.8220	0.1812	0.4425	0.4887	150	150	171	168	28.4	920
AB4-T101-B15	70	0.443	0.5682	0.2031	0.4191	0.4653	183	185	214	207	30.2	1055
AB4-T101-B16	95	0.32	0.4106	0.2235	0.4003	0.4466	221	220	259	252	31.7	1180
AB4-T101-B17	120	0.253	0.3248	0.2424	0.3868	0.4330	249	252	297	292	33.3	1320
AB4-T101-B18	150	0.206	0.2646	0.2612	0.3741	0.4204	279	280	336	331	34.7	1455
AB4-T101-B19	185	0.164	0.2110	0.2839	0.3594	0.4057	316	318	387	381	36.6	1640
AB4-T101-B20	240	0.125	0.1613	0.3146	0.3444	0.3907	365	369	456	449	38.9	1885
AB4-T101-B30	300	0.1	0.1295	0.3465	0.3334	0.3797	411	418	520	516	41.7	2190
AB4-T101-B40	400	0.0778	0.1015	0.3823	0.3207	0.3670	467	477	605	602	44.6	2565
AB4-T101-B50	500	0.0605	0.0799	0.4286	0.3117	0.3580	528	547	698	701	48.7	3075
AB4-T101-B60	630	0.0469	0.0633	0.4749	0.3023	0.3486	592	621	801	812	52.6	3680
AB4-T101-B70	800	0.0367	0.0512	0.5382	0.2901	0.3363	662	698	914	937	57.4	4430

The above data is approximate and subjected to manufacturing tolerance
this data is applicable also for 12.7/22 KV

Medium Voltage Cables

12/20 (24) KV



Single Core Cables, with stranded circular copper or Aluminum conductors, XLPE insulated, aluminum wire armoured and PVC Sheath.

Description

- Stranded circular compacted copper or aluminum conductor, Semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, copper tape or wire as metallic insulation screen, covered with a layer of PVC compound as bedding layer, aluminum wire armoured and PVC sheath,
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product Code	Nominal Cross sectional area	Max. Conductor Resistance		Capacitance	Inductance		Current Rating				Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C		Trefoil	Flat	Laid in ground		Laid in free air (Shaded)			
							Trefoil	Flat	Trefoil	Trefoil		
		mm ²	Ω/Km		Ω/Km	µf/km	mh/km	A	A	A		
1 Core - Cu/XLPE/AWA/PVC												
CB4-T101-X13	35	0.524	0.6683	0.1632	0.4900	0.5362	164	164	186	182	29	1185
CB4-T101-X14	50	0.387	0.4937	0.1812	0.4567	0.5030	194	194	222	219	30.5	1365
CB4-T101-X15	70	0.268	0.3421	0.2072	0.4314	0.4777	235	237	275	272	33.1	1705
CB4-T101-X16	95	0.193	0.2466	0.2235	0.4161	0.4623	280	282	329	329	34.3	1990
CB4-T101-X17	120	0.153	0.1957	0.2424	0.4019	0.4481	315	319	376	377	35.9	2295
CB4-T101-X18	150	0.124	0.1590	0.2612	0.3886	0.4348	351	356	421	425	37.3	2600
CB4-T101-X19	185	0.0991	0.1275	0.2839	0.3721	0.4184	391	399	477	485	39	3015
CB4-T101-X20	240	0.0754	0.0977	0.3159	0.3558	0.4020	442	458	549	567	41.4	3635
CB4-T101-X30	300	0.0601	0.0786	0.3505	0.3490	0.3952	476	505	607	640	45.6	4485
CB4-T101-X40	400	0.047	0.0625	0.3850	0.3371	0.3833	520	564	677	727	48.4	5410
CB4-T101-X50	500	0.0366	0.0501	0.4300	0.3249	0.3711	564	624	750	822	52.2	6685
CB4-T101-X60	630	0.0283	0.0406	0.4755	0.3142	0.3604	607	686	828	923	55.9	8130
CB4-T101-X70	800	0.0221	0.0338	0.5329	0.3033	0.3495	646	744	901	1026	60.6	10125
1 Core - AL/XLPE/AWA/PVC												
AB4-T101-X13	35	0.868	1.1130	0.1632	0.4900	0.5362	127	127	144	142	29	975
AB4-T101-X14	50	0.641	0.8220	0.1812	0.4567	0.5030	150	151	173	170	30.5	1080
AB4-T101-X15	70	0.443	0.5682	0.2031	0.4356	0.4819	184	185	216	212	32.8	1280
AB4-T101-X16	95	0.32	0.4106	0.2235	0.4161	0.4623	219	220	259	256	34.3	1415
AB4-T101-X17	120	0.253	0.3248	0.2424	0.4019	0.4481	248	249	297	295	35.9	1565
AB4-T101-X18	150	0.206	0.2646	0.2612	0.3886	0.4348	277	279	334	333	37.3	1710
AB4-T101-X19	185	0.164	0.2109	0.2839	0.3721	0.4184	311	315	381	381	39	1885
AB4-T101-X20	240	0.125	0.1612	0.3146	0.3564	0.4026	358	363	443	448	41.3	2145
AB4-T101-X30	300	0.1	0.1294	0.3465	0.3500	0.3962	393	405	497	511	45.3	2630
AB4-T101-X40	400	0.0778	0.1014	0.3823	0.3363	0.3825	438	458	567	588	48.2	3035
AB4-T101-X50	500	0.0605	0.0798	0.4286	0.3260	0.3722	484	516	639	676	52.3	3595
AB4-T101-X60	630	0.0469	0.0631	0.4749	0.3149	0.3611	532	578	720	773	56	4210
AB4-T101-X70	800	0.0367	0.0509	0.5382	0.3023	0.3485	578	640	803	879	61	5030

The above data is approximate and subjected to manufacturing tolerance this data is applicable also for 12.7/22 KV

Medium Voltage Cables

12/20 (24) kV



Three Cores Copper or Aluminium Conductors, XLPE Insulated, Galvanized Double Steel Tape Armoured and PVC Sheathed

Description

- Stranded circular compacted Copper or Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape, covered with a layer of PVC compound as a bedding, Galvanized Double steel tape armoured and PVC sheathed.
- Cables are produced according to IEC 60502.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Operating Capacitance µf/km	Inductance mh/km	Current Rating		Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km			Laid in ground A	(Shaded) Laid in free air A		
Three Cores, Copper Conductor Cables									
CX4-T103-G 13	35	0.5240	0.6684	0.159	0.427	167	171	54.1	3875
CX4-T103-G 14	50	0.3870	0.4938	0.177	0.394	197	206	57.6	4490
CX4-T103-G 15	70	0.2680	0.3423	0.202	0.370	241	257	61.6	5360
CX4-T103-G 16	95	0.1930	0.2469	0.217	0.357	286	309	64.7	6290
CX4-T103-G 17	120	0.1530	0.1961	0.236	0.345	325	356	67.9	7265
CX4-T103-G 18	150	0.1240	0.1595	0.254	0.336	364	405	71.5	8380
CX4-T103-G 19	185	0.0991	0.1282	0.276	0.321	410	463	75.4	9810
CX4-T103-G 20	240	0.0754	0.0986	0.305	0.308	475	546	82.4	12590
CX4-T103-G 30	300	0.0601	0.0799	0.340	0.299	535	626	88.4	14920
Three Cores, Aluminium Conductor Cables									
AX4-T103-G 13	35	0.8680	1.1130	0.159	0.427	122	124	54.1	3250
AX4-T103-G 14	50	0.6410	0.8220	0.177	0.394	144	149	57.2	3570
AX4-T103-G 15	70	0.4430	0.5683	0.202	0.370	176	184	60.8	4010
AX4-T103-G 16	95	0.3200	0.4107	0.217	0.357	209	222	64.5	4535
AX4-T103-G 17	120	0.2530	0.3250	0.236	0.345	238	255	68.1	5085
AX4-T103-G 18	150	0.2060	0.2649	0.254	0.336	266	288	71.7	5730
AX4-T103-G 19	185	0.1640	0.2114	0.276	0.321	301	331	75.4	6390
AX4-T103-G 20	240	0.1250	0.1618	0.305	0.308	349	389	82.1	8110
AX4-T103-G 30	300	0.1000	0.1302	0.340	0.299	394	444	87.9	9180

is data is applicable for 12.7/22kV cables.
e above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

12/20 (24) kV

Three Cores Copper or Aluminium Conductors, XLPE Insulated, Steel Wire Armoured and PVC Sheathed



Description

- Stranded circular compacted Copper or Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape, covered with a layer of PVC compound as a bedding, steel wire armoured and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area	Max. Conductor Resistance		Operating Capacitance	Inductance	Current Rating		Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C			Laid in ground	(Shaded) Laid in free air		
	mm ²	Ω/km	Ω/km	µf/km	mh/km	A	A	mm	kg/km
Three Cores, Copper Conductor Cables									
CX4-T103-W13	35	0.5240	0.6684	0.159	0.427	158	164	57.3	5560
CX4-T103-W14	50	0.3870	0.4938	0.177	0.394	187	195	60.8	6295
CX4-T103-W15	70	0.2680	0.3423	0.202	0.370	227	241	64.9	7280
CX4-T103-W16	95	0.1930	0.2469	0.217	0.357	269	289	67.9	8300
CX4-T103-W17	120	0.1530	0.1961	0.236	0.345	305	331	73.2	10350
CX4-T103-W18	150	0.1240	0.1595	0.254	0.336	340	372	76.8	11670
CX4-T103-W19	185	0.0991	0.1282	0.276	0.321	381	423	80.5	13225
CX4-T103-W20	240	0.0754	0.0986	0.305	0.308	436	494	86.3	15515
CX4-T103-W30	300	0.0601	0.0799	0.340	0.299	485	556	92.5	18095
Three Cores, Aluminium Conductor Cables									
AX4-T103-W13	35	0.8680	1.1130	0.159	0.427	123	127	57.3	4870
AX4-T103-W14	50	0.6410	0.8220	0.177	0.394	145	152	60.4	5270
AX4-T103-W15	70	0.4430	0.5683	0.202	0.370	177	188	64.0	5820
AX4-T103-W16	95	0.3200	0.4107	0.217	0.357	210	225	67.7	6460
AX4-T103-W17	120	0.2530	0.3250	0.236	0.345	238	259	73.2	8045
AX4-T103-W18	150	0.2060	0.2649	0.254	0.336	265	291	76.8	8815
AX4-T103-W19	185	0.1640	0.2114	0.276	0.321	300	332	81.1	9675
AX4-T103-W20	240	0.1250	0.1618	0.305	0.308	346	391	86.0	10775
AX4-T103-W30	300	0.1000	0.1302	0.340	0.299	387	442	91.8	12050

This data is applicable for 12.7/22kV cables.

The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

18/30 (36) kV

Single & Three Cores Copper Conductors, XLPE Insulated and PVC Sheathed



Description

- Stranded circular compacted Copper conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area	Max. Conductor Resistance		Operating Capacitance	Inductance		Current Rating				Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C		Trefoil	Flat	Laid in Ground		Laid in Free Air (Shaded)			
							Trefoil	Flat	Trefoil	Flat		
mm ²	Ω/km	Ω/km	μf/km	mh/km	mh/km	A	A	A	A	mm	kg/km	
Single Core Cable												
CX5-T101-U14	50	0.3870	0.4937	0.138	0.465	0.649	197	206	209	255	32.1	1325
CX5-T101-U15	70	0.2680	0.3420	0.156	0.436	0.621	242	252	262	319	33.9	1575
CX5-T101-U16	95	0.1930	0.2465	0.167	0.422	0.607	287	299	317	384	35.3	1855
CX5-T101-U17	120	0.1530	0.1956	0.180	0.406	0.591	326	339	366	443	36.7	2140
CX5-T101-U18	150	0.1240	0.1588	0.192	0.395	0.580	364	375	416	498	38.5	2525
CX5-T101-U19	185	0.0991	0.1272	0.208	0.378	0.563	411	422	478	570	40.2	2930
CX5-T101-U20	240	0.0754	0.0973	0.228	0.362	0.547	475	484	565	669	42.8	3540
CX5-T101-U30	300	0.0601	0.0781	0.252	0.350	0.535	535	542	650	765	45.6	4225
CX5-T101-U40	400	0.0470	0.0618	0.275	0.337	0.522	599	591	745	853	48.4	5165
CX5-T101-U50	500	0.0366	0.0490	0.306	0.324	0.509	674	659	859	975	52.0	6350
CX5-T101-U60	630	0.0283	0.0391	0.336	0.313	0.498	752	728	981	1103	55.7	7715
CX5-T101-U70	800	0.0221	0.0319	0.374	0.303	0.488	869	979	1160	1480	60.6	9660
CX5-T101-U80	1000	0.0176	0.0234	0.455	0.297	0.481	1084	1188	1515	1864	71.2	12135
Three Core Cables												
CX5-T103-U14	50	0.3870	0.4938	0.138	0.436	-	197	-	206	-	63.0	3990
CX5-T103-U15	70	0.2680	0.3423	0.156	0.410	-	241	-	257	-	67.1	4835
CX5-T103-U16	95	0.1930	0.2469	0.167	0.395	-	286	-	309	-	69.9	5705
CX5-T103-U17	120	0.1530	0.1961	0.180	0.381	-	325	-	356	-	73.1	6645
CX5-T103-U18	150	0.1240	0.1595	0.192	0.368	-	364	-	405	-	76.3	7645
CX5-T103-U19	185	0.0991	0.1282	0.208	0.353	-	410	-	463	-	82.2	9385
CX5-T103-U20	240	0.0754	0.0986	0.228	0.338	-	475	-	546	-	85.8	10865
CX5-T103-U30	300	0.0601	0.0799	0.252	0.327	-	535	-	626	-	91.8	13115

This data is applicable for 19/33 kV cables
 The ampacity for single core sizes 800 & 1000mm² was based on a single end bonding.
 The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

18/30 (36) kV

Single & Three Cores Aluminium Conductors, XLPE Insulated and PVC Sheathed



Description

- Stranded circular compacted Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area	Max. Conductor Resistance		Operating Capacitance	Inductance		Current Rating				Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C		Trefoil	Flat	Laid in Ground		Laid in Free Air (Shaded)			
							Trefoil	Flat	Trefoil	Flat		
mm ²	Ω/km	Ω/km	µf/km	mh/km	mh/km	A	A	A	A	mm	kg/km	
Single Core Cable												
AX5-T101-U14	50	0.6410	0.8220	0.138	0.465	0.649	153	160	162	198	32.0	1025
AX5-T101-U15	70	0.4430	0.5681	0.156	0.436	0.621	188	196	204	248	33.6	1140
AX5-T101-U16	95	0.3200	0.4105	0.167	0.422	0.607	222	233	246	299	35.3	1270
AX5-T101-U17	120	0.2530	0.3247	0.180	0.406	0.591	254	265	284	346	36.7	1400
AX5-T101-U18	150	0.2060	0.2645	0.192	0.395	0.580	283	295	324	391	38.5	1630
AX5-T101-U19	185	0.1640	0.2107	0.208	0.378	0.563	321	333	373	449	40.2	1790
AX5-T101-U20	240	0.1250	0.1610	0.228	0.362	0.547	372	385	443	530	42.7	2050
AX5-T101-U30	300	0.1000	0.1291	0.252	0.350	0.535	421	433	511	608	45.3	2320
AX5-T101-U40	400	0.0778	0.1009	0.275	0.337	0.522	478	483	593	693	48.4	2775
AX5-T101-U50	500	0.0605	0.0791	0.306	0.324	0.509	544	545	693	802	52.0	3215
AX5-T101-U60	630	0.0469	0.0621	0.336	0.313	0.498	617	612	803	921	55.6	3765
AX5-T101-U70	800	0.0367	0.0495	0.374	0.303	0.488	715	786	954	1188	60.6	4515
AX5-T101-U80	1000	0.0291	0.0376	0.455	0.297	0.481	862	937	1205	1468	71.2	5790
Three Core Cables												
AX5-T103-U14	50	0.6410	0.8220	0.138	0.436	-	153	-	160	-	62.8	3095
AX5-T103-U15	70	0.4430	0.5683	0.156	0.410	-	187	-	200	-	66.4	3525
AX5-T103-U16	95	0.3200	0.4107	0.167	0.395	-	222	-	240	-	69.9	3985
AX5-T103-U17	120	0.2530	0.3250	0.180	0.381	-	253	-	277	-	73.1	4435
AX5-T103-U18	150	0.2060	0.2649	0.192	0.368	-	283	-	314	-	76.3	4960
AX5-T103-U19	185	0.1640	0.2114	0.208	0.353	-	320	-	361	-	80.4	5555
AX5-T103-U20	240	0.1250	0.1618	0.228	0.338	-	371	-	427	-	85.5	6390
AX5-T103-U30	300	0.1000	0.1302	0.252	0.327	-	420	-	491	-	91.1	7350

This data is applicable for 19/33 kV cables

The ampacity for single core sizes 800 & 1000mm² was based on a single end bonding.

The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

18/30 (36) KV



Single Core Cables, with stranded circular copper or Aluminum conductors, XLPE insulated, aluminum tape armoured and PVC Sheath.

Description

- Stranded circular compacted copper or aluminum conductor, Semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, copper tape or wire as metallic insulation screen, covered with a layer of PVC compound as bedding layer, aluminum tape armoured and PVC sheath.
- Cables are produced according to IEC 60502.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product Code	Nominal Cross sectional area mm ²	Max. Conductor Resistance		Capacitance µf/km	Inductance		Current Rating				Approx. Overall Diameter mm	Approx. Weight Kg/Km
		DC at 20 °C Ω/Km	AC at 90 °C Ω/Km		Trefoil	Flat	Laid in ground		Laid in free air (Shaded)			
							Trefoil ⊙ ⊙ ⊙	Flat ○○○	Trefoil ⊙ ⊙ ⊙	Trefoil ○○○		
1 Core - Cu/XLPE/ATA/PVC												
CB5-T101-B14	50	0.387	0.4937	0.1412	0.4761	0.5223	192	194	223	220	33.6	1505
CB5-T101-B15	70	0.268	0.3421	0.1596	0.4466	0.4928	234	236	278	272	35.7	1800
CB5-T101-B16	95	0.193	0.2466	0.1711	0.4307	0.4769	280	284	334	328	36.9	2085
CB5-T101-B17	120	0.153	0.1957	0.1844	0.4148	0.4610	318	320	385	380	38.3	2370
CB5-T101-B18	150	0.124	0.1589	0.1976	0.4021	0.4483	356	361	436	430	39.9	2695
CB5-T101-B19	185	0.0991	0.1274	0.2135	0.3860	0.4322	400	162	496	492	41.8	3135
CB5-T101-B20	240	0.0754	0.0976	0.2358	0.3698	0.4160	412	474	421	578	44.4	3785
CB5-T101-B30	300	0.0601	0.0785	0.2599	0.3558	0.4021	515	533	662	660	47.2	4460
CB5-T101-B40	400	0.047	0.0625	0.2839	0.3436	0.3898	580	602	755	762	50	5375
CB5-T101-B50	500	0.0366	0.0500	0.3151	0.3309	0.3771	646	680	859	878	53.8	6630
CB5-T101-B60	630	0.0283	0.0404	0.3467	0.3198	0.3660	713	762	969	1004	57.5	8075
CB5-T101-B70	800	0.0221	0.0336	0.3864	0.3085	0.3547	774	841	1076	1134	62.2	10065
1 Core - AL/XLPE/ATA/PVC												
AB5-T101-B14	50	0.641	0.8220	0.1412	0.4761	0.5223	151	150	173	170	33.6	1220
AB5-T101-B15	70	0.443	0.5682	0.1567	0.4509	0.4971	182	184	216	211	35.4	1370
AB5-T101-B16	95	0.32	0.4106	0.1711	0.4307	0.4769	220	219	261	255	36.9	1510
AB5-T101-B17	120	0.253	0.3247	0.1844	0.4148	0.4610	248	251	300	295	38.3	1640
AB5-T101-B18	150	0.206	0.2646	0.1976	0.4021	0.4483	277	280	339	333	39.9	1805
AB5-T101-B19	185	0.164	0.2109	0.2135	0.3860	0.4322	314	317	389	384	41.8	2005
AB5-T101-B20	240	0.125	0.1611	0.2349	0.3704	0.4167	363	367	458	451	44.3	2290
AB5-T101-B30	300	0.1	0.1294	0.2571	0.3569	0.4032	407	416	521	519	46.9	2600
AB5-T101-B40	400	0.0778	0.1013	0.2820	0.3428	0.3890	465	476	605	603	49.8	2995
AB5-T101-B50	500	0.0605	0.0797	0.3142	0.3320	0.3782	525	546	697	702	53.9	3540
AB5-T101-B60	630	0.0469	0.0630	0.3462	0.3205	0.3667	590	620	800	812	57.6	4155
AB5-T101-B70	800	0.0367	0.0508	0.3900	0.3075	0.3537	659	697	911	937	62.6	4970

The above data is approximate and subjected to manufacturing tolerance this data is applicable also for 19/33 KV

Medium Voltage Cables

18/30 (36) KV



Single Core Cables, with stranded Circular copper or Aluminum conductors, XLPE insulated, aluminum wire armoured and PVC Sheath.

Description

- Stranded circular compacted copper or aluminum conductor, Semi-conducting layer as conductor screen, XLPE insulated, ,semi-conducting layer as non metallic insulation screen, copper tape or wire as metallic insulation screen, covered with a layer of PVC compound as bedding layer, aluminum wire armoured and PVC sheath.
- Cables are produced according to IEC 60502 or BS 6622.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product Code	Nominal Cross sectional area mm ²	Max. Conductor Resistance		Capacitance µf/km	Inductance mh/km		Current Rating				Approx. Overall Diameter mm	Approx. Weight Kg/Km
		DC at 20 °C Ω/Km	AC at 90 °C Ω/Km		Trefoil	Flat	Laid in ground		Laid in free air (Shaded)			
							Trefoil ⊙⊙	Flat ○○	Trefoil ⊙⊙	Trefoil ⊙⊙		
1 Core - Cu/XLPE/AWA/PVC												
CB5-T101-X14	50	0.387	0.4937	0.1412	0.4910	0.5372	193	194	225	223	36.2	1750
CB5-T101-X15	70	0.268	0.3420	0.1596	0.4596	0.5058	234	236	277	275	38.1	2040
CB5-T101-X16	95	0.193	0.2465	0.1711	0.4433	0.4895	278	280	332	332	39.3	2335
CB5-T101-X17	120	0.153	0.1957	0.1844	0.4270	0.4732	314	317	378	379	40.7	2625
CB5-T101-X18	150	0.124	0.1589	0.1976	0.4193	0.4656	346	352	423	429	43.5	3120
CB5-T101-X19	185	0.0991	0.1274	0.2135	0.4025	0.4488	384	395	475	486	45.4	3575
CB5-T101-X20	240	0.0754	0.0975	0.2358	0.3854	0.4316	432	452	547	567	48	4255
CB5-T101-X30	300	0.0601	0.0784	0.2599	0.3706	0.4168	474	504	611	643	50.8	4955
CB5-T101-X40	400	0.047	0.0623	0.2839	0.3575	0.4037	520	562	682	729	53.6	5900
CB5-T101-X50	500	0.0366	0.0498	0.3151	0.3432	0.3894	566	625	759	828	57.2	7170
CB5-T101-X60	630	0.0283	0.0402	0.3467	0.3320	0.3782	609	686	837	929	61.1	8675
CB5-T101-X70	800	0.0221	0.0333	0.3864	0.3197	0.3660	648	746	911	1032	65.8	10725
1 Core - AL/XLPE/AWA/PVC												
AB5-T101-X14	50	0.641	0.8219	0.1412	0.4910	0.5372	150	150	175	172	36.2	1465
AB5-T101-X15	70	0.443	0.5682	0.1567	0.4640	0.5102	183	184	217	214	37.8	1615
AB5-T101-X16	95	0.32	0.4105	0.1711	0.4433	0.4895	218	219	261	259	39.3	1760
AB5-T101-X17	120	0.253	0.3247	0.1844	0.4270	0.4732	247	248	298	297	40.7	1895
AB5-T101-X18	150	0.206	0.2646	0.1976	0.4193	0.4656	275	277	336	336	43.5	2225
AB5-T101-X19	185	0.164	0.2109	0.2135	0.4025	0.4488	309	312	381	384	45.4	2445
AB5-T101-X20	240	0.125	0.1611	0.2349	0.3861	0.4323	353	361	442	450	47.9	2765
AB5-T101-X30	300	0.1	0.1293	0.2571	0.3717	0.4180	392	404	499	513	50.5	3100
AB5-T101-X40	400	0.0778	0.1012	0.2820	0.3568	0.4030	437	456	567	590	53.4	3525
AB5-T101-X50	500	0.0605	0.0796	0.3142	0.3443	0.3905	485	515	644	679	57.3	4080
AB5-T101-X60	630	0.0469	0.0628	0.3462	0.3326	0.3788	533	577	724	774	61.2	4755
AB5-T101-X70	800	0.0367	0.0506	0.3900	0.3186	0.3649	579	641	808	881	66.2	5630

The above data is approximate and subjected to manufacturing tolerance this data is applicable also for 19/33 KV

Medium Voltage Cables

18/30 (36) kV



Three Cores Copper or Aluminium Conductors, XLPE Insulated, Galvanized Double Steel Tape Armoured and PVC Sheathed

Description

- Stranded circular compacted Copper or Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape, covered with a layer of PVC compound as a bedding, Galvanized Double steel Tape armoured and PVC sheathed.
- Cables are produced according to IEC 60502.

Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area	Max. Conductor Resistance		Operating Capacitance	Inductance	Current Rating		Approx. Overall Diameter	Approx. Weight
		DC at 20 °C	AC at 90 °C			Laid in ground	(Shaded) Laid in free air		
	mm ²	Ω/km	Ω/km	µf/km	mh/km	A	A	mm	kg/km
Three Cores, Copper Conductor Cables									
CX5-T103-G 14	50	0.3870	0.4938	0.138	0.436	185	192	69.4	5730
CX5-T103-G 15	70	0.2680	0.3423	0.156	0.410	226	237	73.7	6725
CX5-T103-G 16	95	0.1930	0.2469	0.167	0.395	269	286	76.7	7705
CX5-T103-G 17	120	0.1530	0.1961	0.180	0.381	306	328	81.3	9720
CX5-T103-G 18	150	0.1240	0.1595	0.192	0.368	342	371	84.7	10680
CX5-T103-G 19	185	0.0991	0.1282	0.208	0.353	386	424	88.6	12120
CX5-T103-G 20	240	0.0754	0.0986	0.229	0.338	446	497	94.4	14310
CX5-T103-G 30	300	0.0601	0.0799	0.252	0.327	502	566	100.4	16790
Three Cores, Aluminium Conductor Cables									
AX5-T103-G 14	50	0.6410	0.8220	0.138	0.436	144	149	69.2	4830
AX5-T103-G 15	70	0.4430	0.5683	0.156	0.410	176	184	73.0	5395
AX5-T103-G 16	95	0.3200	0.4107	0.167	0.395	209	222	76.7	5980
AX5-T103-G 17	120	0.2530	0.3250	0.180	0.381	238	255	81.3	7310
AX5-T103-G 18	150	0.2060	0.2649	0.192	0.368	266	288	84.7	7995
AX5-T103-G 19	185	0.1640	0.2114	0.208	0.353	301	331	88.6	8700
AX5-T103-G 20	240	0.1250	0.1618	0.228	0.338	349	389	94.1	9820
AX5-T103-G 30	300	0.1000	0.1302	0.252	0.327	394	444	99.7	11000

This data is applicable for 19/33 kV cables

The above data is approximate and subjected to manufacturing tolerance.

Medium Voltage Cables

18/30 (36) kV

Three Cores Copper or Aluminium Conductors, XLPE Insulated, Steel Wire Armoured and PVC Sheathed



Description

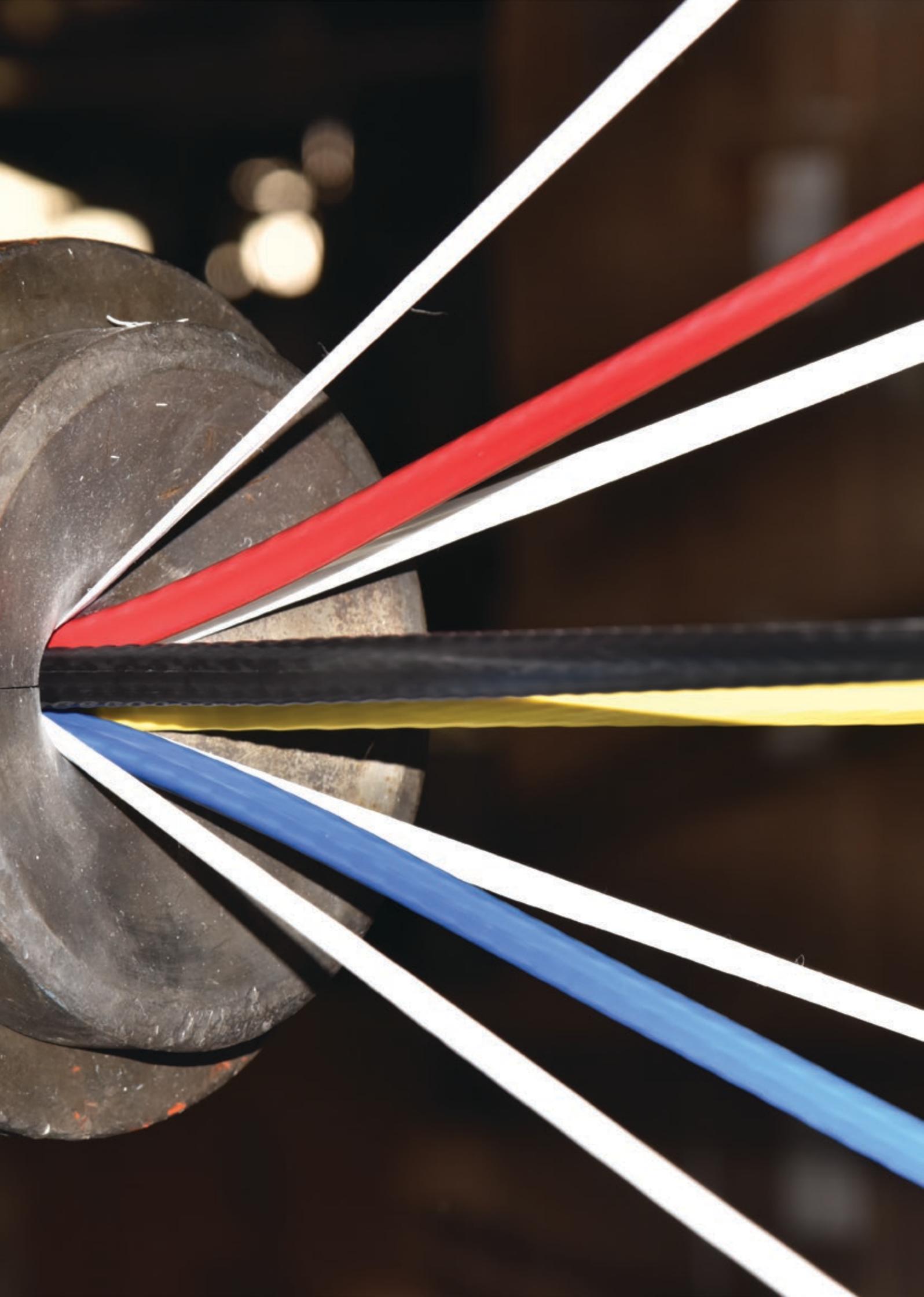
- Stranded circular compacted Copper or Aluminium conductor, semiconducting layer as conductor screen, XLPE insulated, semiconducting layer as non metallic insulation screen, Copper tape or wire as metallic insulation screen, three cores assembled together with non hygroscopic Polypropylene fillers, wrapped with binder tape, covered with a layer of PVC compound as a bedding, steel wire armoured and PVC sheathed.
- Cables are produced according to IEC 60502 or BS 6622.

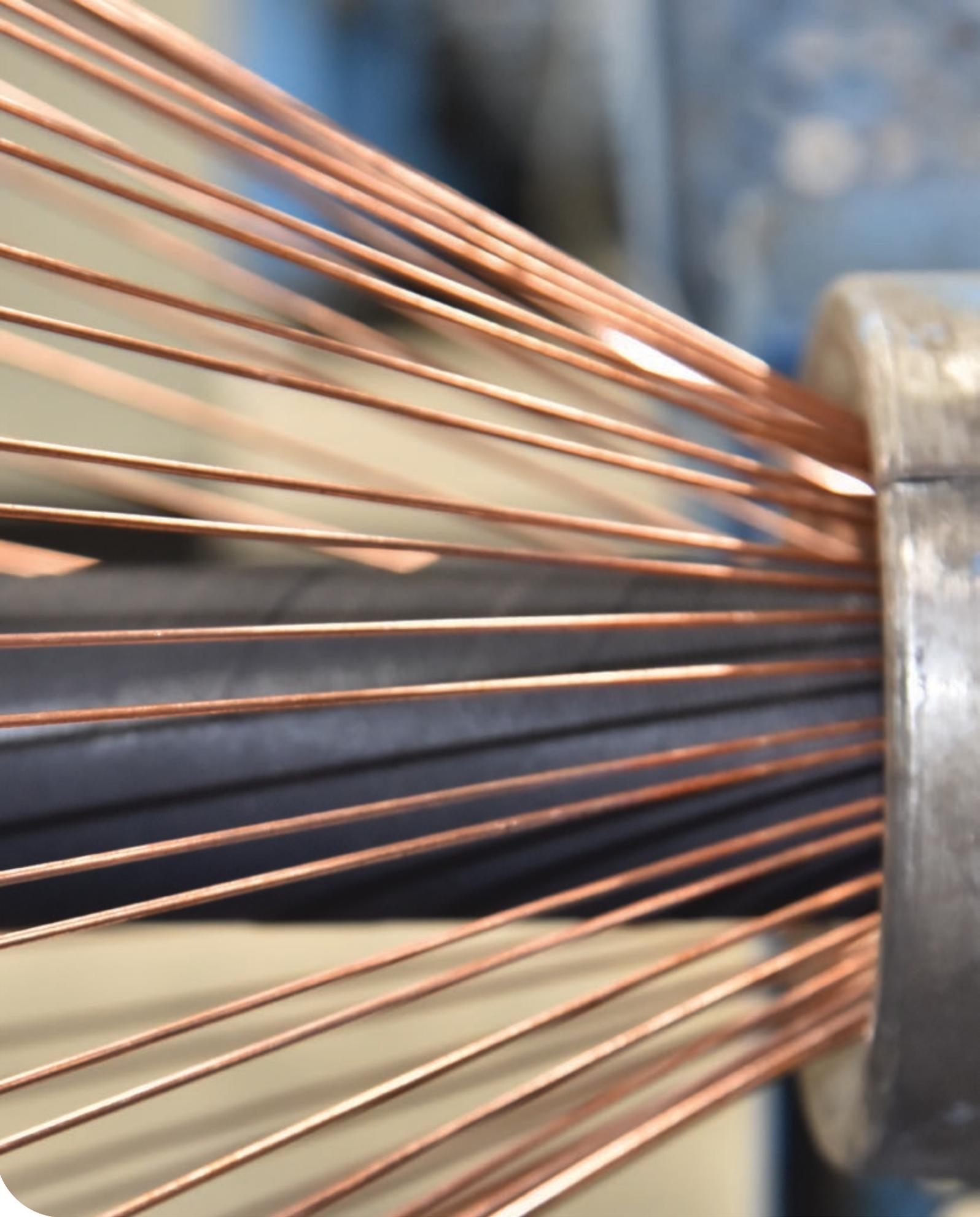
Application

- These cables are generally suitable for direct burial or for installation on trays or in ducts.

Product - Code	Nominal Cross Sectional Area mm ²	Max. Conductor Resistance		Operating Capacitance µf/km	Inductance mh/km	Current Rating		Approx. Overall Diameter mm	Approx. Weight kg/km
		DC at 20 °C Ω/km	AC at 90 °C Ω/km			Laid in ground A	(Shaded) Laid in free air A		
Three Cores, Copper Conductor Cables									
CX5-T103-W14	50	0.3870	0.4938	0.138	0.436	187	195	74.7	8910
CX5-T103-W15	70	0.2680	0.3423	0.156	0.410	227	241	78.8	10025
CX5-T103-W16	95	0.1930	0.2469	0.167	0.395	269	289	81.8	11175
CX5-T103-W17	120	0.1530	0.1961	0.180	0.381	305	331	85.2	12500
CX5-T103-W18	150	0.1240	0.1595	0.192	0.368	340	372	88.4	13595
CX5-T103-W19	185	0.0991	0.1282	0.208	0.353	381	423	92.5	15255
CX5-T103-W20	240	0.0754	0.0986	0.228	0.338	436	494	98.3	17665
CX5-T103-W30	300	0.0601	0.0799	0.252	0.327	485	556	104.5	20405
Three Cores, Aluminium Conductor Cables									
AX5-T103-W14	50	0.6410	0.8220	0.138	0.436	145	152	74.3	7810
AX5-T103-W15	70	0.4430	0.5683	0.156	0.410	177	188	78.3	8560
AX5-T103-W16	95	0.3200	0.4107	0.167	0.395	210	225	81.8	9265
AX5-T103-W17	120	0.2530	0.3250	0.180	0.381	238	259	85.2	9995
AX5-T103-W18	150	0.2060	0.2649	0.192	0.368	265	291	88.6	10800
AX5-T103-W19	185	0.1640	0.2114	0.208	0.353	300	332	92.5	11615
AX5-T103-W20	240	0.1250	0.1618	0.228	0.338	346	391	98.0	12880
AX5-T103-W30	300	0.1000	0.1302	0.252	0.327	387	442	103.8	14300

This data is applicable for 19/33 kV cables
The above data is approximate and subjected to manufacturing tolerance.





Cable Construction

1. Conductor

Conductor consists of stranded Aluminum or soft drawn copper conductor are produced by two technologies:

a. Circular Compacted

One or multi layers of stranded wires are assembled together to form a circular compacted conductor

b. Segmental Conductor

Five segments of compacted conductor in triangle shape of 72 degree are assembled together with separation of non metallic tapes to reduce the skin effect which reduce the AC conductor resistance. Segmental conductors are applied for conductor cross sectional area of 1000 mm² and above

Water blocking:

Swelling powder or water blocking tapes should be applied between the conductor strands to block the ingress of water inside the cable conductor (if required).

2. Conductor Screen

An extruded layer of cross linkable semi conducting to reduce and control the electric stress beneath the insulation layer of cross linked polyethylene (XLPE). The semi conducting layer shall be firmly bonded to the inner layer of the insulation layer.

3. Cross Linked Polyethylene Insulation

An extruded layer of cross linked polyethylene (XLPE) of high grad is extruded in dry cooling and curing continuous vulcanizing line. The thickness of insulation should be calculated as per the operating voltage, impulse voltage and expected cable life time which should be verified by carrying out type tests as per the applicable standards.

4. Insulation Screen

An extruded layer of cross linkable semi conducting is applied over the insulation layer to insure that the electric stress is homogenous around the insulated core. The semi conducting layer shall be firmly bonded to the outer layer of the insulation layer.

Conductor screen, insulation and insulation screen are applied simultaneously in one process (triple extrusion process) to insure that all extruded layers are firmly bonded together.

5. Metallic Screen / Sheath

One or multi layers of metallic screen / sheath such as copper wires, lead, aluminum, etc. shall be applied as a return path of earth fault current. Metallic sheaths may be used for water blocking protection and mechanical protection.

6. Overall Jacket (Outer Sheath)

An extruded layer of PVC, PE (HDPE, LDPE, MDPE) shall be applied over the metallic layers for protection against chemical reaction, mechanical and electrical protection. Extruded semi conductive layer or graphite coating shall be applied over the outer sheath for testing purpose.

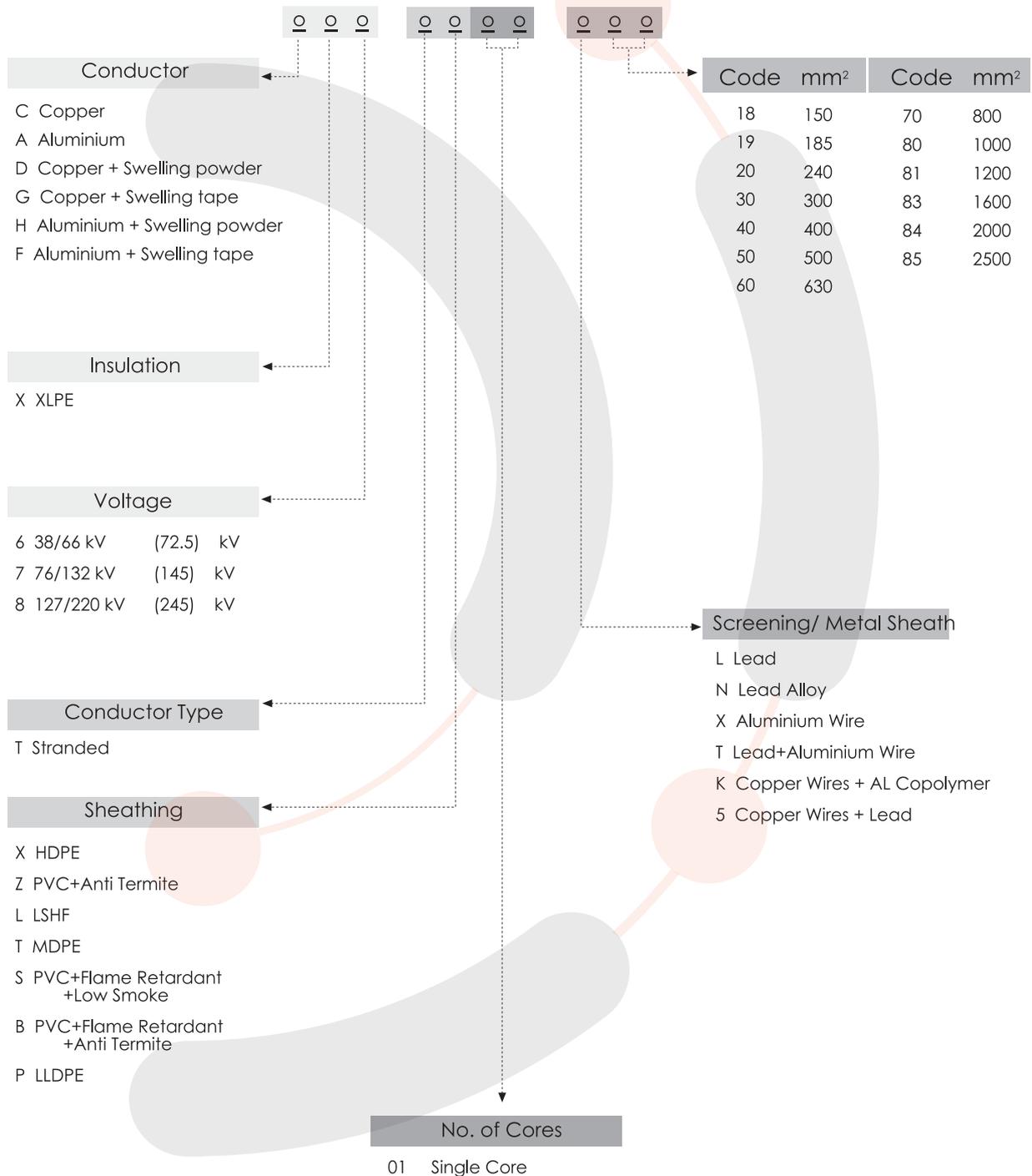


**HIGH
VOLT**

System Designation for High & Extra High Voltage Cable

You can order our product by giving the following information:

1. Cable code as per the catalogue.
2. If your required cable/conductor is out of our catalogue range, you can use the following codes to determine your cable.



High Voltage Cables

38 / 66 (72.5) kV

Single Core Copper Conductor, XLPE insulated, Copper Wire Screen and HDPE Sheathed



Stranded circular or segmental compacted copper conductor, semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, Semi-conductive water blocking tape, copper wire or tape as metallic insulation screen to withstand the required earth fault current, non-conductive water blocking tape to protect the screen area from longitudinal water penetration, copolymer aluminum tape to protect the cable from radial water penetration and HDPE sheathed with graphite coating or extruded semi-conducting layer. Cables are designed and tested to comply with IEC 60228, 60840 and 60811.

Constructional Data

Product - Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	No. of Wires x Wire Dia	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance	
	Cross-Sectional Area	Shape										
	mm ²		mm	mm	mm	mm	mm	mm	(kg/km)	(Ω/km)	(μf/km)	
CX6-TX01-K18	150	Compact Round (R) Stranded	1.0	10	1.0	50 x 1.43	3.5	50.8	3650	0.1240	0.173	
CX6-TX01-K19	185		1.0	10	1.0	50 x 1.43	3.5	52.7	4075	0.0991	0.186	
CX6-TX01-K20	240		1.0	10	1.0	50 x 1.43	3.5	55.1	4700	0.0754	0.203	
CX6-TX01-K30	300		1.0	10	1.0	50 x 1.43	3.5	57.5	5400	0.0601	0.221	
CX6-TX01-K40	400		1.0	10	1.0	50 x 1.43	3.5	60.1	6260	0.0470	0.239	
CX6-TX01-K50	500		1.0	10	1.0	50 x 1.43	4.0	64.5	7570	0.0366	0.263	
CX6-TX01-K60	630		1.0	10	1.0	50 x 1.43	4.0	68.0	8910	0.0283	0.288	
CX6-TX01-K70	800		1.0	10	1.0	50 x 1.43	4.0	72.3	10895	0.0221	0.319	
CX6-TX01-K80	1000		Segmental	1.5	10	1.2	50 x 1.43	4.0	81.6	13280	0.0176	0.380
CX6-TX01-K81	1200		Stranded(S)	1.5	10	1.2	50 x 1.43	4.5	84.5	15300	0.0151	0.395
CX6-TX01-K83	1600	(Milliken)	1.5	10	1.2	50 x 1.43	4.5	92.9	19670	0.0113	0.453	

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)

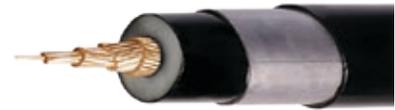
		Laying conditions: trefoil formation				Laying condition: flat formation				
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Direct Burial		In air (shaded)		
	mm ²	$p_i=120$ T = 25 °C	$p_i=150$ T = 35 °C	T = 30 °C	T = 40 °C	mm ²	$p_i=120$ T = 25 °C	$p_i=150$ T = 35 °C	T = 30 °C	T = 40 °C
Bonded at both ends	150 R	357	300	485	438	150 R	378	318	557	504
	185 R	400	336	553	499	185 R	427	360	639	578
	240 R	459	385	648	584	240 R	496	417	756	684
	300 R	514	430	738	665	300 R	561	471	871	787
	400 R	577	482	845	761	400 R	639	536	1010	913
Cross or single point bonding	500 R	643	538	966	871	500 R	729	611	1175	1061
	630 R	774	647	1168	1052	630 R	829	694	1363	1232
	800 R	863	720	1332	1199	800 R	935	782	1573	1421
	1000 S	1040	868	1658	1494	1000 S	1112	929	1926	1740
	1200 S	1119	933	1797	1618	1200 S	1200	1002	2095	1893
	1600 S	1283	1068	2131	1919	1600 S	1394	1163	2517	2273

* R: Round Conductor
* S: Segmental Conductor

High Voltage Cables

38 / 66 (72.5) kV

Single Core Copper Conductor, XLPE insulated, Lead Sheathed and HDPE Sheathed



Stranded circular or segmental compacted copper conductor, semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, semi conductive water blocking tape to protect the screen area from longitudinal water penetration, copper wire or tape as metallic insulation screen lead sheathed with suitable thickness to withstand the required earth fault current and HDPE sheathed with graphite coating or extruded semi-conducting layer.

Cables are designed and tested to comply with IEC 60228, 60840 and 60811.

Constructional Data

Product - Code	Conductor											
	Cross-Sectional Area	Shape	Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	No. of Wires x Wire Dia	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance	
			mm ²	mm	mm	mm	mm	mm	mm	(kg/km)	(Ω/km)	(µf/km)
CX6-TX01-N18	150	Compact Round (R)	1.0	10	1.0	2.0	3.5	50.3	5720	0.1240	0.173	
CX6-TX01-N19	185		1.0	10	1.0	2.0	3.5	52.0	6260	0.0991	0.186	
CX6-TX01-N20	240		1.0	10	1.0	2.1	3.5	54.6	7215	0.0754	0.203	
CX6-TX01-N30	300		1.0	10	1.0	2.2	3.5	57.2	8265	0.0601	0.221	
CX6-TX01-N40	400		1.0	10	1.0	2.3	3.5	60.0	9515	0.0470	0.239	
CX6-TX01-N50	500		1.0	10	1.0	2.4	4.0	64.6	11295	0.0366	0.263	
CX6-TX01-N60	630		1.0	10	1.0	2.4	4.0	68.1	13190	0.0283	0.288	
CX6-TX01-N70	800		1.0	10	1.0	2.6	4.0	72.8	15725	0.0221	0.319	
CX6-TX01-N80	1000		Segmental	1.5	10	1.2	2.7	4.0	82.3	19220	0.0176	0.380
CX6-TX01-N81	1200		Stranded (S)	1.5	10	1.2	2.8	4.5	85.3	21690	0.0151	0.395
CX6-TX01-N83	1600	(Milliken)	1.5	10	1.2	3.0	4.5	94.2	27485	0.0113	0.453	

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
Laying conditions: trefoil formation					Laying condition: flat formation						
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct Burial		In air (shaded)	
		$p_i = 120$ T = 25 °C	$p_i = 150$ T = 35 °C	T = 30 °C	T = 40 °C			$p_i = 120$ T = 25 °C	$p_i = 150$ T = 35 °C	T = 30 °C	T = 40 °C
Bonded at both Ends	150 R	364	306	495	446	Cross or single point bonding	150 R	379	319	560	506
	185 R	410	344	565	510		185 R	428	360	642	581
	240 R	473	397	665	600		240 R	497	417	760	687
	300 R	532	445	761	686		300 R	562	472	875	791
	400 R	600	502	876	789		400 R	640	537	1016	918
Cross or single point bonding	500 R	674	563	1007	908	500 R	730	611	1181	1067	
	630 R	770	644	1171	1055	630 R	829	694	1369	1237	
	800 R	856	715	1334	1202	800 R	934	780	1580	1427	
	1000 S	1022	852	1646	1483	1000 S	1105	923	1927	1741	
	1200 S	1095	913	1778	1602	1200 S	1190	994	2088	1886	
	1600 S	1239	1031	2087	1880	1600 S	1372	1144	2495	2254	

* R: Round Conductor
* S: Segmental Conductor

High Voltage Cables

76 / 132 (145) kV

Single Core Copper Conductor, XLPE insulated, Copper Wire Screen and HDPE Sheathed



Stranded circular or segmental compacted copper conductor, semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, Semi-conductive water blocking tape, copper wire or tape as metallic insulation screen to withstand the required earth fault current, non-conductive water blocking tape to protect the screen area from longitudinal water penetration, copolymer aluminum tape to protect the cable from radial water penetration and HDPE sheathed with graphite coating or extruded semi-conducting layer. Cables are designed and tested to comply with IEC 60228, 60840 and 60811.

Constructional Data

Product - Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	No. of Wires x Wire Dia	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable (kg/km)	Max. DC Conductor Resistance at 20°C (Ω/km)	Capacitance (μf/km)	
	Cross-Sectional Area (mm ²)	Shape										
CX7-TX01-K20	240	Compact Round (R) Stranded	1.2	16	1.0	75 x 1.75	4.5	70.1	6960	0.0754	0.149	
CX7-TX01-K30	300		1.2	16	1.0	75 x 1.75	4.5	72.5	7700	0.0601	0.160	
CX7-TX01-K40	400		1.2	16	1.0	75 x 1.75	4.5	75.1	8630	0.0470	0.172	
CX7-TX01-K50	500		1.2	16	1.0	75 x 1.75	4.5	78.5	9915	0.0366	0.188	
CX7-TX01-K60	630		1.2	16	1.0	75 x 1.75	4.5	82.0	11375	0.0283	0.204	
CX7-TX01-K70	800		1.2	16	1.0	75 x 1.75	4.5	86.3	13395	0.0221	0.223	
CX7-TX01-K80	1000		1.5	16	1.2	75 x 1.75	4.5	95.2	15920	0.0176	0.261	
CX7-TX01-K81	1200		Segmental Stranded (S) (Milliken)	1.5	16	1.2	75 x 1.75	4.5	97.1	17840	0.0151	0.269
CX7-TX01-K83	1600			1.5	16	1.2	75 x 1.75	4.5	105.5	22370	0.0113	0.306
CX7-TX01-K84	2000			1.5	16	1.2	75 x 1.75	4.5	110.5	26440	0.0090	0.328
CX7-TX01-K85	2500	1.5		16	1.2	75 x 1.75	4.5	116.8	31365	0.0072	0.356	

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
		Laying conditions: trefoil formation				Laying condition: flat formation					
Type of Earthing Bonding System	Cross Sectional Area (mm ²)	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area (mm ²)	Direct Burial		In air (shaded)	
		p _i in °C cm/W	p _i in °C cm/W	T = 30 °C	T = 40 °C			p _i in °C cm/W	p _i in °C cm/W	T = 30 °C	T = 40 °C
Bonded at both Ends	240 R	p _i =120 T = 25 °C	p _i =150 T = 35 °C	T = 30 °C	T = 40 °C	Cross or single point bonding	240 R	p _i =120 T = 25 °C	p _i =150 T = 35 °C	T = 30 °C	T = 40 °C
	300 R	445	374	634	573		497	420	735	666	
	400 R	494	415	719	649		562	474	845	765	
	500 R	551	462	818	738		640	540	979	886	
	630 R	632	511	930	839		731	615	1139	1031	
Cross or single point bonding	800 R	632	511	930	839		800 R	731	615	1139	1031
	630 R	780	608	1104	1996		630 R	832	699	1320	1195
	800 R	872	731	1329	1200		800 R	938	788	1521	1376
	1000 S	1045	875	1639	1479		1000 S	1115	935	1859	1682
	1200 S	1124	940	1777	1604		1200 S	1203	1009	2022	1829
	1600 S	1294	1081	2107	1901	1600 S	1399	1171	2424	2192	
	2000 S	1424	1189	2359	2128	2000 S	1555	1301	2740	2479	
	2500 S	1565	1306	2645	2385	2500 S	1703	1423	3141	2751	

* R: Round Conductor
* S: Segmental Conductor

High Voltage Cables

76 / 132 (145) kV

Single Core Copper Conductor, XLPE insulated, Lead Sheathed and HDPE Sheathed



Stranded circular or segmental compacted copper conductor, semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, semi-conductive water blocking tape to protect the screen area from longitudinal water penetration, copper wire or tape as metallic insulation screen lead sheathed with suitable thickness to withstand the required earth fault current and HDPE sheathed with graphite coating or extruded semi-conducting layer.

Cables are designed and tested to comply with IEC 60228, 60840 and 60811.

Constructional Data

Product - Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	No. of Wires x Wire Dia	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance
	Cross-Sectional Area	Shape									
	mm ²		mm	mm	mm	mm	mm	mm	(kg/km)	(Ω/km)	(μf/km)
CX7-TX01-N20	240	Compact Round (R) Stranded	1.2	16	1.0	2.4	4.5	69.6	10040	0.0754	0.149
CX7-TX01-N30	300		1.2	16	1.0	2.5	4.5	72.2	11215	0.0601	0.160
CX7-TX01-N40	400		1.2	16	1.0	2.6	4.5	75.0	12600	0.0470	0.172
CX7-TX01-N50	500		1.2	16	1.0	2.7	4.5	78.6	14440	0.0366	0.188
CX7-TX01-N60	630		1.2	16	1.0	2.7	4.5	82.5	16485	0.0283	0.204
CX7-TX01-N70	800		1.2	16	1.0	2.9	4.5	86.6	19195	0.0221	0.223
CX7-TX01-N80	1000		1.5	16	1.2	3.0	4.5	98.1	24955	0.0176	0.261
CX7-TX01-N81	1200		1.5	16	1.2	3.1	4.5	100.5	25350	0.0151	0.269
CX7-TX01-N83	1600		1.5	16	1.2	3.3	4.5	106.8	31475	0.0113	0.306
CX7-TX01-N84	2000		1.5	16	1.2	3.5	4.5	112.2	36860	0.0090	0.328
CX7-TX01-N85	2500	1.5	16	1.2	3.7	4.5	119.9	43200	0.0072	0.356	

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
Laying conditions: trefoil formation					Laying condition: flat formation						
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct Burial		In air (shaded)	
	mm ²	$p_i=120$ T = 25 °C	$p_i=150$ T = 35 °C	T = 30 °C	T = 40 °C		mm ²	$p_i=120$ T = 25 °C	$p_i=150$ T = 35 °C	T = 30 °C	T = 40 °C
Bonded at both Ends	240 R	471	397	660	597	Cross or single point bonding	240 R	497	420	737	668
	300 R	528	445	754	682		300 R	562	474	847	767
	400 R	596	501	866	782		400 R	640	540	981	889
	500 R	669	562	995	899		500 R	730	614	1141	1033
	630 R	773	648	1162	1049		630 R	829	702	1322	1197
Cross or single point bonding	800 R	861	721	1324	1195		800 R	934	784	1522	1377
	1000 S	1019	853	1618	1460		1000 S	1105	925	1852	1676
	1200 S	1091	912	1744	1574		1200 S	1187	995	2011	1820
	1600 S	1229	1026	2043	1843		1600 S	1368	1145	2398	2170
	2000 S	1331	1110	2262	2040		2000 S	1507	1260	2697	2440
	2500 S	1431	1192	2497	2252	2500 S	1661	1387	2995	2651	

- * R: Round Conductor
- * S: Segmental Conductor

133 / 230 (245) kV

Single Core Copper Conductor, XLPE insulated, Copper Wire Screen and HDPE Sheathed

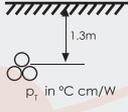
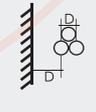
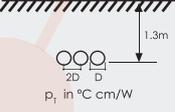
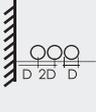


Stranded circular or segmental compacted copper conductor, semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, Semi-conductive water blocking tape, copper wire or tape as metallic insulation screen to withstand the required earth fault current, non-conductive water blocking tape to protect the screen area from longitudinal water penetration, copolymer aluminum tape to protect the cable from radial water penetration and HDPE sheathed with graphite coating or extruded semi-conducting layer. Cables are designed and tested to comply with IEC 60228, 62067 and 60811.

Constructional Data

Product - Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	No. of Wires x Wire Dia	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable	Max. DC Conductor Resistance at 20°C	Capacitance
	Cross-Sectional Area	Shape									
	mm ²		mm	mm	mm	mm	mm	mm	(kg/km)	(Ω/km)	(μf/km)
CX8-TX01-K40	400	Compact Round (R) Stranded	1.5	23	1.5	75 x 1.75	4.5	90.6	10515	0.0470	0.138
CX8-TX01-K50	500		1.5	23	1.5	75 x 1.75	4.5	94.1	11860	0.0366	0.149
CX8-TX01-K60	630		1.5	23	1.5	75 x 1.75	4.5	97.6	13405	0.0283	0.160
CX8-TX01-K70	800		1.5	23	1.5	75 x 1.75	4.5	101.9	15520	0.0221	0.174
CX8-TX01-K80	1000		1.5	23	1.5	75 x 1.75	5.0	110.8	18250	0.0176	0.199
CX8-TX01-K81	1200	Segmental Stranded(S) (Milliken)	1.5	23	1.5	75 x 1.75	5.0	112.7	20215	0.0151	0.205
CX8-TX01-K83	1600		1.5	23	1.5	75 x 1.75	5.0	121.1	24940	0.0113	0.231
CX8-TX01-K84	2000		1.5	23	1.5	75 x 1.75	5.0	126.1	28870	0.0090	0.247
CX8-TX01-K85	2500		1.5	23	1.5	75 x 1.75	5.0	132.4	34785	0.0072	0.266

Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)

		Laying conditions: trefoil formation				Laying condition: flat formation					
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct Burial		In air (shaded)	
											
	mm ²	$p_i=120$ T = 25 °C	$p_i=150$ T = 35 °C	T = 30 °C	T = 40 °C		mm ²	$p_i=120$ T = 25 °C	$p_i=150$ T = 35 °C	T = 30 °C	T = 40 °C
Bonded at both ends	400 R	550	461	815	737	Cross or single point bonding	400 R	640	540	945	857
	500 R	653	573	929	839		500 R	728	613	1098	995
	630 R	761	737	1146	1035		630 R	827	695	1272	1152
	800 R	847	707	1308	1182		800 R	929	779	1463	1325
Cross or single point bonding	1000 S	995	829	1583	1446		1000 S	1101	922	1781	1612
	1200 S	1065	883	1712	1568		1200 S	1188	995	1935	1752
	1600 S	1191	989	2022	1857		1600 S	1356	1131	2315	2096
	2000 S	1290	1072	2232	2072		2000 S	1535	1281	2616	2367
	2500 S	1389	1150	2480	2236		2500 S	1654	1376	2876	2603

* R: Round Conductor
* S: Segmental Conductor

Extra High Voltage Cables

133 / 230 (245) kV

Single Core Copper Conductor, XLPE insulated, Lead Sheathed and HDPE Sheathed

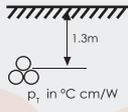
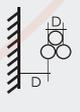
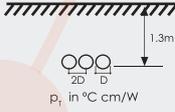
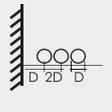


Stranded circular or segmental compacted copper conductor, semi-conducting layer as conductor screen, XLPE insulated, semi-conducting layer as non metallic insulation screen, semi conductive water blocking tape to protect the screen area from longitudinal water penetration, copper wire or tape as metallic insulation screen lead sheathed with suitable thickness to withstand the required earth fault current and HDPE sheathed with graphite coating or extruded semi-conducting layer.

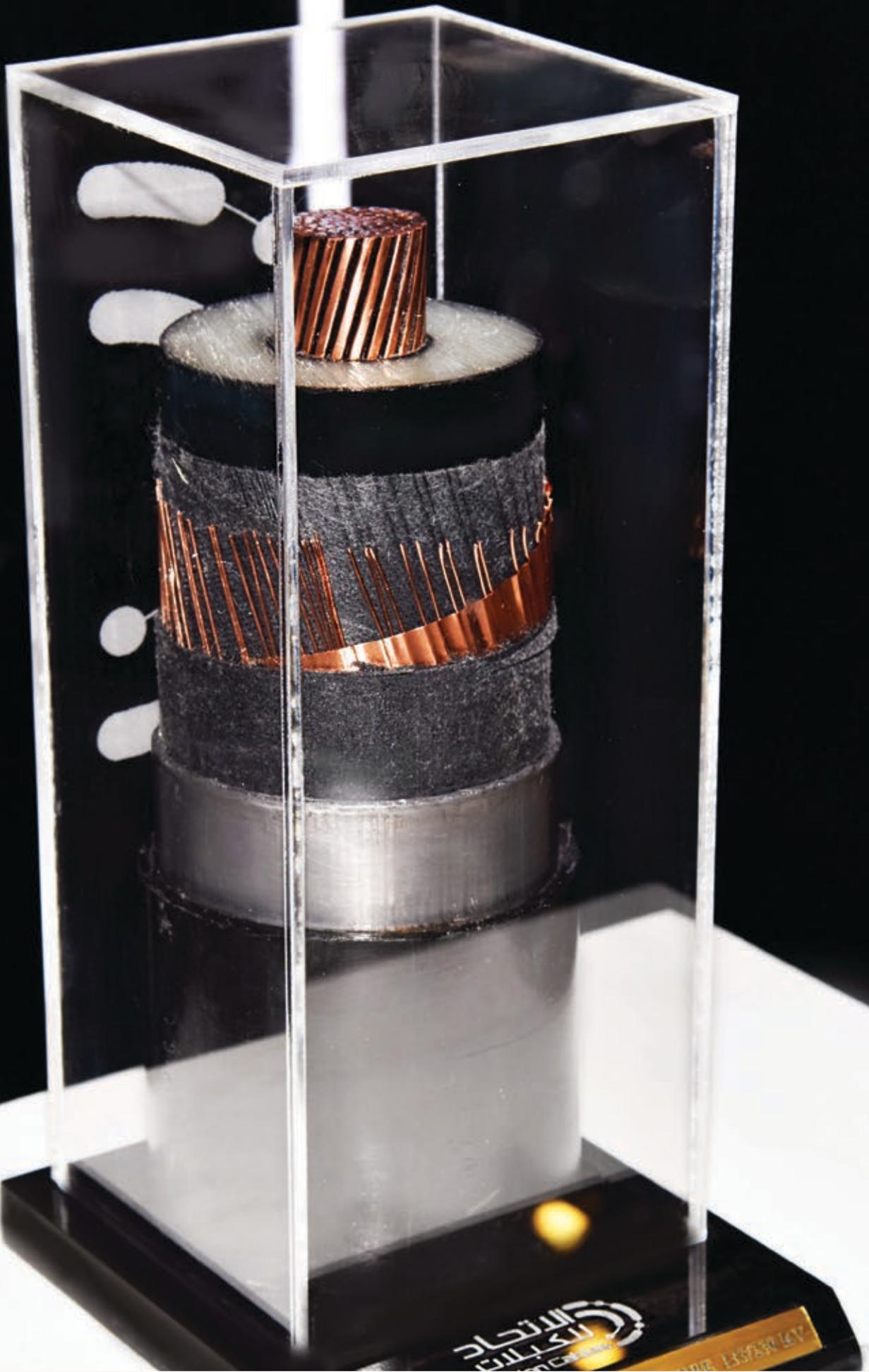
Cables are designed and tested to comply with IEC 60228, 62067 and 60811.

Constructional Data

Product - Code	Conductor		Thickness of Conductor Screen	Thickness of Insulation	Thickness of Insulation Screen	No. of Wires x Wire Dia	Thickness of Outer Sheath	Approx. Outer Diameter of Cable	Approx. Weight of Cable (kg/km)	Max. DC Conductor Resistance at 20°C (Ω/km)	Capacitance (μf/km)
	Cross-Sectional Area	Shape									
CX8-TX01-N40	400	Compact round (R) Stranded	1.5	23	1.5	3.2	4.5	91.8	17330	0.0470	0.138
CX8-TX01-N50	500		1.5	23	1.5	3.3	4.5	95.4	19365	0.0366	0.149
CX8-TX01-N60	630		1.5	23	1.5	3.4	4.5	99.1	21615	0.0283	0.160
CX8-TX01-N70	800		1.5	23	1.5	3.5	4.5	103.6	24565	0.0221	0.174
CX8-TX01-N80	1000	Segmental stranded (S) (Milliken)	1.5	23	1.5	3.6	5.0	112.9	29320	0.0176	0.199
CX8-TX01-N81	1200		1.5	23	1.5	3.9	5.0	115.2	32290	0.0151	0.205
CX8-TX01-N83	1600		1.5	23	1.5	4.1	5.0	123.8	38555	0.0113	0.231
CX8-TX01-N84	2000		1.5	23	1.5	4.2	5.0	129.4	43945	0.0090	0.247
CX8-TX01-N85	2500		1.5	23	1.5	4.4	5.0	136.9	49865	0.0072	0.266

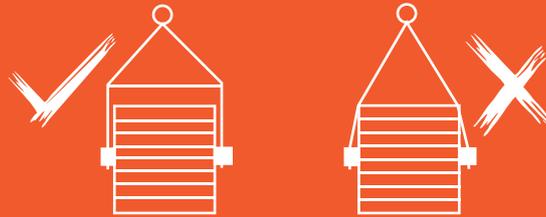
Continuous Current Ratings Load Factor = 100% for one circuit in operation (Amperes)											
Laying conditions: trefoil formation					Laying condition: flat formation						
Type of Earthing Bonding System	Cross Sectional Area	Direct burial		In air (shaded)		Type of Earthing Bonding System	Cross Sectional Area	Direct Burial		In air (shaded)	
											
	mm ²	p _i =120 T = 25 °C	p _i =150 T = 35 °C	T = 30 °C	T = 40 °C		mm ²	p _i =120 T = 25 °C	p _i =150 T = 35 °C	T = 30 °C	T = 40 °C
Bonded at both ends	400 R	550	461	815	737	Cross or single point bonding	400 R	633	534	948	859
	500 R	653	574	929	829		500 R	721	607	1100	997
	630 R	761	737	1140	1030		630 R	819	688	1270	1153
	800 R	847	707	1297	1170		800 R	921	772	1462	1324
	1000 S	994	829	1573	1420		1000 S	1085	908	1773	1606
Cross or single point bonding	1200 S	1061	883	1696	1531		1200 S	1166	975	1924	1742
	1600 S	1191	989	1979	1786		1600 S	1283	1068	2287	2070
	2000 S	1290	1070	2191	1977		2000 S	1475	1227	1229	2326
	2500 S	1383	1145	2416	2180		2500 S	1613	1454	2822	2548

- * R: Round Conductor
- * S: Segmental Conductor

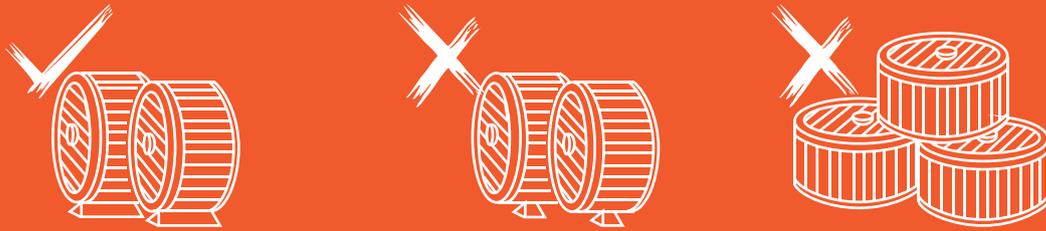


Handling Instructions

Cables should be installed and stored according to International regulation by trained persons with good engineering practice. Cable are supplied on heavy wooden/steel drum and handling these drums can constitute real hazardous. Indicated some of the common mistakes can be committed during the handling, care should be taken during loading and unloading.



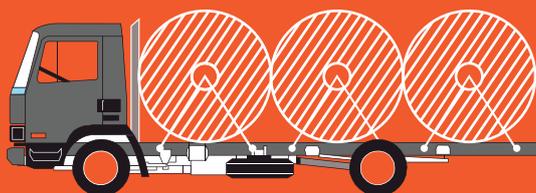
Lifting Cable Drums



Don't lay drums flat on their sides, use proper stops to prevent drums rolling



Lift Drums on Fork Trucks



Secure drums adequately before moving



Roll in the direction shown by the arrow

Applied Laying Depth

Type of Cable	Used Depth Cm
L.V	50 - 80
M.V	80 - 100
H.V	100 - 120
E.H.V	120 - 140

- Cable laying is a major factor affecting the cable life.
- Our Catalogue based on 50 cm for L.V & M.V and 130 cm for H.V & E.H.V

Laying Methods

1- Paying out from a trailer

This method may apply only if there are no obstacles in the trench.

Care has to be taken that the cable drum is rotated by hand and braked if necessary, to prevent excessive tensile strength or kinking of the cable.

2- Laying by Hand

- (Equipment needed)
- (a) Cable Rollers [placed at distances 3 meters]
 - (b) Corner Rollers [placed at bends]
 - (c) Rollers for drawing cables in pipes
 - (d) Cable stocking (Grip)
 - (e) Brakes at the drum

The cable shall be pulled by men standing 4 to 6 m apart along the route.

The cable shall be supported on rollers during pulling. If kinking happens to the cable, the cable drum should be braked.

3- Laying by motor-driven Rollers

The cable is pulled off the jacked-up drum by motor driven rollers set up the trench 20 to 30m apart.

Normal rollers are distributed 3m apart between motor-driven rollers at sharp bends, it may be necessary to set up one motor driven rollers before and one after the bend.

All rollers are connected to the main switch box and switched on & off jointly.

With motor driven rollers the pull is evenly distributed over the whole length of the cable.

4- Pulling by Winch

The cable shall be equipped with a pulling eye or cable stocking the winch shall be equipped with.

- (a) Dynamometer for continuous check of pulling force.
- (b) Rupture device to interrupt the pulling if the maximum permissible pulling force is exceeded.
- (c) Swivel at the pulling wire end to prevent twisting of cable during pulling.

5- Laying part of cables in a figure of eight (8) temporarily

The coils of figure eight shape must never be smaller than the minimum bending radius.

This radius should be noticed with much care during uncoiling the figure of eight.

Maximum Tensile Forces During Laying

- Maximum tensile force when pulling by cable stocking

$$F = A \times 10 \text{ ----- } 15 \text{ N}$$

(cables with aluminium conductor)

$$F = A \times 10 \text{ ----- } 20 \text{ N}$$

(cables with copper conductor)

But the maximum value should be revised with us before laying of cables.

- Maximum tensile force when pulling by eye attached to the conductors

$$F = A \times 30 \text{ N}$$

(cables with aluminium conductor)

$$F = A \times 50 \text{ N}$$

(cables with copper conductor)

But the maximum value should be revised with us before laying of cables.

Where

A is Cable Cross Section mm²

Handling & Laying Instructions

Earthing of Single Core H.V. and E.H.V. Cables

Distribution voltage cables are normally installed with solidly bonded sheaths and, in order to minimize the sheath circulating currents on single-core cables produced by the magnetic flux linking the conductors and sheaths, they are nearly always laid in close touching trefoil formation. However, trefoil formation is poor for heat dissipation, as the three cables have a considerable heating effect upon one another. This is generally not a limitation for cable system at 33 kV but with larger conductor sizes and higher voltages alternative "specially bonded" systems are more economic.

Special bonding involves earthing the single-core cable sheaths at one point only and insulating all other points of the sheath from earth, so that the circulating sheath losses are eliminated and the phase cables can design be spaced apart to reduce their mutual heating effect without increasing sheath losses.

If one termination only is grounded, the sheaths are subjected to a standing voltage of zero at the ground connection and maximum at the point furthest from this connection. This voltage is proportional to the conductor current and cable spacing. To protect the sheath insulation against transient voltages arising from lightning or switching transients it is therefore necessary to fit sheath voltage limiters (SVLs) at all joint and sealing end positions where the sheath is insulated from earth.

Three basic variations of specially bonded systems are commonly used: single end bonding, mid-point bonding and cross-bonding.

Specially Bonded Cable Systems

Single End Bonding System

In this system the sheaths at one termination are earthed and at the other termination are insulated from ground and fitted with SVLs. It is necessary to provide a separate earth continuity conductor for fault currents which would normally return via the cable sheaths. The standing voltage is proportional to the cable length and therefore the voltage limitation imposes a limitation on the length of the cable that may be bonded in this manner.

Mid-point Bonding System

Bonding of the mid-point is used where the route length is too long to employ a single end bonding system. In this system the cable is earthed at the mid-point (at joint) of the route and is insulated from ground and provided with SVLs at each termination or vice versa. It can be seen that this doubles the possible route length as the maximum allowable standing voltage can be tolerated at each sealing end or joint.

Cross-bonding System

In long routes, the route is split up into "major" sections, each comprised of three lengths and special joints are fitted. At each third joint position the sheaths are connected together and at all other positions they are connected so that all sheaths occupying the same position in the cable trench are connected in series. The sheaths at the intermediate positions are also connected to SVLs. The three sheaths connected in series are associated with conductors of different phases and when the cables are installed in trefoil formation their currents, and hence the sheath voltages, have equal magnitude but phase displacements of 120° . The overall effect is that the resultant voltage and current in the three sheaths are zero. When cables are laid in flat formation the voltages induced in the sheaths of the outer cable are greater than induced on the sheath of the middle cable and the phasor sum is not zero. The cables are therefore transposed at every joint position and the cross-connections are made with a phase rotation opposite to that of transposition so that the sheaths are effectively straight connected.

Cables Clarification Sheet

Rated Voltage				
450/750 V	0.6/1 kV	1.8/3 kV (1.9/3.3 kV)	3.6/6 kV (3.8/6.6kV)	
6/10 kV (6.35/11 kV)	8.7/15 kV	12/20 kV (12.7/22kV)	18/30 kV (19/33 kV)	
38/66 kV	76/132 kV	127/220 kV		
Conductor C.S.A = mm ²				
Copper	Solid	Stranded	Flexible	Milliken
Aluminium	Solid	Stranded		
Insulation				
PVC	PVC - F.R	XLPE		
Copper Screen Short Circuit Current = kA				
Copper Wire	Copper Tape	Copper (Tape + Wire)		
Metallic Sheath				
Lead	Lead Alloy	Aluminum		
Armour				
Steel	Tape	Galvanized Tape	Galvanized Wire	
Aluminium	Tape	Wire		
Sheathing (Overall Jacket)				
PVC	PVC - F.R	HDPE	LSHF	
LLDPE	MDPE	Other		

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CERTIFICATE

Certificate No. 18-Q-1610006/1-TIC

WE HEREBY CERTIFY THAT THE QUALITY MANAGEMENT SYSTEM OPERATED BY

Union Cables Company U.C.C.

Industrial Zone in Adra, Lot 28/29, Damascus, Syria

IS IN COMPLIANCE WITH THE REQUIREMENTS OF STANDARD

ISO 9001:2015

THIS CERTIFICATE IS VALID FOR THE FOLLOWING ACTIVITIES

Design and Manufacture of control and low voltage cables up to 1KV, Medium Voltage cables up to 36KV, high voltage cables up to 150KV, extra high voltage up to 230 KV, overhead transmission lines and winding wires

AN AUDIT WAS PERFORMED, REPORT No. RC-0218-Q-TIC-MS-1610006-18

Expiring date 12.03.2021

The validity of this certificate is linked to the head certificate 18-Q-1610006-TIC



Eng. K. Lindenblatt

Bonn, 13.03.2018

TÜV INTERCERT Certification Body



TUV INTERCERT GmbH - Group of TÜV Saarland • Am Bonner Bogen 2 • 53227 Bonn GERMANY
www.tuv-intercert.org

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Damascus University Faculty of Mechanical &Electrical Engineering		جامعة دمشق كلية الهندسة الميكانيكية والكهربائية
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خلاصة النتائج:

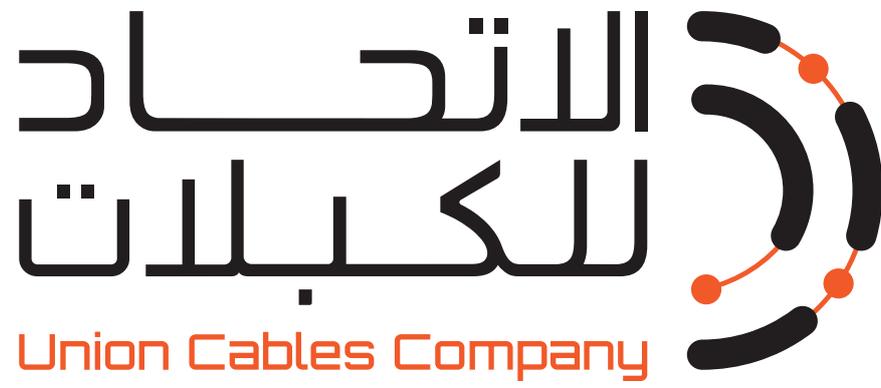
يبين التقرير المرفق نجاح كابلات توتر منخفض من النماذج NYAF و NYAM و NYMHY و NYM و NYY صنع شركة الاتحاد للكابلات Union Cables UCC في الاختبارات المنفذة بموجب النظم القياسية العالمية IEC 60502 - IEC 60277 .

الأستاذ الدكتور المهندس محمد نضال الرئيس

مصدق
رئيس قسم هندسة الطاقة الكهربائية
الأستاذ م الدكتور المهندس عبد الله ساميز

عميد كلية الهندسة الميكانيكية والكهربائية
رئيس مكتب ممارسة المهنة

الأستاذ الدكتور المهندس محمد مازن المحاييري



2020

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