

العربية للكابلات REMAC CABLES



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2023



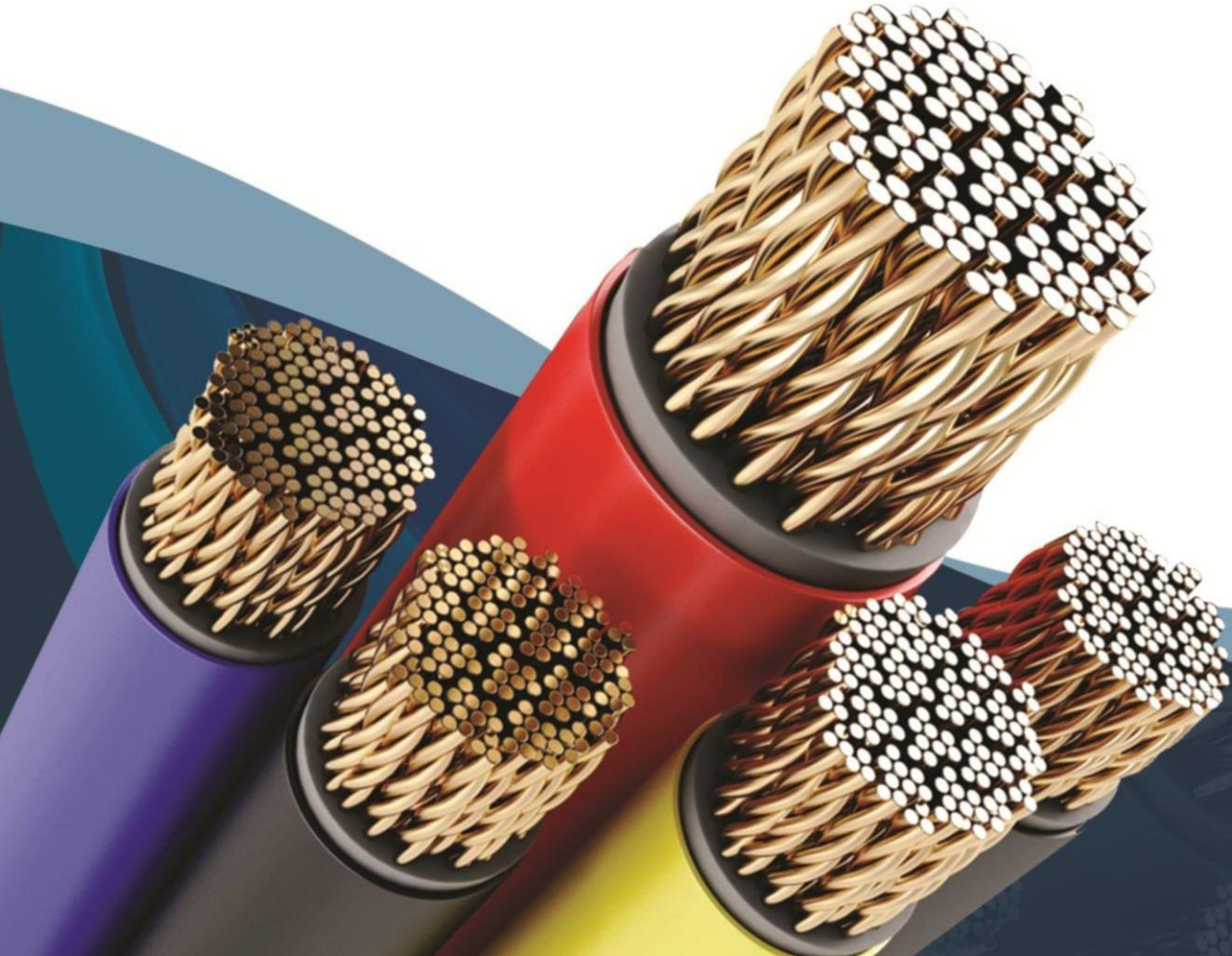
Arabia for Electrical Cables
Administration and Factory /
Giza - 6th of October City
Badr Al-Din Industrial Complex
Unit No. 26.

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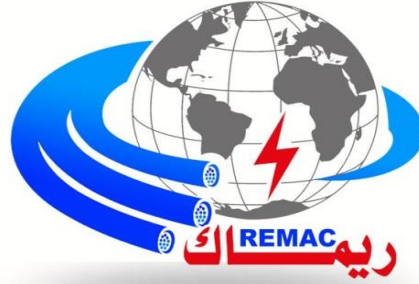
العربية للكابلات الكهربائية
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العربية للكابلات
REMAC CABLES

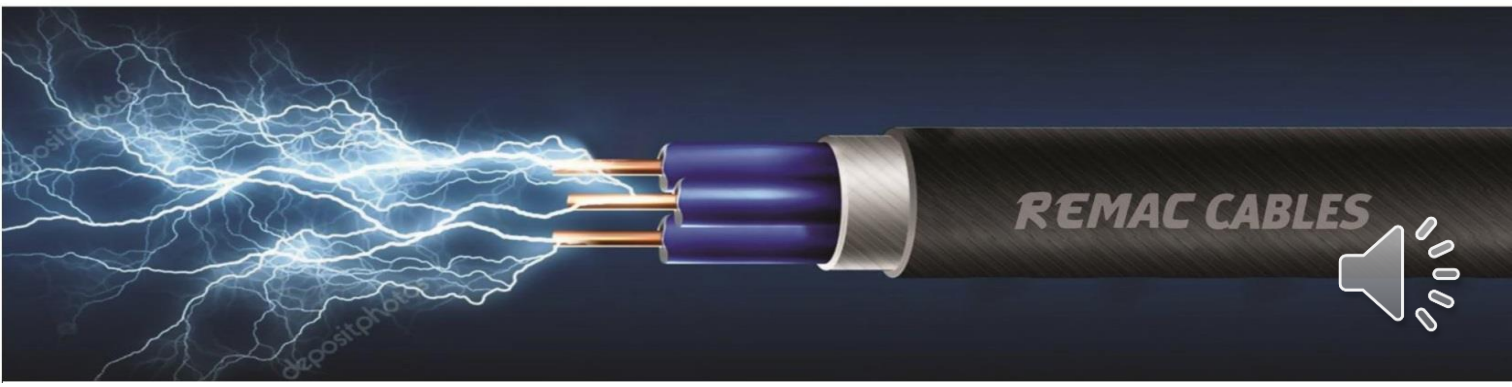


العربية للكابلات **REMAC CABLES**



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REMAC CABLES



About company

Arabia for Electrical Cables trade mark (REMAC)

is one of the leading companies in the market in the manufacturing and supplying electrical cables and wire industries.

REMAC CABLES established in 2010.

The factory is located in Industrial Zone .6th october City - Egypt

REMAC CABLES offers a complete range of cables, wires and a strong distribution network covering wholesale and supply markets for government, tourism and private projects.

REMAC CABLES has an integrated team of professional engineers in this field The quality of the product is checked during all steps of production through specialized technicians starting from the receipt of raw materials until the finished product.



REMAC CABLES firmly believes that quality is the most important factor during manufacturing process in order to obtain safe and reliable products. **REMAC CABLES** is fully committed to manufacturing the product with the necessary quality standards. Cables and wires of Arabia company is manufactured in accordance with the Egyptian and international standards.

The Egyptian standards (2948/2005 and 182/2011),

The international standards (IEC 60228, 60227, 60502)

and the implementation of the latest international standards for quality standards. **REMAC CABLES** and wires are manufactured in accordance with the results of adequate market research and customer requirements. The quality management system of complies with the quality of Arabia company which certified to ISO 9001: 2015 and have a factory that manufactures all kinds of wires and electrical cables.

The Factory

The factory works with the latest technology which leads to manufacture a variety of high quality products such as :

1. Electrical conductors:

Solid, stranded and flexible Copper conductors and Aluminum conductors

2- Power cables:

Fixed and movable cables installation connections

3. Bared copper cables:

Stranded Bared copper and aluminum conductors

4. Control cables:

Light current systems such as speakers, Fire alarms, audio systems, etc.)

REMAC CABLES also has a test laboratory to control the quality of cables overall the production stages.

The laboratory includes all testing equipment that covers all tests provided in the standard specifications. The factory is planned to include an integrated technical management system to serve the objectives and ambitions of the company in covering the industry of wires and all kinds of cables of different quality and high quality of production capacity.

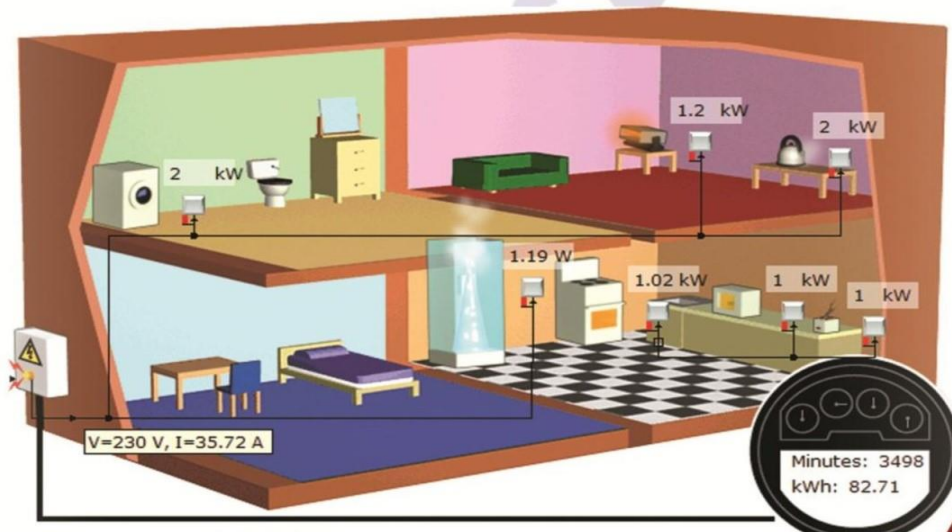


The factory was equipped with the latest production lines to meet the required production capacity.

REMAC CABLES aims to achieve the difficult equation with the highest quality with the lowest cost Based on several factors:

- 1- Continuous development of production equipment's.
- 2- Dependence on the latest scientific techniques in the selection of raw materials.
- 3 - Continuous training of human power in the company.
- 4- Continuous development of production quality control capabilities.

The Best Choice For Energy Saving





GENERAL INFORMATION & TECHNICAL DATA

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

Voltage

The Standard rated voltage of a cable is denoted by U_0/U (Um),

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 " C.B.H 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.



TECHNICAL DATA & CABLE PARAMETERS

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

$$R_{AC} = R_{\theta} (1 + \gamma_p + \gamma_s)$$

Where

γ_p and γ_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 μf/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 MΩ/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 μf/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 μf/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
------------	-----	------	-----	------	-----	------

* 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.



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.


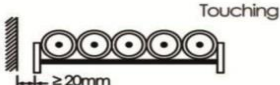
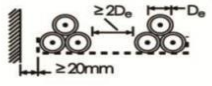
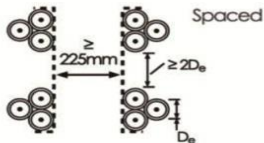
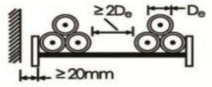
NOTE 3 Values are given for vertical spacing between trays of 300 mm and at least 20 mm between trays and wall. For closer spacing, the factors should be reduced.

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	Three cables in trefoil formation	Vertical perforated trays (Note 4) 
2	1.00	0.90	0.86		
3	1.00	1.00	1.00		
1	0.97	0.95	0.93	Three cables in trefoil formation	Ladder supports, cleats, etc. (Note 3) 
2	0.96	0.94	0.90		
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.



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



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



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



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



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	20.341
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	3.479
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



CONSTRUCTION OF LOW VOLTAGE CABLES

OPERATING VOLTAGE (UP TO 06 / 1 KV)

Cable Construction

1. Conductor

Copper or Aluminium conductors, solid, stranded or flexible; round or sectoral shape.

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

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

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

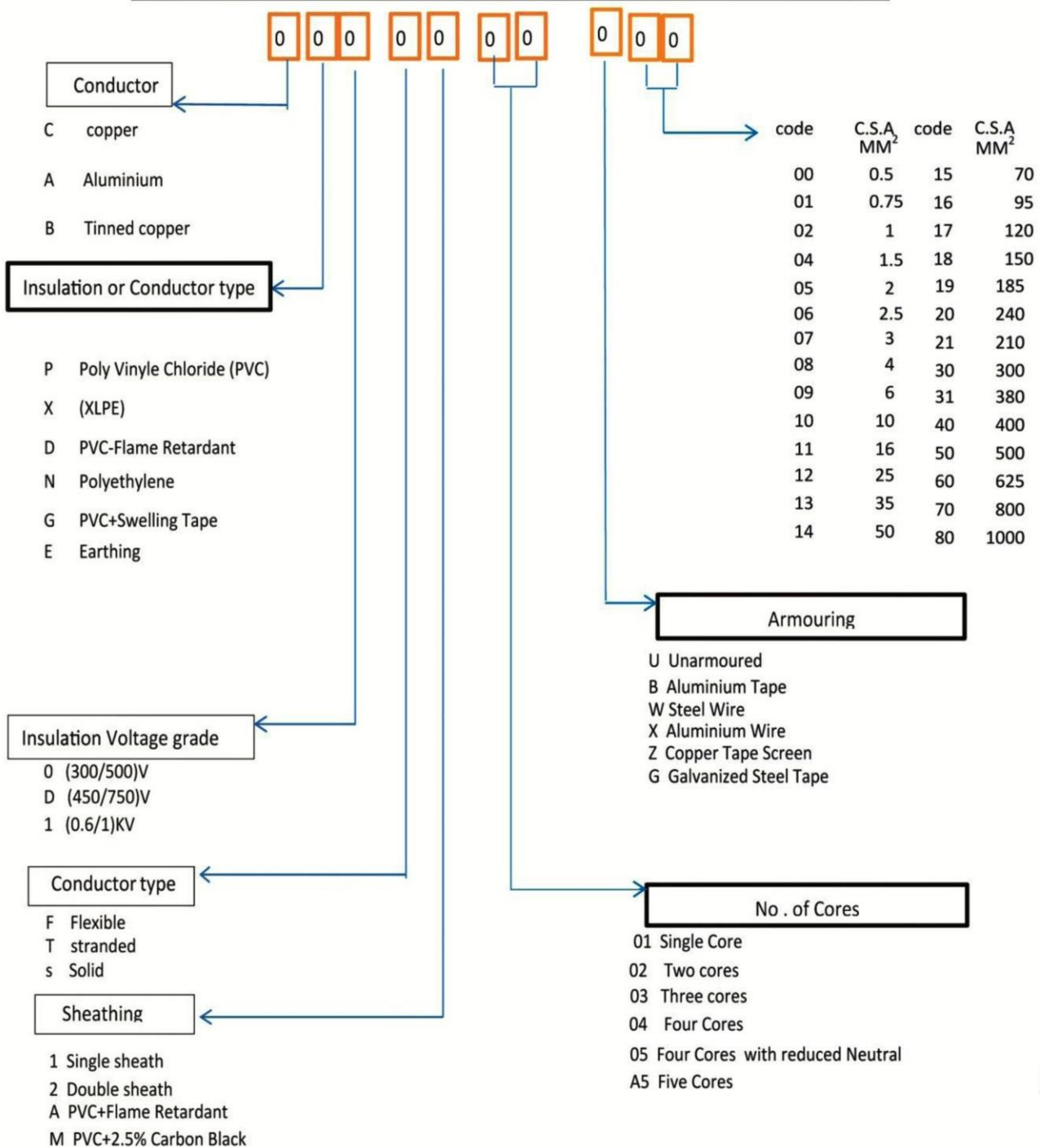


You can request our cables through this code:



1-cable code as per the catalogue .

2-if your required cable /conductor is out of our catalodue range ,you can use the following codes to determine your cable.



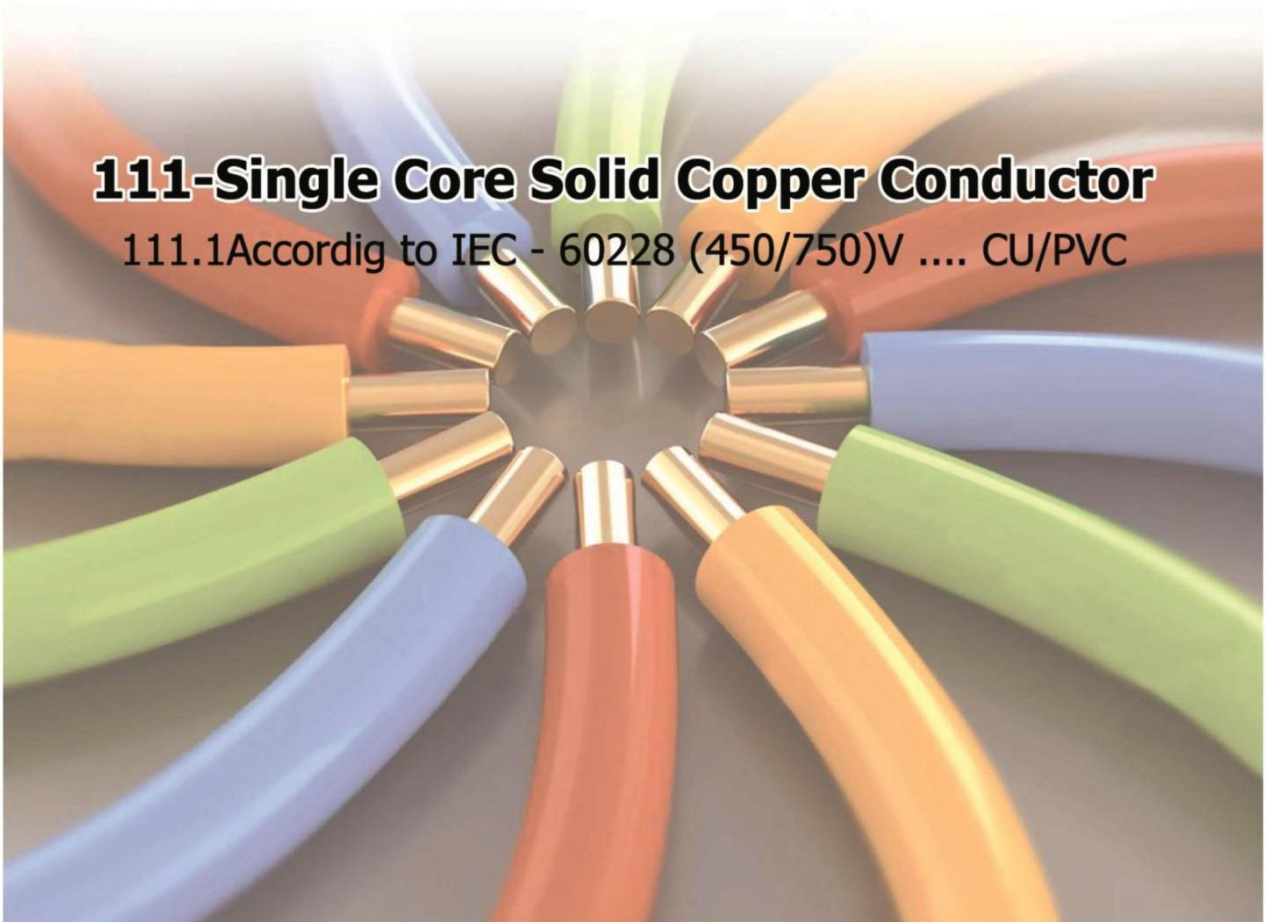
Low Voltage Power Cables



Solid Cables

111-Single Core Solid Copper Conductor

111.1 Accordig to IEC - 60228 (450/750)V ... CU/PVC



Solid Cables

Solid cables are often favored because they usually more affordable than the stranded variety due to their cheaper production costs. These cables are simple yet quite durable. As single, thick strands of cable, They are quite resistant to threats and very easy to produce. Solid cables also have a much more compact diameter compared to stranded cables. Yet this reduced size does not reduce the current carrying ability of solid cables. Add in the fact that solid cables are not as prone to failure as a result of corrosion and it is easy to see why they are held in high regard.

General characteristics

- o Transmits electrical signals better over longer distances
- o Lower attenuation (resistance
- o More likely to break with repetitive bending
- o Lower Cost
- o Used for horizontal cabling in Ethernet networks



Low voltage cables

111-Single Core cable with Solid copper conductor

111.1

According to IEC-60228 (450/750)V

Description

- Solid Copper Conductor Insulated With Polyvinyl Chloride (CU/PVC).
- Cables are produced according to IEC 60228.

Application

- Transmission of power inside buildings for houses, Office and for all constructions.
Transmission of power from transformers to buildings.
Connections in electrical circuits in some lighting applications

Product - Code	Conductor: Solid copper class-1					Insulation : PVC				Current Rating in Air		Approx. Weight kg/km
	Conductor Nominal CSA (mm ²)	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC resistance at 20°C (ohm/km)	Average Insulation Thickness (mm)	Min Diameter after Insulation (mm)	Max Diameter after Insulation (mm)	Min. Insulation resistance at 70°C (M ohm.km)	Free A	in Pipes A	
CPDF1 01 U 07	1.5	1	1.5	1.5	12.1	0.7	2.6	3.2	0.011	17	13	20
CPDF1 01 U 08	2	1	1.7	1.7	9.14	0.8	3	3.7	0.010	19	15	27
CPDF1 01 U 09	2.5	1	1.9	1.9	7.41	0.8	3.2	3.9	0.010	24	19	31
CPDF1 01 U 10	3	1	2.1	2.1	6.13	0.8	3.3	4.1	0.009	27	21	37
CPDF1 01 U 11	4	1	2.4	2.4	4.61	0.8	3.6	4.4	0.0085	32	23	47
CPDF1 01 U 12	6	1	2.9	2.9	3.08	0.8	4.1	5	0.0070	40	29	68
CPDF1 01 U 13	10	1	3.7	3.7	1.83	1	5.3	4.6	0.0070	57	41	117



Overhead Conductors

111.1-Bare Soft drawn copper conductors

Accordig to IEC-60228

111.1-Bare Hard drawn copper conductors

Accordig to IEC-60228

111.1-Hard drawn Aluminium conductors

Accordig to IEC-61089

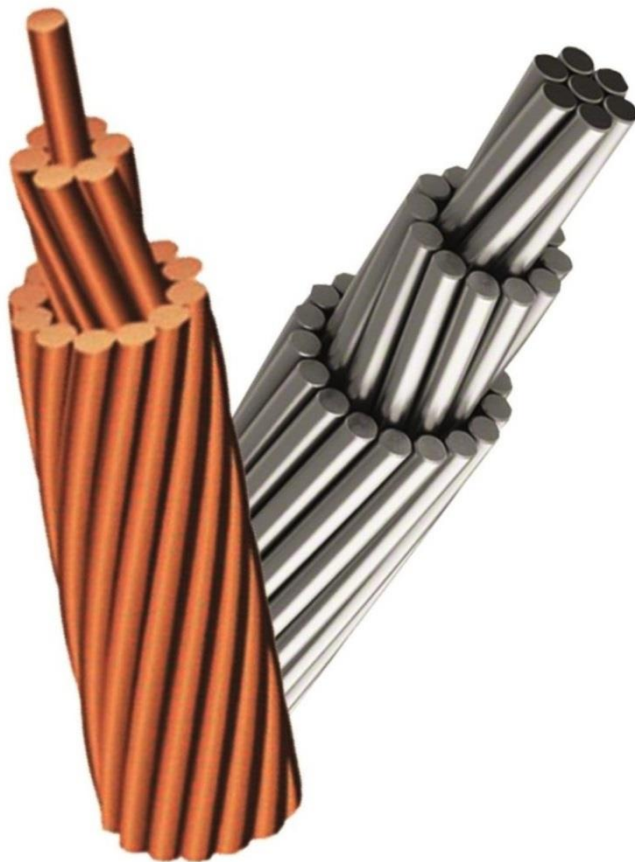


Over Head Conductors

Overhead Transmission networks are an essential part of a country's infrastructure and are generally massive un-dertaking implemented in the developing regions.

Overhead conductors are classified by the types of materials used for conductors, types of reinforcing cores used, and either it is bare or insulated.

This catalogue contains design, construction and technical data of C.B.H whole range of overhead conductors including bare soft or Hard drawn copper conductors. aluminium conductors.



Overhead Conductors

1111-Overhead conductors Bare Soft drawn copper conductor

111.1

According to IEC-60228

Description

- Bare soft drawn copper conductors
Conductors are produced according to IEC 60228 CLASS 2

Application

- Used for grounding electrical systems where high conductivity and flexibility are required.



Product - Code	Bare soft drawn					
	Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC resistance at 20°C (nhm/km)	Approx. Weight kg/km
CPDF1 01 U 04	10	7	1.43	3.7	1.8300	86.5
CPDF1 01 U 05	16	7	1.75	4.7	1.1500	137
CPDF1 01 U 06	25	7	2.18	5.8	0.7270	217
CPDF1 01 U 07	35	7	2.65	6.9	0.5240	298
CPDF1 01 U 08	50	19	1.68	8.2	0.3870	410
CPDF1 01 U 09	70	19	2.16	10.1	0.2680	595
CPDF1 01 U 10	95	19	2.65	11.3	0.1930	820
CPDF1 01 U 11	120	19	3.05	12.7	0.1530	1040
CPDF1 01 U 12	150	19	3.38	14.1	0.1240	1277
CPDF1 01 U 13	185	37	2.63	15.8	0.0991	1610
CPDF1 01 U 14	240	34	3.23	18.2	0.0754	2120
CPDF1 01 U 15	300	61	2.64	20.6	0.0601	2630
CPDF1 01 U 16	400	61	2.98	23.2	0.0470	3390
CPDF1 01 U 17	500	61	3.33	26.6	0.0366	4420

Overhead Conductors

1111-Overhead conductors Bare Hard drawn copper conductor
111.2
According to IEC-60228

Description

- Bare hard drawn copper conductors.
Conductors are produced according to IEC 60228 CLASS 2

Application

- Used in overhead electrical distribution networks.



Product - Code	Bare Hard drawn					Approx. Weight kg/km
	Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC resistance at 20°C (ohm/km)	
CPDF1 01 U 04	10	7	1.43	3.7	1.8290	90
CPDF1 01 U 05	16	7	1.75	4.7	1.1540	143
CPDF1 01 U 06	25	7	2.18	5.8	0.7563	218
CPDF1 01 U 07	35	7	2.65	6.9	0.5337	310
CPDF1 01 U 08	50	19	1.68	8.2	0.3819	437
CPDF1 01 U 09	70	19	2.16	10.1	0.2806	596
CPDF1 01 U 10	95	19	2.65	11.3	0.1980	845
CPDF1 01 U 11	120	19	3.05	12.7	0.1578	1060
CPDF1 01 U 12	150	19	3.38	14.1	0.1264	1337
CPDF1 01 U 13	185	37	2.63	15.8	0.1024	1649
CPDF1 01 U 14	240	34	3.23	18.2	0.07528	2209
CPDF1 01 U 15	300	61	2.64	20.6	0.06097	2725
CPDF1 01 U 16	400	61	2.98	23.2	0.0456	3640
CPDF1 01 U 17	500	61	3.33	26.6	0.0365	4545



Overhead Conductors

1111-Overhead conductors Hard drawn Aluminium conductor

111.3

According to IEC-60228

Description

- Hard drawn Aluminium wires, stranded in successive layers, in opposite direction to form the Aluminium stranded conductor. Conductors are produced according to IEC 61089



Application

- used for aerial distribution lines having relatively short spans, aerial feeders and bus bars of substations.

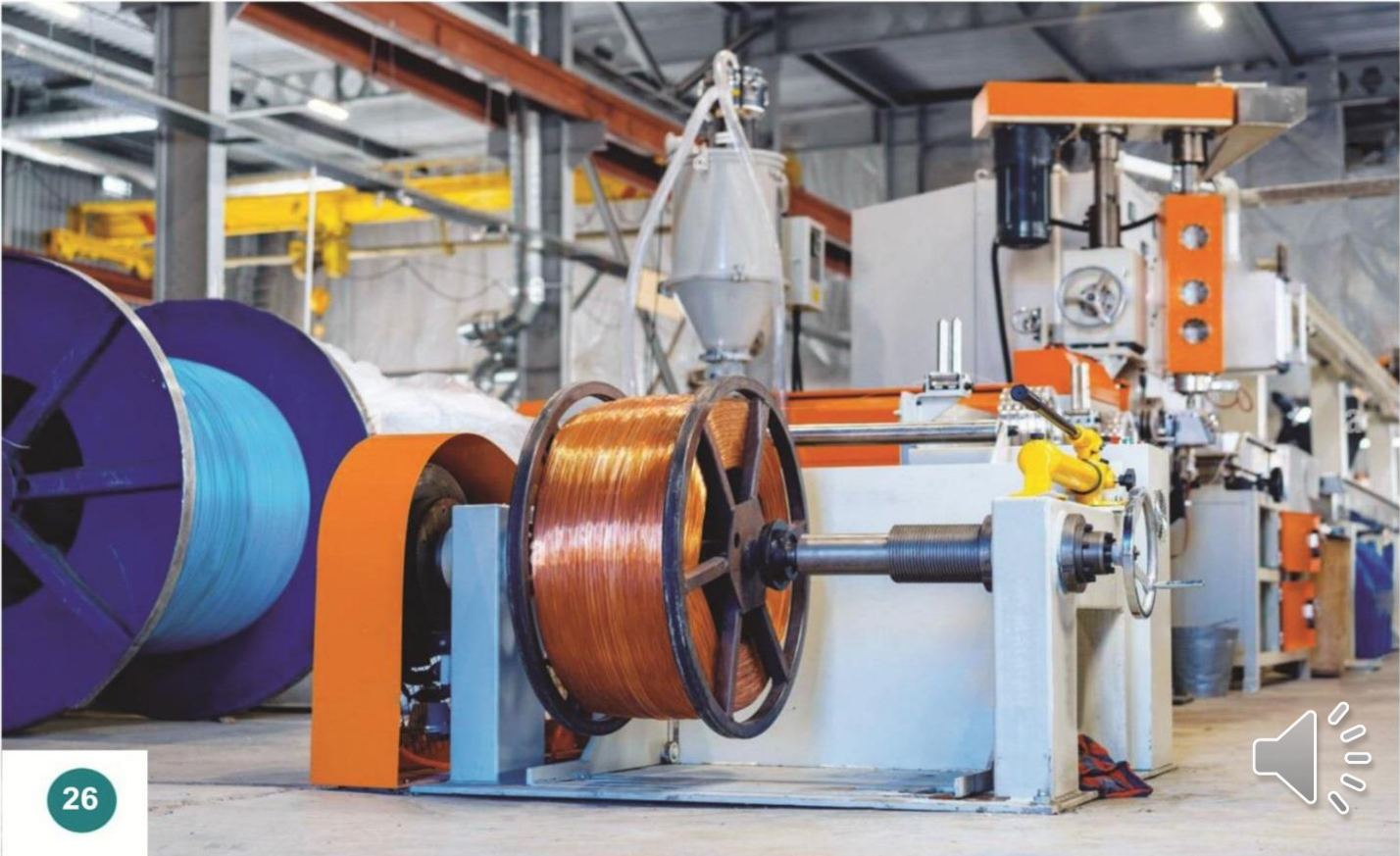
Product - Code	Hard drawn Aluminium					Max. DC resistance at 20°C (ohm/km)	Approx. Weight kg/km
	Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)			
CPDF1 01 U 04	16	7	1.7	5.10	1.7986	43.4	
CPDF1 01 U 05	25	7	2.1	6.30	1.1787	66.3	
CPDF1 01 U 06	35	7	2.5	7.50	0.8317	93.9	
CPDF1 01 U 07	50	7	1.8	9.00	0.5944	132.9	
CPDF1 01 U 08	70	19	2.1	10.5	0.4367	180.9	
CPDF1 01 U 09	95	19	2.5	12.5	0.3081	256.3	
CPDF1 01 U 10	120	19	2.8	14.0	0.2456	321.5	
CPDF1 01 U 11	150	37	2.25	15.8	0.1960	405.7	
CPDF1 01 U 12	185	37	2.5	17.5	0.1588	500.9	
CPDF1 01 U 13	240	61	2.25	20.3	0.1193	671.1	
CPDF1 01 U 14	300	61	2.5	22.5	0.0966	828.5	
CPDF1 01 U 15	400	61	2.89	26.0	0.0723	1107.1	
CPDF1 01 U 16	500	61	3.23	29.1	0.0579	1382.9	



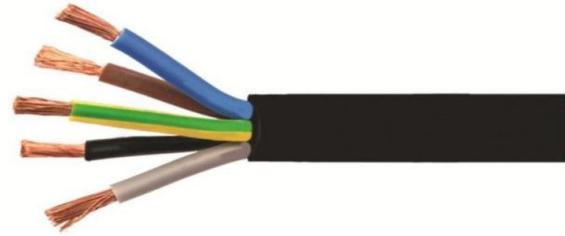
العربية للكابلات **REMAC CABLES**



Low Voltage Power Cables



Flexible Cables



1-Single Core Flexible copper conductor

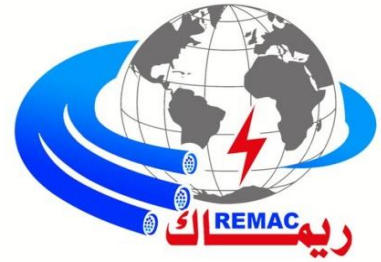
- 1.1 Accordig to IEC-60227 (300/500)V..... CU/PVC
- 1.2 Accordig to IEC-60227 (450/750)V..... CU/PVC
- 1.3 Accordig to IEC-60502 (600/1000)V..... CU/PVC/PVC
- 1.4 Accordig to IEC-60502 (600/1000)V..... CU/PVC/PVC

2-Multi Core Flexible copper conductor

- 2.1 Accordig to IEC-60227 (300/500)-Two Core..... CU/PVC/PVC
- 2.2 Accordig to IEC-60227 (300/500)V-Three Core..... CU/PVC/PVC
- 2.3 Accordig to IEC-60227 (300/500)V-Four Core..... CU/PVC/PVC
- 2.4 Accordig to IEC-60227(300/500)V-Five Core..... CU/PVC/PVC
- 2.5 Accordig to IEC-60502(600/1000)V-Two Core..... CU/PVC/PVC
- 2.55 Accordig to IEC-60502(600/1000)V-Two Core..... CU/PVC/PVC
- 2.6 Accordig to IEC-60502(600/1000)V-Three Core..... CU/PVC/PVC
- 2.66 Accordig to IEC-60502(600/1000)V-Three Core..... CU/PVC/PVC
- 2.7 Accordig to IEC-60502(600/1000)V-Four Core..... CU/PVC/PVC
- 2.77 Accordig to IEC-60502(600/1000)V-Four Core..... CU/PVC/PVC
- 2.8 Accordig to IEC-60502(600/1000)V-Four Core/0.5N..... CU/PVC/PVC
- 2.88 Accordig to IEC-60502(600/1000)V-Four Core/0.5N..... CU/PVC/PVC



Flexible Cables



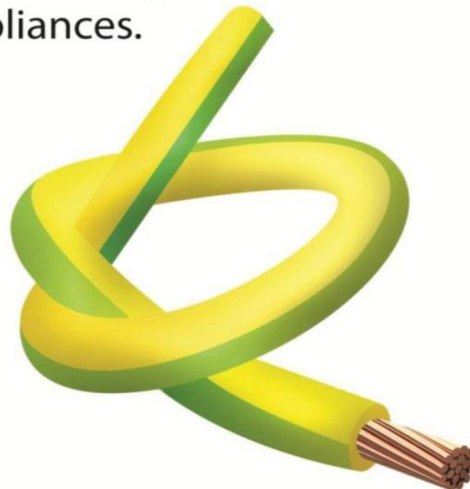
Flexible cables, are transferred to the installation site On wooden rollers or drums. It is used in applications that need a lot of movement such as cutting machines , drill ... etc.

Flexible cables consist of a set of copper wires with small diameters to achieve the best flexibility of the cable during use.

The insulation material used in these cables must withstand tensile stresses and resistance to atmospheric factors.



This type of cable is manufactured and tested carefully as it is used by humans in most applications of life as used in the delivery of electricity in most domestic appliances.



Low Voltage Cables

1 - Single Core Cable With Flexible Copper Conductor

1.1

According to IEC-60227 (300 / 500) V



Description

- Flexible Copper Conductor Insulated With Polyvinyl Chloride (CU/PVC).
- Cables are produced according to IEC 60227.

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.

Product - Code	Conductor: Flexible copper class-5					Insulation : P.V.C				Approx. Weight kg/km
	Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C Ohm/km	Current rating in air Free	Average Insulation Thickness (mm)	Max. Diameter after Insulation (mm)	Min. Insulation resistance at 70°C (M ohm.km)	
CP0F1 01 U 00	0.5	16	0.20	0.9	39.0	2	0.6	2.6	0.013	8
CP0F1 01 U 01	0.75	24	0.20	1.1	26.0	10	0.6	2.8	0.011	12.2
CP0F1 01 U 02	1	32	0.20	1.3	19.5	13	0.6	3.0	0.010	16.1



Low Voltage Cables

1 - Single Core Cable With Flexible Copper Conductor

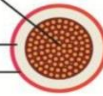
1.2

According to IEC-60227 (450 / 750) V

Flexible copper conductor

PVC Sheath

Finish



Description

- Flexible Copper Conductor Insulated With Polyvinyl Chloride (CU/PVC).
- Cables are produced according to IEC 60227.

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.

Product - Code	Conductor: Flexible copper class-5					Insulation : P.V.C				
	Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C Ohm/km	Current rating in air Free	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Min. insulation resistance at 70°C (M ohm.km)	Approx. Weight kg/km
CPDF1 01 U 04	1.5	30	0.25	1.60	13.3	17	0.7	2.8:3.4	0.010	21
CPDF1 01 U 05	2	40	0.25	1.85	9.89	20	0.8	3.1:3.7	0.0095	25.9
CPDF1 01 U 06	2.5	50	0.25	2.01	7.98	24	0.8	3.4:4.1	0.009	34
CPDF1 01 U 07	3	42	0.30	2.45	6.61	27	0.8	3.6:4.4	0.008	40
CPDF1 01 U 08	4	56	0.30	2.65	4.95	32	0.8	3.9:4.8	0.007	50
CPDF1 01 U 09	6	84	0.30	3.30	3.30	40	0.8	4.4:5.3	0.006	71
CPDF1 01 U 10	10	140	0.30	4.20	1.91	57	1.0	5.7:6.8	0.0056	120
CPDF1 01 U 11	16	224	0.30	5.20	1.21	76	1.0	6.7:8.1	0.0046	179
CPDF1 01 U 12	25	350	0.30	7.50	0.78	103	1.2	8.4:10.2	0.0044	276
CPDF1 01 U 13	35	490	0.30	9.25	0.554	128	1.2	9.7:11.7	0.0038	375
CPDF1 01 U 14	50	700	0.30	10.50	0.386	156	1.4	11.5:13.9	0.0037	542
CPDF1 01 U 15	70	980	0.30	12.6	0.272	200	1.4	13.2:16	0.0032	733
CPDF1 01 U 16	95	1330	0.30	14.7	0.206	251	1.6	15.1:18.2	0.0032	957
CPDF1 01 U 17	120	1680	0.30	16.30	0.161	293	1.6	16.7:20.2	0.0029	1243
CPDF1 01 U 18	150	2100	0.30	19.0	0.129	335	1.8	18.6:22.5	0.0029	1548
CPDF1 01 U 19	185	2590	0.30	21.0	0.106	390	2	20.6:24.9	0.0029	1895
CPDF1 01 U 20	240	3360	0.30	24.0	0.0801	471	2.2	23.5:28.4	0.0028	2400
CPDF1 01 U 30	300	4200	0.30	27.0	0.0641	540	2.4	26.5:31.6	0.0028	3260



Low Voltage Cables

1 - Single Core Cable With Flexible Copper Conductor

1.3

According to IEC-60502 (600 / 1000) V



Description

- Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed(CU/PVC /PVC).
- Cables are produced according to IEC 60502.

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.

Product - Code	Conductor: Flexible copper class-5					Insulation : P.V.C			
	Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C Ohm/km	Current rating in air Free	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Min. Insulation resistance at 70°C (M ohm.Km)
CP1F1 01 U 04	1.5	30	0.25	1.60	13.3	0.8	3.2	1.4	6.0
CP1F1 01 U 06	2.5	50	0.25	2.01	7.98	0.8	3.6	1.4	6.4
CP1F1 01 U 08	4	56	0.30	2.65	4.95	1.0	4.65	1.4	7.45
CP1F1 01 U 09	6	84	0.30	3.30	3.30	1.0	5.30	1.4	8.10
CP1F1 01 U 10	10	140	0.30	4.20	1.91	1.0	6.20	1.4	9.00
CP1F1 01 U 11	16	224	0.30	5.20	1.21	1.0	7.20	1.4	10.0
CP1F1 01 U 12	25	350	0.30	7.50	0.78	1.2	9.9	1.4	12.7
CP1F1 01 U 13	35	490	0.30	9.25	0.554	1.2	11.65	1.4	14.45
CP1F1 01 U 14	50	700	0.30	10.50	0.386	1.4	13.30	1.5	16.30
CP1F1 01 U 15	70	980	0.30	12.6	0.272	1.4	15.40	1.5	18.40
CP1F1 01 U 16	95	1330	0.30	14.7	0.206	1.6	17.90	1.6	21.10
CP1F1 01 U 17	120	1680	0.30	16.30	0.161	1.6	19.50	1.7	22.90
CP1F1 01 U 18	150	2100	0.30	19.0	0.129	1.8	22.60	1.8	26.20
CP1F1 01 U 19	185	2590	0.30	21.0	0.106	2.0	25.00	1.9	28.80
CP1F1 01 U 20	240	3360	0.30	24.0	0.0801	2.2	28.40	2.0	32.40
CP1F1 01 U 30	300	4200	0.30	27.0	0.0641	2.4	31.80	2.1	36.00



Low Voltage Cables

1 - Single Core Cable With Flexible Copper Conductor

1.4

According to IEC-60502 (600 / 1000) V



Description

- Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed(CU/X.L.P.E. /PVC).
- Cables are produced according to IEC 60502.

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.

Product - Code	Conductor: Flexible copper class-5					Insulation : P.V.C			
	Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C Ohm/km	Current rating in air Free	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Min. Insulation resistance at 70°C (M ohm.Km)
CP1F1 01 U 04	1.5	30	0.25	1.60	13.3	0.7	3.0	1.4	5.80
CP1F1 01 U 06	2.5	50	0.25	2.01	7.98	0.7	3.4	1.4	6.20
CP1F1 01 U 08	4	56	0.30	2.65	4.95	0.7	4.05	1.4	6.85
CP1F1 01 U 09	6	84	0.30	3.30	3.30	0.7	4.70	1.4	7.50
CP1F1 01 U 10	10	140	0.30	4.20	1.91	0.7	5.60	1.4	8.40
CP1F1 01 U 11	16	224	0.30	5.20	1.21	0.7	6.60	1.4	9.40
CP1F1 01 U 12	25	350	0.30	7.50	0.78	0.9	9.30	1.4	12.10
CP1F1 01 U 13	35	490	0.30	9.25	0.554	0.9	11.05	1.4	13.85
CP1F1 01 U 14	50	700	0.30	10.50	0.386	1.0	12.50	1.4	15.30
CP1F1 01 U 15	70	980	0.30	12.6	0.272	1.1	14.80	1.5	17.80
CP1F1 01 U 16	95	1330	0.30	14.7	0.206	1.1	16.90	1.6	20.10
CP1F1 01 U 17	120	1680	0.30	16.30	0.161	1.2	18.70	1.7	22.10
CP1F1 01 U 18	150	2100	0.30	19.0	0.129	1.4	21.80	1.8	25.40
CP1F1 01 U 19	185	2590	0.30	21.0	0.106	1.6	24.20	1.8	27.80
CP1F1 01 U 20	240	3360	0.30	24.0	0.0801	1.7	27.40	2.0	31.40
CP1F1 01 U 30	300	4200	0.30	27.0	0.0641	1.8	30.60	2.1	34.80



2 - Multi Core Cable With Flexible Copper Conductor

2.1

According to IEC-60227 (300 / 500) V - Two Core Cables



Description

- Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60227.

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.

Product - Code	Cable Size	Conductor: Flexible copper class-5						Insulation : P.V.C		Over sheathed : P.V.C		
		Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Current rating in air Free	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Oversheathed Nominal Thickness (mm)	Approx. Overall diameter (mm)	Min. Insulation resistance at 70°C (M ohm.Km)
CP0F1 02 U 00	(*) 2X0.5	0.5	16	0.20	0.9	39	8	0.5	2.0:2.4	0.6	4.6:5.9	0.012
CP0F1 02 U 01	2X0.75	0.75	24	0.20	1.1	26.0	11	0.6	2.2:2.6	0.8	5.7:7.2	0.011
CP0F1 02 U 02	2X1	1.0	32	0.20	1.3	19.5	13	0.6	2.5:2.9	0.8	5.9:7.5	0.010
CP0F1 02 U 04	2X1.5	1.5	30	0.25	1.60	13.3	16	0.7	2.8:3.4	0.8	6.8:8.6	0.010
CP0F1 02 U 05	2X2	2.0	40	0.25	1.85	9.89	19	0.8	3.1:3.7	1.0	7.5:9.5	0.0095
CP0F1 02 U 06	2X2.5	2.5	50	0.25	2.01	7.98	22	0.8	3.4:4.1	1.0	8.4:10.6	0.009
CP0F1 02 U 07	(#) 2X3	3	42	0.30	2.45	6.61	27	0.8	3.6: 4.4	1.2	9.6: 12.6	0.008
CP0F1 02 U 08	(#) 2X4	4	56	0.30	2.65	4.95	32	0.8	3.9:4.8	1.2	10.0: 13.0	0.007
CP0F1 02 U 09	(#) 2X6	6	84	0.30	3.30	3.30	40	0.8	4.4:5.3	1.2	11.0: 14.0	0.006
CP0F1 02 U 10	(#) 2X10	10	140	0.30	4.20	1.91	57	1.0	5.7:6.8	1.4	13.5: 17.5	0.0056
CP0F1 02 U 11	(#) 2X16	16	224	0.30	5.20	1.21	76	1.0	6.7:8.1	1.4	15.5: 20.0	0.0046
CP0F1 02 U 12	(#) 2X25	25	350	0.30	7.50	0.78	103	1.2	8.4:10.2	1.4	18.5: 24.0	0.0044
CP0F1 02 U 13	(#) 2X35	35	490	0.30	9.25	0.554	128	1.2	9.7:11.7	1.6	21.0: 27.5	0.0038
CP0F1 02 U 00 Flat	(*) 2X0.5 Flat	0.5	16	0.20	0.9	39	8	0.8	5.0X2.5:6.0X3.0	0.016
CP0F1 02 U 01 Flat	(*) 2X0.75 Flat	0.75	24	0.20	1.1	26.0	11	0.8	5.4X2.7:6.4X3.2	0.014
CP0F1 02 U 02 Flat	(*) 2X1 Flat	1.0	32	0.20	1.3	19.5	13	0.8	5.8X2.9:6.8X3.4	0.012

(*) : 300/300 V Cable

(#) : Special Cable



Low Voltage Cables

2 - Multi Core Cable With Flexible Copper Conductor

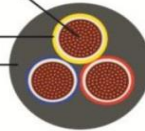
2.2

According to IEC-60227 (300 / 500) V - Three Core Cables

Flexible copper conductor

PVC Insulation

PVC Sheath



Description

- Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60227.

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.

Product - Code	Cable Size	Conductor: Flexible copper class-5						Insulation : P.V.C		Over sheathed : P.V.C		
		Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Current rating in air	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Oversheathed Nominal Thickness (mm)	Approx. Overall diameter (mm)	Min. Insulation resistance at 70°C (M ohm.Km)
CP0F1 03 U 00	(*) 3X0.5	0.5	16	0.20	0.9	39	8	0.5	2.0:2.4	0.6	5.0:6.3	0.012
CP0F1 03 U 01	3X0.75	0.75	24	0.20	1.1	26.0	11	0.6	2.2:2.6	0.8	6.0:6.7	0.011
CP0F1 03 U 02	3X1	1.0	32	0.20	1.3	19.5	13	0.6	2.5:2.9	0.8	6.3:8.0	0.010
CP0F1 03 U 04	3X1.5	1.5	30	0.25	1.60	13.3	16	0.7	2.8:3.4	0.9	7.4:9.4	0.010
CP0F1 03 U 05	3X2	2.0	40	0.25	1.85	9.89	19	0.8	3.1:3.7	1.0	8.4:10.4	0.0095
CP0F1 03 U 06	3X2.5	2.5	50	0.25	2.01	7.98	22	0.8	3.4:4.1	1.1	9.2:11.4	0.009
CP0F1 03 U 07	(#) 3X3	3	42	0.30	2.45	6.61	27	0.8	3.6 : 4.4	1.2	10.1 : 13.1	0.008
CP0F1 03 U 08	(#) 3X4	4	56	0.30	2.65	4.95	32	0.8	3.9:4.8	1.2	10.5 : 13.5	0.007
CP0F1 03 U 09	(#) 3X6	6	84	0.30	3.30	3.30	40	0.8	4.4:5.3	1.4	12.0 : 15.5	0.006
CP0F1 03 U 10	(#) 3X10	10	140	0.30	4.20	1.91	57	1.0	5.7:6.8	1.4	14.5 : 19.0	0.0056
CP0F1 03 U 11	(#) 3X16	16	224	0.30	5.20	1.21	76	1.0	6.7:8.1	1.4	16.5 : 21.5	0.0046
CP0F1 03 U 12	(#) 3X25	25	350	0.30	7.50	0.78	103	1.2	8.4:10.2	1.6	20.5 : 26.0	0.0044
CP0F1 03 U 13	(#) 3X35	35	490	0.30	9.25	0.554	128	1.2	9.7:11.7	1.6	22.0 : 29.0	0.0038

(*) : 300/300 V Cable

(#) : Special Cable

Low Voltage Cables

2 - Multi Core Cable With Flexible Copper Conductor

2.3

According to IEC-60227 (300 / 500) V - Four Core Cables



Description

- Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60227.

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.

Product - Code	Cable Size	Conductor: Flexible copper class-5						Insulation : P.V.C		Over sheathed : P.V.C		
		Conductor Nominal CSA (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Current rating in air Free	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Oversheathed Nominal Thickness (mm)	Approx. Overall diameter (mm)	Min. Insulation resistance at 70°C (M ohm.Km)
CPOF1 04 U 00	(**) 4X0.5	0.5	16	0.20	0.9	39	8	0.5	2.0:2.4	0.6	6.0:7.5	0.012
CPOF1 04 U 01	4X0.75	0.75	24	0.20	1.1	26.0	10	0.6	2.2:2.6	0.8	6.6:8.3	0.011
CPOF1 04 U 02	4X1	1.0	32	0.20	1.3	19.5	12	0.6	2.5:2.9	0.9	7.1:9.0	0.010
CPOF1 04 U 04	4X1.5	1.5	30	0.25	1.60	13.3	15	0.7	2.8:3.4	1.0	8.4:10.5	0.010
CPOF1 04 U 05	4X2	2.0	40	0.25	1.85	9.89	17	0.8	3.1:3.7	1.0	9.3:11.7	0.0095
CPOF1 04 U 06	4X2.5	2.5	50	0.25	2.01	7.98	20	0.8	3.4:4.1	1.1	10.1:12.5	0.009
CPOF1 04 U 07	(#) 4X3	3	42	0.30	2.45	6.61	27	0.8	3.6 : 4.4	1.2	11.5 : 13.5	0.008
CPOF1 04 U 08	(#) 4X4	4	56	0.30	2.65	4.95	32	0.8	3.9:4.8	1.4	12.0 : 15.0	0.007
CPOF1 04 U 09	(#) 4X6	6	84	0.30	3.30	3.30	40	0.8	4.4:5.3	1.4	13.0 : 17.0	0.006
CPOF1 04 U 10	(#) 4X10	10	140	0.30	4.20	1.91	57	1.0	5.7:6.8	1.4	16.0 : 20.5	0.0056
CPOF1 04 U 11	(#) 4X16	16	224	0.30	5.20	1.21	76	1.0	6.7:8.1	1.4	18.0 : 23.5	0.0046
CPOF1 04 U 12	(#) 4X25	25	350	0.30	7.50	0.78	103	1.2	8.4:10.2	1.6	22.5 : 28.5	0.0044
CPOF1 04 U 13	(#) 4X35	35	490	0.30	9.25	0.554	128	1.2	9.7:11.7	1.6	24.5 : 32.0	0.0038
CPOF1 04 U 14	(#) 4X50	50	700	0.30	10.5	0.386	156	1.4	11.5:13.9	1.9	29.0 : 37.0	0.0037
CPOF1 04 U 15	(#) 4X70	70	980	0.30	12.6	0.272	200	1.4	13.2:16	2.0	33.0 : 42.0	0.0032
CPOF1 04 U 16	(#) 4X95	95	1330	0.30	14.7	0.206	251	1.6	15.1:18.2	2.2	37.0 : 47.0	0.0032

(*) : 300/300 V Cable

(#) : Special Cable

Low Voltage Cables

2 - Multi Core Cable With Flexible Copper Conductor

2.4

According to IEC-60227 (300 / 500) V - Five Core Cables



Description

- Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60227.

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.

Product - Code	Cable Size	Conductor: Flexible copper class-5						Insulation : P.V.C		Over sheathed : P.V.C		
		Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Current rating in air	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Oversheathed Nominal Thickness (mm)	Approx. Overall diameter (mm)	Min. Insulation resistance at 70°C (M ohm.Km)
CP0F1 A5 U 00	(**) 5X0.5	0.5	16	0.20	0.9	39	8	0.5	2.0:2.4	0.7	6.5:8.0	0.012
CP0F1 A5 U 01	5X0.75	0.75	24	0.20	1.1	26.0	10	0.6	2.2:2.6	0.9	7.4:9.3	0.011
CP0F1 A5 U 02	5X1	1.0	32	0.20	1.3	19.5	12	0.6	2.5:2.9	0.9	7.8:9.8	0.010
CP0F1 A5 U 04	5X1.5	1.5	30	0.25	1.60	13.3	15	0.7	2.8:3.4	1.1	9.3:11.6	0.010
CP0F1 A5 U 05	5X2	2.0	40	0.25	1.85	9.89	17	0.8	3.1:3.7	1.2	10.3:12.8	0.0095
CP0F1 A5 U 06	5X2.5	2.5	50	0.25	2.01	7.98	20	0.8	3.4:4.1	1.2	11.2:13.9	0.009
CP0F1 A5 U 07	(#) 5X3	3	42	0.30	2.45	6.61	27	0.8	3.6 : 4.4	1.2	12.5 : 15.5	0.008
CP0F1 A5 U 08	(#) 5X4	4	56	0.30	2.65	4.95	32	0.8	3.9:4.8	1.4	13.0 : 17.0	0.007
CP0F1 A5 U 09	(#) 5X6	6	84	0.30	3.30	3.30	40	0.8	4.4:5.3	1.4	14.5 : 18.5	0.006
CP0F1 A5 U 10	(#) 5X10	10	140	0.30	4.20	1.91	57	1.0	5.7:6.8	1.4	17.5 : 22.0	0.0056
CP0F1 A5 U 11	(#) 5X16	16	224	0.30	5.20	1.21	76	1.0	6.7:8.1	1.6	20.5 : 26	0.0046
CP0F1 A5 U 12	(#) 5X25	25	350	0.30	7.50	0.78	103	1.2	8.4:10.2	1.6	24.5 : 31.5	0.0044
CP0F1 A5 U 13	(#) 5X35	35	490	0.30	9.25	0.554	128	1.2	9.7:11.7	1.6	27.0 : 35.0	0.0038

(*) : 300/300 V Cable

(#) : Special Cable



Low Voltage Cables

2 - Multi Core Cable With Flexible Copper Conductor

2.5

According to IEC-60502 (600 / 1000) V - Two Core Cables



Description

- Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60502.

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.

Product - Code	Cable Size	Conductor : Flexible Copper(class-5)					Approx. overall diameter (mm)	Current Rating (A)
		Conductor Nominal C.S.A (mm) ²	Number of strands	Diameter of each strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		In Free air
CP1F1 02 U 04	2X1.5	1.5	30	0.25	1.60	13.3	10.2	20
CP1F1 02 U 06	2X2.5	2.5	50	0.25	2.01	7.98	11.1	28
CP1F1 02 U 08	2X4	4.0	56	0.30	2.65	4.95	13.1	39
CP1F1 02 U 09	2X6	6.0	84	0.30	3.30	3.30	14.4	50
CP1F1 02 U 10	2X10	10.0	140	0.30	4.20	1.91	16.2	66
CP1F1 02 U 11	2X16	16.0	224	0.30	5.20	1.21	18.2	88
CP1F1 02 U 12	2X25	25.0	350	0.30	7.50	0.78	23.6	116
CP1F1 02 U 13	2X35	35.0	490	0.30	9.25	0.554	26.1	143

Low Voltage Cables

2 - Multi Core Cable With Flexible Copper Conductor

2.55

According to IEC-60502 (600 / 1000) V - Two Core Cables



Description

- Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60502.

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.

Product - Code	Cable Size	Conductor : Flexible Copper(class-5)					Approx. overall diameter (mm)	Current Rating (A)
		Conductor Nominal C.S.A (mm) ²	Number of strands	Diameter of each strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		In Free air
CX1F1 02 U 04	2X1.5	1.5	30	0.25	1.60	13.3	9.8	20
CX1F1 02 U 06	2X2.5	2.5	50	0.25	2.01	7.98	10.7	28
CX1F1 02 U 08	2X4	4.0	56	0.30	2.65	4.95	11.9	39
CX1F1 02 U 09	2X6	6.0	84	0.30	3.30	3.30	13.2	50
CX1F1 02 U 10	2X10	10.0	140	0.30	4.20	1.91	15.0	66
CX1F1 02 U 11	2X16	16.0	224	0.30	5.20	1.21	17.0	88
CX1F1 02 U 12	2X25	25.0	350	0.30	7.50	0.78	22.4	116
CX1F1 02 U 13	2X35	35.0	490	0.30	9.25	0.554	24.9	143



Low Voltage Cables

2 - Multi Core Cable With Flexible Copper Conductor

2.6

According to IEC-60502 (600 / 1000) V - Three Core Cables



Description

Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed(CU/PVC/PVC).

Cables are produced according to IEC 60502.

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.

Product - Code	Cable Size	Conductor : Flexible Copper(class-5)					Approx. overall diameter (mm)	Current Rating (A)
		Conductor Nominal C.S.A (mm) ²	Number of strands	Diameter of each strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		In Free air
CP1F1 03 U 04	3X1.5	1.5	30	0.25	1.60	13.3	10.7	18
CP1F1 03 U 06	3X2.5	2.5	50	0.25	2.01	7.98	11.7	22
CP1F1 03 U 08	3X4	4.0	56	0.30	2.65	4.95	13.8	31
CP1F1 03 U 09	3X6	6.0	84	0.30	3.30	3.30	15.2	39
CP1F1 03 U 10	3X10	10.0	140	0.30	4.20	1.91	17.2	53
CP1F1 03 U 11	3X16	16.0	224	0.30	5.20	1.21	19.3	72
CP1F1 03 U 12	3X25	25.0	350	0.30	7.50	0.78	25.2	94
CP1F1 03 U 13	3X35	35.0	490	0.30	9.25	0.554	28	110



Low Voltage Cables

2 - Multi Core Cable With Flexible Copper Conductor

2.66

According to IEC-60502 (600 / 1000) V - Three Core Cables



Description

Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed(CU/XLPE/PVC).

Cables are produced according to IEC 60502.

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.

Product - Code	Cable Size	Conductor : Flexible Copper(class-5)					Approx. overall diameter (mm)	Current Rating (A)
		Conductor Nominal C.S.A (mm) ²	Number of strands	Diameter of each strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		In Free air
CX1F1 03 U 04	3X1.5	1.5	30	0.25	1.60	13.3	10.3	18
CX1F1 03 U 06	3X2.5	2.5	50	0.25	2.01	7.98	11.3	22
CX1F1 03 U 08	3X4	4.0	56	0.30	2.65	4.95	12.5	31
CX1F1 03 U 09	3X6	6.0	84	0.30	3.30	3.30	14.0	39
CX1F1 03 U 10	3X10	10.0	140	0.30	4.20	1.91	15.9	53
CX1F1 03 U 11	3X16	16.0	224	0.30	5.20	1.21	18.0	72
CX1F1 03 U 12	3X25	25.0	350	0.30	7.50	0.78	23.9	94
CX1F1 03 U 13	3X35	35.0	490	0.30	9.25	0.554	26.6	110

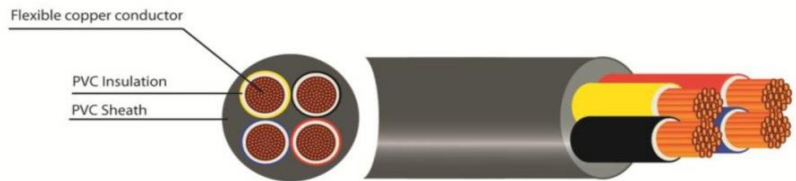


Low Voltage Cables

2 - Multi Core Cable With Flexible Copper Conductor

2.7

According to IEC-60502 (600 / 1000) V - Four Core Cables



Description

Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed (CU/PVC/PVC).

Cables are produced according to IEC 60502.

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.

Product - Code	Cable Size	Conductor : Flexible Copper(class-5)					Approx. overall diameter (mm)	Current Rating (A) In Free air
		Conductor Nominal CSA (mm) ²	Number of strands	Diameter of each strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		
CP1F1 04 U 04	4X1.5	1.5	30	0.25	1.60	13.3	11.6	18
CP1F1 04 U 06	4X2.5	2.5	50	0.25	2.01	7.98	12.7	22
CP1F1 04 U 08	4X4	4.0	56	0.30	2.65	4.95	15.1	31
CP1F1 04 U 09	4X6	6.0	84	0.30	3.30	3.30	16.6	39
CP1F1 04 U 10	4X10	10.0	140	0.30	4.20	1.91	18.8	53
CP1F1 04 U 11	4X16	16.0	224	0.30	5.20	1.21	21.2	72
CP1F1 04 U 12	4X25	25.0	350	0.30	7.50	0.78	28.0	94
CP1F1 04 U 13	4X35	35.0	490	0.30	9.25	0.554	31.2	110
CP1F1 04 U 14	4X50	50.0	700	0.30	10.50	0.386	36.5	138
CP1F1 04 U 15	4X70	70.0	980	0.30	12.6	0.272	42.0	171
CP1F1 04 U 16	4X95	95.0	1330	0.30	14.7	0.206	48.5	209
CP1F1 04 U 17	4X120	120.0	1680	0.30	16.30	0.161	52.0	242
CP1F1 04 U 18	4X150	150.0	2100	0.30	19.0	0.129	60.5	275
CP1F1 04 U 19	4X185	185.0	2590	0.30	21.0	0.106	66.0	314
CP1F1 04 U 20	4X240	240.0	3360	0.30	24.0	0.0801	75.5	374

Low Voltage Cables

2 - Multi Core Cable With Flexible Copper Conductor

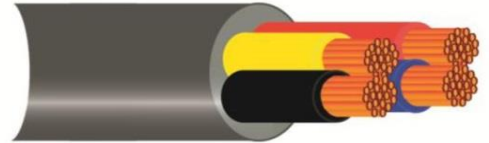
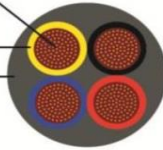
2.77

According to IEC-60502 (600 / 1000) V - Four Core Cables

Flexible copper conductor

XLPE Insulation

PVC Sheath



Description

Flexible Copper Conductor Insulated With Polyvinyl Chloride PVC And PVC sheathed(CU/XLPE/PVC).

Cables are produced according to IEC 60502.

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.

Product - Code	Cable Size	Conductor : Flexible Copper(class-5)					Approx. overall diameter (mm)	Current Rating (A) In Free air
		Conductor Nominal CSA (mm) ²	Number of strands	Diameter of each strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		
CX1F1 04 U 04	4X1.5	1.5	30	0.25	1.60	13.3	11.1	18
CX1F1 04 U 06	4X2.5	2.5	50	0.25	2.01	7.98	12.2	22
CX1F1 04 U 08	4X4	4.0	56	0.30	2.65	4.95	13.6	31
CX1F1 04 U 09	4X6	6.0	84	0.30	3.30	3.30	15.2	39
CX1F1 04 U 10	4X10	10.0	140	0.30	4.20	1.91	17.4	53
CX1F1 04 U 11	4X16	16.0	224	0.30	5.20	1.21	19.8	72
CX1F1 04 U 12	4X25	25.0	350	0.30	7.50	0.78	26.3	94
CX1F1 04 U 13	4X35	35.0	490	0.30	9.25	0.554	29.5	110
CX1F1 04 U 14	4X50	50.0	700	0.30	10.50	0.386	34.5	138
CX1F1 04 U 15	4X70	70.0	980	0.30	12.6	0.272	40.5	171
CX1F1 04 U 16	4X95	95.0	1330	0.30	14.7	0.206	45.9	209
CX1F1 04 U 17	X120	120.0	1680	0.30	16.30	0.161	50.6	242
CX1F1 04 U 18	X150	150.0	2100	0.30	19.0	0.129	58.6	275
CX1F1 04 U 19	X185	185.0	2590	0.30	21.0	0.106	64.8	314
CX1F1 04 U 20	X240	240.0	3360	0.30	24.0	0.0801	73.1	374



Low Voltage Cables

2 - Multi Core Cable With Flexible Copper Conductor

2.8

According to IEC-60502 (600 / 1000) V - Four Core Cables
With Reduced Neutral



Description

Flexible Copper Conductor Insulated
With Polyvinyl Chloride PVC
And PVC sheathed(CU/PVC/PVC).

Cables are produced according to IEC 60502.

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.

Product - Code	Cable Size	Conductor: Stranded copper class-5						Approx. Overall diameter (mm)	Current Rating (A)				
		Conductor Nominal C.S.A (mm) ²		Number of Strands		Diameter Of Each Strand (mm)			Nominal Conductor Diameter (mm)		Max. DC Resistance at 20°C (Ohm/km)		In Air
CP1F1 05 U 13	3X35+16	35	16	490	224	0.30	0.30	9.25	5.2	0.554	1.21	28.6	110
CP1F1 05 U 14	3X50+25	50	25	700	350	0.30	0.30	10.5	7.5	0.386	0.780	34.0	138
CP1F1 05 U 15	3X70+35	70	35	980	490	0.30	0.30	12.6	9.25	0.272	0.554	39.4	171
CP1F1 05 U 16	3X95+50	95	50	1330	700	0.30	0.30	14.7	10.5	0.206	0.386	46.0	209
CP1F1 05 U 17	3X120+70	120	70	1680	980	0.30	0.30	16.3	12.6	0.161	0.272	50.0	242
CP1F1 05 U 18	3X150+70	150	70	2100	980	0.30	0.30	19.0	12.6	0.129	0.272	56.0	275
CP1F1 05 U 19	3X185+95	185	95	2590	1330	0.30	0.30	21.0	14.7	0.106	0.206	62.0	314
CP1F1 05 U 20	3X240+120	240	120	3360	1680	0.30	0.30	24.0	16.3	0.0801	0.161	69.0	374

Low Voltage Cables

2 - Multi Core Cable With Flexible Copper Conductor

2.88

According to IEC-60502 (600 / 1000) V - Four Core Cables
With Reduced Neutral



Description

Flexible Copper Conductor Insulated
With Polyvinyl Chloride PVC
And PVC sheathed(CU/XLPE/PVC).

Cables are produced according to IEC 60502.

Application

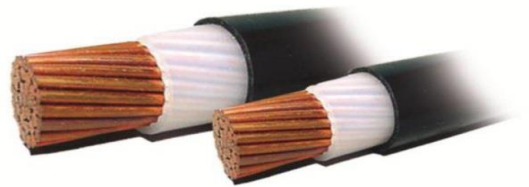
For indoor fixed installations in dry locations,
where particular flexibility is required.

For electrical panels connection or for electrical
apparatus they can be laid in groups around steel sheets.

Product - Code	Cable Size	Conductor: Stranded copper class-5						Approx. Overall diameter (mm)	Current Rating (A)				
		Conductor Nominal CSA (mm ²)		Number of Strands		Diameter Of Each Strand (mm)			Max. DC Resistance at 20°C (Ohm/km)		In Air		
CX1F1 05 U 13	3X35+16	35	16	490	224	0.30	0.30	9.25	5.2	0.554	1.21	26.9	110
CX1F1 05 U 14	3X50+25	50	25	700	350	0.30	0.30	10.5	7.5	0.386	0.780	32.5	138
CX1F1 05 U 15	3X70+35	70	35	980	490	0.30	0.30	12.6	9.25	0.272	0.554	37.8	171
CX1F1 05 U 16	3X95+50	95	50	1330	700	0.30	0.30	14.7	10.5	0.206	0.386	43.0	209
CX1F1 05 U 17	3X120+70	120	70	1680	980	0.30	0.30	16.3	12.6	0.161	0.272	48.1	242
CX1F1 05 U 18	3X150+70	150	70	2100	980	0.30	0.30	19.0	12.6	0.129	0.272	54.1	275
CX1F1 05 U 19	3X185+95	185	95	259	1330	0.30	0.30	21.0	14.7	0.106	0.206	60.0	314
CX1F1 05 U 20	3X240+120	240	120	3360	1680	0.30	0.30	24.0	16.3	0.0801	0.161	67.4	374



Stranded Cables

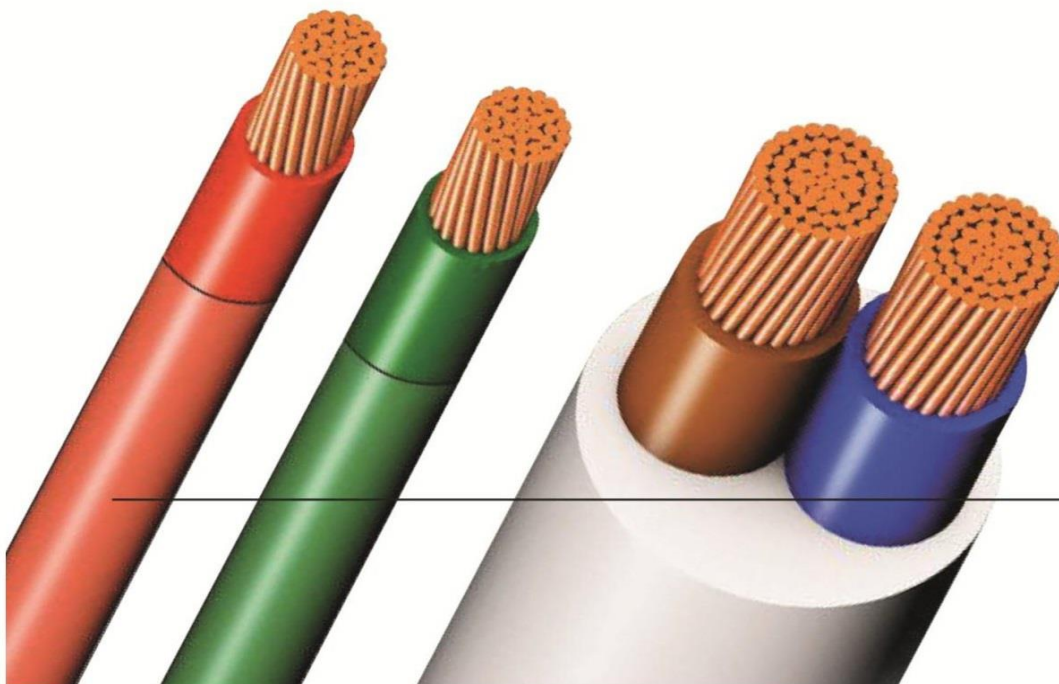


1-Single Core Stranded copper conductor

- 11.1 According to IEC-60227 (300/500)VCU/PVC
- 11.2 According to IEC-60227 (450/750)VCU/PVC
- 11.3 According to IEC-60502 (600/1000)VCU/PVC/PVC
- 11.4 According to IEC-60502 (600/1000)VCU/XLPE/PVC

2-Multi Core Stranded copper conductor

- 22.1 According to IEC-60227 (300/500)V-Two CoreCU/PVC/PVC
- 22.2 According to IEC-60227 (300/500)V-Three CoreCU/PVC/PVC
- 22.3 According to IEC-60227 (300/500)V-Four CoreCU/PVC/PVC
- 22.4 According to IEC-60227 (300/500)V-Five CoreCU/PVC/PVC
- 22.5 According to IEC-60502 (600/1000)V-Two CoreCU/PVC/PVC
- 22.55 According to IEC-60502 (600/1000)V-Two CoreCU/XLPE/PVC
- 22.6 According to IEC-60502 (600/1000)V-Three CoreCU/PVC/PVC
- 22.66 According to IEC-60502 (600/1000)V-Three CoreCU/XLPE/PVC
- 22.7 According to IEC-60502 (600/1000)V-Four CoreCU/PVC/PVC
- 22.77 According to IEC-60502 (600/1000)V-Four CoreCU/XLPE/PVC
- 22.8 According to IEC-60502 (600/1000)V-Four Core/0.5NCU/PVC/PVC
- 22.88 According to IEC-60502 (600/1000)V-Four Core/0.5NCU/XLPE/PVC

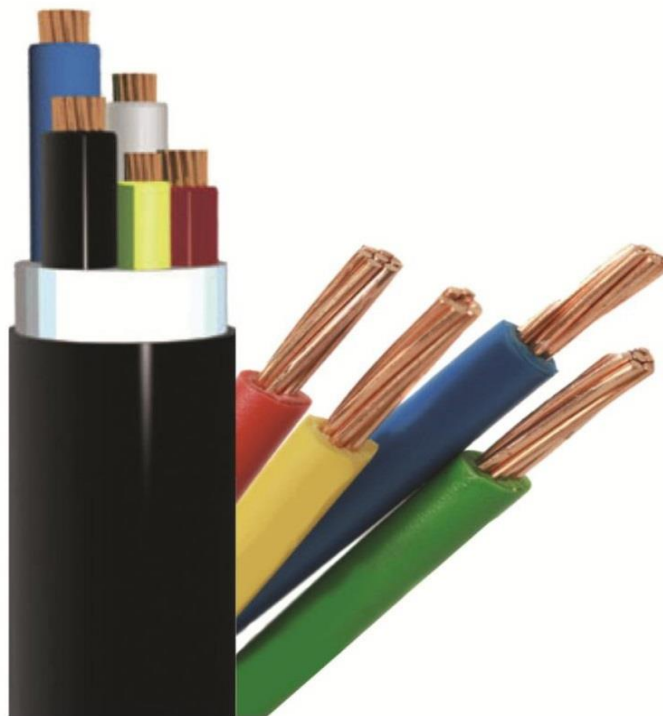


Stranded Cables



Stranded cable consists of multiple strands of wires wrapped around each other in each conductor.

Stranded cable is much more flexible and consequently suited to applications which demand flexibility and reshaping.



The Stranded cables are more rigid than the flexible cables to fit their function as they are used for outdoor & indoor installations in dry & wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations



Low Voltage Cables

11 - Single Core Cable With Stranded Copper Conductor

11.1

According to IEC-60227 (300 / 500) V



Description

- Stranded Copper Conductor Insulated With Poly vinyl Chloride (CU/PVC) .
- Cables are produced according to IEC 60227.

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Conductor: Stranded copper class-2							Insulation : PVC		
	Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Current rating in air		Average Insulation Thickness (mm)	Max. Diameter after Insulation (mm)	Min. Insulation resistance at 70°C (M ohm.km)
						Free	In Pipes			
CP0T1 01 U 00	0.5	1	0.80	0.80	36.0	2	2	0.6	2.4	0.015
CP0T1 01 U 01	0.75	1	1.0	1.0	24.5	10	7	0.6	2.6	0.012
CP0T1 01 U 02	1	1	1.12	1.12	18.1	13	10	0.6	2.8	0.011



Low Voltage Cables

11 - Single Core Cable With Stranded Copper Conductor

11.2

According to IEC-60227 (450 / 750) V



Description

- Stranded Copper Conductor Insulated With Polyvinyl Chloride (CU/PVC) .

Cables are produced according to IEC 60227.

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Conductor: Stranded copper class-2						Insulation : PVC				Approx. Weight kg/km
	Conductor Nominal CSA (mm)	Number of Strands	Diameter Of Each Strand (mm)	Nominal conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Current rating in air		Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Min. Insulation resistance at 70°C (M ohm.km)	
						Free	In Pipes				
CPDT1 01 U 04	1.5	7	0.53	1.60	12.1	17	13	0.7	2.7:3.3	0.010	21
CPDT1 01 U 05	2	7	0.60	1.80	9.14	19	15	0.8	3.1:3.8	0.009	28
CPDT1 01 U 06	2.5	7	0.67	2.01	7.41	24	19	0.8	3.3:4.0	0.009	33
CPDT1 01 U 07	3	7	0.74	2.25	6.13	27	21	0.8	3.5:4.3	0.0085	39
CPDT1 01 U 08	4	7	0.85	2.55	4.61	32	23	0.8	3.8:4.6	0.0077	50
CPDT1 01 U 09	6	7	1.04	3.15	3.08	40	29	0.8	4.3:5.2	0.0065	71
CPDT1 01 U 10	10	7	1.35	4.05	1.83	57	41	1.0	5.6:6.7	0.0065	117
CPDT1 01 U 11	16	7	1.70	5.1	1.15	76	54	1.0	6.4:7.8	0.0050	177
CPDT1 01 U 12	25	19	1.30	6.5	0.727	103	70	1.2	8.1:9.7	0.0050	278
CPDT1 01 U 13	35	19	1.50	7.5	0.524	128	87	1.2	9.0:10.9	0.0043	371
CPDT1 01 U 14	50	19	1.80	9.0	0.387	156	106	1.4	10.6:12.8	0.0043	514
CPDT1 01 U 15	70	19	2.15	10.75	0.268	200	131	1.4	12.1:14.6	0.0035	711
CPDT1 01 U 16	95	19	2.5	12.5	0.193	251	166	1.6	14.1:17.1	0.0035	967
CPDT1 01 U 17	120	37	2.02	14.15	0.153	293	190	1.6	15.6:18.8	0.0032	1240
CPDT1 01 U 18	150	37	2.25	15.75	0.121	335	219	1.8	17.3:20.9	0.0032	1500
CPDT1 01 U 19	185	37	2.50	17.5	0.0991	390	250	2.0	19.3:23.3	0.0032	1852
CPDT1 01 U 20	240	61	2.25	20.25	0.0754	471	300	2.2	22.0:26.6	0.0032	2457
CPDT1 01 U 30	300	61	2.50	22.5	0.0601	540	340	2.4	24.5:29.6	0.0030	2977



Low Voltage Cables

11 - Single Core Cable With Stranded Copper Conductor

11.3

According to IEC-60227 (600 / 1000) V



Description

- Stranded Copper Conductor Insulated With Polyvinyl Chloride And PVC Sheathed (CU/PVC/PVC) .
- Cables are produced according to IEC 60502.

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Conductor: Stranded copper class-2					Insulation : P.V.C		Oversheath : P.V.C		Approx. Weight kg/km
	Conductor Nominal C.S.A (mm ²)	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Oversheathed Nominal Thickness (mm)	Approx. Overall diameter (mm)	
CP1T1 01 U 04	1.5	7	0.53	1.60	12.10	0.8	3.2	1.4	6.0	49
CP1T1 01 U 06	2.5	7	0.67	2.01	7.41	0.8	3.6	1.4	6.4	62
CP1T1 01 U 08	4	7	0.85	2.55	4.61	1.0	4.55	1.4	7.35	86
CP1T1 01 U 09	6	7	1.04	3.15	3.08	1.0	5.15	1.4	7.95	115
CP1T1 01 U 10	10	7	1.35	4.05	1.83	1.0	6.05	1.4	8.85	165
CP1T1 01 U 11	16	7	1.70	5.1	1.15	1.0	7.1	1.4	9.9	231
CP1T1 01 U 12	25	19	1.30	6.5	0.727	1.2	8.9	1.4	11.7	343
CP1T1 01 U 13	35	19	1.50	7.5	0.524	1.2	9.9	1.4	12.7	445
CP1T1 01 U 14	50	19	1.80	9	0.387	1.4	11.8	1.4	14.6	600
CP1T1 01 U 15	70	19	2.15	10.75	0.268	1.4	13.55	1.5	16.55	805
CP1T1 01 U 16	95	19	2.5	12.5	0.193	1.6	15.7	1.5	18.7	1085
CP1T1 01 U 17	120	37	2.02	14.15	0.153	1.6	17.35	1.6	20.55	1350
CP1T1 01 U 18	150	37	2.25	15.75	0.121	1.8	19.35	1.7	22.75	1654
CP1T1 01 U 19	185	37	2.50	17.5	0.0991	2.0	21.5	1.7	24.9	2030
CP1T1 01 U 20	240	61	2.25	20.25	0.0754	2.2	24.65	1.9	28.45	2675
CP1T1 01 U 30	300	61	2.50	22.5	0.0601	2.4	27.3	2.0	31.3	3280

Low Voltage Cables

11 - Single Core Cable With Stranded Copper Conductor

11.4

According to IEC-60227 (600 / 1000) V



Description

- Stranded Copper Conductor Insulated With XLPE And PVC Sheathed (CU/X.L.P.E/PVC) .
- Cables are produced according to IEC 60502.

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Conductor: Stranded copper class-2					Insulation : X.L.P.E		Oversheath : P.V.C		Approx. Weight kg/km
	Conductor Nominal CSA (mm ²)	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Oversheathed Nominal Thickness (mm)	Approx. Overall diameter (mm)	
CX1T1 01 U 04	1.5	7	0.53	1.60	12.10	0.7	3.00	1.4	5.8	43
CX1T1 01 U 06	2.5	7	0.67	2.01	7.41	0.7	3.40	1.4	6.2	57
CX1T1 01 U 08	4	7	0.85	2.55	4.61	0.7	3.95	1.4	6.75	80
CX1T1 01 U 09	6	7	1.04	3.15	3.08	0.7	4.55	1.4	7.35	102
CX1T1 01 U 10	10	7	1.35	4.05	1.83	0.7	5.45	1.4	8.25	150
CX1T1 01 U 11	16	7	1.70	5.1	1.15	0.7	6.5	1.4	9.3	210
CX1T1 01 U 12	25	19	1.30	6.5	0.727	0.9	8.3	1.4	11.1	315
CX1T1 01 U 13	35	19	1.50	7.5	0.524	0.9	9.3	1.4	12.1	410
CX1T1 01 U 14	50	19	1.80	9	0.387	1.0	11.0	1.4	13.8	555
CX1T1 01 U 15	70	19	2.15	10.75	0.268	1.1	12.95	1.5	15.95	760
CX1T1 01 U 16	95	19	2.5	12.5	0.193	1.1	14.7	1.5	17.7	1015
CX1T1 01 U 17	120	37	2.02	14.15	0.153	1.2	16.55	1.6	19.75	1280
CX1T1 01 U 18	150	37	2.25	15.75	0.121	1.4	18.55	1.6	21.75	1570
CX1T1 01 U 19	185	37	2.50	17.5	0.0991	1.6	20.7	1.7	24.10	1920
CX1T1 01 U 20	240	61	2.25	20.25	0.0754	1.7	23.65	1.8	27.25	2530
CX1T1 01 U 30	300	61	2.50	22.5	0.0601	1.8	26.1	1.9	29.9	3105



Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor

22.1

According to IEC-60227 (450 / 750) V - Two Core Cables



Description

- Stranded Copper Conductor Insulated With Poly Vinyl Chloride (PVC) And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60227 .

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Cable Size	Conductor: Stranded copper class-2					Insulation : PVC		Oversheath : PVC		
		Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Oversheathed Nominal Thickness (mm)	Approx. Overall diameter (mm)	Min. Insulation resistance at 70 (M ohm.km)
CP0T1 02 U 04	2X1.5	1.5	7	0.53	1.6	12.1	0.7	2.7:3.3	1.2	7.8:10.5	0.010
CP0T1 02 U 05	2X2	2.0	7	0.60	1.8	9.14	0.8	3.1:3.8	1.2	7.5:9.5	0.0095
CP0T1 02 U 06	2X2.5	2.5	7	0.67	2.01	7.41	0.8	3.3:4.0	1.2	9.0:12.0	0.009
CP0T1 02 U 08	2X4	4.0	7	0.85	2.55	4.61	0.8	3.8:4.6	1.2	10.0:13.0	0.0077
CP0T1 02 U 09	2X6	6.0	7	1.04	3.15	3.08	0.8	4.3:5.2	1.2	11.0:14.0	0.0065
CP0T1 02 U 10	2X10	10.0	7	1.35	4.05	1.83	1.0	5.6:6.7	1.4	13.5:17.5	0.0065
CP0T1 02 U 11	2X16	16.0	7	1.70	5.1	1.15	1.0	6.4:7.8	1.4	15.5:20.0	0.0052
CP0T1 02 U 12	2X25	25.0	19	1.30	6.5	0.727	1.2	8.1:9.7	1.4	18.5:24.0	0.005
CP0T1 02 U 13	2X35	35.0	19	1.50	7.5	0.524	1.2	9.0:10.9	1.6	21.0:27.5	0.0044

Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor

22.2

According to IEC-60227 (450 / 750) V Three Core Cables



Description

- Stranded Copper Conductor Insulated With Poly Vinyl Chloride (PVC) And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60227 .

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Cable Size	Conductor: Stranded copper class-2					Insulation : PVC		Oversheath : P.V.C		
		Conductor Nominal CSA (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Oversheathed Nominal Thickness (mm)	Approx. Overall diameter (mm)	Min. Insulation resistance at 70 (M ohm.km)
CP0T1 03 U 04	3X1.5	1.5	7	0.53	1.6	12.1	0.7	2.7:3.3	1.2	8.2:11.0	0.010
CP0T1 03 U 05	3X2	2.0	7	0.60	1.8	9.14	0.8	3.1:3.8	1.2	9.2:12.0	0.0095
CP0T1 03 U 06	3X2.5	2.5	7	0.67	2.01	7.41	0.8	3.3:4.0	1.2	9.4:12.5	0.009
CP0T1 03 U 08	3X4	4.0	7	0.85	2.55	4.61	0.8	3.8:4.6	1.2	10.5:13.5	0.0077
CP0T1 03 U 09	3X6	6.0	7	1.04	3.15	3.08	0.8	4.3:5.2	1.4	12.0:15.5	0.0065
CP0T1 03 U 10	3X10	10.0	7	1.35	4.05	1.83	1.0	5.6:6.7	1.4	14.5:19.0	0.0065
CP0T1 03 U 11	3X16	16.0	7	1.70	5.1	1.15	1.0	6.4:7.8	1.4	16.5:21.5	0.0052
CP0T1 03 U 12	3X25	25.0	19	1.30	6.5	0.727	1.2	8.1:9.7	1.6	20.5:26	0.005
CP0T1 03 U 13	3X35	35.0	19	1.50	7.5	0.524	1.2	9.0:10.9	1.6	22.0:29.0	0.0044



Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor 22.3

According to IEC-60227 (450 / 750) V - Four Core Cables



Description

- Stranded Copper Conductor Insulated With Poly Vinyl Chloride (PVC) And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60227 .

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Cable Size	Conductor: Stranded copper class-2					Insulation : PVC		Oversheath : PVC		
		Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Oversheathed Nominal Thickness (mm)	Approx Overall diameter (mm)	Min. Insulation resistance at 70 (M ohm.km)
CP0T1 04 U 04	4X1.5	1.5	7	0.53	1.6	12.1	0.7	2.7:3.3	1.2	9.0:12.0	0.010
CP0T1 04 U 05	4X2	2.0	7	0.60	1.8	9.14	0.8	3.1:3.8	1.2	10.1:12.5	0.0095
CP0T1 04 U 06	4X2.5	2.5	7	0.67	2.01	7.41	0.8	3.3:4.0	1.2	10.0:13.5	0.009
CP0T1 04 U 08	4X4	4.0	7	0.85	2.55	4.61	0.8	3.8:4.6	1.4	12.0:15.0	0.0077
CP0T1 04 U 09	4X6	6.0	7	1.04	3.15	3.08	0.8	4.3:5.2	1.4	13.0:17.0	0.0065
CP0T1 04 U 10	4X10	10.0	7	1.35	4.05	1.83	1.0	5.6:6.7	1.4	16.0:20.5	0.0065
CP0T1 04 U 11	4X16	16.0	7	1.70	5.1	1.15	1.0	6.4:7.8	1.4	18.0:23.5	0.0052
CP0T1 04 U 12	4X25	25.0	19	1.30	6.5	0.727	1.2	8.1:9.7	1.6	22.5:28.5	0.005
CP0T1 04 U 13	4X35	35.0	19	1.50	7.5	0.524	1.2	9.0:10.9	1.6	24.5:32.0	0.0044

Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor 22.4

According to IEC-60227 (450 / 750) V - Five Core Cables



Description

- Stranded Copper Conductor Insulated With Poly Vinyl Chloride (PVC) And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60227 .

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Cable Size	Conductor: Stranded copper class-2					Insulation : PVC		Oversheath : P.V.C		
		Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)	Average Insulation Thickness (mm)	Approx Diameter after Insulation (mm)	Oversheathed Nominal Thickness (mm)	Approx. Overall diameter (mm)	Min. Insulation resistance at 70 (M ohm.km)
CP0T1 05 U 04	5X1.5	1.5	7	0.53	1.6	12.1	0.7	2.7:3.3	1.2	9.8:12.5	0.010
CP0T1 05 U 05	5X2	2.0	7	0.60	1.8	9.14	0.8	3.1:3.8	1.2	10.3:12.8	0.0095
CP0T1 05 U 06	5X2.5	2.5	7	0.67	2.01	7.41	0.8	3.3:4.0	1.2	11.0:14.5	0.009
CP0T1 05 U 08	5X4	4.0	7	0.85	2.55	4.61	0.8	3.8:4.6	1.4	13.0:17.0	0.0077
CP0T1 05 U 09	5X6	6.0	7	1.04	3.15	3.08	0.8	4.3:5.2	1.4	14.5:18.5	0.0065
CP0T1 05 U 10	5X10	10.0	7	1.35	4.05	1.83	1.0	5.6:6.7	1.4	17.5:22.0	0.0065
CP0T1 05 U 11	5X16	16.0	7	1.70	5.1	1.15	1.0	6.4:7.8	1.6	20.5:26	0.0052
CP0T1 05 U 12	5X25	25.0	19	1.30	6.5	0.727	1.2	8.1:9.7	1.6	24.5:31.5	0.005
CP0T1 05 U 13	5X35	35.0	19	1.50	7.5	0.524	1.2	9.0:10.9	1.6	27.0:35.0	0.0044



Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor
22.5

According to IEC-60502 (600 / 1000) V - Two Core Cables



Description

- Stranded Copper Conductor Insulated With Poly Vinyl Chloride (PVC) And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60502 .

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Cable Size	Conductor: Stranded copper class-2					Approx. Overall diameter (mm)	Current Rating (A)			Approx. Weight kg/km
		Conductor Nominal CSA (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		Dirac in Ground	In Ducts	In Air	
CP1T1 02 U 04	2X1.5	1.5	7	0.53	1.60	12.1	10.0	24	19	20	120
CP1T1 02 U 06	2X2.5	2.5	7	0.67	2.01	7.41	10.8	30	25	28	145
CP1T1 02 U 08	2X4	4.0	7	0.85	2.55	4.61	12.7	40	32	39	205
CP1T1 02 U 09	2X6	6.0	7	1.04	3.15	3.08	13.9	50	40	50	255
CP1T1 02 U 10	2X10	10.0	7	1.35	4.05	1.83	15.7	65	55	66	425
CP1T1 02 U 11	2X16	16.0	7	1.70	5.1	1.15	17.8	85	65	88	580
CP1T1 02 U 12	2X25	25.0	19	1.30	6.5	0.727	21.4	110	85	116	845
CP1T1 02 U 13	2X35	35.0	19	1.50	7.5	0.524	23.4	130	105	143	1090

Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor

22.55

According to IEC-60502 (600 / 1000) V - Two Core Cables



Description

- Stranded Copper Conductor Insulated With XLPE And PVC sheathed(CU/XLPE/PVC).
- Cables are produced according to IEC 60502 .

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Cable Size	Conductor: Stranded copper class-2					Approx. Overall diameter (mm)	Current Rating (A)			Approx. Weight kg/km
		Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		Dirac in Ground	In Ducts	In Air	
CX1T1 02 U 04	2X1.5	1.5	7	0.53	1.60	12.1	9.6	30	25	25	105
CX1T1 02 U 06	2X2.5	2.5	7	0.67	2.01	7.41	10.4	37	32	34	135
CX1T1 02 U 08	2X4	4.0	7	0.85	2.55	4.61	11.5	50	40	46	175
CX1T1 02 U 09	2X6	6.0	7	1.04	3.15	3.08	12.7	63	52	60	225
CX1T1 02 U 10	2X10	10.0	7	1.35	4.05	1.83	14.5	82	69	79	360
CX1T1 02 U 11	2X16	16.0	7	1.70	5.1	1.15	16.6	106	83	105	505
CX1T1 02 U 12	2X25	25.0	19	1.30	6.5	0.727	20.2	139	107	139	750
CX1T1 02 U 13	2X35	35.0	19	1.50	7.5	0.524	22.2	166	134	166	980



Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor

22.6

According to IEC-60502 (600 / 1000) V - Three Core Cables



Description

- Stranded Copper Conductor Insulated With Poly Vinyl Chloride (PVC) And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60502 .

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Cable Size	Conductor: Stranded copper class-2					Approx. Overall diameter (mm)	Current Rating (A)			Approx. Weight kg/km
		Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		Dirac in Ground	In Ducts	In Air	
CP1T1 03 U 04	3X1.5	1.5	7	0.53	1.60	12.1	10.5	21	18	18	145
CP1T1 03 U 06	3X2.5	2.5	7	0.67	2.01	7.41	11.3	27	23	22	190
CP1T1 03 U 08	3X4	4.0	7	0.85	2.55	4.61	13.4	35	30	31	270
CP1T1 03 U 09	3X6	6.0	7	1.04	3.15	3.08	14.7	45	36	39	340
CP1T1 03 U 10	3X10	10.0	7	1.35	4.05	1.83	16.6	60	48	53	485
CP1T1 03 U 11	3X16	16.0	7	1.70	5.1	1.15	18.9	75	60	72	685
CP1T1 03 U 12	3X25	25.0	19	1.30	6.5	0.727	22.7	100	80	94	995
CP1T1 03 U 13	3X35	35.0	19	1.50	7.5	0.524	24.9	120	95	110	1300



Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor

22.66

According to IEC-60502 (600 / 1000) V - Three Core Cables



Description

- Stranded Copper Conductor Insulated With XLPE And PVC sheathed(CU/XLPE/PVC).
- Cables are produced according to IEC 60502 .

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Cable Size	Conductor: Stranded copper class-2					Approx. Overall diameter (mm)	Current Rating (A)			Approx. Weight kg/km
		Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		Dirac in Ground	In Ducts	In Air	
CX1T1 03 U 04	3X1.5	1.5	7	0.53	1.60	12.1	10.1	26	23	22	130
CX1T1 03 U 06	3X2.5	2.5	7	0.67	2.01	7.41	10.9	35	29	32	165
CX1T1 03 U 08	3X4	4.0	7	0.85	2.55	4.61	12.1	45	36	41	225
CX1T1 03 U 09	3X6	6.0	7	1.04	3.15	3.08	13.4	57	45	50	295
CX1T1 03 U 10	3X10	10.0	7	1.35	4.05	1.83	15.3	75	60	68	430
CX1T1 03 U 11	3X16	16.0	7	1.70	5.1	1.15	17.6	97	75	89	620
CX1T1 03 U 12	3X25	25.0	19	1.30	6.5	0.727	21.4	128	102	120	910
CX1T1 03 U 13	3X35	35.0	19	1.50	7.5	0.524	23.6	155	120	145	1205



Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor

22.7

According to IEC-60502 (600 / 1000) V - Four Core Cables



Description

- Stranded Copper Conductor Insulated With Poly Vinyl Chloride (PVC) And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60502 .

Application

For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Cable Size	Conductor: Stranded copper class-2					Approx. Overall diameter (mm)	Current Rating (A)			Approx. Weight kg/km
		Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		Dirac in Ground	In Ducts	In Air	
CP1T1 04 U 04	4X1.5	1.5	7	0.53	1.60	12.1	11.3	21	18	18	180
CP1T1 04 U 06	4X2.5	2.5	7	0.67	2.01	7.41	12.3	27	23	22	230
CP1T1 04 U 08	4X4	4.0	7	0.85	2.55	4.61	14.6	35	30	31	335
CP1T1 04 U 09	4X6	6.0	7	1.04	3.15	3.08	16.0	45	36	39	425
CP1T1 04 U 10	4X10	10.0	7	1.35	4.05	1.83	18.2	60	48	53	635
CP1T1 04 U 11	4X16	16.0	7	1.70	5.1	1.15	20.7	75	60	72	880
CP1T1 04 U 12	4X25	25.0	19	1.30	6.5	0.727	25.1	100	80	94	1295
CP1T1 04 U 13	4X35	35.0	19	1.50	7.5	0.524	27.5	120	95	110	1700
CP1T1 04 U 14	4X50	50.0	19	1.80	9.0	0.387	32.5	145	115	138	2225
CP1T1 04 U 15	4X70	70.0	19	2.15	10.75	0.268	36.9	175	145	171	3065
CP1T1 04 U 16	4X95	95.0	19	2.5	12.5	0.193	42.5	210	165	209	4175
CP1T1 04 U 17	4X120	120.0	37	2.02	14.15	0.153	46.9	240	195	242	5205
CP1T1 04 U 18	4X150	150.0	37	2.25	15.75	0.121	51.7	270	220	275	6400
CP1T1 04 U 19	4X185	185.0	37	2.5	17.5	0.0991	57.5	300	245	314	7960
CP1T1 04 U 20	4X240	240.0	61	2.25	20.25	0.0754	65.7	345	290	374	10330
CP1T1 04 U 30	4X300	300.0	61	2.5	22.5	0.0601	72.5	390	320	440	12915



Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor

22.77

According to IEC-60502 (600 / 1000) V - Four Core Cables



Description

- Stranded Copper Conductor Insulated With XLPE And PVC sheathed(CU/XLPE/PVC).
- Cables are produced according to IEC 60502 .

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Cable Size	Conductor: Stranded copper class-2					Approx. Overall diameter (mm)	Current Rating (A)			Approx. Weight kg/km
		Conductor Nominal C.S.A (mm) ²	Number of Strands	Diameter Of Each Strand (mm)	Nominal Conductor Diameter (mm)	Max. DC Resistance at 20°C (Ohm/km)		Dirac in Ground	In Ducts	In Air	
CX1T1 04 U 04	4X1.5	1.5	7	0.53	1.60	12.1	10.8	26	23	22	150
CX1T1 04 U 06	4X2.5	2.5	7	0.67	2.01	7.41	11.8	35	29	32	205
CX1T1 04 U 08	4X4	4.0	7	0.85	2.55	4.61	13.1	45	36	41	280
CX1T1 04 U 09	4X6	6.0	7	1.04	3.15	3.08	14.6	57	45	50	365
CX1T1 04 U 10	4X10	10.0	7	1.35	4.05	1.83	16.8	75	60	68	565
CX1T1 04 U 11	4X16	16.0	7	1.70	5.1	1.15	19.3	97	75	89	795
CX1T1 04 U 12	4X25	25.0	19	1.30	6.5	0.727	23.6	128	102	120	1185
CX1T1 04 U 13	4X35	35.0	19	1.50	7.5	0.524	26.1	155	120	145	1575
CX1T1 04 U 14	4X50	50.0	19	1.80	9.0	0.387	30.4	185	145	179	2060
CX1T1 04 U 15	4X70	70.0	19	2.15	10.75	0.268	35.5	220	180	225	2905
CX1T1 04 U 16	4X95	95.0	19	2.5	12.5	0.193	39.9	265	210	268	3910
CX1T1 04 U 17	4X120	120.0	37	2.02	14.15	0.153	44.8	305	245	310	4915
CX1T1 04 U 18	4X150	150.0	37	2.25	15.75	0.121	49.8	335	275	352	6035
CX1T1 04 U 19	4X185	185.0	37	2.5	17.5	0.0991	55.4	375	310	404	7540
CX1T1 04 U 20	4X240	240.0	61	2.25	20.25	0.0754	63.1	435	365	483	9785
CX1T1 04 U 30	4X300	300.0	61	2.5	22.5	0.0601	69.4	490	405	562	12190



Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor

22.8

According to IEC-60502 (600 / 1000) V - Four Core Cables
With Reduced Neutral



Description

- Stranded Copper Conductor Insulated With Poly Vinyl Chloride (PVC) And PVC sheathed(CU/PVC/PVC).
- Cables are produced according to IEC 60502 .

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

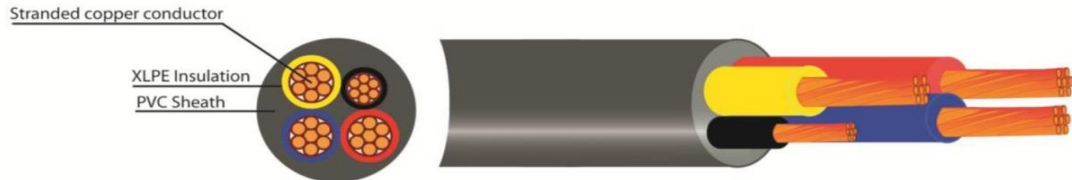
Product - Code	Cable Size	Conductor: Stranded copper class-2						Approx. Overall diameter (mm)	Current Rating (A)			Approx. Weight kg/km				
		Conductor Nominal C.S.A (mm) ²		Number of Strands		Diameter Of Each Strand (mm)			Nominal Conductor Diameter (mm)		Max. DC Resistance at 20°C Ohm/km		Dirac in Ground	In Ducts	In Air	
CP1T1 05 U 13	3X35+16	35	16	19	7	1.50	1.70	7.5	5.1	0.524	1.15	25.9	120	95	110	1505
CP1T1 05 U 14	3X50+25	50	25	19	19	1.80	1.30	9.0	6.5	0.387	0.727	30.6	145	115	138	2115
CP1T1 05 U 15	3X70+35	70	35	19	19	2.15	1.50	10.75	7.50	0.268	0.524	34.8	175	145	171	2725
CP1T1 05 U 16	3X95+50	95	50	19	19	2.50	1.80	12.5	9.0	0.193	0.387	40.0	210	165	209	3690
CP1T1 05 U 17	3X120+70	120	70	37	19	2.02	2.15	14.15	10.75	0.153	0.268	44.5	240	195	242	4675
CP1T1 05 U 18	3X150+70	150	70	37	19	2.25	2.15	15.75	10.75	0.121	0.268	48.4	270	220	275	5580
CP1T1 05 U 19	3X185+95	185	95	37	19	2.50	2.50	17.5	12.5	0.0991	0.193	53.9	300	245	314	7025
CP1T1 05 U 20	3X240+120	240	120	61	37	2.25	2.02	20.25	14.15	0.0754	0.153	61.0	345	290	374	9060
CP1T1 05 U 30	3X300+150	300	150	61	37	2.50	2.25	22.5	15.75	0.0601	0.121	67.5	390	320	440	11280



Low Voltage Cables

22 - Multi Core Cable With Stranded Copper Conductor
22.88

According to IEC-60502 (600 / 1000) V - Four Core Cables
With Reduced Neutral



Description

- Stranded Copper Conductor Insulated With XLPE And PVC sheathed(CU/XLPE/PVC).
- Cables are produced according to IEC 60502 .

Application

- For Outdoor and Indoor installations in dry and wet locations. They are normally used for power distribution in Urban Networks, Industrial plants as well as thermopower and hydropower stations.

Product - Code	Cable Size	Conductor: Stranded copper class-2						Approx. Overall diameter (mm)	Current Rating (A)			Approx. Weight kg/km				
		Conductor Nominal C.S.A (mm) ²		Number of Strands		Diameter Of Each Strand (mm)			Nominal Conductor Diameter mm	Max. DC Resistance at 20°C Ohm/km	Dirac in Ground		In Ducts	In Air		
CX1T1 05 U 13	3X35+16	35	16	19	7	1.50	1.70	7.5	5.1	0.524	1.15	24.4	155	120	142	1390
CX1T1 05 U 14	3X50+25	50	25	19	19	1.80	1.30	9.0	6.5	0.387	0.727	28.8	185	145	179	1835
CX1T1 05 U 15	3X70+35	70	35	19	19	2.15	1.50	10.75	7.50	0.268	0.524	33.1	220	180	215	2540
CX1T1 05 U 16	3X95+50	95	50	19	19	2.50	1.80	12.5	9.0	0.193	0.387	37.7	265	210	268	3435
CX1T1 05 U 17	3X120+70	120	70	37	19	2.02	2.15	14.15	10.75	0.153	0.268	42.5	305	245	310	4400
CX1T1 05 U 18	3X150+70	150	70	37	19	2.25	2.15	15.75	10.75	0.121	0.268	46.5	335	275	352	5255
CX1T1 05 U 19	3X185+95	185	95	37	19	2.50	2.50	17.5	12.5	0.0991	0.193	51.7	375	310	404	6640
CX1T1 05 U 20	3X240+120	240	120	61	37	2.25	2.02	20.25	14.15	0.0754	0.153	58.7	435	365	483	8555
CX1T1 05 U 30	3X300+150	300	150	61	37	2.50	2.25	22.5	15.75	0.0601	0.121	64.8	490	405	562	10640



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