

# ادكيابل ADCABLE



**0.6 /1kv, XLPE OR PVC  
INSULATED LOW VOLTAGE  
POWER CABLE  
(ARMOURED & UN-ARMOURED)**

مصنع ابوظبي للكيبالات

**ABU DHABI CABLE FACTORY**

ISO 9001 - 2015



علامة الجودة الإماراتية  
Emirates Quality Mark

**KEMA**

**REPORT OF PERFORMANCE** 07-1238

**SUBJECT** Single core 12 core cable  
**TYPE** 6271 HV HVLSW<sup>2</sup>  
 GYKLP/PE/PA/SH/SH/PA/VC

**MANUFACTURER** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**CLIENT** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**TESTED BY** KEMA HIGH VOLTAGE LABORATORY  
 Arnhem, The Netherlands  
**DATE(S) OF TESTS** 07 November 2008 and 9 February 2009  
**TEST PROGRAMME** Selected tests in accordance with IEC 60285-1 (2004) and IEC 60287 (1997) (see page 2)  
**CONFORMITY AND TESTS DONE** The cable did not pass the requirements regarding the marking on the cable in other tests were passed

Report of Performance applies only to the object tested. The responsibility for conformity of any marking the same designations with that tested rests with the Manufacturer.  
 Responsibility of 10 sheets in total

1. The test programme described herein is an adaptation of the test programme described in the IEC standards mentioned in the test programme. The test programme is not intended to be used as a substitute for the test programme described in the IEC standards mentioned in the test programme.

**KEMA**   
 KEMA Testing Services  
 Managing Director  
 Arnhem, 12 April 2009

**KEMA**


**REPORT OF PERFORMANCE** 07-1241

**SUBJECT** 4-core 17 power cable  
**TYPE** 6271 HV HVLSW<sup>2</sup>  
 GYKLP/PE/PA/SH/SH/PA/VC

**MANUFACTURER** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**CLIENT** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**TESTED BY** KEMA HIGH VOLTAGE LABORATORY  
 Arnhem, The Netherlands  
**DATE(S) OF TESTS** 11 December 2008 and 9 February 2009  
**TEST PROGRAMME** Type tests in accordance with IEC 60285-1 (2004) and IEC 60287 (1997) (see page 2)  
**CONFORMITY AND TESTS DONE** All tests were passed

Report of Performance applies only to the object tested. The responsibility for conformity of any marking the same designations with that tested rests with the Manufacturer.  
 Responsibility of 10 sheets in total

1. The test programme described herein is an adaptation of the test programme described in the IEC standards mentioned in the test programme. The test programme is not intended to be used as a substitute for the test programme described in the IEC standards mentioned in the test programme.

**KEMA**   
 KEMA Testing Services  
 Managing Director  
 Arnhem, 12 April 2009

**KEMA**

**REPORT OF PERFORMANCE** 07-1239

**SUBJECT** Single core 12 core cable  
**TYPE** 6271 HV HVLSW<sup>2</sup>  
 GYKLP/PE/PA/SH/SH/PA/VC

**MANUFACTURER** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**CLIENT** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**TESTED BY** KEMA HIGH VOLTAGE LABORATORY  
 Arnhem, The Netherlands  
**DATE(S) OF TESTS** 07 November 2008 and 9 February 2009  
**TEST PROGRAMME** Selected tests in accordance with IEC 60285-1 (2004) and IEC 60287 (1997) (see page 2)  
**CONFORMITY AND TESTS DONE** The cable did not pass the requirements regarding the marking on the cable in other tests were passed

Report of Performance applies only to the object tested. The responsibility for conformity of any marking the same designations with that tested rests with the Manufacturer.  
 Responsibility of 10 sheets in total

1. The test programme described herein is an adaptation of the test programme described in the IEC standards mentioned in the test programme. The test programme is not intended to be used as a substitute for the test programme described in the IEC standards mentioned in the test programme.

**KEMA**   
 KEMA Testing Services  
 Managing Director  
 Arnhem, 12 April 2009

**KEMA**

**REPORT OF PERFORMANCE** 07-1243

**SUBJECT** 4-core 17 power cable  
**TYPE** 6271 HV HVLSW<sup>2</sup>  
 GYKLP/PE/PA/SH/SH/PA/VC

**MANUFACTURER** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**CLIENT** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**TESTED BY** KEMA HIGH VOLTAGE LABORATORY  
 Arnhem, The Netherlands  
**DATE(S) OF TESTS** 07 and 08 January 2009  
**TEST PROGRAMME** Selected tests in accordance with IEC 60285-1 (2004) and IEC 60287 (1997) (see page 2)  
**CONFORMITY AND TESTS DONE** All tests were passed

Report of Performance applies only to the object tested. The responsibility for conformity of any marking the same designations with that tested rests with the Manufacturer.  
 Responsibility of 10 sheets in total

1. The test programme described herein is an adaptation of the test programme described in the IEC standards mentioned in the test programme. The test programme is not intended to be used as a substitute for the test programme described in the IEC standards mentioned in the test programme.

**KEMA**   
 KEMA Testing Services  
 Managing Director  
 Arnhem, 12 April 2009

**KEMA**

**REPORT OF PERFORMANCE** 07-1242

**SUBJECT** 1-core 17 power cable  
**TYPE** 6271 HV HVLSW<sup>2</sup>  
 GYKLP/PE/PA/SH/SH/PA/VC

**MANUFACTURER** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**CLIENT** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**TESTED BY** KEMA HIGH VOLTAGE LABORATORY  
 Arnhem, The Netherlands  
**DATE(S) OF TESTS** 11 December 2008 and 9 February 2009  
**TEST PROGRAMME** Type tests in accordance with IEC 60285-1 (2004) and IEC 60287 (1997) (see page 2)  
**CONFORMITY AND TESTS DONE** All tests were passed

Report of Performance applies only to the object tested. The responsibility for conformity of any marking the same designations with that tested rests with the Manufacturer.  
 Responsibility of 10 sheets in total

1. The test programme described herein is an adaptation of the test programme described in the IEC standards mentioned in the test programme. The test programme is not intended to be used as a substitute for the test programme described in the IEC standards mentioned in the test programme.

**KEMA**   
 KEMA Testing Services  
 Managing Director  
 Arnhem, 12 April 2009

**KEMA**

**REPORT OF PERFORMANCE** 07-1240

**SUBJECT** 4-core 17 cable  
**TYPE** 6271 HV HVLSW<sup>2</sup>  
 GYKLP/PE/PA/SH/SH/PA/VC

**MANUFACTURER** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**CLIENT** Abu Dhabi Cable Factory LLC  
 Abu Dhabi, U.A.E.  
**TESTED BY** KEMA HIGH VOLTAGE LABORATORY  
 Arnhem, The Netherlands  
**DATE(S) OF TESTS** 07 November 2008 and 9 February 2009  
**TEST PROGRAMME** Selected tests in accordance with IEC 60285-1 (2004) and IEC 60287 (1997) (see page 2)  
**CONFORMITY AND TESTS DONE** The cable did not pass the requirements regarding the marking on the cable in other tests were passed

Report of Performance applies only to the object tested. The responsibility for conformity of any marking the same designations with that tested rests with the Manufacturer.  
 Responsibility of 10 sheets in total

1. The test programme described herein is an adaptation of the test programme described in the IEC standards mentioned in the test programme. The test programme is not intended to be used as a substitute for the test programme described in the IEC standards mentioned in the test programme.

**KEMA**   
 KEMA Testing Services  
 Managing Director  
 Arnhem, 12 April 2009

## TEST CERTIFICATE

**DEKRA**

**Issued to:** Abu Dhabi Cable Factory  
Abu Dhabi  
United Arab Emirates

**For the product:** Single core non-sheathed cables with halogen-free thermoplastic insulation

**Trade name:** ADCABLE

**Type/Model:** HDZ1-R 1Ca2,0 mm<sup>2</sup>

**Rating:** 450/750 V

**Manufactured by:** Abu Dhabi Cable Factory  
Abu Dhabi  
United Arab Emirates

**Subject:** Low voltage energy cables of rated voltages up to and including 450/750 V - Cables with special fire performance - Single core non-sheathed cables with halogen-free thermoplastic insulation, and low emission of smoke

**Requirements:** BS EN 50225-3-01:2011 Clause 4.1

**Remarks:** The tested cable meets the requirements of the BS EN 50225-3-01:2011

This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no 2181048.00

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Applicant does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

Amstern, 4 July 2013 Number: 2181048.01

DEKRA Certification B.V.

   
 G.J. Zandvoort  
Managing Director H.M. Barends  
Certification Manager

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DEKRA Certification B.V. | Uffelhöweg 116, 8212 AG, Amstern | P.O. Box 5196, 8203 ED, Amstern, The Netherlands  
T +31 88 38 33000 F +31 88 38 32100 www.dekra-certification.com Company registration: 0906336

## TEST CERTIFICATE

**DEKRA**

**Issued to:** Abu Dhabi Cable Factory  
Abu Dhabi  
United Arab Emirates

**For the product:** power cable 600/1000 V XLPE insulated, Steel Wire Armour and LSF outer sheath

**Trade name:** ADCABLE

**Type/Model:** CUXLPE/SWAL/SP 4x150 mm<sup>2</sup>

**Rating:** 600/1000 V

**Manufactured by:** Abu Dhabi Cable Factory  
Abu Dhabi  
United Arab Emirates

**Subject:** Electric cables - Thermosetting insulated, armoured cables for voltages of 600/1000 V and 1900/3300 V

**Requirements:** BS 6724 1997 + A2:2008

**Remarks:** The tested cable meets the requirements of the BS 6724

This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no 2181048.00

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Applicant does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

Amstern, 4 July 2013 Number: 2181048.02

DEKRA Certification B.V.

   
 G.J. Zandvoort  
Managing Director H.M. Barends  
Certification Manager

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## TEST CERTIFICATE

**DEKRA**

**Issued to:** Abu Dhabi Cable Factory  
Sector No. M-43, Plot 19,20,21  
Back side of Modern Bakery No  
Musaffah, Abu Dhabi  
United Arab Emirates

**For the product:** XLPE insulated, steel wire armoured and halogen-free sheathed cable

**Trade name:** ADCABLE

**Type/Model:** CUXLPE/SWAL/SP 4x150 mm<sup>2</sup>

**Rating:** 600/1000 V

**Manufactured by:** Abu Dhabi Cable Factory  
Sector No. M-43, Plot 19,20,21  
Back side of Modern Bakery No  
Musaffah, Abu Dhabi  
United Arab Emirates

**Subject:** Electric cables - thermosetting insulated, armoured cables for voltages of 600/1000V and 1900/3300 V

**Requirements:** BS 6724 1997 + A2:2008

**Remarks:** The tested cable meets the requirements of the BS 6724

This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no 2185483.01

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Applicant does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

Amstern, 22 November 2013 Number: 2185483.01

DEKRA Certification B.V.

   
 G.J. Zandvoort  
Managing Director H.M. Barends  
Certification Manager

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## TEST CERTIFICATE

**DEKRA**

**Issued to:** Abu Dhabi Cable Factory  
Sector No. M-43, Plot 19,20,21  
Back side of Modern Bakery No  
Musaffah, Abu Dhabi  
United Arab Emirates

**For the product:** XLPE insulated, steel wire armoured and halogen-free sheathed cable

**Trade name:** ADCABLE

**Type/Model:** CUXLPE/SWAL/SP  
Twisted cable: 4x150 mm<sup>2</sup>  
Cabled cables: 4x150 mm<sup>2</sup> up to and including 40/300 mm<sup>2</sup>

**Rating:** 600/1000 V

**Manufactured by:** Abu Dhabi Cable Factory  
Sector No. M-43, Plot 19,20,21  
Back side of Modern Bakery No  
Musaffah, Abu Dhabi  
United Arab Emirates

**Subject:** Electric cables - thermosetting insulated, armoured cables for voltages of 600/1000V and 1900/3300 V

**Requirements:** BS 6724 1997 + A2:2008

**Remarks:** The tested cable meets the requirements of the BS 6724 1997 + A2:2008

This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no 2185483.01

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Applicant does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

Amstern, 22 November 2013 Number: 2185483.01

DEKRA Certification B.V.

   
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# certificate of registration

GCAS certifies that the Quality Management System of

## ABU DHABI CABLE FACTORY

Sector No. M-43, Plot No. 19, 20,21, 22, Industrial Area,  
Mussafah, P.O. Box 30331,  
Abu Dhabi – UAE

has been assessed by GCAS and found to be in conformance with

### ISO 9001:2015

The scope of registration applies to the:

**Manufacturer of Single Core, Multi Core & Power Cables to 1KV with  
XLPE, PVC, LSZH Insulation, Sheathing & Jacketing.**



Certificate No.: ME/06/1066

Date of Current Approval: June 04, 2017

Valid Until: August 05, 2020

Date of First Approval: August 06, 2006

  
GCAS Representative



The certificate remains the property of GCAS Quality Certifications. This certificate will remain valid as long as periodical annual surveillance audits are conducted, client management system conformance to the certified standard and conditions as set out in the terms & conditions. To check this certificate validity, please visit [www.gcasquality.com](http://www.gcasquality.com) or contact P.O.Box 65561, Dubai, email [info.dubai@gcasquality.com](mailto:info.dubai@gcasquality.com). Further clarification regarding scope of certificate and the applicability of the management system requirements may be obtained by consulting the organization.



## certificate of registration

GCAS certifies that the Environmental Management System of

### ABU DHABI CABLE FACTORY

Sector No. M-43, Plot No. 19, 20, 21, 22, Industrial Area,  
Mussafah, P.O. Box 30331,  
Abu Dhabi – UAE

has been assessed by GCAS and found to be in conformance with

### ISO 14001:2015

The scope of registration applies to the:

**Manufacturer of Single Core, Multi Core & Power Cables to 1KV with  
XLPE, PVC, LSZH Insulation, Sheathing & Jacketing.**



Certificate No.:	ME/14/2006
Date of Current Approval:	June 04, 2017
Valid Untill:	May 29, 2020
Date of First Approval:	May 30, 2014

  
GCAS Representative



The certificate remains the property of GCAS Quality Certifications. This certificate will remain valid as long as periodical annual surveillance audits are conducted, client management system conformance to the certified standard and conditions as set out in the terms & conditions. To check this certificate validity, please visit [www.gcasquality.com](http://www.gcasquality.com) or contact P.O.Box 65561, Dubai, email: [Info.dubai@gcasquality.com](mailto:Info.dubai@gcasquality.com). Further clarification regarding scope of certificate and the applicability of the management system requirements may be obtained by consulting the organization.



# certificate of registration

GCAS certifies that the Occupational Health & Safety Management System of

## ABU DHABI CABLE FACTORY

Sector No. M-43, Plot No. 19, 20, 21, 22, Industrial Area,  
Mussafah, P.O. Box 30331,  
Abu Dhabi – UAE

has been assessed by GCAS and found to be in conformance with

## OHSAS 18001:2007

The scope of registration applies to the:

**Manufacture of Single Core, Multi Core & Power Cables to 1KV with  
XLPE, PVC, LSZH Insulation, Sheathing & Jacketing.**



Certificate No.: ME/14/6008  
Date of Current Approval: June 04, 2017  
Valid Until: May 29, 2020  
Date of First Approval: May 30, 2014

GCAS Representative



The certificate remains the property of GCAS Quality Certifications. This certificate will remain valid as long as periodical annual surveillance audits are conducted, client management system conformance to the certified standard and conditions as set out in the terms & conditions. To check this certificate validity, please visit [www.gcasquality.com](http://www.gcasquality.com) or contact P.O.Box 65561, Dubai, email: [info.dubai@gcasquality.com](mailto:info.dubai@gcasquality.com). Further clarification regarding scope of certificate and the applicability of the management system requirements may be obtained by consulting the organization.



United Arab Emirates

مؤسسة الإمارات للمواصفات والمقاييس  
Emirates Authority For Standardization & Metrology



## LICENSE FOR THE USE OF EMIRATES QUALITY MARK (AL-ALAMA)



License No.:	17-04-3355/Q17-01-000011	رقم الرخصة:
Issue Date:	4/18/2017	تاريخ الإصدار:
Valid Until:	4/17/2020	تاريخ الإنتهاء:
Issued To:	ABU DHABI CABLE FACTORY P.O. Box 30331, Abu Dhabi, United Arab Emirates	أصدرت إلى:

Based on the Emirates Product Certification Scheme Agreement No. 17-04-3355/Q17-01-000011 for the following:

Product for which the license is granted :	Cables
Product Description	See attached Schedule of Certification
Standards:	BS 5467, BS 6231, BS 6724, BS EN 50525-2-11, BS EN 50525-3-31, UAE.S EN 50525-2-31, UAE.S IEC 60502-1



علامة الجودة الإماراتية  
Emirates Quality Mark

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و الدخول إلى خدمة الإستعلام عن المستندات الصادرة  
أى كسب أو تغيير فى هذه الشهادة يلغونها.

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P.O.BOX 2166, Abu Dhabi - United Arab Emirates

## PRODUCT RANGE

This catalogue is intended for Low Voltage Power Cable, Copper conductor of voltage range : 0.6/1.0 kV

### LV POWER CABLES (ARMoured / UN ARMoured)

- XLPE Insulated PVC Sheathed Armoured Cable ( BS 5467 / IEC 60502-1 )
- XLPE Insulated LSZH Sheathed Armoured Cable ( BS 6724 / IEC 60502-1 )
- PVC Insulated PVC Sheathed Armoured Cable ( BS 6346 / IEC 60502-1 )
- XLPE Insulated PVC Sheathed Un-Armoured Cable  
( BS 7889 ( Single Core ) / IEC 60502-1 )
- XLPE Insulated LSZH Sheathed Un-Armoured Cable ( IEC 60502-1 )
- PVC Insulated PVC Sheathed Un-Armoured Cable ( IEC 60502-1 )
- Control & Auxiliary Cables ( BS 6346 / BS 5467 / BS 6724 / IEC 60502-1 )



## FORMULAS

### 1. Resistance

The value of conductor DC resistance given in the previous table are based on 20 °C. In case the DC resistance is required any other temperature the following formula is used :

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

Where

$R_{\theta}$  : Conductor DC resistance at  $\theta$  °C  $\Omega/\text{km}$

$R_{20}$  : Conductor DC resistance at 20 °C  $\Omega/\text{km}$

$\theta$  : Operating temperature °C

$\alpha$  : Resistance temperature coefficient 1/°C

= 0.00393 for Copper

= 0.00403 for Aluminum

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

$$R_{a.c} = R_{\theta} \times (1 + y_p + y_s) \quad \Omega/\text{Km}$$

Where

$y_p$  and  $y_s$  are the proximity and skin effect factors respectively which depend on the laying and operating frequency of the cable

### 2. Inductance

Self and mutual inductance are formulated as follow

$$L = K + 0.2 \ln \left[ \frac{2S}{d} \right] \quad \text{mH/Km}$$

Number of wires in conductor  $K$  (50Hz)

1 0.0500

3 0.0778

7 0.0642

19 0.0554

37 0.0528

61 and over 0.514

Where

$L$  : Inductance  $\text{mH/Km}$

$K$  : Constant depends on the conductor's number of wires

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

$s$  : Axial spacing between cables  $\text{mm}$

= 1 x S in case of trefoil formation

= 1.26 x S in case of flat formation

### 3. REACTANCE (Inductive Reactance)

$$X = 2 * \pi * f * L (\Omega/\text{km})$$

Where

$f$  = Frequency (Hz)

$L$  = Inductance (mH/km)

### 4. IMPEDANCE

The total opposition that a circuit offers to the flow of alternating current

$$Z = \sqrt{\text{Resistance}^2 + \text{Reactance}^2} (\Omega/\text{km})$$

Note : Final AC volt drop

$$V_{ac} = \sqrt{\text{Voltage}_{\text{resistance}}^2 + \text{Voltage}_{\text{reactance}}^2}$$

### 5. Capacitance

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

Where

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

$\epsilon_r$  : Relative permittivity of insulation

$d$  : Diameter under insulation  $\text{mm}$

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

### 6. Insulation Resistance

$$R = K \ln \left[ \frac{D}{d} \right] \quad \text{M}\Omega/\text{Km}$$

Where

$R$  : Insulation resistance  $\text{M}\Omega/\text{Km}$

$K$  : Constant depends on the insulation

$d$  : Diameter of the conductor  $\text{mm}$

$D$  : Diameter of the insulated core  $\text{mm}$

### 7. Charging Current

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

$$I_c = U_0 \omega c 10^{-6} \quad \text{A/Km}$$

Where

$I_c$  : Charging current  $\text{A/km}$

$U_0$  : Phase voltage  $\text{V}$

$\omega$  :  $2 \pi f$

$f$  : Operating frequency  $\text{Hz}$

$C$  : Capacitance to neutral  $\mu\text{F/Km}$

**8. 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 :

$$W_d = \omega c u_0^2 \tan \delta 10^{-6} \quad \text{W/Km/Ph}$$

Where

- $W_d$  : Dielectric Losses                      W/Km/Ph
- $\omega$  :  $2 \pi f$
- $f$  : Operating frequency                      Hz
- $C$  : Capacitance to neutral                   $\mu\text{F/Km}$
- $U_0$  : Phase voltage                              V
- $\tan \delta$  : Dielectric power factor

**9. Cable Ampacity**

Cable Ampacity is defined as the 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
- Ambient ground temperature = 35 °C
- Soil thermal resistivity = 1.2 °C.m/W
- Burial depth = 0.5 Mt.

In Case the installation conditions are different from the tasted, the derating factors tabulated in tables to calculate.

The new current carrying capacity.  
 The cable Ampacities are based on IEC 60287.

**10. Short Circuit Capacity**

Table 14-17 give the short circuit for conductor used on the following conditions :

- A. Short circuit starts from the maximum operating conductor temperature
  - XLPE = 90 °C
  - PVC = 70 °C
- B. Maximum temperature during short circuit
  - XLPE = 250 °C
  - PVC = 160 °C for C.S.A ≤ 300mm<sup>2</sup>
  - = 140 °C for C.S.A > 300mm<sup>2</sup>
- 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 seconds by the square root of required duration as follows:

$$I_t = \frac{I_1}{\sqrt{t}}$$

Where

- $I_t$  : Short circuit current for t second    kA
- $I_1$  : Short circuit current for 1 second    kA
- $t$  : Duration                                      Sec.

**11. Voltage Drop**

When current flows in a cable conductor there is a voltage drop between the ends of conductors which is the product of the current and impedance. The following equations should be used to calculate the voltage drop

- A. Single phase circuit  
 $V_d = 2I \ell (R \cos \Phi + X \sin \Phi) \quad \text{V}$
- B. Three phase circuit  
 $V_d = \sqrt{3} I \ell (R \cos \Phi + X \sin \Phi) \quad \text{V}$

Where

- $V_d$  : Voltage drop                              V
- $I$  : Load current                              A
- $\ell$  : Route length                                Km
- $R$  : AC Resistance                             $\Omega/\text{km}$
- $X$  : Reactance                                  $\Omega/\text{km}$
- $\cos \Phi$  : Power factor                         $\Omega/\text{km}$

Where

$$X = \omega L 10^{-3} \quad \Omega/\text{km}$$

Where

- $\omega$  :  $2 \pi f$
- $f$  : Operating frequency                      Hz
- $L$  : Inductance                                 mH/Km

**Relation between cos Φ and sin Φ**

Cos Φ	1.0	0.9	0.85	0.8	0.71	0.6	0.5
Sin Φ	0.0	0.44	0.53	0.6	0.71	0.8	0.87

- LV cable system should be planned so as not to exceed voltage drop of 3 – 5 % in normal operating conditions
- Voltage drop data for LV Single & Multi – core cable are tabulated in tables.

### RATING FACTORS FOR VARIATION IN AMBIENT TEMPERATURE FOR CABLES LAID IN AIR

TABLE No. : 1

Ambient temperature °C	25	30	35	40	45	50	52	55	60
PVC insulated cables 85°C	1.35	1.29	1.22	1.16	1.09	1.02	1.00	0.95	0.86
XLPE Insulated cables	1.37	1.30	1.24	1.17	1.09	1.03	1.00	0.95	0.88

### RATING FACTORS FOR VARIATION IN GROUND TEMPERATURE FOR CABLES LAID DIRECT IN GORUND OR IN DUCTS

TABLE No. : 2

Ground temperature °C	15	20	25	30	35	40	45
PVC insulated cables 85°C	1.19	1.15	1.09	1.05	1.00	0.95	0.89
XLPE Insulated cables	1.16	1.13	1.08	1.03	1.00	0.95	0.90

### RATING FACTORS FOR DEPTHS OF LAYING FOR CABLES LAID DIRECT IN GORUND OR IN DUCTS

TABLE No. : 3

Depth of Laying Meter	600/1000 V Cables				
	Cables Laid in Ground			Cables Laid in Ducts	
	Upto 50 Sqmm	70 Sqmm to 300 Sqmm	Above 300 Sqmm	Single Core	Multicore
0.50	1.026	1.036	1.055	1.044	1.026
0.60	1.015	1.016	1.023	1.023	1.015
0.75	1.000	1.000	1.000	1.000	1.000
0.80	0.995	0.995	0.992	0.992	0.995
1.0	0.974	0.974	0.970	0.971	0.985
1.25	0.964	0.953	0.949	0.940	0.974
1.50	0.954	0.943	0.939	0.930	0.964
1.75	0.944	0.922	0.918	0.919	0.964
2.0	0.933	0.912	0.907	0.909	0.954
2.50	0.923	0.902	0.897	0.898	0.954
3.0	0.913	0.891	0.876	0.888	0.944

## GROUP RATING FACTORS (0.6/1 KV CABLES) LAID IN GROUND

**TABLE No. : 4**

No. of Circuits	Single Core Cable Laid Flat Horizontal				Multicore Cable in Horizontal Formation				
	Spacing of Circuits (M)				Spacing of Circuits (M)				
	0.15	0.30	0.45	0.60	Touching	0.15	0.30	0.45	0.60
2	0.83	0.88	0.91	0.93	0.81	0.87	0.91	0.93	0.95
3	0.72	0.79	0.84	0.87	0.70	0.78	0.84	0.88	0.90
4	0.67	0.76	0.81	0.85	0.63	0.74	0.81	0.86	0.89
5	0.63	0.72	0.79	0.83	0.59	0.70	0.78	0.84	0.87
6	0.61	0.71	0.77	0.82	0.55	0.68	0.77	0.83	0.87
7	0.59	0.69	0.76	0.81	0.52	0.66	0.75	0.82	0.86
8	0.57	0.68	0.76	0.81	0.50	0.64	0.75	0.81	0.86
9	0.56	0.67	0.75	0.80	0.48	0.63	0.74	0.81	0.85
10	0.55	0.67	0.74	0.80	0.47	0.62	0.73	0.80	0.85
11	0.54	0.66	0.74	0.80	0.45	0.61	0.73	0.80	0.85
12	0.53	0.65	0.74	0.80	0.44	0.60	0.72	0.80	0.84

## RATING FACTORS FOR VARIATION IN THERMAL RESISTIVITY OF SOIL TWIN OR MULTI-CORE CABLES LAID DIRECT IN THE GROUND

**TABLE No. : 5**

Nominal Area of Conductor	Thermal Resistivity of Soil in °C m/w										
	0.7	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0
1.5/2.5	1.12	1.09	1.07	1.04	1.0	0.94	0.86	0.80	0.75	0.70	0.66
4	1.13	1.10	1.07	1.05	1.0	0.94	0.85	0.79	0.74	0.69	0.65
6	1.14	1.10	1.07	1.05	1.0	0.93	0.85	0.79	0.74	0.68	0.64
10	1.15	1.11	1.08	1.05	1.0	0.93	0.85	0.78	0.73	0.67	0.63
16	1.16	1.12	1.08	1.05	1.0	0.93	0.84	0.77	0.72	0.66	0.62
25	1.17	1.13	1.09	1.05	1.0	0.93	0.83	0.77	0.71	0.65	0.61
35	1.17	1.13	1.09	1.06	1.0	0.92	0.83	0.76	0.71	0.65	0.61
50	1.17	1.13	1.09	1.06	1.0	0.92	0.83	0.76	0.71	0.65	0.61
70	1.18	1.14	1.09	1.06	1.0	0.92	0.83	0.75	0.70	0.64	0.60
95	1.18	1.14	1.09	1.06	1.0	0.92	0.83	0.75	0.70	0.64	0.60
120	1.19	1.14	1.10	1.06	1.0	0.92	0.82	0.75	0.69	0.63	0.60
150	1.19	1.14	1.10	1.06	1.0	0.92	0.82	0.75	0.69	0.63	0.59
185	1.19	1.14	1.10	1.06	1.0	0.92	0.82	0.74	0.69	0.63	0.59
240	1.20	1.15	1.10	1.07	1.0	0.92	0.81	0.74	0.69	0.63	0.59
300/400	1.20	1.15	1.10	1.07	1.0	0.92	0.81	0.74	0.69	0.63	0.59

**RATING FACTORS FOR VARIATION IN THERMAL RESISTIVITY OF SOIL  
 FOR TWO OR THREE SINGLE – CORE CABLES LAID DIRECT IN THE GROUND**

**TABLE No. : 6**

Nominal Area of Conductor	Thermal Resistivity of Soil in °C m/w										
	0.7	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0
50	1.21	1.16	1.11	1.07	1.0	0.91	0.81	0.73	0.68	0.63	0.59
70	1.22	1.16	1.12	1.07	1.0	0.91	0.81	0.73	0.68	0.63	0.59
95	1.22	1.16	1.12	1.07	1.0	0.91	0.81	0.73	0.68	0.63	0.59
120	1.22	1.16	1.12	1.07	1.0	0.91	0.81	0.73	0.68	0.63	0.59
150	1.22	1.16	1.12	1.07	1.0	0.91	0.81	0.73	0.68	0.63	0.59
185	1.22	1.17	1.12	1.07	1.0	0.91	0.81	0.73	0.68	0.62	0.59
240	1.23	1.17	1.12	1.07	1.0	0.91	0.80	0.73	0.68	0.62	0.59
300	1.23	1.17	1.12	1.07	1.0	0.91	0.80	0.73	0.68	0.62	0.59
400	1.23	1.17	1.12	1.07	1.0	0.91	0.80	0.73	0.67	0.62	0.58
500	1.23	1.17	1.12	1.07	1.0	0.91	0.80	0.73	0.67	0.62	0.58
630	1.23	1.17	1.12	1.07	1.0	0.91	0.80	0.73	0.67	0.61	0.58

**RATING FACTORS FOR VARIATION IN THERMAL RESISTIVITY OF SOIL  
 THREE SINGLE – CORE CABLES IN DUCTS**

**TABLE No. : 7**

Nominal Area of Conductor	Thermal Resistivity of Soil in °C m/w										
	0.7	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0	3.5	4.0
50	1.11	1.08	1.06	1.04	1.0	0.94	0.87	0.82	0.77	0.73	0.69
70	1.12	1.09	1.06	1.04	1.0	0.94	0.87	0.81	0.76	0.72	0.68
95	1.12	1.09	1.06	1.04	1.0	0.94	0.87	0.81	0.76	0.72	0.68
120	1.13	1.10	1.07	1.04	1.0	0.94	0.86	0.80	0.75	0.72	0.67
150	1.13	1.10	1.07	1.04	1.0	0.94	0.86	0.80	0.75	0.71	0.67
185	1.13	1.10	1.07	1.04	1.0	0.93	0.86	0.79	0.75	0.70	0.67
240	1.14	1.11	1.07	1.04	1.0	0.93	0.86	0.79	0.74	0.70	0.66
300	1.14	1.11	1.08	1.05	1.0	0.93	0.85	0.79	0.74	0.69	0.65
400	1.14	1.11	1.08	1.05	1.0	0.93	0.85	0.78	0.73	0.68	0.65
500	1.15	1.11	1.08	1.05	1.0	0.93	0.85	0.78	0.73	0.68	0.64
630	1.15	1.12	1.08	1.05	1.0	0.93	0.84	0.78	0.72	0.68	0.64



**VOLTAGE DROP**  
**600/1000 V COPPER CONDUCTOR PVC INSULATED CABLES**  
**VOLTAGE DROPS AT MAXIMUM**  
**CONDUCTOR OPERATING TEMPERATURE 85°C IN V/A/KM**

**TABLE No. : 8**

Nominal Area of Conductor  Sqmm	3 or 4 Single Core cables		2 Core or 2 Single Core Cables – Touching	3 and 4 Core Cables
	Copper Trefoil	Copper Flat spaced	Copper	Copper
1.5	26.3	26.3	30.4	26.3
2.5	16.1	16.1	18.6	16.1
4	10.0	10.0	11.6	10.0
6	6.7	6.7	7.7	6.7
10	4.0	4.0	4.6	4.0
16	2.5	2.5	2.9	2.5
25	1.55	1.60	1.8	1.6
35	1.13	1.16	1.3	1.2
50	0.84	0.87	0.98	0.85
70	0.60	0.65	0.69	0.60
95	0.45	0.52	0.51	0.44
120	0.37	0.45	0.41	0.36
150	0.31	0.41	0.35	0.30
185	0.26	0.38	0.29	0.25
240	0.23	0.35	0.24	0.21
300	0.20	0.33	0.21	0.18
400	0.19	0.32	0.19	0.16
500	0.18	0.31	0.17	
630	0.16	0.31	0.16	

**VOLTAGE DROP**  
**600/1000 V COPPER CONDUCTOR XLPE INSULATED CABLES**  
**VOLTAGE DROPS AT MAXIMUM**  
**CONDUCTOR OPERATING TEMPERATURE IN V/A/KM**

**TABLE No. : 9**

Nominal Area of Conductor  Sqmm	3 or 4 Single Core cables		2 Core or 2 Single Core Cables – Touching	3 and 4 Core Cables
	Copper Trefoil	Copper Flat spaced	Copper	Copper
1.5	26.7	26.7	30.9	26.7
2.5	16.4	16.4	18.9	16.4
4	10.2	10.2	11.8	10.2
6	6.8	6.8	7.9	6.8
10	4.0	4.0	4.7	4.0
16	2.5	2.5	2.9	2.5
25	1.65	1.65	1.9	1.65
35	1.15	1.15	1.35	1.15
50	0.87	0.90	1.0	0.87
70	0.62	0.70	0.69	0.60
95	0.47	0.58	0.52	0.45
120	0.39	0.51	0.42	0.37
150	0.33	0.45	0.35	0.30
185	0.28	0.41	0.29	0.26
240	0.24	0.37	0.24	0.21
300	0.21	0.34	0.21	0.19
400	0.20	0.33	0.20	0.17
500	0.18	0.31	0.17	
630	0.17	0.29	0.16	

## CONDUCTOR A.C. RESISTANCE AND REACTANCE

TABLE No. : 10

Nominal area of Conductor  Sqmm	PVC INSULATED CABLES					XLPE INSULATED CABLES				
	A.C. Resistance 85°C		Reactance at 50 Hz			A.C. Resistance 90°C		Reactance at 50 Hz		
	Single Core Cables	Multicore Cables	Single Core Cables		Multicore Cables	Single Core Cables	Multicore Cables	Single Core Cables		Multicore Cables
	Copper		Trefoil	Flat		Copper		Trefoil	Flat	
	Ohm/km		Ohm/km		Ohm/km	Ohm/km		Ohm/km		Ohm/km
1.0	22.72				0.116					
1.5	15.19	15.19			0.115	15.43	15.43			0.115
2.5	9.30	9.30			0.111	9.45	9.45			0.107
4	5.79	5.79			0.096	5.88	5.88			0.093
6	3.87	3.87			0.092	3.93	3.93			0.089
10	2.30	2.30			0.091	2.33	2.33			0.084
16	1.44	1.44	0.121	0.210	0.086	1.47	1.47	0.114	0.172	0.081
25	0.913	0.913	0.116	0.202	0.085	0.927	0.927	0.113	0.172	0.081
35	0.658	0.658	0.115	0.201	0.083	0.668	0.668	0.110	0.167	0.079
50	0.486	0.486	0.112	0.195	0.080	0.494	0.494	0.106	0.161	0.075
70	0.337	0.337	0.107	0.188	0.077	0.342	0.342	0.103	0.160	0.074
95	0.243	0.243	0.103	0.186	0.077	0.247	0.247	0.098	0.155	0.073
120	0.193	0.193	0.103	0.185	0.075	0.197	0.197	0.097	0.153	0.072
150	0.159	0.159	0.101	0.185	0.075	0.160	0.160	0.097	0.153	0.072
185	0.126	0.126	0.099	0.184	0.074	0.128	0.128	0.096	0.153	0.072
240	0.0970	0.0972	0.096	0.181	0.074	0.0986	0.0989	0.092	0.147	0.071
300	0.0785	0.0786	0.094	0.180	0.073	0.0800	0.0802	0.090	0.147	0.070
400	0.0628	0.0630	0.091	0.178	0.073	0.0640	0.0645	0.090	0.146	0.070
500	0.0515		0.089	0.176	0.072	0.0525		0.089	0.146	
630	0.0426		0.086	0.173		0.0428		0.086	0.144	

## Max. short circuit temperature for cable components

TABLE No. : 11

Material	Cable Component	Max. Short circuit temp. °C
Insulation	PVC Insulation	140 For C.S.A > 300 mm <sup>2</sup> 160 For C.S.A < 300 mm <sup>2</sup>
	XLPE Insulation	250
Sheathing	PVC Sheath	200

## KA Short Circuit current - copper conductor - XLPE insulated

TABLE No. : 12

C.S.A mm <sup>2</sup>	Short Circuit duration sec									
	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
1.5	0.7	0.5	0.4	0.3	0.3	0.21	0.15	0.12	0.11	0.10
2.5	1.1	0.8	0.7	0.6	0.5	0.36	0.25	0.21	0.18	0.16
4	1.8	1.3	1.1	0.9	0.8	0.57	0.40	0.33	0.29	0.26
6	2.7	1.9	1.6	1.4	1.2	0.86	0.61	0.50	0.43	0.38
10	4.5	3.2	2.6	2.3	2.0	1.4	1.0	0.8	0.7	0.6
16	7.2	5.1	4.2	3.6	3.2	2.3	1.6	1.3	1.1	1.0
25	11.3	8.0	6.5	5.7	5.1	3.6	2.5	2.1	1.8	1.6
35	15.8	11.2	9.1	7.9	7.1	5.0	3.5	2.9	2.5	2.2
50	22.6	16.0	13.1	11.3	10.1	7.2	5.1	4.1	3.6	3.2
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

## KA Short Circuit current - copper conductor - PVC insulated

TABLE No. : 13

C.S.A mm <sup>2</sup>	Short Circuit duration sec									
	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
1.5	0.55	0.39	0.31	0.27	0.24	0.17	0.12	0.10	0.09	0.08
2.5	0.91	0.64	0.52	0.45	0.41	0.29	0.20	0.17	0.14	0.13
4	1.45	1.03	0.84	0.73	0.65	0.46	0.33	0.27	0.23	0.21
6	2.18	1.54	1.26	1.09	0.98	0.69	0.49	0.40	0.35	0.31
10	3.6	2.6	2.1	1.8	1.6	1.2	0.8	0.7	0.6	0.5
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
800	260.1	183.9	150.1	130.0	116.3	82.2	58.2	47.5	41.1	36.8
1000	325.1	229.9	187.7	162.5	145.4	102.8	72.7	59.4	51.4	46.0

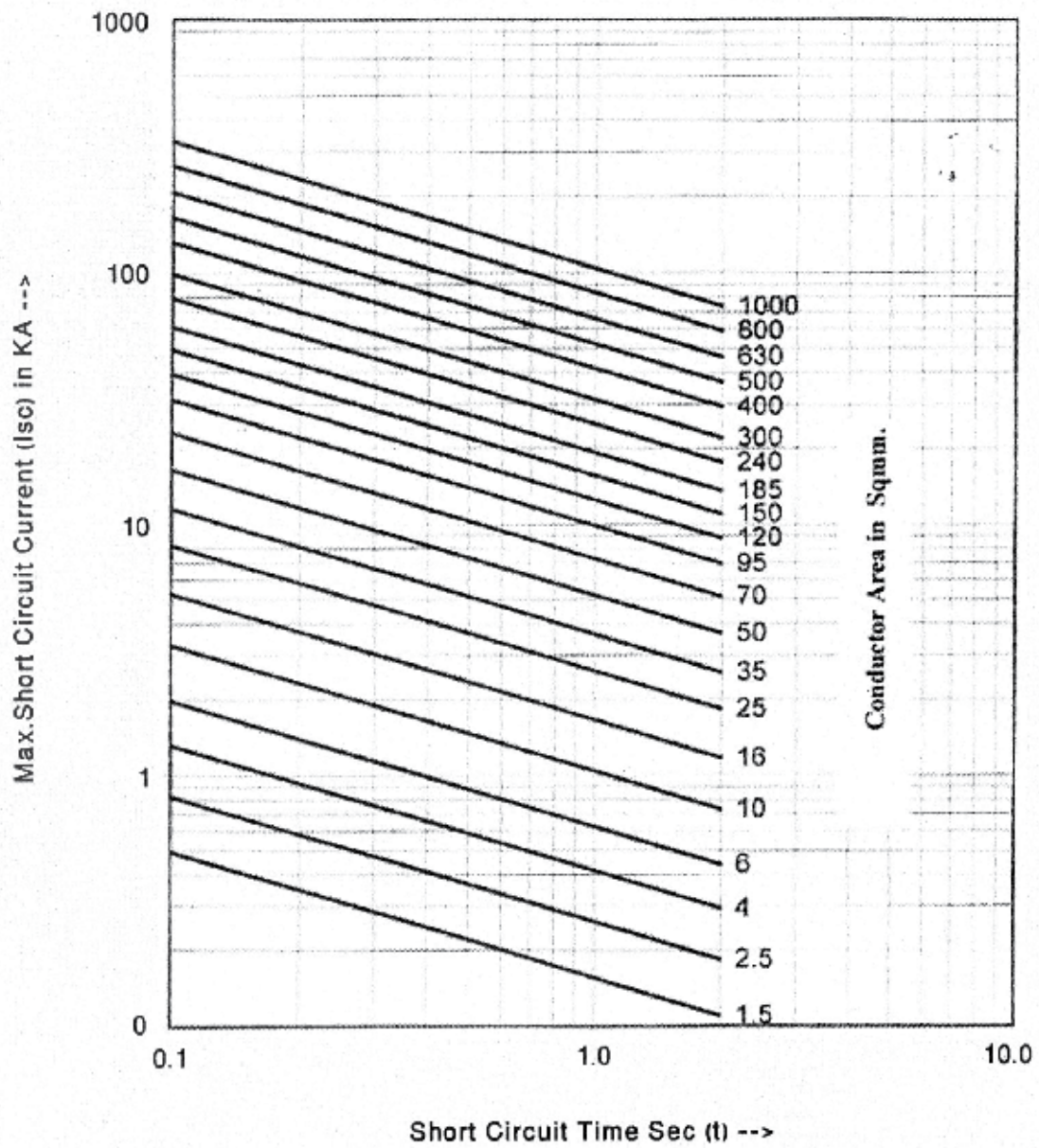


Short Circuit Curves For Copper Conductor  
 PVC 85° C Insulated Cable

$$I_{sc} = 0.104 \frac{A}{\sqrt{t}}$$

$I_{sc}$  - Short Circuit Current in KA  
 A - Conductor Area in Sqmm  
 t - Short Circuit Time in Sec.

Note: Max. permissible conductor temperature during short circuit = 160° C

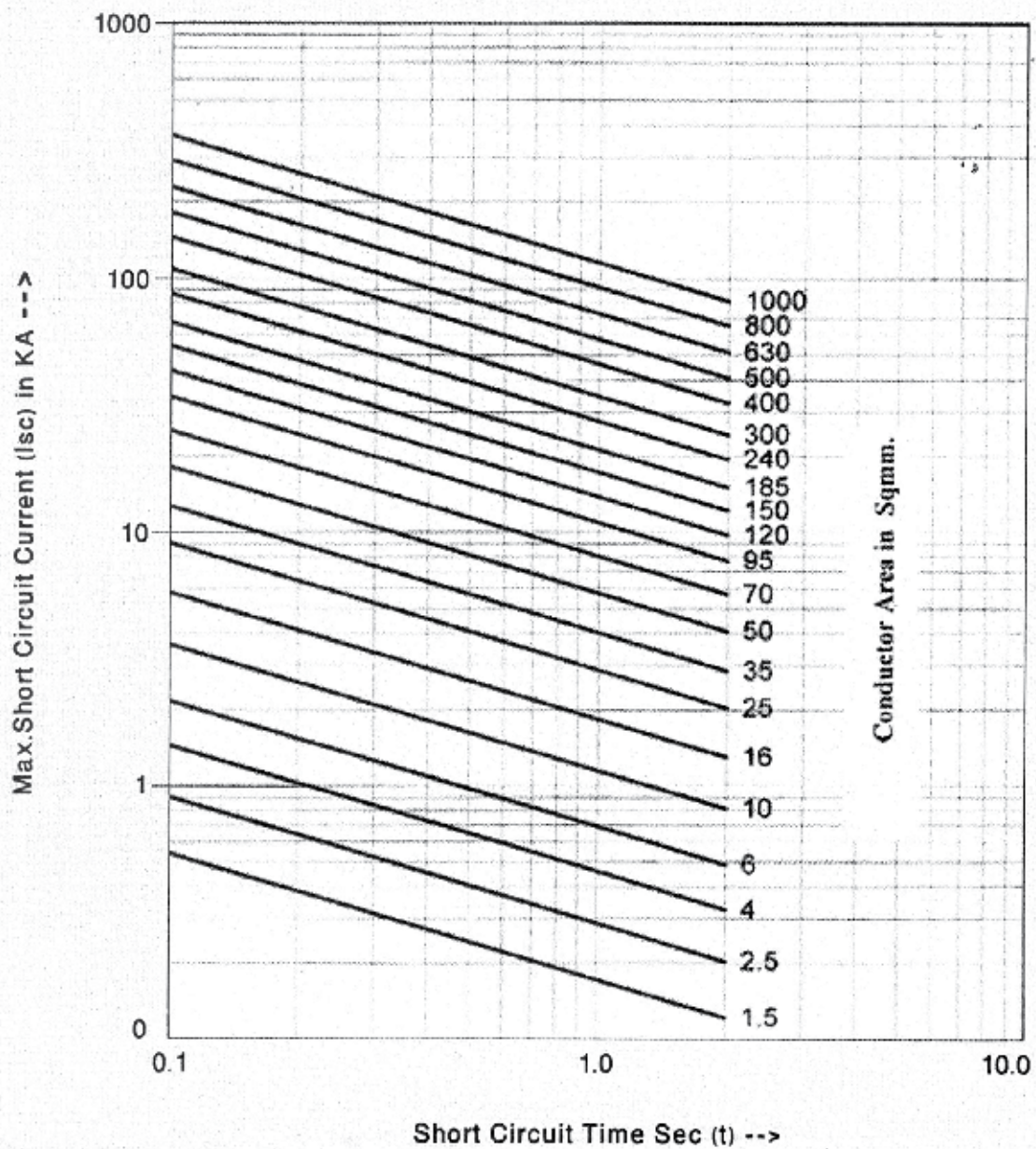


❑ Short Circuit Curves For Copper Conductor  
 PVC 70° C Insulated Cable

$$I_{sc} = 0.115 \frac{A}{\sqrt{t}}$$

$I_{sc}$  - Short Circuit Current in KA  
 A - Conductor Area in Sqmm  
 t - Short Circuit Time in Sec.

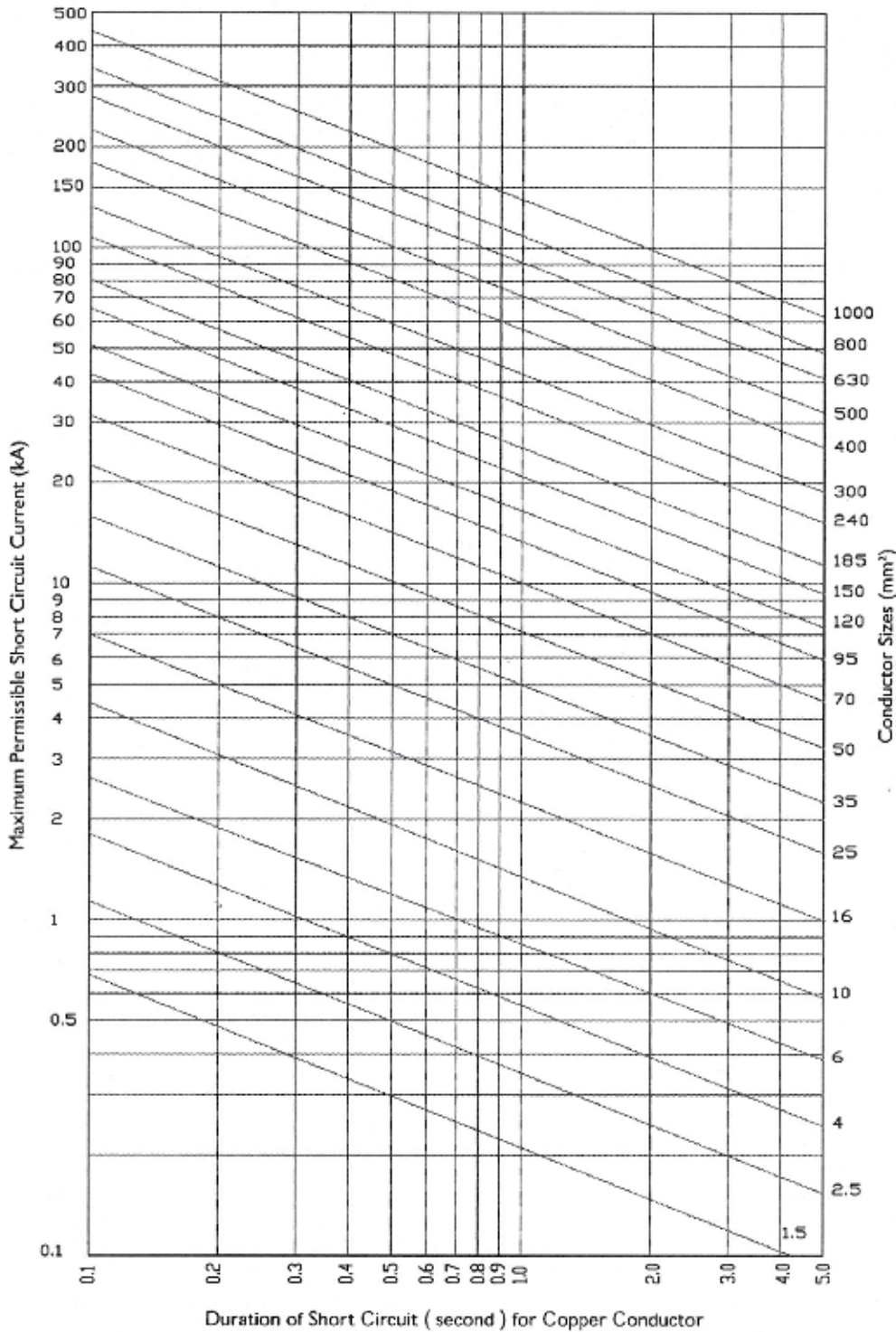
Note: Max. permissible conductor temperature during short circuit = 160° C



## SHORT CIRCUIT CURRENT FOR XLPE CABLES (COPPER CONDUCTOR)

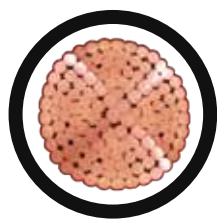
Curves are based on :

- \* Cables was at maximum operating temperature of 90°C at the start of short-circuit.
- \* Final conductor temperature of 250°C



Conductor size (mm <sup>2</sup> )	Short circuit current (1s) (kA)
1.5	0.21
2.5	0.36
4	0.57
6	0.86
10	1.43
16	2.29
25	3.58
35	5.01
50	7.15
70	10.02
95	13.59
120	17.17
150	21.46
185	26.47
240	34.34
300	42.92
400	57.23
500	71.54
630	90.14
800	114.46
1000	143.08

**Note:**  
 For any other duration 't' seconds, please divide the given value by  $\sqrt{t}$



## SINGLE CORE COPPER CONDUCTOR PVC INSULATED AND PVC SHEATHED UN ARMoured CABLES CU/PVC/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Stranded Bare annealed Copper Conductor, circular or circular compacted as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of PVC Compound
CORE IDENTIFICATION	:	Red or Black or as per customer requirement
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable meets the requirement of IEC 60502-1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	mtrs
1.5	0.8	1.4	7.0	55	1000
2.5	0.8	1.4	7.5	70	1000
4	1.0	1.4	8.5	95	1000
6	1.0	1.4	9.0	120	1000
10	1.0	1.4	10.0	165	1000
16	1.0	1.4	11.0	220	1000
25	1.2	1.4	12.5	325	1000
35	1.2	1.4	13.5	420	1000
50	1.4	1.4	15.0	555	1000
70	1.4	1.4	16.5	760	1000
95	1.6	1.5	19.0	1035	1000
120	1.6	1.5	20.5	1270	1000
150	1.8	1.6	22.5	1560	1000
185	2.0	1.7	24.5	1945	1000
240	2.2	1.8	27.5	2535	1000
300	2.4	1.9	30.5	3145	1000
400	2.6	2.0	33.5	3985	1000
500	2.8	2.1	37.5	4990	1000
630	2.8	2.2	41.0	6460	1000



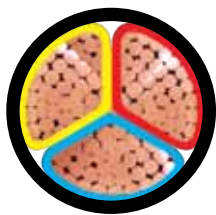
## TWO CORE COPPER CONDUCTOR PVC INSULATED PVC SHEATHED UN ARMoured CABLES CU/PVC/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, Stranded circular and Sector shaped as per BS 6360/IEC 60228 (Class – 2)
INSULATION	:	Extruded layer of PVC Compound.
CORE IDENTIFICATION	:	Red, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
OVER SHEATH	:	Extruded layer of PVC compound generally Black.
DESIGN	:	The Cable confirm the requirement of IEC 60502-1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	mtrs
1.5 #	0.8	1.8	11.0	140	1000
2.5 #	0.8	1.8	12.0	175	1000
4 #	1.0	1.8	14.0	245	1000
6 #	1.0	1.8	15.0	315	1000
10 #	1.0	1.8	17.0	435	1000
16 #	1.0	1.8	18.5	540	1000
25	1.2	1.8	18.0	680	1000
35	1.2	1.8	20.0	885	1000
50	1.4	1.8	23.0	1160	1000
70	1.4	1.9	25.5	1590	1000
95	1.6	2.0	28.5	2160	1000
120	1.6	2.1	30.5	2650	1000
150	1.8	2.2	34.0	3250	1000
185	2.0	2.4	36.5	4040	1000
240	2.2	2.6	44.0	5305	1000
300	2.4	2.7	48.5	6560	500
400	2.6	3.0	54.0	8335	500

# Circular conductor.



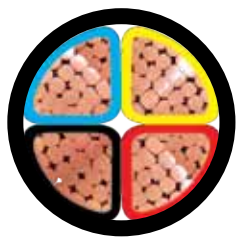
## THREE CORE COPPER CONDUCTOR PVC INSULATED PVC SHEATHED UN ARMoured CABLES CU/PVC/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, Stranded circular or Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of PVC Compound.
CORE IDENTIFICATION	:	Red, Yellow, Blue or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable confirm the requirement of IEC 60502-1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	mtrs
1.5 #	0.8	1.8	11.5	165	1000
2.5 #	0.8	1.8	12.5	210	1000
4 #	1.0	1.8	14.5	300	1000
6 #	1.0	1.8	16.0	385	1000
10 #	1.0	1.8	18.0	545	1000
16 #	1.0	1.8	19.5	720	1000
25	1.2	1.8	20.0	970	1000
35	1.2	1.8	22.5	1270	1000
50	1.4	1.8	26.0	1675	1000
70	1.4	2.0	29.0	2320	1000
95	1.6	2.1	33.0	3165	1000
120	1.6	2.2	36.5	3910	1000
150	1.8	2.3	40.0	4795	1000
185	2.0	2.5	43.0	5960	500
240	2.2	2.7	49.5	7790	500
300	2.4	2.9	55.5	9685	500
400	2.6	3.1	60.0	12250	500

# Circular conductor.



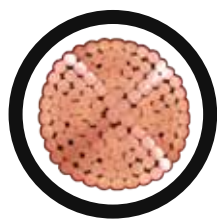
## FOUR CORE COPPER CONDUCTOR PVC INSULATED PVC SHEATHED UN ARMoured CABLES CU/PVC/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, Stranded circular or Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of PVC Compound.
CORE IDENTIFICATION	:	Red, Yellow, Blue, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable confirm the requirement of IEC 60502-1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	mtrs
1.5 #	0.8	1.8	12.5	195	1000
2.5 #	0.8	1.8	13.5	250	1000
4 #	1.0	1.8	15.5	365	1000
6 #	1.0	1.8	17.0	470	1000
10 #	1.0	1.8	19.5	650	1000
16 #	1.0	1.8	21.5	910	1000
25	1.2	1.8	23.5	1275	1000
35	1.2	1.8	26.0	1665	1000
50	1.4	1.9	28.5	2205	1000
70	1.4	2.1	32.5	3060	1000
95	1.6	2.2	37.0	4180	1000
120	1.6	2.4	42.0	5190	500
150	1.8	2.5	46.5	6360	500
185	2.0	2.7	51.5	7930	500
240	2.2	2.9	58.0	10340	500
300	2.4	3.1	64.0	12835	500
400	2.6	3.4	72.0	16315	500

# Circular conductor.



## SINGLE CORE COPPER CONDUCTOR XLPE INSULATED PVC SHEATHED UNARMOURED CABLES CU/XLPE/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Stranded annealed Bare Copper Conductor, circular or circular compacted as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of Cross linked Polyethylene
CORE IDENTIFICATION	:	Red or Black or as per customer requirement
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable meets the requirement of BS 7889/IEC 60502-1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	mtrs
1.5	0.7	1.4	6.0	50	1000
2.5	0.7	1.4	6.5	60	1000
4	0.7	1.4	7.0	80	1000
6	0.7	1.4	7.5	100	1000
10	0.7	1.4	8.5	145	1000
16	0.7	1.4	9.0	200	1000
25	0.9	1.4	11.0	300	1000
35	0.9	1.4	12.0	395	1000
50	1.0	1.4	13.0	515	1000
70	1.1	1.4	15.0	715	1000
95	1.1	1.5	17.0	970	1000
120	1.2	1.5	19.0	1205	1000
150	1.4	1.6	21.0	1485	1000
185	1.6	1.6	23.0	1845	1000
240	1.7	1.7	26.0	2395	1000
300	1.8	1.8	28.0	2980	1000
400	2.0	1.9	32.0	3795	1000
500	2.2	2.0	35.0	4765	1000
630	2.4	2.2	40.0	6230	1000





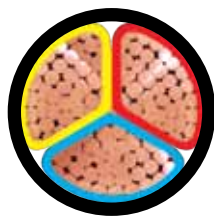
## TWO CORE COPPER CONDUCTOR XLPE INSULATED PVC SHEATHED UN ARMoured CABLES CU/XLPE/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor Stranded circular/Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable confirm the requirement of IEC 60502-1.

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight for CU Cable	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	kg/km	mtrs
1.5 #	0.7	1.8	10.0	125	--	1000
2.5 #	0.7	1.8	11.0	160	--	1000
4 #	0.7	1.8	12.0	205	--	1000
6 #	0.7	1.8	13.0	265	--	1000
10 #	0.7	1.8	15.0	375	--	1000
16 #	0.7	1.8	17.0	465	270	1000
25	0.9	1.8	16.0	620	315	1000
35	0.9	1.8	18.0	815	390	1000
50	1.0	1.8	21.0	1065	495	1000
70	1.1	1.8	23.0	1480	655	1000
95	1.1	2.0	26.0	2010	860	1000
120	1.2	2.1	28.0	2500	1050	1000
150	1.4	2.2	32.0	3075	1280	1000
185	1.6	2.3	34.0	3815	1575	1000
240	1.7	2.5	41.0	5000	2055	1000
300	1.8	2.7	45.0	6220	2505	500
400	2.0	2.9	51.0	7905	3145	500

# Circular conductor.



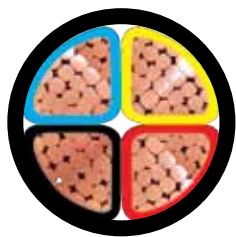
## THREE CORE COPPER CONDUCTOR XLPE INSULATED PVC SHEATHED UN ARMoured CABLES CU/XLPE/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, Stranded circular/Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Yellow, Blue or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable confirm the requirement of IEC 60502 – 1.

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	mtrs
1.5 #	0.7	1.8	11.0	145	1000
2.5 #	0.7	1.8	12.0	185	1000
4 #	0.7	1.8	13.0	245	1000
6 #	0.7	1.8	14.0	325	1000
10 #	0.7	1.8	16.0	470	1000
16 #	0.7	1.8	18.0	630	1000
25	0.9	1.8	18.0	885	1000
35	0.9	1.8	21.0	1175	1000
50	1.0	1.8	23.0	1540	1000
70	1.1	1.9	27.0	2170	1000
95	1.1	2.0	30.0	2935	1000
120	1.2	2.1	34.0	3675	1000
150	1.4	2.3	38.0	4535	1000
185	1.6	2.4	40.0	5630	500
240	1.7	2.6	47.0	7355	500
300	1.8	2.8	52.0	9160	500
400	2.0	3.1	57.0	11660	500

# Circular conductor.



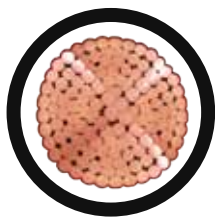
## FOUR CORE COPPER CONDUCTOR XLPE INSULATED SHEATHED UN ARMoured CABLES CU/XLPE/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, solid/ Stranded circular or Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Yellow, Blue, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable meets the requirement of IEC 60502 - 1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	mtrs
1.5 #	0.7	1.8	11.0	170	1000
2.5 #	0.7	1.8	12.0	225	1000
4 #	0.7	1.8	14.0	300	1000
6 #	0.7	1.8	15.0	395	1000
10 #	0.7	1.8	17.0	575	1000
16 #	0.7	1.8	19.0	805	1000
25	0.9	1.8	21.0	1165	1000
35	0.9	1.8	24.0	1540	1000
50	1.0	1.9	26.0	2030	1000
70	1.1	2	30.0	2860	1000
95	1.1	2.1	34.0	3880	1000
120	1.2	2.3	39.0	4885	1000
150	1.4	2.4	43.0	5995	500
185	1.6	2.6	49.0	7500	500
240	1.7	2.8	55.0	9765	500
300	1.8	3	60.0	12145	500
400	2.0	3.3	68.0	15500	500

# Circular conductor.



## SINGLE CORE COPPER CONDUCTOR XLPE INSULATED LSZH SHEATHED UNARMOURED CABLES CU/XLPE/LSZH

### CONSTRUCTION:-

CONDUCTOR	:	Stranded annealed Bare Copper Conductor, circular or circular compacted as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of Cross linked Polyethylene
CORE IDENTIFICATION	:	Red or Black or as per customer requirement
OVER SHEATH	:	Extruded layer of LSZH compound generally Black
DESIGN	:	The Cable meets the requirement of IEC 60502 – 1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	mtrs
1.5	0.7	1.4	6.0	50	1000
2.5	0.7	1.4	6.5	60	1000
4	0.7	1.4	7.0	80	1000
6	0.7	1.4	7.5	100	1000
10	0.7	1.4	8.5	145	1000
16	0.7	1.4	9.0	200	1000
25	0.9	1.4	11.0	300	1000
35	0.9	1.4	12.0	395	1000
50	1.0	1.4	13.0	515	1000
70	1.1	1.4	15.0	715	1000
95	1.1	1.5	17.0	970	1000
120	1.2	1.5	19.0	1205	1000
150	1.4	1.6	21.0	1485	1000
185	1.6	1.6	23.0	1845	1000
240	1.7	1.7	26.0	2395	1000
300	1.8	1.8	28.0	2980	1000
400	2.0	1.9	32.0	3795	1000
500	2.2	2.0	35.0	4765	1000
630	2.4	2.2	40.0	6230	1000



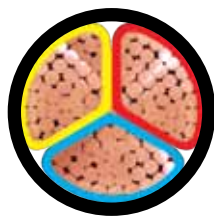
## TWO CORE COPPER CONDUCTOR XLPE INSULATED LSZH SHEATHED UN ARMoured CABLES CU/XLPE/LSZH

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor Stranded circular/Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
OVER SHEATH	:	Extruded layer of LSZH compound generally Black
DESIGN	:	The Cable confirm the requirement of IEC 60502 – 1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight for CU Cable	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	mtrs
1.5 #	0.7	1.8	10.0	125	1000
2.5 #	0.7	1.8	11.0	160	1000
4 #	0.7	1.8	12.0	205	1000
6 #	0.7	1.8	13.0	265	1000
10 #	0.7	1.8	15.0	375	1000
16 #	0.7	1.8	17.0	465	1000
25	0.9	1.8	16.0	620	1000
35	0.9	1.8	18.0	815	1000
50	1.0	1.8	21.0	1065	1000
70	1.1	1.8	23.0	1480	1000
95	1.1	2.0	26.0	2010	1000
120	1.2	2.1	28.0	2500	1000
150	1.4	2.2	32.0	3075	1000
185	1.6	2.3	34.0	3815	1000
240	1.7	2.5	41.0	5000	1000
300	1.8	2.7	45.0	6220	500
400	2.0	2.9	51.0	7905	500

# Circular conductor.



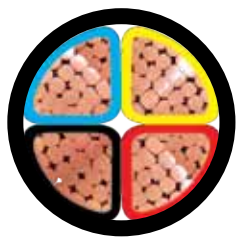
## THREE CORE COPPER CONDUCTOR XLPE INSULATED LSZH SHEATHED UN ARMoured CABLES CU/XLPE/LSZH

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, Stranded circular/Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Yellow, Blue or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
OVER SHEATH	:	Extruded layer of LSZH compound generally Black
DESIGN	:	The Cable confirm the requirement of IEC 60502 – 1.

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	mtrs
1.5 #	0.7	1.8	11.0	145	1000
2.5 #	0.7	1.8	12.0	185	1000
4 #	0.7	1.8	13.0	245	1000
6 #	0.7	1.8	14.0	325	1000
10 #	0.7	1.8	16.0	470	1000
16 #	0.7	1.8	18.0	630	1000
25	0.9	1.8	18.0	885	1000
35	0.9	1.8	21.0	1175	1000
50	1.0	1.8	23.0	1540	1000
70	1.1	1.9	27.0	2170	1000
95	1.1	2.0	30.0	2935	1000
120	1.2	2.1	34.0	3675	1000
150	1.4	2.3	38.0	4535	1000
185	1.6	2.4	40.0	5630	500
240	1.7	2.6	47.0	7355	500
300	1.8	2.8	52.0	9160	500
400	2.0	3.1	57.0	11660	500

# Circular conductor.



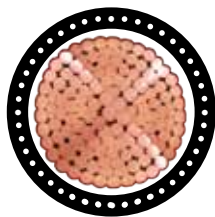
## FOUR CORE COPPER CONDUCTOR XLPE INSULATED LSZH SHEATHED UN ARMoured CABLES CU/XLPE/LSZH

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, solid/ Stranded circular or Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Yellow, Blue, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
OVER SHEATH	:	Extruded layer of LSZH compound generally Black
DESIGN	:	The Cable meets the requirement of IEC 60502 - 1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	kg/km	mtrs
1.5 #	0.7	1.8	11.0	170	1000
2.5 #	0.7	1.8	12.0	225	1000
4 #	0.7	1.8	14.0	300	1000
6 #	0.7	1.8	15.0	395	1000
10 #	0.7	1.8	17.0	575	1000
16 #	0.7	1.8	19.0	805	1000
25	0.9	1.8	21.0	1165	1000
35	0.9	1.8	24.0	1540	1000
50	1.0	1.9	26.0	2030	1000
70	1.1	2	30.0	2860	1000
95	1.1	2.1	34.0	3880	1000
120	1.2	2.3	39.0	4885	1000
150	1.4	2.4	43.0	5995	500
185	1.6	2.6	49.0	7500	500
240	1.7	2.8	55.0	9765	500
300	1.8	3	60.0	12145	500
400	2.0	3.3	68.0	15500	500

# Circular conductor.



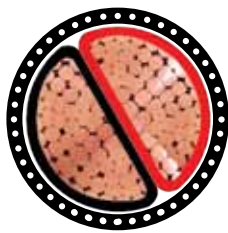
## SINGLE CORE COPPER CONDUCTOR PVC INSULATED AND PVC SHEATHED ARMOURED CABLES CU/PVC/AWA/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Stranded Bare annealed Copper Conductor, circular or circular compacted as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of PVC Compound
CORE IDENTIFICATION	:	Red or Black or as per customer requirement
BEDDING	:	Extruded layer of PVC compound
ARMOUR	:	Consists of single layer of aluminum wires of appropriate diameter.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable meets the requirement of BS 6346/IEC 60502-1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
50	1.4	0.8	1.25	1.5	18.0	715	1000
70	1.4	0.8	1.25	1.6	20.0	940	1000
95	1.6	0.8	1.25	1.6	22.0	1235	1000
120	1.6	1.0	1.6	1.7	25.0	1575	1000
150	1.8	1.0	1.6	1.7	26.5	1880	1000
185	2.0	1.0	1.6	1.8	29.0	2280	1000
240	2.2	1.0	1.6	1.9	32.0	2905	1000
300	2.4	1.0	1.6	1.9	34.5	3540	1000
400	2.6	1.2	2.0	2.1	39.0	4575	1000
500	2.8	1.2	2.0	2.1	42.5	5625	500
630	2.8	1.2	2.0	2.2	46.5	7160	500





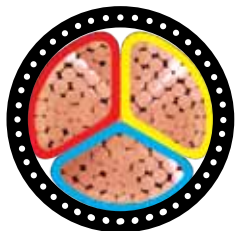
## TWO CORE COPPER CONDUCTOR PVC INSULATED PVC SHEATHED ARMoured CABLES CU/PVC/PVC/SWA/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, Solid/Stranded circular and Sector shaped as per BS 6360/IEC 60228 (Class – 2)
INSULATION	:	Extruded layer of PVC Compound.
CORE IDENTIFICATION	:	Red, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
BEDDING	:	Shall consist of an extruded layer of PVC compound.
ARMOUR	:	Consist of single layer of galvanized steel wires of appropriate size.
OVER SHEATH	:	Extruded layer of PVC compound generally Black.
DESIGN	:	The Cable confirm the requirement of BS 6346/IEC 60502-1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
1.5 #	0.6	0.8	0.9	1.4	13.0	290	1000
2.5 #	0.7	0.8	0.9	1.4	13.5	340	1000
4 #	0.8	0.8	0.9	1.4	15.5	440	1000
6 #	0.8	0.8	0.9	1.5	17.0	535	1000
10 #	1.0	0.8	1.25	1.6	19.5	800	1000
16 #	1.0	0.8	1.25	1.6	21.5	905	1000
25	1.2	1.0	1.6	1.7	22.0	1210	1000
35	1.2	1.0	1.6	1.8	24.0	1485	1000
50	1.4	1.0	1.6	1.9	27.0	1865	1000
70	1.4	1.0	1.6	1.9	29.5	2355	1000
95	1.6	1.2	2.0	2.1	34.0	3300	1000
120	1.6	1.2	2.0	2.2	36.0	3875	1000
150	1.8	1.2	2.0	2.3	39.5	4595	1000
185	2.0	1.4	2.5	2.4	43.0	5890	500
240	2.2	1.4	2.5	2.5	50.5	7495	500
300	2.4	1.6	2.5	2.7	55.5	9040	500
400	2.6	1.6	2.5	2.9	60.5	10995	500

# Circular conductor.



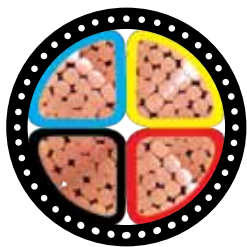
## THREE CORE COPPER CONDUCTOR PVC INSULATED PVC SHEATHED ARMoured CABLES CU/PVC/PVC/SWA/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, solid/ Stranded circular or Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of PVC Compound.
CORE IDENTIFICATION	:	Red, Yellow, Blue or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
BEDDING	:	Shall consist of an extruded layer of PVC compound.
ARMOUR	:	Consist of single layer of galvanized steel wires of appropriate size.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable confirm the requirement of BS 6346/IEC 60502-1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
1.5 #	0.6	0.8	0.9	1.4	13.5	325	1000
2.5 #	0.7	0.8	0.9	1.4	14.0	385	1000
4 #	0.8	0.8	0.9	1.4	16.0	510	1000
6 #	0.8	0.8	1.25	1.5	18.5	720	1000
10 #	1.0	0.8	1.25	1.6	20.5	930	1000
16 #	1.0	0.8	1.25	1.6	22.5	1120	1000
25	1.2	1.0	1.6	1.7	24.0	1575	1000
35	1.2	1.0	1.6	1.8	26.5	1965	1000
50	1.4	1.0	1.6	1.9	30.0	2475	1000
70	1.4	1.2	2.0	2.0	34.0	3470	1000
95	1.6	1.2	2.0	2.1	38.0	4460	1000
120	1.6	1.2	2.0	2.2	41.5	5345	1000
150	1.8	1.4	2.5	2.4	47.0	6845	500
185	2.0	1.4	2.5	2.5	49.5	8125	500
240	2.2	1.6	2.5	2.6	56.5	10295	500
300	2.4	1.6	2.5	2.8	62.5	12475	250
400	2.6	1.6	2.5	3.0	67.0	15220	250

# Circular conductor.



## FOUR CORE COPPER CONDUCTOR PVC INSULATED PVC SHEATHED ARMoured CABLES CU/PVC/PVC/SWA/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, solid/Stranded circular or Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of PVC Compound.
CORE IDENTIFICATION	:	Red, Yellow, Blue, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
BEDDING	:	Shall consist of an extruded layer of PVC compound.
ARMOUR	:	Consist of single layer of galvanized steel wires of appropriate size.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable confirm the requirement of BS 6346/IEC 60502-1

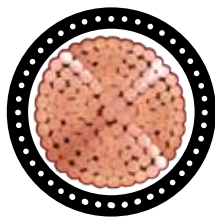
Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
1.5 #	0.6	0.8	0.9	1.4	14.0	365	1000
2.5 #	0.7	0.8	0.9	1.4	15.0	435	1000
4 #	0.8	0.8	1.25	1.5	18.0	695	1000
6 #	0.8	0.8	1.25	1.5	19.5	835	1000
10 #	1.0	0.8	1.25	1.6	22.5	1080	1000
16 #	1.0	1.0	1.6	1.7	25.5	1565	1000
25	1.2	1.0	1.6	1.8	27.5	1985	1000
35	1.2	1.0	1.6	1.9	30.0	2460	1000
50	1.4	1.2	2.0	2.0	34.0	3370	1000
70	1.4	1.2	2.0	2.1	38.0	4355	1000
95	1.6	1.2	2.0	2.2	42.5	5645	1000
120	1.6	1.4	2.5	2.4	49.0	7310	500
150	1.8	1.4	2.5	2.5	53.0	8660	500
185	2.0	1.6	2.5	2.6	58.5	10565	500
240	2.2	1.6	2.5	2.8	64.5	13220	500
300	2.4	1.6	2.5	3.0	70.5	15985	500
400	2.6	1.8	3.15	3.3	80.5	20885	500

# Circular conductor.



## PVC INSULATED CONTROL CABLES CONFORMING TO IEC 60502-1 AND BS 6346 600/1000 VOLTS

Number of cores	Nominal Area of Conductor mm <sup>2</sup>	Thickness of Insulation mm	Thickness of Outer Sheath mm	Approx overall diameter. mm	Approx net weight Kg/km
Seven	1.5	0.60	1.40	15.0	505
	2.5	0.70	1.50	18.0	760
	4	0.80	1.60	20.0	980
Twelve	1.5	0.60	1.50	19.10	820
	2.5	0.70	1.60	22.0	1100
	4	0.80	1.70	26.50	1600
Nineteen	1.5	0.60	1.60	22.0	1100
	2.5	0.70	1.70	26.0	1640
	4	0.80	1.80	30.0	2200
Twenty-seven	1.5	0.60	1.70	26.0	1620
	2.5	0.70	1.80	30.0	2100
	4	0.80	2.0	37.0	3200
Thirty-seven	1.5	0.60	1.80	29.0	1950
	2.5	0.70	1.90	34.0	2600
	4	0.80	2.10	40.0	3940
Forty-eight	1.5	0.60	1.90	32.0	2400
	2.5	0.70	2.10	39.0	3500
	4	0.80	2.20	46.0	4800

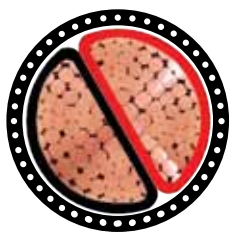


## SINGLE CORE COPPER CONDUCTOR XLPE INSULATED PVC SHEATHED ALUMINUM WIRE ARMURED CABLES CU/XLPE/PVC/AWA/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Stranded Bare annealed Copper Conductor, circular or circular compacted as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross linked polyethylene
CORE IDENTIFICATION	:	Red or Black or as per customer requirement
BEDDING	:	Extruded layer of PVC compound
ARMOUR	:	Consists of single layer of aluminum wires of appropriate diameter.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable meets the requirement of BS 5467/IEC 60502 - 1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
50	1.0	0.8	0.9	1.5	18.0	625	1000
70	1.1	0.8	1.25	1.5	20.0	885	1000
95	1.1	0.8	1.25	1.6	22.0	1160	1000
120	1.2	0.8	1.25	1.6	23.0	1415	1000
150	1.4	1.0	1.6	1.7	26.0	1790	1000
185	1.6	1.0	1.6	1.8	28.0	2180	1000
240	1.7	1.0	1.6	1.8	31.0	2760	1000
300	1.8	1.0	1.6	1.9	34.0	3375	1000
400	2.0	1.2	2.0	2.0	38.0	4370	1000
500	2.2	1.2	2.0	2.1	42.0	5400	500
630	2.4	1.2	2.0	2.2	46.0	6915	500



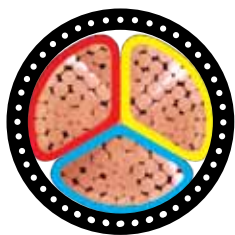
## TWO CORE COPPER CONDUCTOR XLPE INSULATED PVC SHEATHED ARMURED CABLES CU/XLPE/PVC/SWA/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, Solid/Stranded circular and Sector shaped as per BS 6360/IEC 60228 (Class – 2)
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
BEDDING	:	Shall consist of an extruded layer of PVC compound.
ARMOUR	:	Consist of single layer of galvanized steel wires of appropriate size.
OVER SHEATH	:	Extruded layer of PVC compound generally Black.
DESIGN	:	The Cable confirm the requirement of BS 5467/IEC 60502 – 1.

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
1.5 #	0.6	0.8	0.9	1.3	12.5	265	1000
2.5 #	0.7	0.8	0.9	1.4	14.0	310	1000
4 #	0.7	0.8	0.9	1.4	15.0	380	1000
6 #	0.7	0.8	0.9	1.4	16.0	455	1000
10 #	0.7	0.8	0.9	1.5	18.0	610	1000
16 #	0.7	0.8	1.25	1.5	20.0	830	1000
25	0.9	0.8	1.25	1.6	20.0	975	1000
35	0.9	1.0	1.6	1.7	23.0	1385	1000
50	1.0	1.0	1.6	1.8	25.0	1705	1000
70	1.1	1.0	1.6	1.9	28.0	2220	1000
95	1.1	1.2	2.0	2.0	32.0	3050	1000
120	1.2	1.2	2.0	2.1	34.0	3655	1000
150	1.4	1.2	2.0	2.2	38.0	4340	1000
185	1.6	1.4	2.5	2.4	42.0	5590	500
240	1.7	1.4	2.5	2.5	49.0	7080	500
300	1.8	1.6	2.5	2.6	53.0	8540	500
400	2.0	1.6	2.5	2.8	58.0	10475	500

# Circular conductor.



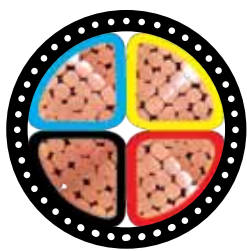
## THREE CORE COPPER CONDUCTOR XLPE INSULATED PVC SHEATHED ARMoured CABLES CU/XLPE/PVC/SWA/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, solid/ Stranded circular or Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Yellow, Blue or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
BEDDING	:	Shall consist of an extruded layer of PVC compound.
ARMOUR	:	Consist of single layer of galvanized steel wires of appropriate size.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable confirm the requirement of BS 5467/IEC 60502 – 1.

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
1.5 #	0.6	0.8	0.9	1.3	13.0	295	1000
2.5 #	0.7	0.8	0.9	1.4	14.0	350	1000
4 #	0.7	0.8	0.9	1.4	15.0	435	1000
6 #	0.7	0.8	0.9	1.4	17.0	530	1000
10 #	0.7	0.8	1.25	1.5	19.0	825	1000
16 #	0.7	0.8	1.25	1.6	21.0	1025	1000
25	0.9	1	1.6	1.7	23.0	1450	1000
35	0.9	1.0	1.6	1.8	25.0	1815	1000
50	1.0	1.0	1.6	1.8	28.0	2270	1000
70	1.1	1.0	1.6	1.9	32.0	3005	1000
95	1.1	1.2	2.0	2.1	36.0	4160	1000
120	1.2	1.2	2.0	2.2	40.0	5045	1000
150	1.4	1.4	2.5	2.3	45.0	6475	500
185	1.6	1.4	2.5	2.4	48.0	7705	500
240	1.7	1.4	2.5	2.6	54.0	9705	500
300	1.8	1.6	2.5	2.7	60.0	11845	500
400	2.0	1.6	2.5	2.9	64.0	14465	500

# Circular conductor.



## FOUR CORE COPPER CONDUCTOR XLPE INSULATED PVC SHEATHED ARMOURED CABLES CU/XLPE/PVC/SWA/PVC

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, solid/Stranded circular or Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Yellow, Blue, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
BEDDING	:	Shall consist of an extruded layer of PVC compound.
ARMOUR	:	Consist of single layer of galvanized steel wires of appropriate size.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable confirm the requirement of BS 5467/IEC 60502 – 1.

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
1.5 #	0.6	0.8	0.9	1.3	14.0	330	1000
2.5 #	0.7	0.8	0.9	1.4	15.0	405	1000
4 #	0.7	0.8	0.9	1.4	16.0	500	1000
6 #	0.7	0.8	1.25	1.5	18.0	730	1000
10 #	0.7	0.8	1.25	1.5	21.0	950	1000
16 #	0.7	0.8	1.25	1.6	23.0	1230	1000
25	0.9	1	1.6	1.7	26.0	1835	1000
35	0.9	1.0	1.6	1.8	29.0	2285	1000
50	1.0	1.0	1.6	1.9	31.0	2845	1000
70	1.1	1.2	2	2.1	37.0	4115	1000
95	1.1	1.2	2.0	2.2	40.0	5280	1000
120	1.2	1.4	2.5	2.3	47.0	6910	500
150	1.4	1.4	2.5	2.4	51.0	8210	500
185	1.6	1.4	2.5	2.6	56.0	9980	500
240	1.7	1.6	2.5	2.7	62.0	12540	500
300	1.8	1.6	2.5	2.9	68.0	15160	500
400	2.0	1.8	3.15	3.2	78.0	19860	500

# Circular conductor.





## FIVE CORE COPPER CONDUCTOR XLPE INSULATED PVC SHEATHED ARMoured CABLES CU/XLPE/PVC/SWA/PVC

### CONSTRUCTION:-

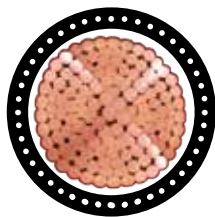
CONDUCTOR	:	Annealed Bare Copper Conductor, solid/Stranded circular or shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Yellow, Blue, Black, Yellow-Green or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers used to maintain the circularity.
BEDDING	:	Shall consist of an extruded layer of PVC compound.
ARMOUR	:	Consist of single layer of galvanized steel wires of appropriate size.
OVER SHEATH	:	Extruded layer of PVC compound generally Black
DESIGN	:	The Cable confirm the requirement of BS 5467/ IEC 60502 – 1.

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight for CU Cable	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
1.5	0.6	0.8	0.9	1.4	15.0	380	1000
2.5	0.7	0.8	0.9	1.4	16.0	460	1000
4	0.7	0.8	0.9	1.5	18.0	580	1000
6	0.7	0.8	1.25	1.5	20.0	845	1000
10	0.7	0.8	1.25	1.6	23.0	1125	1000
16	0.7	1.0	1.6	1.7	26.0	1640	1000
25	0.9	1.0	1.6	1.8	30.0	2285	1000
35	0.9	1.0	1.6	1.9	33.0	2865	1000
50	1.0	1.2	2.0	2.0	38.0	3935	1000
70	1.1	1.2	2.0	2.2	43.0	5240	500



## XLPE INSULATED CONTROL / AUX CABLES CONFORMING TO IEC 60502-1 AND BS 5467 600/1000 VOLTS

Number of cores	Nominal Area of Conductor mm <sup>2</sup>	Thickness of Insulation mm	Thickness of Outer Sheath mm	Approx overall diameter. mm	Approx net weight Kg/km
Seven	1.5	0.60	1.40	15.0	450
	2.5	0.70	1.40	16.50	600
	4	0.70	1.50	19.0	860
Twelve	1.5	0.60	1.50	19.0	750
	2.5	0.70	1.60	22.0	1050
	4	0.70	1.60	25.50	1400
Nineteen	1.5	0.60	1.60	22.0	950
	2.5	0.70	1.70	26.0	1600
	4	0.70	1.70	29.0	1800
Twenty-seven	1.5	0.60	1.70	26.0	1475
	2.5	0.70	1.80	30.0	2000
	4	0.70	1.90	34.0	2400
Thirty-seven	1.5	0.60	1.70	28.0	1770
	2.5	0.70	1.80	33.0	2500
	4	0.70	2.0	39.0	3200
Forty-eight	1.5	0.60	1.80	32.0	2000
	2.5	0.70	2.0	39.0	3800
	4	0.70	2.10	44.0	4000

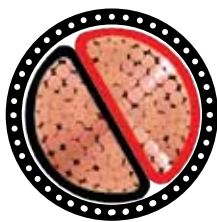


## SINGLE CORE COPPER CONDUCTOR XLPE INSULATED LSZH SHEATHED ALUMINUM WIRE ARMoured CABLES CU/XLPE/AWA/LSZH

### CONSTRUCTION:-

CONDUCTOR	:	Stranded Bare annealed Copper Conductor, circular or circular compacted as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross linked polyethylene
CORE IDENTIFICATION	:	Red or Black or as per customer requirement
BEDDING	:	Extruded layer of LSZH compound
ARMOUR	:	Consists of single layer of aluminum wires of appropriate diameter.
OVER SHEATH	:	Extruded layer of LSZH compound generally Black
DESIGN	:	The Cable meets the requirement of BS 6724/IEC 60502 - 1

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
50	1.0	0.8	0.9	1.5	18.0	625	1000
70	1.1	0.8	1.25	1.5	20.0	885	1000
95	1.1	0.8	1.25	1.6	22.0	1160	1000
120	1.2	0.8	1.25	1.6	23.0	1415	1000
150	1.4	1.0	1.6	1.7	26.0	1790	1000
185	1.6	1.0	1.6	1.8	28.0	2180	1000
240	1.7	1.0	1.6	1.8	31.0	2760	1000
300	1.8	1.0	1.6	1.9	34.0	3375	1000
400	2.0	1.2	2.0	2.0	38.0	4370	1000
500	2.2	1.2	2.0	2.1	42.0	5400	500
630	2.4	1.2	2.0	2.2	46.0	6915	500



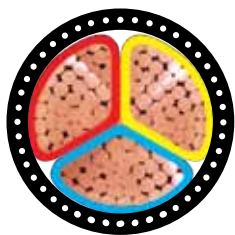
## TWO CORE COPPER CONDUCTOR XLPE INSULATED LSZH SHEATHED ARMoured CABLES CU/XLPE/SWA/LSZH

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, Solid/Stranded circular and Sector shaped as per BS 6360/IEC 60228 (Class – 2)
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
BEDDING	:	Shall consist of an extruded layer of LSZH compound.
ARMOUR	:	Consist of single layer of galvanized steel wires of appropriate size.
OVER SHEATH	:	Extruded layer of LSZH compound generally Black
DESIGN	:	The Cable confirm the requirement of BS 6724/IEC 60502 – 1.

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
1.5 #	0.6	0.8	0.9	1.3	12.5	265	1000
2.5 #	0.7	0.8	0.9	1.4	14.0	310	1000
4 #	0.7	0.8	0.9	1.4	15.0	380	1000
6 #	0.7	0.8	0.9	1.4	16.0	455	1000
10 #	0.7	0.8	0.9	1.5	18.0	610	1000
16 #	0.7	0.8	1.25	1.5	20.0	830	1000
25	0.9	0.8	1.25	1.6	20.0	975	1000
35	0.9	1.0	1.6	1.7	23.0	1385	1000
50	1.0	1.0	1.6	1.8	25.0	1705	1000
70	1.1	1.0	1.6	1.9	28.0	2220	1000
95	1.1	1.2	2.0	2.0	32.0	3050	1000
120	1.2	1.2	2.0	2.1	34.0	3655	1000
150	1.4	1.2	2.0	2.2	38.0	4340	1000
185	1.6	1.4	2.5	2.4	42.0	5590	500
240	1.7	1.4	2.5	2.5	49.0	7080	500
300	1.8	1.6	2.5	2.6	53.0	8540	500
400	2.0	1.6	2.5	2.8	58.0	10475	500

# Circular conductor.



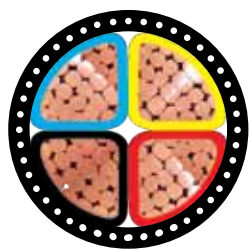
## THREE CORE COPPER CONDUCTOR XLPE INSULATED LSZH SHEATHED ARMoured CABLES CU/XLPE/SWA/LSZH

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, solid/ Stranded circular or Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Yellow, Blue or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
BEDDING	:	Shall consist of an extruded layer of LSZH compound.
ARMOUR	:	Consist of single layer of galvanized steel wires of appropriate size.
OVER SHEATH	:	Extruded layer of LSZH compound generally Black
DESIGN	:	The Cable confirm the requirement of BS 6724/IEC 60502 – 1.

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
1.5 #	0.6	0.8	0.9	1.3	13.0	295	1000
2.5 #	0.7	0.8	0.9	1.4	14.0	350	1000
4 #	0.7	0.8	0.9	1.4	15.0	435	1000
6 #	0.7	0.8	0.9	1.4	17.0	530	1000
10 #	0.7	0.8	1.25	1.5	19.0	825	1000
16 #	0.7	0.8	1.25	1.6	21.0	1025	1000
25	0.9	1	1.6	1.7	23.0	1450	1000
35	0.9	1.0	1.6	1.8	25.0	1815	1000
50	1.0	1.0	1.6	1.8	28.0	2270	1000
70	1.1	1.0	1.6	1.9	32.0	3005	1000
95	1.1	1.2	2.0	2.1	36.0	4160	1000
120	1.2	1.2	2.0	2.2	40.0	5045	1000
150	1.4	1.4	2.5	2.3	45.0	6475	500
185	1.6	1.4	2.5	2.4	48.0	7705	500
240	1.7	1.4	2.5	2.6	54.0	9705	500
300	1.8	1.6	2.5	2.7	60.0	11845	500
400	2.0	1.6	2.5	2.9	64.0	14465	500

# Circular conductor.



## FOUR CORE COPPER CONDUCTOR XLPE INSULATED LSZH SHEATHED ARMOURD CABLES CU/XLPE/SWA/LSZH

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, solid/Stranded circular or Sector shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Yellow, Blue, Black or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers and used to maintain the circularity.
BEDDING	:	Shall consist of an extruded layer of LSZH compound.
ARMOUR	:	Consist of single layer of galvanized steel wires of appropriate size.
OVER SHEATH	:	Extruded layer of LSZH compound generally Black
DESIGN	:	The Cable confirm the requirement of BS 6724/IEC 60502 – 1.

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
1.5 #	0.6	0.8	0.9	1.3	14.0	330	1000
2.5 #	0.7	0.8	0.9	1.4	15.0	405	1000
4 #	0.7	0.8	0.9	1.4	16.0	500	1000
6 #	0.7	0.8	1.25	1.5	18.0	730	1000
10 #	0.7	0.8	1.25	1.5	21.0	950	1000
16 #	0.7	0.8	1.25	1.6	23.0	1230	1000
25	0.9	1	1.6	1.7	26.0	1835	1000
35	0.9	1.0	1.6	1.8	29.0	2285	1000
50	1.0	1.0	1.6	1.9	31.0	2845	1000
70	1.1	1.2	2	2.1	37.0	4115	1000
95	1.1	1.2	2.0	2.2	40.0	5280	1000
120	1.2	1.4	2.5	2.3	47.0	6910	500
150	1.4	1.4	2.5	2.4	51.0	8210	500
185	1.6	1.4	2.5	2.6	56.0	9980	500
240	1.7	1.6	2.5	2.7	62.0	12540	500
300	1.8	1.6	2.5	2.9	68.0	15160	500
400	2.0	1.8	3.15	3.2	78.0	19860	500

# Circular conductor.



## FIVE CORE COPPER CONDUCTOR XLPE INSULATED LSZH SHEATHED ARMoured CABLES CU/XLPE/SWA/LSZH

### CONSTRUCTION:-

CONDUCTOR	:	Annealed Bare Copper Conductor, solid/Stranded circular or shaped as per BS 6360/IEC 60228 (Class 2).
INSULATION	:	Extruded layer of cross-linked polyethylene.
CORE IDENTIFICATION	:	Red, Yellow, Blue, Black, Yellow-Green or as per customer Requirement.
LAYING UP	:	The cores are laid with right hand lay. Where necessary synthetic fillers used to maintain the circularity.
BEDDING	:	Shall consist of an extruded layer of LSZH compound.
ARMOUR	:	Consist of single layer of galvanized steel wires of appropriate size.
OVER SHEATH	:	Extruded layer of LSZH compound generally Black
DESIGN	:	The Cable confirm the requirement of BS 6724/ IEC 60502 – 1.

Nominal Area of Conductor	Nominal Thickness of Insulation	Nominal Thickness of Extruded Bedding	Nominal Diameter of Armour Wire	Nominal Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Cable Weight for CU Cable	Packing Length (Standard)
mm <sup>2</sup>	mm	mm	mm	mm	mm	kg/km	mtrs
1.5	0.6	0.8	0.9	1.4	15.0	380	1000
2.5	0.7	0.8	0.9	1.4	16.0	460	1000
4	0.7	0.8	0.9	1.5	18.0	580	1000
6	0.7	0.8	1.25	1.5	20.0	845	1000
10	0.7	0.8	1.25	1.6	23.0	1125	1000
16	0.7	1.0	1.6	1.7	26.0	1640	1000
25	0.9	1.0	1.6	1.8	30.0	2285	1000
35	0.9	1.0	1.6	1.9	33.0	2865	1000
50	1.0	1.2	2.0	2.0	38.0	3935	1000
70	1.1	1.2	2.0	2.2	43.0	5240	500



**XLPE INSULATED CONTROL / AUX CABLES  
CONFORMING TO IEC 60502-1 AND BS 6724  
600/1000 VOLTS**

Number of cores	Nominal Area of Conductor mm <sup>2</sup>	Thickness of Insulation mm	Thickness of Outer Sheath mm	Approx overall diameter. mm	Approx net weight Kg/km
Seven	1.5	0.60	1.40	15.0	450
	2.5	0.70	1.40	16.50	600
	4	0.70	1.50	19.0	860
Twelve	1.5	0.60	1.50	19.0	750
	2.5	0.70	1.60	22.0	1050
	4	0.70	1.60	25.50	1400
Nineteen	1.5	0.60	1.60	22.0	950
	2.5	0.70	1.70	26.0	1600
	4	0.70	1.70	29.0	1800
Twenty-seven	1.5	0.60	1.70	26.0	1475
	2.5	0.70	1.80	30.0	2000
	4	0.70	1.90	34.0	2400
Thirty-seven	1.5	0.60	1.70	28.0	1770
	2.5	0.70	1.80	33.0	2500
	4	0.70	2.0	39.0	3200
Forty-eight	1.5	0.60	1.80	32.0	2000
	2.5	0.70	2.0	39.0	3800
	4	0.70	2.10	44.0	400



## CURRENT RATING & VOLTAGE DROP OF CABLES:

Current rating of Cables given below are based on IEC 60287 calculation and these values can be followed for the cables as per BS/IEC standard.

### CURRENT RATINGS & VOLTAGE DROP OF THE CABLES - 600/1000 V Single Core Copper, XLPE insulated Armoured/Unarmoured Cables.

Area mm <sup>2</sup>	In Air		In Ground	In Duct	"Approx Voltage drop of 3 Single core cables (3 Phase System) Trefoil V/A/km
	Single Core in Trefoil		Single Core in Trefoil	Single Core in Trefoil	
	Unarmoured	Armoured	Armoured	Armoured	
	A	A	A	A	
1.5	22	--	--	--	26.73
2.5	30	--	--	--	16.37
4	39	--	--	--	10.19
6	49	--	--	--	6.81
10	67	67	82	78	4.04
16	92	92	108	101	2.56
25	123	123	139	134	1.62
35	146	146	165	154	1.18
50	174	180	199	199	0.878
70	222	230	244	239	0.620
95	275	282	292	281	0.463
120	321	328	332	315	0.379
150	371	377	371	341	0.326
185	430	433	417	376	0.276
240	513	510	480	421	0.235
300	594	581	536	459	0.212
400	692	664	594	488	0.192
500	801	751	658	529	0.179
630	925	846	723	571	0.168

Operating Conditions:  
 Ambient air temp. 50 °C  
 Ground temp. 35 °C  
 Depth of Laying 0.50 m  
 Thermal resistivity of Soil 1.2 K.m/W

## CURRENT RATINGS & VOLTAGE DROP OF THE CABLES - 600/1000 V Two Core Copper, XLPE insulated Armoured/Unarmoured Cables.

Area	In Air		In Ground	In Duct	Approx Voltage Drop (1 Phase System)
	Two Core		Two Core	Two Core	
	Unarmoured	Armoured	Armoured	Armoured	Trefoil
mm <sup>2</sup>	A	A	A	A	V/A/km
1.5	22	24	33	27	30.86
2.5	30	32	42	35	18.90
4	39	43	56	46	11.76
6	50	55	70	58	7.86
10	67	74	94	77	4.66
16	97	98	121	99	2.94
25	122	128	157	127	1.86
35	151	158	188	153	1.35
50	183	190	223	181	1.00
70	232	239	273	224	0.702
95	287	295	328	269	0.516
120	335	341	372	307	0.419
150	383	389	417	345	0.352
185	444	449	470	391	0.295
240	529	530	544	453	0.245
300	611	605	609	509	0.216
400	711	696	687	575	0.192



## CURRENT RATINGS & VOLTAGE DROP OF THE CABLES - 600/1000 V 3 and 4 Core, Copper, XLPE insulated Armoured/Unarmoured Cables.

Area mm <sup>2</sup>	In Air		In Ground	In Duct	Approx Voltage Drop (3 Phase System)
	Unarmoured A	Armoured A	Armoured A	Armoured A	Trefoil V/A/km
1.5	19	20	28	22	26.73
2.5	27	27	36	29	16.37
4	34	37	47	39	10.19
6	44	46	59	48	6.81
10	58	64	79	65	4.04
16	83	83	102	83	2.55
25	105	109	131	107	1.61
35	129	134	157	128	1.17
50	157	163	187	152	0.866
70	200	205	229	187	0.608
95	246	253	274	226	0.447
120	288	293	312	258	0.363
150	330	335	349	291	0.305
185	381	386	394	329	0.256
240	454	456	455	380	0.212
300	524	519	509	427	0.187
400	608	597	574	490	0.167



## CURRENT RATINGS & VOLTAGE DROP OF THE CABLES - 600/1000 V Single Core Copper, PVC insulated Armoured/Unarmoured Cables.

Area mm <sup>2</sup>	In Air		In Ground	In Duct	Approx Voltage drop of 3 Single core cables (3 Phase System) V/A/km
	Single Core in Trefoil		Single Core in Trefoil	Single Core in Trefoil	
	Unarmoured	Armoured	Armoured	Armoured	
	A	A	A	A	Trefoil
1.5	16	--	--	--	25.10
2.5	22	--	--	--	15.40
4	29	--	--	--	9.60
6	36	--	--	--	6.40
10	49	49	68	64	3.80
16	67	67	89	84	2.40
25	90	90	115	111	1.50
35	107	107	136	127	1.10
50	123	129	162	159	0.828
70	156	163	198	193	0.587
95	194	200	238	226	0.442
120	226	232	270	249	0.365
150	260	265	301	274	0.314
185	302	303	338	300	0.268
240	360	356	388	335	0.229
300	415	407	434	367	0.206
400	484	462	480	391	0.191
500	557	520	528	418	0.178
630	641	582	577	450	0.166



## CURRENT RATINGS & VOLTAGE DROP OF THE CABLES - 600/1000 V Two Core Copper, PVC insulated Armoured/Unarmoured Cables.

Area mm <sup>2</sup>	In Air		In Ground	In Duct	Approx Voltage Drop (1 Phase System) Trefoil V/A/km
	Two Core		Two Core	Two Core	
	Unarmoured	Armoured	Armoured	Armoured	
	A	A	A	A	
1.5	16	16	26	21	28.96
2.5	22	22	33	27	17.74
4	29	29	44	36	11.04
6	37	38	55	46	7.38
10	48	52	74	61	4.38
16	65	68	95	78	2.77
25	87	91	126	103	1.75
35	107	111	152	123	1.26
50	130	135	180	146	0.94
70	163	169	222	180	0.662
95	202	209	266	217	0.488
120	235	241	302	247	0.40
150	269	274	338	277	0.337
185	311	317	382	314	0.284
240	370	374	441	364	0.239
300	426	426	493	408	0.213
400	495	488	554	459	0.192



## CURRENT RATINGS & VOLTAGE DROP OF THE CABLES - 600/1000 V 3 and 4 Core, Copper, PVC insulated Armoured/Unarmoured Cables.

Area mm <sup>2</sup>	In Air		In Ground	In Duct	Approx Voltage Drop (3 Phase System)
	Unarmoured	Armoured	Armoured	Armoured	Trefoil
	A	A	A	A	V/A/km
1.5	14	14	22	18	25.1
2.5	20	19	28	23	15.4
4	25	25	38	30	9.6
6	32	32	47	38	6.4
10	42	44	62	51	3.8
16	56	58	81	66	2.4
25	74	78	106	86	1.5
35	91	95	127	103	1.10
50	111	115	150	122	0.816
70	141	146	186	152	0.573
95	174	180	223	182	0.423
120	202	208	254	208	0.346
150	231	238	284	234	0.292
185	267	273	321	265	0.246
240	318	322	370	306	0.207
300	365	366	414	342	0.184
400	423	420	464	392	0.166



## MAXIMUM D.C. RESISTANCE OF CONDUCTOR & ARMOUR FOR XLPE INSULATED CABLES

Nominal Cross-sectional area of conductor	Maximum D.C. Resistance per km of cable at 20 °C					
	Copper conductor	Aluminium wire armour	Galvanized Steel Wire armour			
		0.6/1.0 kV	0.6/1.0 kV	0.6/1.0 kV	0.6/1.0 kV	0.6/1.0 kV
		Single core	Two core	Three core	Four core	Five core
mm <sup>2</sup>	ohm	ohm	ohm	ohm	ohm	ohm
1.5	12.1	-----	10.2	9.5	8.8	8.2
2.5	7.41	-----	8.8	8.2	7.7	6.8
4	4.61	-----	7.9	7.5	6.8	6.2
6	3.08	-----	7.0	6.7	4.3	3.9
10	1.83	-----	6.0	4.0	3.7	3.4
16	1.15	-----	3.7	3.5	3.1	2.2
25	0.727	-----	3.7	2.5	2.3	1.8
35	0.524	-----	2.6	2.3	2.0	1.6
50	0.387	1.30	2.3	2.0	1.8	1.1
70	0.268	0.75	2.0	1.8	1.2	0.94
95	0.193	0.67	1.4	1.3	1.1	-----
120	0.153	0.61	1.3	1.2	0.76	-----
150	0.124	0.42	1.2	0.78	0.68	-----
185	0.0991	0.38	0.82	0.71	0.61	-----
240	0.0754	0.34	0.73	0.63	0.54	-----
300	0.0601	0.31	0.67	0.58	0.49	-----
400	0.0470	0.22	0.59	0.52	0.35	-----
500	0.0366	0.20	-----	-----	-----	-----
630	0.0283	0.18	-----	-----	-----	-----

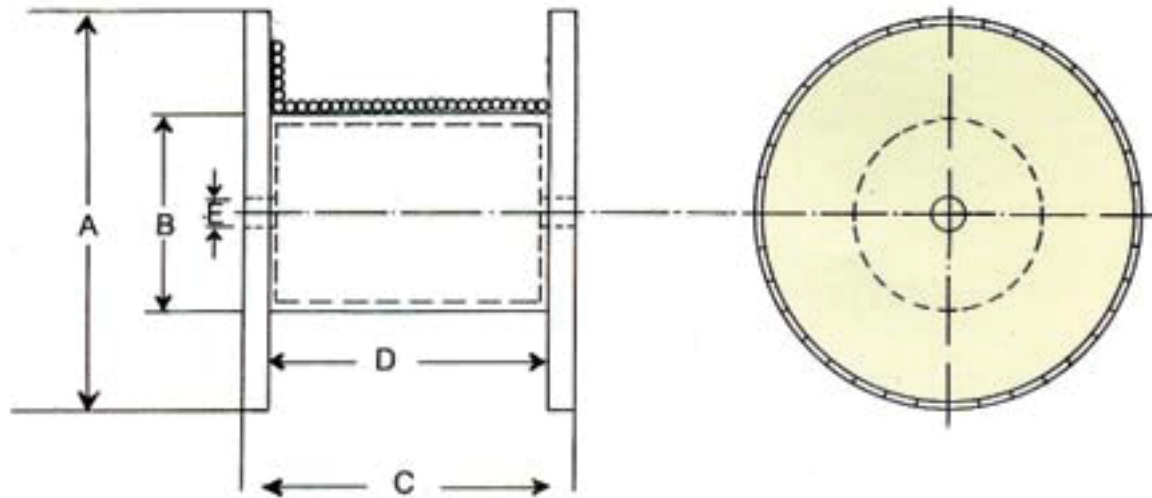


## MAXIMUM D.C. RESISTANCE OF CONDUCTOR & ARMOUR FOR PVC INSULATED CABLES

Nominal Cross-sectional area of conductor	Maximum D.C. Resistance per km of cable at 20 °C					
	Copper conductor	Aluminium wire armour	Galvanized Steel Wire armour			
		0.6/1.0 kV	0.6/1.0 kV	0.6/1.0 kV	0.6/1.0 kV	0.6/1.0 kV
		Single core	Two core	Three core	Four core	Five core
mm <sup>2</sup>	ohm	ohm	ohm	ohm	ohm	ohm
1.5	12.1	-----	10.2	9.5	8.8	8.2
2.5	7.41	-----	8.8	8.2	7.7	6.8
4	4.61	-----	7.5	7.0	4.6	4.1
6	3.08	-----	6.8	4.6	4.1	3.8
10	1.83	-----	3.9	3.7	3.4	2.3
16	1.15	-----	3.4	3.1	2.2	2.0
25	0.727	-----	2.6	2.4	2.1	1.7
35	0.524	-----	2.4	2.1	1.9	1.5
50	0.387	0.82	2.1	1.9	1.3	1.1
70	0.268	0.73	1.9	1.4	1.2	0.89
95	0.193	0.64	1.3	1.2	0.98	-----
120	0.153	0.45	1.2	1.1	0.71	-----
150	0.124	0.40	1.1	0.74	0.65	-----
185	0.0991	0.37	0.78	0.68	0.59	-----
240	0.0754	0.33	0.69	0.60	0.52	-----
300	0.0601	0.30	0.63	0.54	0.47	-----
400	0.0470	0.21	0.56	0.49	0.34	-----
500	0.0366	0.19	-----	-----	-----	-----
630	0.0283	0.18	-----	-----	-----	-----







### DIMENSIONS

Drum Size D-No	A (Flange)	B (Barrel)	C (Overall width)	D (Traverse width)	E (Spindle hole)
D-6	600	250	470	400	80
D-7	700	325	570	500	80
D-8	800	375	570	500	80
D-9	900	425	620	550	80
D-10	1000	500	690	600	80
D-11	1100	575	740	650	80
D-12	1200	675	950	850	80
D-14	1400	800	950	850	80
D-16	1600	950	970	850	80
D-18	1800	1100	1220	1100	110
D-19	1900	1100	1230	1100	110
D-20	2000	1300	1235	1100	110
D-21	2100	1150	1290	1100	110
D-22	2200	1400	1390	1250	110
D-23	2340	1200	1795	1625	110
D-24	2400	1200	1795	1625	110
D-25-S	2540	1200	1825	1625	110
D-25	2540	1400	1800	1625	110
D-26	2600	1400	1970	1800	110

All Dimensions are in mm



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Al Ain Distribution Company  
Department of Social Services and Commercial Building  
Works Department  
G.H.Q. Armed Forces  
Abu Dhabi Municipality and Town Planning  
Department of Municipalities  
Federal Electricity and Water Authority (FEWA)  
Sharjah Electricity and Water Authority (SEWA)  
Dubai Electricity and Water Authority  
Other Major Consultants

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Sharjah Electricity and Water Authority (SEWA)  
Federal Electricity and Water Authority (FEWA)  
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- PVC Single Core Wires
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- PVC/Multi-Core Flexible Cables
- LSZH Single Core Cables
- PVC AWG Solid Wires
- PVC Twin Flat Cables
- CU/XLPE/SWA/PVC Cables
- &
- CU/XLPE/SWA/LSZH Cables

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