

# MEDIUM VOLTAGE LEAD SHEATHED POWER CABLES CONTENTS

## GENERAL

1 INTRODUCTION

## TECHNICAL

4 INFORMATION

### SINGLE CORE XLPE INSULATED, LEAD SHEATHED/SCREENED UNARMoured CABLES

17 COPPER

27 ALUMINUM

### MULTI CORE XLPE INSULATED, OVERALL LEAD SHEATHED /SCREENED UNARMoured CABLES

37 COPPER

47 ALUMINUM

### MULTI CORE XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED UNARMoured CABLES

41 COPPER

51 ALUMINUM

### MULTI CORE XLPE INSULATED, INDIVIDUAL LEAD SHEATHED/SCREENED UNARMoured CABLES

57 COPPER

63 ALUMINUM

### SINGLE CORE XLPE INSULATED, LEAD SHEATHED/SCREENED ALUMINUM WIRE ARMoured CABLES

69 COPPER

79 ALUMINUM

### MULTI CORE XLPE INSULATED, OVERALL LEAD SHEATHED/SCREENED STEEL WIRE ARMoured CABLES

89 COPPER

99 ALUMINUM

### MULTI CORE XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED, STEEL WIRE ARMoured CABLES

93 COPPER

103 ALUMINUM

### XLPE INSULATED, INDIVIDUAL LEAD SHEATHED/SCREENED STEEL WIRE ARMoured CABLES

109 COPPER

115 ALUMINUM



# GENERAL

## INTRODUCTION

---

Bahra Cables Company was established in 2008 to serve Saudi & GCC Markets. It is based in Bahra industrial city located 25km from Jeddah. Bahra Cables Factory occupies over 300,000 square meters of prime manufacturing space together with associated design offices, laboratories and storage area. It specializes in Manufacturing and Distributing Electric Cables.

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

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

**The scope of this catalogue is to provide an in depth view of the technical information of the medium voltage Lead Sheathed/Screened cables upto 36kV, with XLPE insulation to IEC 60502-2 /BS 6622, HD620, BS 7870-4.11**

### AREA

Bahra Cables Company has a total land area of about 300,000sqm at disposal.

The built-up area, including offices and plant, of start up phase is more than 62,000sqm.

The factory extension under construction is more than 8,000sqm already.

The total available stock yard for(drum) storage is more than 80,000sqm

## PRODUCT SCOPE

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

To do so, Bahra Cables Company produces a versatile product range cover most of our customer needs: MV Cables to IEC 60502-2 up to 18/30 (36) kV and to BS 6622 up to 19/33 (36) kV, which is covered in the catalogue, in addition to other products described in separate catalogues:

- MV cables to IEC 60502-2 up to 18/30 (36) KV and to BS 6622 up to 19/33 (36) KV., which is covered in the catalogue , in addition to other products described in separate catalogues:
- MV cables with LSFZH to BS 7835.
- Flexible wires and cables up to 300 mm<sup>2</sup> to IEC 60227 , BS 6004 & BS 6500 .
- Building wires, THHN/THWN & THW to UL 8.3, with conductor sizes starting from 16 AWG.
- Thermosetting insulated wires types XHHW-2 , XHHW, XHH, RHW-2, RHW & RHH to UL44
- Building wires ( NYA) to IEC 60227 and BS 6004, from 1.5 mm<sup>2</sup> and above.
- LV power Cables with PVC and XLPE insulation to IEC 60502-1, BS 5476, BS 7889 and UL 1277.
- Low smoke and fume , zero halogen building wire ( LSFZH) to BS 7611 , with thermosetting insulation which is alternative to wire type (NYA) , where the application requires higher standards of safety against the emission of smoke, fumes and toxic gases.
- LV cables with LSFZH, thermosetting insulation which under exposure of to fire generate low emission of smoke, fumes and toxic gases and zero halogens. The cables are produced according to BS 6724, IEC 60502-1 and tested to IEC 61034, IEC 60754 & IEC 60332.
- MV cables (Lead Sheathed / Armoured / Un armoured) PVC or MDPE Sheath.
- HV cables up to 132 kv to IEC 60840, and to ANSI / ICEA S-108-720, with conductor sizes up to 1000 mm<sup>2</sup>.

The future product scope will be extended to Extra High Voltage cables up to 480 kv and conductor cross sections bigger than 2000 mm<sup>2</sup>.

## FACTORY MACHINERY

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

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

## LOGISTICS

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

The Manufacturing Executive System - MES - covers:

## PLANNING

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

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

## DATA COMMUNICATION

The exchange of data is important in several areas.

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



# TECHNICAL INFORMATION

## GENERAL

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

### QUALITY IS OUR MAIN TARGET

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

1. Product quality complying with the local and international standards
2. Product Reliability is starting from the time of product design to fit for the intended application and environmental conditions, to the selection of the raw material from only the highest class suppliers with internationally trusted reputation. Our state of art testing equipments and the strict quality procedures ensure the product quality and integrity so we can guarantee that our cables are defect free and suitable for the intended application through the cable service lifetime.
3. High performance of the product and service through cooperation between experienced staff from Germany and local experts who are aware of the local market requirements and the highest international standards of cables manufacturing. Such cooperation in know-how is invested to provide our customer with the best service and support.
4. Bahra Cables Company's Quality Management System conforms to the ISO 9001: 2008 International Management Quality System Standard with scope of Design and Manufacturing of Electrical Power Cables and Wires. BCC is certified by American Systems Registrar (ASR), ANAB Accredited.
5. Bahra Cables Company is frequently testing its products at internationally reputable labs, diversity of products have been tested and confirmed compliance to the international standard at KEMA, IPH, SAG(Berlin), BSI and BASEC Labs covers all the company product range.
6. Bahra Cables Company has UL Registration for wire types such as THHN., THWN, THW, XHHW-2, XHW, XHH, RHW-2, RHW & RHH, cables Type TC (Low voltage control cables and Low Voltage Power Cables for tray and direct buried applications) which only implies that Bahra Cables Company is committed to provide customer satisfaction through quality product and services.



# TECHNICAL INFORMATION

## GENERAL

---

### PRODUCT RANGE

This Catalogue is intended for Medium Voltage Lead Sheathed Power Cables, Aluminum and Copper conductors of voltage range up to and includes 36 kV

### CABLE TYPES

- 1) Copper Conductor Lead Sheathed Cables
- 2) Aluminum Conductor Lead Sheathed Cables
- 3) Voltage range U<sub>0</sub>/ U / (U<sub>max</sub>) as :  
As per IEC 60502/2 also equivalent BS 6622
  - a. 3.6/6 (7.2) KV 3.8/6.6(7.2) KV
  - b. 6.0/10(12) KV 6.35/11(12) KV
  - c. 8.7/15(17.5) KV 8.7/15(17.5) KV
  - d. 12/20(24) KV 12.7/22(24) KV
  - e. 18/30(36) KV 19/33(36) KV

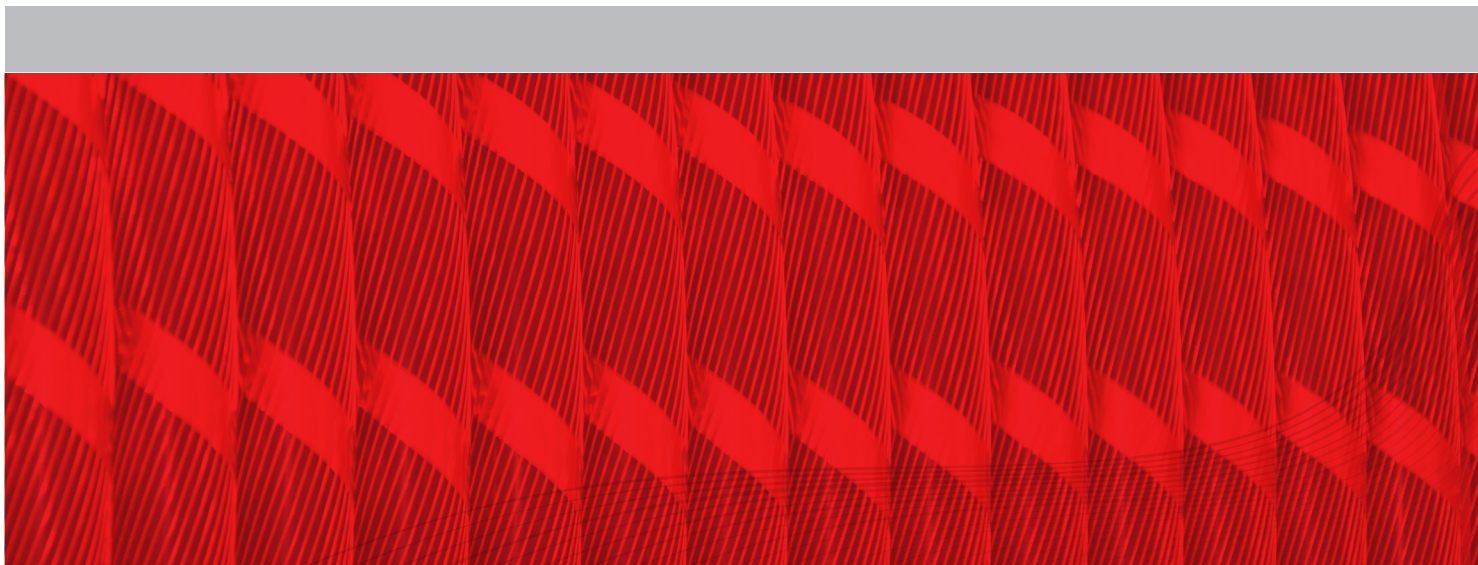
Single core cables up to and including 630 mm<sup>2</sup>

3 core cables up to and including 400 mm<sup>2</sup>

### APPLICABLE STANDARDS

IEC 60502 (Part 2) "XLPE insulated cables" Single Core / 3 core Lead Sheathed Cables

Any other customer of International standards e.g. BS 7870-4-11 & HD 620 S2:2010 etc.



### 1. NOMINAL VOLTAGE

The Nominal voltage is to be expressed with two values of alternative current  $U_0/U$  in V (volt)

$U_0/U$  : Phase to earth voltage

$U_0$  : Voltage between conductor and earth

$U$  : Voltage between phases (conductors)

### 2. RESISTANCE

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

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

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

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

$t$  : operating temperature      ° C

$\alpha$  : resistance temperature coefficient

= 0.00393 for copper

= 0.00403 for aluminum

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

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

$y_s$  : skin effect factor

$y_p$  : proximity effect

Generally AC resistance is based on IEC 60287

### 3. CAPACITANCE

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

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

$D$  : Diameter over insulation      mm

$d$  : Conductor diameter      mm

$\epsilon_r$  : Relative permittivity of insulation material

$\epsilon_r = 4.8$  for PVC

$\epsilon_r = 2.3$  for XLPE

### 4. INDUCTANCE

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

$L$  : Inductance      mH/km

$K$  : Constant depends on number of wires of conductor

$d$  : Conductor diameter

$S$  : Axial spacing between cables ( Trefoil formation )

$S$  : 1.26 x axial spacing between cables( Flat formation)

### 5. REACTANCE

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

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

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

$f$  : Frequency      Hz

$L$  : Inductance      mH/km

### 6. IMPEDANCE

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

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

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

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

# ELECTRICAL TECHNICAL INFORMATION

## CABLE PARAMETERS CALCULATION GUIDE

### 7. INSULATION RESISTANCE

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

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

### 8. CHARGING CURRENT

$$I = U_0 \times 2\pi f \times C \times 10^{-6}$$

I : Charging current	A/km
U <sub>0</sub> : voltage between phase and earth	V
C : Capacitance to neutral	μF/km

### 9. DIELECTRIC LOSSES

$D = 2 \pi f C U_0^2 \tan \delta 10^{-6}$	watt/km/phase
D : Dielectric losses	watt/km/phase
U <sub>0</sub> : Voltage between phase and earth	V
C : Capacitance to neutral	μF/km
tan δ : Dielectric power factor	

### 10. CABLE SHORT CIRCUIT CAPACITY

$I_{sc}(t) = I_{sc}(1) / \sqrt{t}$	kA
I <sub>sc</sub> (t): Short circuit for t second	kA
I <sub>sc</sub> (1): Short circuit for 1 second	kA

Data about short circuit are tabulated in construction tables

### 11. VOLTAGE DROP

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

To calculate voltage drop as the following:

1- for single phase circuit:

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

2- for three phase circuit :

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

V <sub>d</sub> : Voltage drop	V
I : Load current	A
R : AC resistance	Ω/km
X : Reactance	Ω/km
l : Length	km
cos φ : Power factor	

- Relation between cos φ and sin φ as following:

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



### 1.0 CONDUCTORS

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

Conductor materials are :

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

**1.2** Aluminum (to ASTM B233)

The conductor structure is complying to the requirements of BS EN 60228 (IEC 60228) class 2 stranded, non Compacted or compacted conductor.

Conductor may have Water Blocking layer for cables require to be water light.

### 2.0 CONDUCTOR SEMI-CONDUCTIVE - INSULATION – INSULATION SEMI-CONDUCTIVE

The three layers are extruded in one step using the state-of-art Catenary Continuous Vulcanization ( CCV ) technology with advanced automatic concentricity control system which can guarantee the highest quality of the insulated conductor.

**2.1** Conductor Semi-conductive (Stress control layer)

Over the metallic conductor, an extruded layer of cross linked semi-conducting compound is applied. This layer acts to smooth out any irregularities and thus reduces the probability of protrusions into the insulating layer. Such protrusions into the insulation or into the semi-conducting layer increase the localized stress that may exceed the long-term breakdown strength of the insulation, so the semi-conductive layer is acting as a stress control layer.

**2.2** Insulation:

Each core conductor is insulated by extruded cross-linked low density polyethylene (GP 8) conforming to BS 7655: Section 1.3 and IEC 60502-2 , the insulating compound is a developed material suitable for application through CCV technology. Upon customer request, a tree resistant' XLPE (TR-XLPE) insulation is used.

The insulation thickness is selected based on the designated voltage rate complying with IEC 60502-2 & BS 6622, which as the following table:

**2.3** Insulation Semi-conductive -Stress Relief Layer

Over the insulation, an extruded layer of cross linked semi-conducting compound is applied. This layer, which has a very smooth surface, is a transition form the insulating material where the electric field exists to a conductive metallic screen, where the electric field is zero, so it will reduce the stress enhancement at the insulation layer.

The insulation's shield layer could be bonded to the insulation or strippable type for easily removable to facilitate splicing and terminating. The volume resistivity of this ex-ternal layer is limited to 500 meter-ohms.

# MEDIUM VOLTAGE CABLES TECHNICAL INFORMATION

## CABLE STRUCTURE

---

### 3.0 METALLIC SCREENING / SHIELDING

The metallic screening over insulation semi-conductive layer is necessary to cancel out the electric field outside the cable and to provide a low resistance path for charging current to flow to ground. When the screening bonded to earth it will also carry out the short circuit fault current.

Metallic screening could have one of the following structure.

- 1) Copper wire-Concentric
- 2) Copper Tape-Lapped
- 3) Lead Screening - Extruded

Water blocking material may be applied under and over lead screening if the cables is specified as water light.

### 4.0 CABLE ASSEMBLY

For 3 core cable, the screened cores will have identification tape ( Red , Yellow & Blue) under the metallic screen, then the cores are laid up together to form the laid up cable cores. A non-hygroscopic polypropylene filler is applied between laid up cores to provide a circular shape to the cable.

Polypropylene tape(s) or PETP (Polyester) tape(s) is used as a barrier tape over the laid up cores. Such tape(s) will bind the cores together and prevent them from opening out.

### 5.0 LEAD SHEATH

It consists of Lead or Lead Alloy 'E' Compound as per BS EN 12659 & protects the cable against moisture, hydrocarbons & corrosive contaminants. This also serve as a collective metallic screen.

### 6.0 BEDDING

It could be also called seperation sheath, which serves as a bedding under cable armouring to protect the Lead Sheath as a seperation sheth. The bedding is an extruded PVC type 9 Compound as per BS 7655-4.2.

### 7.0 ARMOURING

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

- 7.1 One layer of galvanized Round Steel Wire to BS EN 10257 is applied helically over the bedding.
- 7.2 Aluminum wire armouring for a single core cable acts as non magnetic armour.

# MEDIUM VOLTAGE CABLES TECHNICAL INFORMATION

## CABLE STRUCTURE

### 6.0 OUTERSHEATH (OUTERJACKET)

6.1 It is the outer protection part of the cable against the surrounding environment.

6.2 Several materials can be used as over sheath based on the intended application.

General purpose 90 °C PVC Type ST2 compound as specified in IEC 60502-2, or its equivalent PVC Type 9 to BS 7655-4.2.

Medium or High density Polyethylene MDPE / HDPE compound fulfill and exceed the requirements of Type ST7 IEC 60502-2 for cables that require to be abrasion resistant, protected against water ingress and strong Environmental Stress Crack Resistant (ESCR).

The standard sheath color is Black or Red which has a suitable UV proved additive is added to ensure resistance to sunlight.

When the cable is required to ant-termites / anti-vermin, a special additive is added to the sheathing compound.

A layer of graphite coated is applied upon customer request.

All cables produced at Bahra Cables Company with PVC jackets are complying with the flame retardant test to IEC 60332-1.

When ever a requirement for more severe tests as IEC 60332-3 is needed, a jacketing compound with Oxygen index value more than 30% will be used.

1. A recommended minimum bending radius is included in Table 2; the cable jacket may be damaged if the cable is bended in diameters less than these values.

Table 2: Recommended minimum bending radius

Type of cable	Recommended Minimum Bending Radius (mm)	
	During Installation	Adjacent to joints or terminals
Single Core Cables	20D	20D
Three Core Cables	15D	15D

# TECHNICAL INFORMATION

## ELECTRICAL CHARACTERISTICS CURRENT RATING

### 1. CURRENT RATING ASSUMPTIONS

The calculation of the current ratings, Current rating equations (100% load factor) and calculation of losses are based on IEC 60287 series , and the values of current ratings are verified with the tabulated value in IEC 60502-2.

The calculation is based on the standard dimensions of cables based on IEC 60502-2, which may have a slight difference from the applied cable dimension which are following the best common manufacturing practices.

The values given in the tables are for one circuit installed thermally isolated from other circuits or any other heat source.

The basis of the standard conditions is the climate conditions of the Kingdom of Saudi Arabia, which are :

Ambient Air Temperature	:	40 °C
Ambient Ground Temperature	:	35°C
Depth of laying in ground	:	0.80 m
Soil Thermal Resistivity	:	1.2 °K.m/W

For other installation conditions or any value of different air/ ground temperature, depth of laying, different soil thermal resistivity the customer is divided to multiply the tabulated current rating by the de-rating factor values as in tables 3 to 5 for direct buried cables in ground and tables 6 to 12 for cables installed in duct.



# TECHNICAL INFORMATION

## ELECTRICAL CHARACTERISTICS CURRENT RATING

### 2 INSTALLATION CONDITIONS FOR DIRECT BURIAL CABLES

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

Table 3 : Rating factors for ground temperature variation

Ground Temperature	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C
Rating Factors	1.17	1.12	1.08	1.04	1.00	0.96	0.90	0.85	0.80

Table 4 : Rating factors for depth of laying

Depth of Laying	Single Core Cables		Three Core Cables
	Nominal conductor size mm <sup>2</sup>		
	≤ 185 mm <sup>2</sup>	> 185 mm <sup>2</sup>	
0.50	1.04	1.06	1.04
0.60	1.02	1.04	1.03
0.80	1.00	1.00	1.00
1.00	0.98	0.97	0.98
1.25	0.96	0.95	0.96
1.50	0.95	0.93	0.95
2.0	0.93	0.90	0.93
2.5	0.91	0.88	0.91
3.0	0.90	0.86	0.90

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

Rating Factors	Soil Thermal Resistivity ( °C m / W )							
	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
Single Core Cables								
≤ 50 mm <sup>2</sup>	1.19	1.16	1.11	1	0.91	0.83	0.77	0.69
> 50 mm <sup>2</sup> & ≤ 185 mm <sup>2</sup>	1.21	1.16	1.13	1	0.92	0.82	0.76	0.69
240 mm <sup>2</sup> and above	1.23	1.17	1.17	1	0.92	0.82	0.76	0.68
Three Core Cables								
≤ 50 mm <sup>2</sup>	1.15	1.12	1.09	1	0.89	0.85	0.80	0.72
> 50 mm <sup>2</sup> & ≤ 185 mm <sup>2</sup>	1.16	1.13	1.09	1	0.89	0.85	0.80	0.72
240 mm <sup>2</sup> and above	1.17	1.14	1.10	1	0.90	0.85	0.79	0.72

# TECHNICAL INFORMATION

## ELECTRICAL CHARACTERISTICS CURRENT RATING

### 3 INSTALLATION CONDITIONS FOR CABLES IN DUCTS

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

Table 6 : Rating factors for ground temperature variation

Ground Temperature	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C
All Cable Types	1.16	1.13	1.09	1.03	1	0.95	0.89	0.84	0.79

Table 7 : Rating factors for depth of laying (to center of cable or trefoil group of cables)

Depth of Laying	Single Core Cables		Three Core Cables
	Nominal conductor size mm <sup>2</sup>		
	≤ 185 mm <sup>2</sup>	> 185 mm <sup>2</sup>	
0.50	1.04	1.06	1.03
0.60	1.02	1.03	1.02
0.80	1.00	1.00	1.00
1.00	0.98	0.97	0.99
1.25	0.96	0.95	0.97
1.50	0.95	0.93	0.96
2.0	0.93	0.91	0.94
2.5	0.91	0.89	0.93
3.0	0.90	0.88	0.92

Table 8: Rating factors for variation in thermal resistivity of soil (average values)

Rating Factors	Soil Thermal Resistivity ( °C m / W )							
	0.8	0.9	1.0	1.2	1.5	2.0	2.5	3.0
<b>Single Core Cables</b>								
≤ 50 mm <sup>2</sup>	1.13	1.10	1.07	1	0.96	0.87	0.8	0.76
> 50 mm <sup>2</sup> & ≤ 185 mm <sup>2</sup>	1.14	1.10	1.07	1	0.95	0.87	0.79	0.74
240 mm <sup>2</sup> and above	1.15	1.11	1.08	1	0.95	0.85	0.79	0.73
<b>Three Core Cables</b>								
≤ 50 mm <sup>2</sup>	1.16	1.12	1.08	1	0.97	0.87	0.80	0.76
> 50 mm <sup>2</sup> & ≤ 185 mm <sup>2</sup>	1.17	1.13	1.08	1	0.96	0.87	0.79	0.73
240 mm <sup>2</sup> and above	1.18	1.13	1.09	1	0.96	0.85	0.79	0.72

# TECHNICAL INFORMATION

## ELECTRICAL CHARACTERISTICS CURRENT RATING

Table 9 : Group rating factors for circuits of three single core cables in trefoil or laid flat touching, in horizontal formation

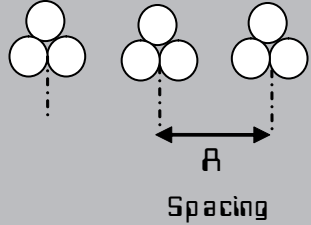
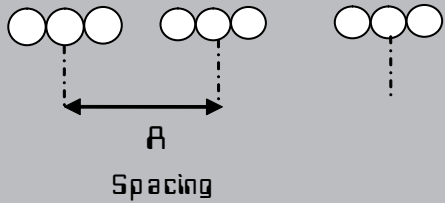
Number of Circuits						
	Nil (Cables Touching)		Cable to Cable Clearance A			
	Trefoil	Flat Laying	0.15m	0.30m	0.45m	0.60m
2	0.78	0.81	0.81	0.85	0.88	0.90
3	0.66	0.70	0.71	0.76	0.80	0.83
4	0.61	0.64	0.64	0.72	0.76	0.80
5	0.56	0.60	0.60	0.68	0.73	0.77
6	0.53	0.57	0.57	0.66	0.72	0.76

Table 10: Group rating factors for multi-core cables in horizontal formation

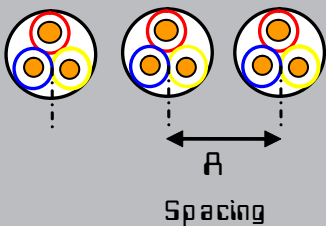
Number of Cables in Group					
	Cable to Cable Clearance A				
	Touching	0.15m	0.30m	0.45m	0.60m
2	0.81	0.84	0.87	0.89	0.91
3	0.70	0.73	0.78	0.82	0.85
4	0.63	0.68	0.74	0.78	0.82
5	0.59	0.63	0.70	0.75	0.79
6	0.55	0.60	0.68	0.74	0.77

Table 11: Rating factors for other ambient air temperatures

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

# TECHNICAL INFORMATION

## ELECTRICAL CHARACTERISTICS

### CURRENT RATING

Table 12 : Flat formation derating factors for three single core cables laid in free air

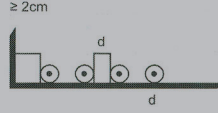
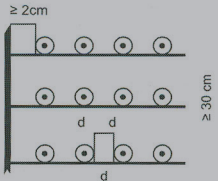
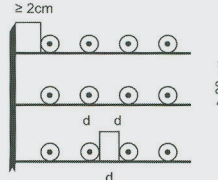

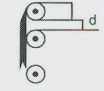
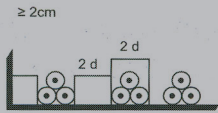
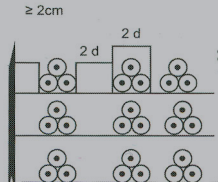
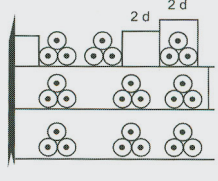
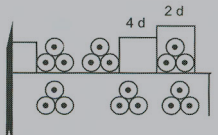
Clearance = Cable diameter(d) Clearance from the wall 2 cm		Number of circuits			
		1	2	3	
Laid on the floor		0.92	0.89	0.88	
		Number of troughs			
Laid Cables	1	0.92	0.89	0.88	
troughs	2	0.87	0.84	0.83	
(Circulation of air is restricted)	3	0.84	0.84	0.83	
	6	0.82	0.80	0.79	
		Number of racks			
Laid on cable racks	1	1.00	0.97	0.96	
	2	0.97	0.94	0.93	
	3	0.96	0.93	0.92	
	6	0.94	0.91	0.90	
Arranged near the wall		0.90	0.87	0.86	
Arranged on the wall		0.89	0.86	0.84	

Table 13 : Trefoil touching formation derating factors for three single core cables laid in free air

Clearance = 2 (d) Clearance from the wall 2 cm		Number of circuits			
		1	2	3	
Laid on the floor		0.95	0.90	0.88	
		Number of troughs			
Laid Cables	1	0.95	0.90	0.88	
troughs	2	0.90	0.85	0.83	
(Circulation of air is restricted)	3	0.88	0.83	0.81	
	6	0.86	0.81	0.79	
		Number of racks			
Laid on cable racks	1	1.00	0.98	0.96	
	2	1.00	0.95	0.93	
	3	1.00	0.94	0.92	
	6	1.00	0.93	0.90	
Arrangements for which reduction of the current is not necessary					



# TECHNICAL INFORMATION

## ELECTRICAL CHARACTERISTICS

### CURRENT RATING

Table 14 :Horizontal or vertical formation derating factors for multi-core cables laid in free air

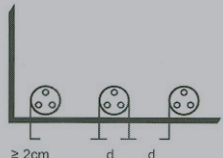
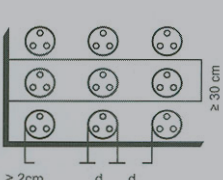
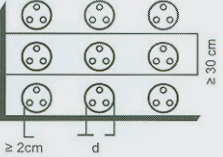

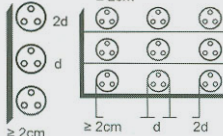
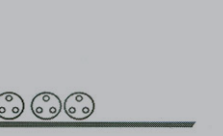
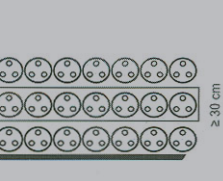
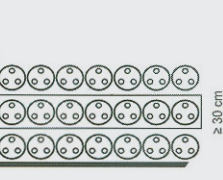
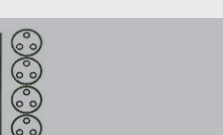
Clearance = Cable diameter(d) Clearance from the wall 2 cm		Number of circuits							
		1	2	3	4	5	6	9	
Laid on the floor		0.95	0.90	0.88	0.85	0.84			
Number of troughs									
Laid Cables	1	0.95	0.90	0.88	0.85	0.84			
troughs	2	0.90	0.85	0.83	0.81	0.80			
(Circulation of air is restricted)	3	0.88	0.83	0.81	0.79	0.78			
	6	0.86	0.81	0.79	0.77	0.76			
Number of racks									
Laid on cable racks	1	1.00	0.98	0.96	0.93	0.92			
	2	1.00	0.95	0.93	0.90	0.89			
	3	1.00	0.94	0.92	0.89	0.88			
	6	1.00	0.93	0.90	0.87	0.86			
Arranged near the wall		1.00	0.93	0.90	0.87	0.86			
Arrangements for which reduction of the current is not necessary		Clearance from the wall > 2cm		Clearance between cables > 2d					

Table 15 :Derating factors for multi-core cables touching and in contact with the wall in free air

Clearance touching troughs and contact with wall		Number of circuits							
		1	2	3	4	5	6	9	
Laid on the floor		0.90	0.84	0.80	0.75	0.73			
Number of troughs									
Laid Cables	1	0.95	0.84	0.80	0.75	0.73			
troughs	2	0.95	0.80	0.76	0.71	0.69			
(Circulation of air is restricted)	3	0.95	0.78	0.74	0.70	0.68			
	6	0.95	0.76	0.72	0.68	0.66			
Number of racks									
Laid on cable racks	1	0.95	0.84	0.80	0.75	0.73			
	2	0.95	0.80	0.76	0.71	0.69			
	3	0.95	0.78	0.74	0.70	0.68			
	6	0.95	0.76	0.72	0.68	0.66			
Arranged near the wall		0.95	0.78	0.73	0.68	0.66			

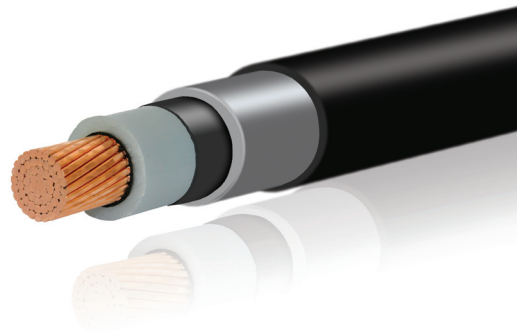
# XLPE INSULATED LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2

COPPER CONDUCTOR | 3.6/6 (7.2)kV  
CU/XLPE/LC/PVC



## SINGLE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
21730001	25	6.2	2.5	1.2	1.8	22	1300	1000
21730002	35	7.2	2.5	1.2	1.8	23	1450	1000
21730003	50	8.3	2.5	1.3	1.8	24	1730	1000
21730004	70	10	2.5	1.3	1.8	26	2020	1000
21730005	95	11.8	2.5	1.4	1.8	28	2470	1000
21730006	120	13.1	2.5	1.4	1.8	29	2800	1000
21730007	150	14.7	2.5	1.5	1.9	31	3270	1000
21730008	185	16.1	2.5	1.5	1.9	33	3720	1000
21730009	240	18.7	2.6	1.6	2.0	36	4570	1000
21730010	300	20.8	2.8	1.6	2.1	39	5390	1000
21730011	400	24	3.0	1.7	2.2	43	6660	500
21730012	500	27	3.2	1.8	2.3	47	8070	500
21730013	630	30.8	3.2	1.9	2.5	52	10070	500



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 3.6/6 (7.2)kV  
CU/XLPE/LC/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.129	0.099	0.0804	0.0647	0.0527	0.0434
Inductance at 60 Hz	mH/Km	0.442	0.424	0.408	0.385	0.377	0.362	0.355	0.342	0.330	0.323	0.311	0.308	0.297
Reactance at 60 Hz	Ω/km	0.17	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12	0.12	0.12	0.12	0.11
Capacitance at 60 Hz	μF/Km	0.25	0.28	0.31	0.35	0.39	0.43	0.47	0.52	0.56	0.58	0.60	0.63	0.75
Short Circuit Current For 1 second														
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09
2- Metallic Sheath/Screen	KA	1.3	1.5	1.6	1.8	2.1	2.3	2.5	2.7	3.1	3.6	4.3	4.9	5.6
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	153	175	211	250	274	315	370	415	470	530	595	680	740
Flat Formation (Approx.)	A	157	181	218	258	282	323	378	420	473	525	550	640	685
2- Laid in free air														
Trefoil Formation (Approx.)	A	163	205	245	269	329	379	430	494	583	669	769	860	1000
Flat Formation (Approx.)	A	178	217	260	324	395	455	509	580	678	770	854	895	1035
Voltage Drop per phase	V/A/km	0.842	0.632	0.488	0.362	0.283	0.239	0.208	0.180	0.154	0.137	0.122	0.111	0.102
Minimum Bending radius	mm	440	460	480	520	560	580	620	660	720	780	860	990	1040

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

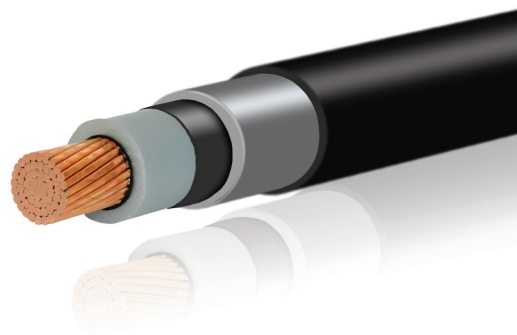
*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE**  
 AS PER IEC 60502-2  
 COPPER CONDUCTOR | 6/10 (12)kV  
 CU/XLPE/LC/PVC



**SINGLE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
22730001	25	6.2	3.4	1.3	1.8	24	1510	1000
22730002	35	7.2	3.4	1.3	1.8	25	1690	1000
22730003	50	8.3	3.4	1.3	1.8	26	1870	1000
22730004	70	10	3.4	1.4	1.8	28	2280	1000
22730005	95	11.8	3.4	1.4	1.8	30	2640	1000
22730006	120	13.1	3.4	1.5	1.9	32	3080	1000
22730007	150	14.7	3.4	1.5	1.9	33	3450	1000
22730008	185	16.1	3.4	1.6	2.0	35	4030	1000
22730009	240	18.7	3.4	1.6	2.1	38	4770	1000
22730010	300	20.8	3.4	1.7	2.1	40	5660	500
22730011	400	24	3.4	1.8	2.3	44	6920	500
22730012	500	27	3.4	1.9	2.4	48	8300	500
22730013	630	30.8	3.4	1.9	2.5	53	10130	500



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 6/10 (12)kV  
CU/XLPE/LC/PVC

Size	mm2	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	$\Omega/km$	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
Approximate AC resistance of Conductor @ 90°C	$\Omega/km$	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.129	0.099	0.0804	0.0647	0.0527	0.0434
Inductance at 60 Hz	mH/Km	0.460	0.440	0.420	0.408	0.382	0.375	0.363	0.354	0.340	0.330	0.319	0.309	0.295
Reactance at 60 Hz	$\Omega/km$	0.17	0.17	0.16	0.15	0.14	0.14	0.14	0.13	0.13	0.12	0.12	0.12	0.11
Capacitance at 60 Hz	$\mu F/Km$	0.20	0.23	0.25	0.29	0.30	0.33	0.37	0.40	0.45	0.49	0.54	0.60	0.70
Short Circuit Current For 1 second														
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09
2- Metallic Sheath/Screen	KA	1.5	1.7	1.9	2.1	2.3	2.6	2.8	3.0	3.4	3.8	4.5	5.0	5.7
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	153	175	211	250	274	315	370	415	470	530	595	680	740
Flat Formation (Approx.)	A	157	181	218	258	282	323	378	420	473	525	550	640	685
2- Laid in free air														
Trefoil Formation (Approx.)	A	163	205	245	269	329	379	430	494	583	669	769	860	1000
Flat Formation (Approx.)	A	178	217	260	324	395	455	509	580	678	770	854	895	1035
Voltage Drop per phase	V/A/km	0.846	0.635	0.490	0.364	0.284	0.242	0.210	0.183	0.156	0.138	0.123	0.111	0.103
Minimum Bending radius	mm	480	500	520	560	600	640	660	700	760	800	880	960	1060

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

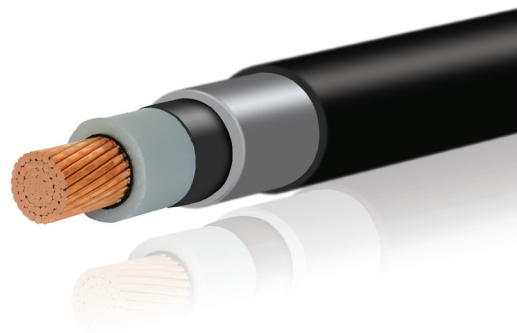
*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE**  
 AS PER IEC 60502-2  
 COPPER CONDUCTOR | 8.7/15 (17.5)kV  
 CU/XLPE/LC/PVC



**SINGLE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
23730001	25	6.2	4.5	1.3	1.8	26	1700	1000
23730002	35	7.2	4.5	1.4	1.8	28	1970	1000
23730003	50	8.3	4.5	1.4	1.8	29	2170	1000
23730004	70	10	4.5	1.4	1.8	30	2480	1000
23730005	95	11.8	4.5	1.5	1.9	32	2970	1000
23730006	120	13.1	4.5	1.5	2.0	34	3320	1000
23730007	150	14.7	4.5	1.6	2.0	36	3810	1000
23730008	185	16.1	4.5	1.6	2.1	38	4310	1000
23730009	240	18.7	4.5	1.7	2.2	40	5190	1000
23730010	300	20.8	4.5	1.7	2.2	43	5950	500
23730011	400	24	4.5	1.8	2.3	46	7210	500
23730012	500	27	4.5	1.9	2.4	50	8610	500
23730013	630	30.8	4.5	2.0	2.6	55	10670	500



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 8.7/15 (17.5)kV  
CU/XLPE/LC/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.129	0.099	0.0804	0.0647	0.0527	0.0434
Inductance at 60 Hz	mH/Km	0.470	0.455	0.435	0.415	0.402	0.389	0.377	0.366	0.350	0.340	0.327	0.319	0.306
Reactance at 60 Hz	Ω/km	0.18	0.17	0.16	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12	0.12	0.12
Capacitance at 60 Hz	μF/Km	0.17	0.18	0.20	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43	0.48	0.53
Short Circuit Current For 1 second														
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09
2- Metallic Sheath/Screen	KA	1.8	2.0	2.2	2.4	2.7	2.9	3.2	3.4	3.9	4.3	4.9	5.5	6.2
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	153	175	211	250	274	315	370	415	470	530	595	680	740
Flat Formation (Approx.)	A	157	181	218	258	282	323	378	420	473	525	550	640	685
2- Laid in free air														
Trefoil Formation (Approx.)	A	163	205	245	269	329	379	430	494	583	669	769	860	1000
Flat Formation (Approx.)	A	178	217	260	324	395	455	509	580	678	770	854	895	1035
Voltage Drop per phase	V/A/km	0.850	0.636	0.492	0.366	0.286	0.245	0.215	0.185	0.158	0.140	0.126	0.113	0.106
Minimum Bending radius	mm	520	560	580	600	640	680	720	760	800	860	920	1000	1110

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

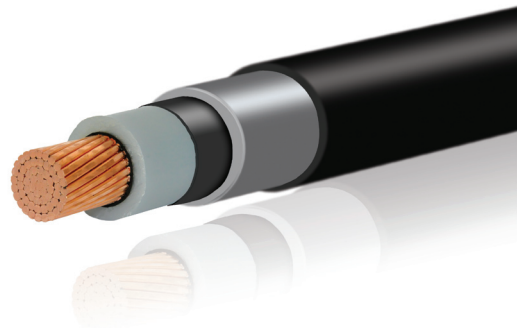
*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE**  
 AS PER IEC 60502-2  
 COPPER CONDUCTOR | 12/20 (24)kV  
 CU/XLPE/LC/PVC



**SINGLE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24730001	35	7.2	5.5	1.4	1.8	30	2160	1000
24730002	50	8.3	5.5	1.5	1.9	31	2470	1000
24730003	70	10	5.5	1.5	1.9	33	2790	1000
24730004	95	11.8	5.5	1.6	2.0	35	3310	1000
24730005	120	13.1	5.5	1.6	2.0	36	3640	1000
24730006	150	14.7	5.5	1.6	2.1	38	4060	1000
24730007	185	16.1	5.5	1.7	2.1	40	4660	1000
24730008	240	18.7	5.5	1.7	2.2	42	5440	500
24730009	300	20.8	5.5	1.8	2.3	45	6370	500
24730010	400	24	5.5	1.9	2.4	49	7670	500
24730011	500	27	5.5	2.0	2.5	53	9230	500
24730012	630	30.8	5.5	2.1	2.6	56	11170	500





# TECHNICAL INFORMATION

COPPER CONDUCTOR | 12/20 (24)kV

CU/XLPE/LC/PVC

Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.668	0.494	0.342	0.247	0.196	0.160	0.129	0.099	0.0804	0.0647	0.0527	0.0434
Inductance at 60 Hz	mH/Km	0.468	0.449	0.425	0.414	0.400	0.388	0.375	0.361	0.350	0.335	0.327	0.315
Reactance at 60 Hz	Ω/km	0.18	0.17	0.16	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12	0.12
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.20	0.22	0.24	0.26	0.27	0.30	0.33	0.37	0.41	0.46
Short Circuit Current For 1 second													
1- Conductor	KA	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09
2- Metallic Sheath/Screen	KA	2.3	2.5	2.7	3.0	3.3	3.5	3.8	4.3	4.7	5.4	6.0	6.7
Current Rating Capacity													
1- Laid direct in ground													
Trefoil Formation (Approx.)	A	175	211	250	274	315	370	415	470	530	595	680	740
Flat Formation (Approx.)	A	181	218	258	282	323	378	420	473	525	550	640	685
2- Laid in free air													
Trefoil Formation (Approx.)	A	205	245	269	329	379	430	494	583	669	769	860	1000
Flat Formation (Approx.)	A	217	260	324	395	455	509	580	678	770	854	895	1035
Voltage Drop per phase	V/A/km	0.640	0.495	0.369	0.290	0.248	0.217	0.187	0.160	0.142	0.127	0.115	0.107
Minimum Bending radius	mm	600	620	660	700	720	760	800	840	900	980	1000	1120

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

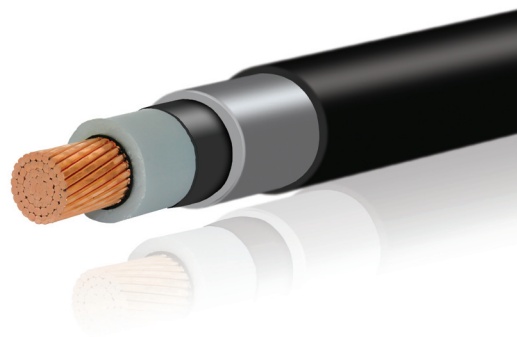
**XLPE INSULATED LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE**  
 AS PER IEC 60502-2 / BS 7870-4.11  
 COPPER CONDUCTOR | 18/30 (36)kV 19/33 (36)kV  
 CU/XLPE/LC/PVC



**SINGLE CORE**

Cable Code	Conductor		Insulation Thickness Nominal (mm)	Lead Sheath *Thickness Nominal (mm)	Outer Sheath		Packaging	
	Cross Sectional Area Nominal (mm <sup>2</sup> )	Diameter Nominal (mm)			Thickness Nominal (mm)	Overall Diameter (Approx. mm)	Net Weight (Approx. Kg/Km)	Standard Drum (m +/-5%)
25730001	50	8.3	8.0	1.6	2.1	37	3150	1000
25730002	70	10	8.0	1.7	2.1	39	3620	1000
25730003	95	11.8	8.0	1.7	2.2	40	4050	1000
25730004	120	13.1	8.0	1.7	2.2	42	4410	1000
25730005	150	14.7	8.0	1.8	2.3	44	4970	1000
25730006	185	16.1	8.0	1.8	2.3	45	5470	500
25730007	240	18.7	8.0	1.9	2.4	48	6440	500
25730008	300	20.8	8.0	2.0	2.5	51	7430	500
25730009	400	24	8.0	2.0	2.6	55	8750	500
25730010	500	27	8.0	2.1	2.7	59	10250	500
25730011	630	30.8	8.0	2.2	2.8	63	12260	500

\* Tabulated values of lead sheaths are based on IEC 60502-2, thickness may be varied if BS 7870-4.11 is required.



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 18/30 (36)kV 19/33 (36)kV  
CU/XLPE/LC/PVC

Size	mm2	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	$\Omega/km$	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
Approximate AC resistance of Conductor @ 90°C	$\Omega/km$	0.494	0.342	0.247	0.196	0.160	0.129	0.099	0.0804	0.0647	0.0527	0.0434
Inductance at 60 Hz	mH/Km	0.480	0.460	0.445	0.430	0.415	0.405	0.4390	0.375	0.360	0.350	0.340
Reactance at 60 Hz	$\Omega/km$	0.18	0.17	0.17	0.16	0.16	0.15	0.17	0.14	0.14	0.13	0.13
Capacitance at 60 Hz	$\mu F/Km$	0.14	0.15	0.17	0.18	0.20	0.21	0.23	0.25	0.27	0.30	0.34
Short Circuit Current For 1 second												
1- Conductor	KA	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09
2- Metallic Sheath/Screen	KA	3.4	3.6	4.0	4.2	4.5	4.9	5.3	5.8	6.6	7.2	8.1
Current Rating Capacity												
1- Laid direct in ground												
Trefoil Formation (Approx.)	A	211	250	274	315	370	415	470	530	595	680	740
Flat Formation (Approx.)	A	218	258	282	323	378	420	473	525	550	640	685
2- Laid in free air												
Trefoil Formation (Approx.)	A	245	269	329	379	430	494	583	669	769	860	1000
Flat Formation (Approx.)	A	260	324	395	455	509	580	678	770	854	895	1035
Voltage Drop per phase	V/A/km	0.502	0.375	0.300	0.254	0.220	0.194	0.166	0.149	0.133	0.121	0.113
Minimum Bending radius	mm	740	780	800	840	880	900	960	1020	1110	1180	1206

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

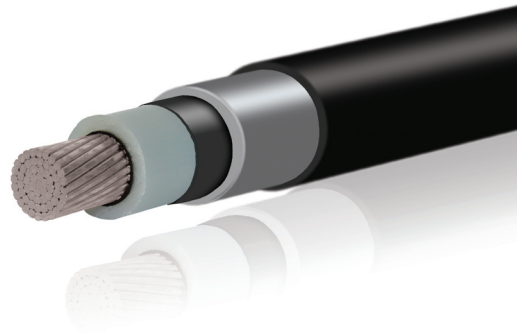
# XLPE INSULATED LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2

ALUMINUM CONDUCTOR | 3.6/6 (7.2)kV  
AL/XLPE/LC/PVC



## SINGLE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
21830001	25	5.7	2.5	1.2	1.8	22	1160	1000
21830002	35	7.1	2.5	1.2	1.8	23	1250	1000
21830003	50	7.9	2.5	1.3	1.8	24	1450	1000
21830004	70	9.7	2.5	1.3	1.8	26	1650	1000
21830005	95	11.3	2.5	1.4	1.8	27	1870	1000
21830006	120	12.6	2.5	1.4	1.8	28	2050	1000
21830007	150	14.1	2.5	1.5	1.9	30	2320	1000
21830008	185	16.0	2.5	1.5	1.9	33	2610	1000
21830009	240	18.1	2.6	1.6	2.0	35	3020	1000
21830010	300	20.4	2.8	1.6	2.1	38	3530	1000
21830011	400	23.1	3.0	1.7	2.2	42	4150	1000
21830012	500	25.9	3.2	1.8	2.3	46	5100	1000
21830013	630	29.5	3.2	1.9	2.5	50	6600	500



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 3.6/6 (7.2)kV  
AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.568	0.411	0.326	0.265	0.211	0.161	0.130	0.1016	0.0799	0.0632
Inductance at 60 Hz	mH/Km	0.444	0.425	0.408	0.385	0.377	0.362	0.355	0.342	0.330	0.323	0.311	0.308	0.297
Reactance at 60 Hz	Ω/km	0.17	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12	0.12	0.12	0.12	0.11
Capacitance at 60 Hz	μF/Km	0.26	0.29	0.31	0.35	0.39	0.43	0.47	0.52	0.56	0.58	0.60	0.63	0.75
Short Circuit Current For 1 second														
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48	46.85	59.03
2- Metallic Sheath/Screen	KA	1.3	1.5	1.6	1.8	2.1	2.3	2.5	2.7	3.1	3.6	4.3	4.9	5.6
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	100	100	120	135	165	200	230	260	293	330	370	415	520
Flat Formation (Approx.)	A	105	105	125	140	170	210	240	270	303	341	379	400	500
2- Laid in free air														
Trefoil Formation (Approx.)	A	116	116	140	167	209	255	295	335	386	457	525	612	705
Flat Formation (Approx.)	A	139	139	168	202	253	308	356	400	459	540	616	700	790
Voltage Drop per phase	V/A/km	1.332	0.987	0.751	0.542	0.414	0.342	0.293	0.246	0.206	0.178	0.153	0.134	0.119
Minimum Bending radius	mm	440	460	480	520	540	560	600	660	700	760	840	920	1000

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE

AS PER IEC 60502-2

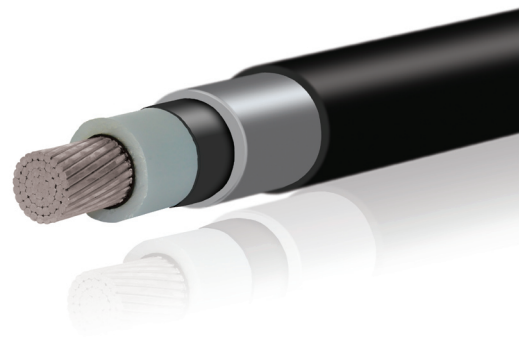
ALUMINUM CONDUCTOR | 6/10 (12)kV

AL/XLPE/LC/PVC



## SINGLE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
22830001	25	5.7	3.4	1.3	1.8	23	1350	1000
22830002	35	7.1	3.4	1.3	1.8	25	1490	1000
22830003	50	7.9	3.4	1.3	1.8	27	1570	1000
22830004	70	9.7	3.4	1.4	1.8	28	1930	1000
22830005	95	11.3	3.4	1.4	1.8	29	2090	1000
22830006	120	12.6	3.4	1.5	1.9	31	2380	1000
22830007	150	14.1	3.4	1.5	1.9	32	2500	1000
22830008	185	16.0	3.4	1.6	2.0	35	2870	1000
22830009	240	18.1	3.4	1.6	2.1	37	3380	1000
22830010	300	20.4	3.4	1.7	2.1	39	3950	1000
22830011	400	23.1	3.4	1.8	2.3	43	4500	1000
22830012	500	25.9	3.4	1.9	2.4	47	5400	1000
22830013	630	29.5	3.4	1.9	2.5	51	6700	500



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 6/10 (12)kV  
AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.568	0.411	0.326	0.265	0.211	0.161	0.130	0.1016	0.0799	0.0632
Inductance at 60 Hz	mH/Km	0.460	0.440	0.420	0.408	0.382	0.375	0.363	0.354	0.340	0.330	0.319	0.309	0.295
Reactance at 60 Hz	Ω/km	0.17	0.17	0.16	0.15	0.14	0.14	0.14	0.13	0.13	0.12	0.12	0.12	0.11
Capacitance at 60 Hz	μF/Km	0.20	0.23	0.25	0.29	0.30	0.33	0.37	0.40	0.45	0.49	0.54	0.60	0.70
Short Circuit Current For 1 second														
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48	46.85	59.03
2- Metallic Sheath/Screen	KA	1.5	1.7	1.9	2.1	2.3	2.6	2.8	3.0	3.4	3.8	4.5	5.0	5.7
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	100	120	135	165	200	230	260	293	330	370	415	520	750
Flat Formation (Approx.)	A	105	125	140	170	210	240	270	303	341	379	400	500	690
2- Laid in free air														
Trefoil Formation (Approx.)	A	116	140	167	209	255	295	335	386	457	525	612	705	800
Flat Formation (Approx.)	A	139	168	202	253	308	356	400	459	540	616	700	790	885
Voltage Drop per phase	V/A/km	1.33	0.990	0.754	0.545	0.416	0.345	0.294	0.250	0.207	0.179	0.154	0.134	0.119
Minimum Bending radius	mm	460	500	540	560	580	620	640	700	740	780	860	940	1020

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE

AS PER IEC 60502-2

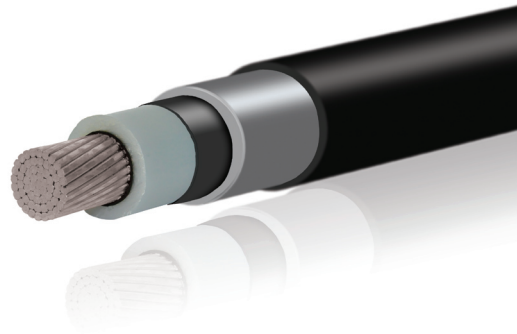
ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV

AL/XLPE/LC/PVC



## SINGLE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
23830001	25	5.7	4.5	1.3	1.8	25	1520	1000
23830002	35	7.1	4.5	1.4	1.8	27	1770	1000
23830003	50	7.9	4.5	1.4	1.8	28	1870	1000
23830004	70	9.7	4.5	1.4	1.8	30	2080	1000
23830005	95	11.3	4.5	1.5	1.9	31	2370	1000
23830006	120	12.6	4.5	1.5	2.0	33	2620	1000
23830007	150	14.1	4.5	1.6	2.0	35	2900	1000
23830008	185	16.0	4.5	1.6	2.1	38	3100	1000
23830009	240	18.1	4.5	1.7	2.2	39	3700	1000
23830010	300	20.4	4.5	1.7	2.2	42	4150	1000
23830011	400	23.1	4.5	1.8	2.3	45	4800	1000
23830012	500	25.9	4.5	1.9	2.4	49	5800	500
23830013	630	29.5	4.5	2.0	2.6	53	7300	500





# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV  
AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.568	0.411	0.326	0.265	0.211	0.161	0.130	0.1016	0.0799	0.0632
Inductance at 60 Hz	mH/Km	0.470	0.455	0.435	0.415	0.402	0.389	0.377	0.366	0.350	0.340	0.327	0.319	0.306
Reactance at 60 Hz	Ω/km	0.18	0.17	0.16	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12	0.12	0.12
Capacitance at 60 Hz	μF/Km	0.17	0.18	0.20	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43	0.48	0.53
Short Circuit Current For 1 second														
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48	46.85	59.03
2- Metallic Sheath/Screen	KA	1.8	2.0	2.2	2.4	2.7	2.9	3.2	3.4	3.9	4.3	4.9	5.5	6.2
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	100	120	135	165	200	230	260	293	330	370	415	520	750
Flat Formation (Approx.)	A	105	125	140	170	210	240	270	303	341	379	400	500	690
2- Laid in free air														
Trefoil Formation (Approx.)	A	116	140	167	209	255	295	335	386	457	525	612	705	800
Flat Formation (Approx.)	A	139	168	202	253	308	356	400	459	540	616	700	790	885
Voltage Drop per phase	V/A/km	1.338	0.994	0.757	0.548	0.420	0.348	0.297	0.252	0.209	0.181	0.156	0.136	0.121
Minimum Bending radius	mm	500	540	560	600	620	660	700	760	780	840	900	980	1060

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE

AS PER IEC 60502-2

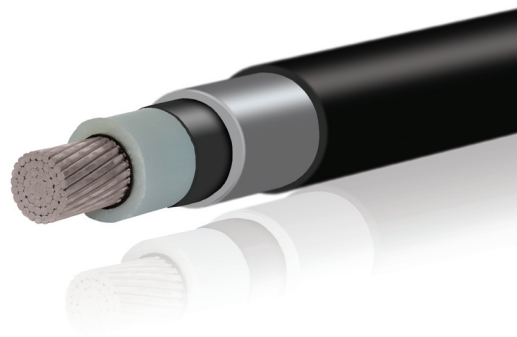
ALUMINUM CONDUCTOR | 12/20 (24)kV

AL/XLPE/LC/PVC



## SINGLE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24830001	35	5.7	5.5	1.4	1.8	29	1900	1000
24830002	50	7.1	5.5	1.5	1.9	31	2170	1000
24830003	70	7.9	5.5	1.5	1.9	32	2290	1000
24830004	95	9.7	5.5	1.6	2.0	34	2700	1000
24830005	120	11.3	5.5	1.6	2.0	35	2890	1000
24830006	150	12.6	5.5	1.6	2.1	37	3110	1000
24830007	185	14.1	5.5	1.7	2.1	39	3460	1000
24830008	240	16.0	5.5	1.7	2.2	42	3940	1000
24830009	300	18.1	5.5	1.8	2.3	44	4870	1000
24830010	400	20.4	5.5	1.9	2.4	48	5270	1000
24830011	500	23.1	5.5	2.0	2.5	52	7300	500
24830012	630	25.9	5.5	2.1	2.6	54	7900	500



# TECHNICAL INFORMATION

## ALUMINUM CONDUCTOR | 12/20 (24)kV AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.113	0.822	0.568	0.411	0.326	0.265	0.211	0.161	0.130	0.1016	0.0799	0.0632
Inductance at 60 Hz	mH/Km	0.468	0.449	0.425	0.414	0.400	0.388	0.375	0.361	0.350	0.335	0.327	0.315
Reactance at 60 Hz	Ω/km	0.18	0.17	0.16	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12	0.12
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.20	0.22	0.24	0.26	0.27	0.30	0.33	0.37	0.41	0.46
Short Circuit Current For 1 second													
1- Conductor	KA	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48	46.85	59.03
2- Metallic Sheath/Screen	KA	2.3	2.5	2.7	3.0	3.3	3.5	3.8	4.3	4.7	5.4	6.0	6.7
Current Rating Capacity													
1- Laid direct in ground													
Trefoil Formation (Approx.)	A	100	120	135	165	200	230	260	293	330	370	415	520
Flat Formation(Approx.)	A	105	125	140	170	210	240	270	303	341	379	400	500
2- Laid in free air													
Trefoil Formation (Approx.)	A	116	140	167	209	255	295	335	386	457	525	612	705
Flat Formation(Approx.)	A	139	168	202	253	308	356	400	459	540	616	700	790
Voltage Drop per phase	V/A/km	0.966	0.760	0.551	0.422	0.350	0.300	0.254	0.212	0.183	0.158	0.138	0.123
Minimum Bending radius	mm	580	620	640	680	700	740	780	840	880	960	1040	1080

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

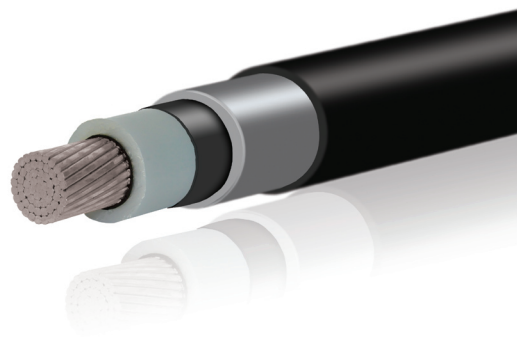
**XLPE INSULATED LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE**  
 AS PER IEC 60502-2 / BS 7870-4.11  
 ALUMINUM CONDUCTOR | 18/30 (36)kV 19/33 (36)kV  
 AL/XLPE/LC/PVC



**SINGLE CORE**

Cable Code	Conductor		Insulation Thickness Nominal (mm)	Lead Sheath *Thickness Nominal (mm)	Outer Sheath		Packaging	
	Cross Sectional Area Nominal (mm <sup>2</sup> )	Diameter Nominal (mm)			Thickness Nominal (mm)	Overall Diameter (Approx. mm)	Net Weight (Approx. Kg/Km)	Standard Drum (m +/-5%)
25830001	50	7.1	8.0	1.6	2.1	36	2750	1000
25830002	70	7.9	8.0	1.7	2.1	37	3200	1000
25830003	95	9.7	8.0	1.7	2.2	39	3450	1000
25830004	120	11.3	8.0	1.7	2.2	42	3700	1000
25830005	150	12.6	8.0	1.8	2.3	43	4070	1000
25830006	185	14.1	8.0	1.8	2.3	44	4370	1000
25830007	240	16.0	8.0	1.9	2.4	47	5000	1000
25830008	300	18.1	8.0	2.0	2.5	51	5500	500
25830009	400	20.4	8.0	2.0	2.6	54	6250	500
25830010	500	23.1	8.0	2.1	2.7	58	7500	500
25830011	630	25.9	8.0	2.2	2.8	61	9000	500

\* Tabulated values of lead sheaths/screens are based on IEC 60502-2, thickness may be varied if BS 7870-4.11 is required.



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 18/30 (36)kV 19/33 (36)kV  
AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.822	0.568	0.411	0.326	0.265	0.211	0.161	0.130	0.1016	0.0799	0.0632
Inductance at 60 Hz	mH/Km	0.480	0.460	0.445	0.430	0.415	0.405	0.4390	0.375	0.360	0.350	0.340
Reactance at 60 Hz	Ω/km	0.18	0.17	0.17	0.16	0.16	0.15	0.17	0.14	0.14	0.13	0.13
Capacitance at 60 Hz	μF/Km	0.14	0.15	0.17	0.18	0.20	0.21	0.23	0.25	0.27	0.30	0.34
Short Circuit Current For 1 second												
1- Conductor	KA	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48	46.85	59.03
2- Metallic Sheath/Screen	KA	3.4	3.6	4.0	4.2	4.5	4.9	5.3	5.8	6.6	7.2	8.1
Current Rating Capacity												
1- Laid direct in ground												
Trefoil Formation (Approx.)	A	100	120	135	165	200	230	260	293	330	370	415
Flat Formation(Approx.)	A	105	125	140	170	210	240	270	303	341	379	400
2- Laid in free air												
Trefoil Formation (Approx.)	A	116	140	167	209	255	295	335	386	457	525	612
Flat Formation(Approx.)	A	139	168	202	253	308	356	400	459	540	616	700
Voltage Drop per phase	V/A/km	0.768	0.558	0.430	0.357	0.306	0.260	0.217	0.189	0.163	0.143	0.128
Minimum Bending radius	mm	720	740	780	840	860	880	940	1020	1080	1160	1220

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, OVERALL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2

COPPER CONDUCTOR | 3.6/6 (7.2)kV  
CU/XLPE/LC/PVC



## THREE CORE

Cable Code	Conductor		Insulation Thickness Nominal (mm)	Lead Sheath Thickness Nominal (mm)	Outer Sheath		Packaging	
	Cross Sectional Area Nominal (mm <sup>2</sup> )	Diameter Nominal (mm)			Thickness Nominal (mm)	Overall Diameter (Approx. mm)	Net Weight (Approx. Kg/Km)	Standard Drum (m +/-5%)
21760001	25	6.2	2.5	1.6	2.1	40	3500	500
21760002	35	7.2	2.5	1.7	2.2	43	4100	500
21760003	50	8.3	2.5	1.7	2.3	45.5	4600	500
21760004	70	10	2.5	1.8	2.4	49.5	5700	500
21760005	95	11.8	2.5	1.9	2.6	53.5	7000	500
21760006	120	13.1	2.5	2.0	2.7	57	8200	500
21760007	150	14.7	2.5	2.1	2.8	60.5	9500	500
21760008	185	16.1	2.5	2.2	2.9	64.5	11100	400
21760009	240	18.7	2.6	2.4	3.1	71	13800	400
21760010	300	20.8	2.8	2.5	3.3	78	16600	300
21760011	400	24	3.0	2.7	3.6	87	20800	250



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 3.6/6 (7.2)kV

CU/XLPE/LC/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.927	0.669	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0815	0.0660
Inductance at 60 Hz	mH/Km	0.305	0.294	0.283	0.273	0.267	0.260	0.253	0.250	0.244	0.236	0.226
Reactance at 60 Hz	Ω/km	0.115	0.111	0.107	0.103	0.101	0.098	0.095	0.094	0.092	0.089	0.085
Capacitance at 60 Hz	μF/Km	0.26	0.30	0.32	0.36	0.39	0.44	0.46	0.53	0.56	0.58	0.60
Short Circuit Current For 1 second												
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	4.03	5.53	5.16	5.88	6.75	7.56	8.42	9.39	11.03	12.81	15.63
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	140	168	195	248	275	310	346	395	445	505	565
2- Laid in free air (Approx.)	A	130	155	186	231	277	320	363	415	486	552	635
Voltage Drop per phase	V/A/km	0.812	0.603	0.460	0.335	0.259	0.215	0.185	0.160	0.134	0.117	0.102
Minimum Bending radius	mm	600	645	683	743	803	855	908	968	1065	1170	1305

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, OVERALL LEAD SHEATHED & PVC SHEATHED UNARMoured  
CABLE AS PER IEC 60502-2  
COPPER CONDUCTOR | 6/10 (12)kV  
CU/XLPE/LC/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
22760001	25	6.2	3.4	1.7	2.3	45	4000	500
22760002	35	7.2	3.4	1.8	2.4	47.5	4700	500
22760003	50	8.3	3.4	1.9	2.5	50	5500	500
22760004	70	10	3.4	1.9	2.6	54	6400	500
22760005	95	11.8	3.4	2.0	2.7	58	7700	500
22760006	120	13.1	3.4	2.1	2.8	62	8900	500
22760007	150	14.7	3.4	2.2	2.9	65	10300	400
22760008	185	16.1	3.4	2.3	3.1	69	11900	400
22760009	240	18.7	3.4	2.5	3.2	75	14800	300
22760010	300	20.8	3.4	2.6	3.4	81	17400	300
22760011	400	24	3.4	2.8	3.7	89	21400	250





# TECHNICAL INFORMATION

COPPER CONDUCTOR | 6/10 (12)kV  
CU/XLPE/LC/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.927	0.669	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0815	0.0660
Inductance at 60 Hz	mH/Km	0.332	0.318	0.306	0.292	0.284	0.276	0.270	0.263	0.256	0.248	0.239
Reactance at 60 Hz	Ω/km	0.125	0.120	0.115	0.110	0.107	0.104	0.102	0.099	0.097	0.093	0.090
Capacitance at 60 Hz	μF/Km	0.20	0.23	0.25	0.29	0.30	0.33	0.37	0.40	0.45	0.49	0.54
Short Circuit Current For 1 second												
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	4.87	5.41	6.09	6.87	7.8	8.67	9.58	10.6	12.2	13.75	16.3
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	140	168	195	248	275	310	346	395	445	505	565
2- Laid in free air (Approx.)	A	130	155	186	231	277	320	363	415	486	552	635
Voltage Drop per phase	V/A/km	0.815	0.606	0.465	0.340	0.263	0.220	0.190	0.162	0.132	0.120	0.106
Minimum Bending radius	mm	675	713	750	810	870	930	975	1035	1125	1215	1336

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2

COPPER CONDUCTOR | 8.7/15 (17.5)kV  
 CU/XLPE/LC/PVC



## THREE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
23780001	25	6.2	4.5	1.8	2.5	51	5000	500
23780002	35	7.2	4.5	1.9	2.5	54	5700	500
23780003	50	8.3	4.5	2.0	2.7	56	6500	500
23780004	70	10	4.5	2.1	2.8	60	7800	500
23780005	95	11.8	4.5	2.2	2.9	65	9100	400
23780006	120	13.1	4.5	2.3	3.0	67	10400	400
23780007	150	14.7	4.5	2.4	3.1	71	11700	400
23780008	185	16.1	4.5	2.5	3.2	74	13400	400
23780009	240	18.7	4.5	2.6	3.4	81	16100	300
23780010	300	20.8	4.5	2.7	3.6	86	19000	250
23780011	400	24	4.5	2.9	3.8	94.5	23000	250



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 8.7/15 (17.5)kV  
CU/XLPE/LC/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.927	0.669	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0815	0.0655
Inductance at 60 Hz	mH/Km	0.360	0.345	0.330	0.315	0.306	0.295	0.288	0.280	0.270	0.260	0.251
Reactance at 60 Hz	Ω/km	0.14	0.13	0.12	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.09
Capacitance at 60 Hz	μF/Km	0.17	0.18	0.2	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43
Short Circuit Current For 1 second												
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	1.32	1.38	1.47	1.59	1.68	1.8	1.89	2.01	2.16	2.31	2.52
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	140	168	195	248	275	310	346	395	445	505	565
2- Laid in free air (Approx.)	A	130	155	186	231	277	320	363	415	486	552	635
Voltage Drop per phase	V/A/km	0.823	0.613	0.472	0.345	0.266	0.225	0.194	0.166	0.141	0.123	0.107
Minimum Bending radius	mm	765	810	840	900	975	1005	1065	1110	1215	1290	1380

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2**  
**COPPER CONDUCTOR | 12/20 (24)kV**  
**CU/XLPE/LC/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24780001	35	7.2	5.5	2.0	2.7	59	7000	500
24780002	50	8.3	5.5	2.1	2.8	62	7800	500
24780003	70	10	5.5	2.2	2.9	64	9100	500
24780004	95	11.8	5.5	2.3	3.1	69	10500	400
24780005	120	13.1	5.5	2.4	3.2	72	11900	400
24780006	150	14.7	5.5	2.5	3.3	76	13400	400
24780007	185	16.1	5.5	2.6	3.4	80	15100	300
24780008	240	18.7	5.5	2.7	3.6	86	18000	300
24780009	300	20.8	5.5	2.9	3.7	91	21300	250
24780010	400	24	5.5	3.1	4.0	100	25500	250



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 12/20 (24)kV  
CU/XLPE/LC/PVC

Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.668	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0810	0.0650
Inductance at 60 Hz	mH/Km	0.365	0.350	0.333	0.322	0.312	0.303	0.295	0.285	0.270	0.262
Reactance at 60 Hz	Ω/km	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.11	0.10	0.10
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.2	0.22	0.24	0.26	0.27	0.3	0.33	0.37
Short Circuit Current For 1 second											
1- Conductor	KA	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	1.5	1.59	1.71	1.83	1.92	2.04	2.16	2.31	2.46	2.64
Current Rating Capacity											
1- Laid direct in ground (Approx.)	A	168	195	248	275	310	346	395	445	505	565
2- Laid in free air (Approx.)	A	155	186	231	277	320	363	415	486	552	635
Voltage Drop per phase	V/A/km	0.620	0.475	0.350	0.271	0.228	0.198	0.170	0.143	0.125	0.111
Minimum Bending radius	mm	885	930	960	1035	1080	1140	1200	1290	1365	1470

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2**  
**COPPER CONDUCTOR | 18/30 (36)kV**  
**CU/XLPE/LC/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
25780001	50	8.3	8.0	2.4	3.2	74	10400	400
25780002	70	10	8.0	2.5	3.3	78	11800	400
25780003	95	11.8	8.0	2.6	3.5	82	13500	400
25780004	120	13.1	8.0	2.7	3.6	84	15000	300
25780005	150	14.7	8.0	2.8	3.7	88	16600	300
25780006	185	16.1	8.0	2.9	3.8	92	18800	250
25780007	240	18.7	8.0	3.1	4.0	98	21900	250
25780008	300	20.8	8.0	3.2	4.1	104	25000	250



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 18/30 (36)kV  
CU/XLPE/LC/PVC

Size	mm <sup>2</sup>	50	70	95	120	150	185	240	300
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.494	0.341	0.247	0.196	0.161	0.128	0.098	0.0801
Inductance at 60 Hz	mH/Km	0.398	0.380	0.369	0.355	0.345	0.335	0.320	0.308
Reactance at 60 Hz	Ω/km	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12
Capacitance at 60 Hz	μF/Km	0.14	0.15	0.17	0.18	0.2	0.21	0.23	0.25

## Short Circuit Current For 1 second

1- Conductor	KA	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90
2- Metallic Sheath/Screen	KA	1.95	2.07	2.19	2.28	2.37	2.49	2.67	2.82

## Current Rating Capacity

1- Laid direct in ground (Approx.)	A	195	248	275	310	346	395	445	505
2- Laid in free air (Approx.)	A	186	231	277	320	363	415	486	552

Voltage Drop per phase	V/A/km	0.485	0.361	0.280	0.237	0.206	0.178	0.153	0.134
------------------------	--------	-------	-------	-------	-------	-------	-------	-------	-------

Minimum Bending radius	mm	1110	1170	1230	1260	1320	1380	1470	1560
------------------------	----	------	------	------	------	------	------	------	------

The above values are based on the following conditions:

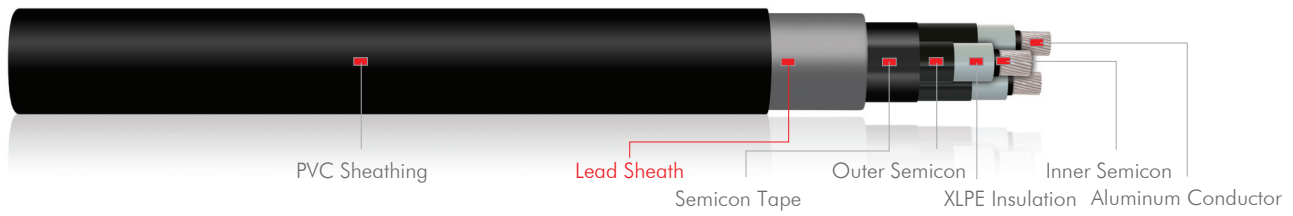
Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, OVERALL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2

ALUMINUM CONDUCTOR | 3.6/6 (7.2)kV

AL/XLPE/LC/PVC



## THREE CORE

Cable Code	Conductor		Insulation Thickness Nominal (mm)	Lead Sheath Thickness Nominal (mm)	Outer Sheath		Packaging	
	Cross Sectional Area Nominal (mm <sup>2</sup> )	Diameter Nominal (mm)			Thickness Nominal (mm)	Overall Diameter (Approx. mm)	Net Weight (Approx. Kg/Km)	Standard Drum (m +/-5%)
21850001	25	5.7	2.5	1.6	2.1	39	3100	500
21850002	35	7.1	2.5	1.7	2.2	42.5	3550	500
21850003	50	7.9	2.5	1.7	2.3	44.5	3700	500
21850004	70	9.7	2.5	1.8	2.4	49	4400	500
21850005	95	11.3	2.5	1.9	2.6	52.5	5250	500
21850006	120	12.6	2.5	2.0	2.7	56	6000	500
21850007	150	14.1	2.5	2.1	2.8	59.5	6800	500
21850008	185	16.0	2.5	2.2	2.9	64	7700	500
21850009	240	18.1	2.6	2.4	3.1	70	9400	500
21850010	300	20.4	2.8	2.5	3.3	77	11100	400
21850011	400	23.1	3.0	2.7	3.6	85	13400	400





# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 3.6/6 (7.2)kV  
AL/XLPE/LC/PVC

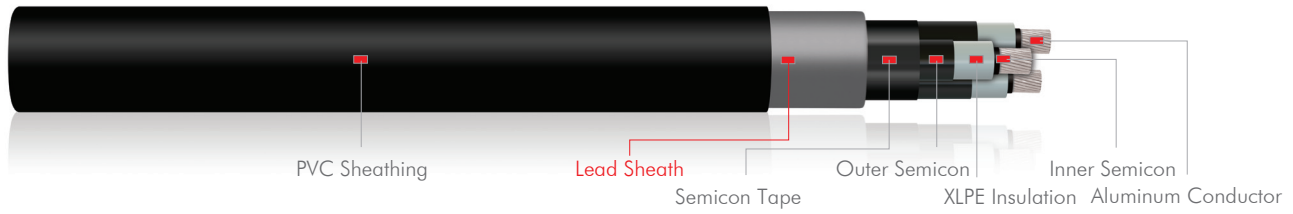
Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.305	0.294	0.283	0.273	0.267	0.260	0.253	0.250	0.244	0.236	0.226
Reactance at 60 Hz	Ω/km	0.115	0.111	0.107	0.103	0.101	0.098	0.095	0.094	0.092	0.089	0.085
Capacitance at 60 Hz	μF/Km	0.26	0.30	0.32	0.36	0.39	0.44	0.46	0.53	0.56	0.58	0.60
Short Circuit Current For 1 second												
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	4.03	5.53	5.16	5.88	6.75	7.56	8.42	9.39	11.03	12.81	15.63
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	108	127	148	178	210	238	265	298	341	383	435
2- Laid in free air (Approx.)	A	100	120	144	178	215	248	281	323	378	432	502
Voltage Drop per phase	V/A/km	1.300	0.957	0.722	0.516	0.389	0.319	0.269	0.225	0.185	0.157	0.133
Minimum Bending radius	mm	585	638	667	735	788	840	893	960	1050	1155	1275

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, OVERALL LEAD SHEATHED & PVC SHEATHED  
UNARMoured CABLE AS PER IEC 60502-2  
ALUMINUM CONDUCTOR | 6/10 (12)kV  
AL/XLPE/LC/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
22850001	25	5.7	3.4	1.7	2.3	44	3550	500
22850002	35	7.1	3.4	1.8	2.4	47	4050	500
22850003	50	7.9	3.4	1.9	2.5	49	4500	500
22850004	70	9.7	3.4	1.9	2.6	53.5	5100	500
22850005	95	11.3	3.4	2.0	2.7	57	6000	500
22850006	120	12.6	3.4	2.1	2.8	61	6700	500
22850007	150	14.1	3.4	2.2	2.9	64	7600	500
22850008	185	16.0	3.4	2.3	3.1	68.5	8500	500
22850009	240	18.1	3.4	2.5	3.2	74	10400	500
22850010	300	20.4	3.4	2.6	3.4	80	11900	400
22850011	400	23.1	3.4	2.8	3.7	87	14000	300



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 6/10 (12)kV  
AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.332	0.318	0.306	0.292	0.284	0.276	0.270	0.263	0.256	0.248	0.239
Reactance at 60 Hz	Ω/km	0.125	0.120	0.115	0.110	0.107	0.104	0.102	0.099	0.097	0.093	0.090
Capacitance at 60 Hz	μF/Km	0.20	0.23	0.25	0.29	0.30	0.33	0.37	0.40	0.45	0.49	0.54
Short Circuit Current For 1 second												
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	4.87	5.41	6.09	6.87	7.8	8.67	9.58	10.6	12.2	13.75	16.3
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	108	127	148	178	210	238	265	298	341	383	435
2- Laid in free air (Approx.)	A	100	120	144	178	215	248	281	323	378	432	502
Voltage Drop per phase	V/A/km	1.306	0.962	0.727	0.520	0.393	0.322	0.273	0.228	0.187	0.160	0.134
Minimum Bending radius	mm	660	705	735	803	865	915	960	1030	1110	1200	1305

The above values are based on the following conditions:

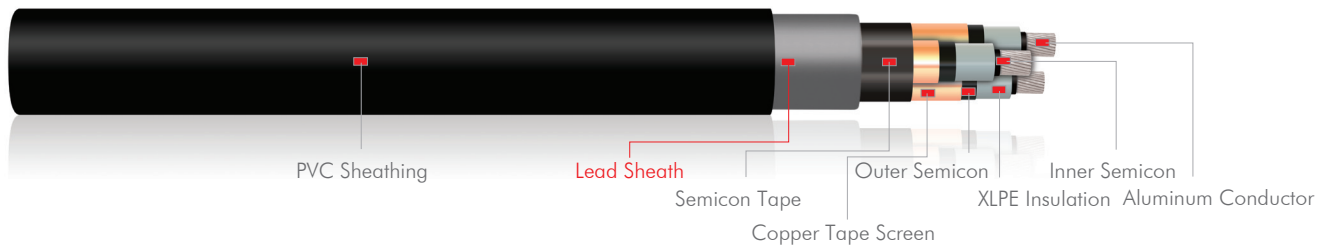
Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED & PVC SHEATHED UNARMOURED CABLE AS PER IEC 60502-2

ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV

AL/XLPE/LC/PVC



## THREE CORE

Cable Code	Conductor		Insulation Thickness Nominal (mm)	Lead Sheath Thickness Nominal (mm)	Outer Sheath		Packaging	
	Cross Sectional Area Nominal (mm <sup>2</sup> )	Diameter Nominal (mm)			Thickness Nominal (mm)	Overall Diameter (Approx. mm)	Net Weight (Approx. Kg/Km)	Standard Drum (m +/-5%)
23860001	25	5.7	4.5	1.8	2.5	50	4700	500
23860002	35	7.1	4.5	1.9	2.5	53.5	5300	500
23860003	50	7.9	4.5	2.0	2.7	55	5900	500
23860004	70	9.7	4.5	2.1	2.8	59.5	6700	500
23860005	95	11.3	4.5	2.2	2.9	64	7700	500
23860006	120	12.6	4.5	2.3	3.0	66	8500	500
23860007	150	14.1	4.5	2.4	3.1	70	9400	500
23860008	185	16.0	4.5	2.5	3.2	73.5	10400	500
23860009	240	18.1	4.5	2.6	3.4	80	12100	400
23860010	300	20.4	4.5	2.7	3.6	85	13900	300
23860011	400	23.1	4.5	2.9	3.8	92	16100	250



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV  
AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.360	0.345	0.330	0.315	0.306	0.295	0.288	0.280	0.270	0.260	0.251
Reactance at 60 Hz	Ω/km	0.14	0.13	0.12	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.09
Capacitance at 60 Hz	μF/Km	0.17	0.18	0.2	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43
Short Circuit Current For 1 second												
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	1.32	1.38	1.47	1.59	1.68	1.8	1.89	2.01	2.16	2.31	2.52
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	108	127	148	178	210	238	265	298	341	383	435
2- Laid in free air (Approx.)	A	100	120	144	178	215	248	281	323	378	432	502
Voltage Drop per phase	V/A/km	1.313	0.968	0.733	0.525	0.390	0.327	0.277	0.232	0.191	0.163	0.136
Minimum Bending radius	mm	750	803	825	893	960	990	1050	1100	1200	1275	1380

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

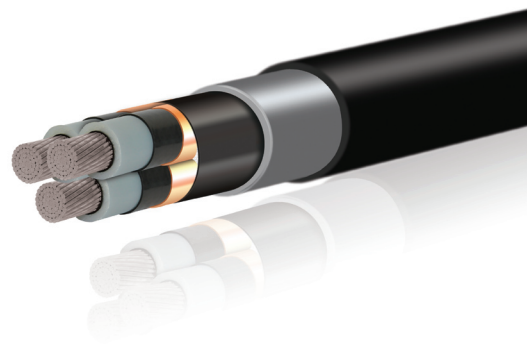
*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2**  
**ALUMINUM CONDUCTOR | 12/20 (24)kV**  
**AL/XLPE/LC/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24860001	35	7.1	5.5	2.0	2.7	58.5	6200	500
24860002	50	7.9	5.5	2.1	2.8	61	6900	500
24860003	70	9.7	5.5	2.2	2.9	63.5	7900	500
24860004	95	11.3	5.5	2.3	3.1	68	8800	500
24860005	120	12.6	5.5	2.4	3.2	71	9500	500
24860006	150	14.1	5.5	2.5	3.3	75	10600	500
24860007	185	16.0	5.5	2.6	3.4	79.5	11600	400
24860008	240	18.1	5.5	2.7	3.6	85	13400	300
24860009	300	20.4	5.5	2.9	3.7	90	15600	300
24860010	400	23.1	5.5	3.1	4.0	98	18100	250



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 12/20 (24)kV  
AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.365	0.350	0.333	0.322	0.312	0.303	0.295	0.285	0.270	0.262
Reactance at 60 Hz	Ω/km	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.11	0.10	0.10
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.2	0.22	0.24	0.26	0.27	0.3	0.33	0.37
Short Circuit Current For 1 second											
1- Conductor	KA	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	1.5	1.59	1.71	1.83	1.92	2.04	2.16	2.31	2.46	2.64
Current Rating Capacity											
1- Laid direct in ground (Approx.)	A	127	148	178	210	238	265	298	341	383	435
2- Laid in free air (Approx.)	A	120	144	178	215	248	281	323	378	432	502
Voltage Drop per phase	V/A/km	1.320	0.973	0.737	0.530	0.402	0.331	0.281	0.236	0.194	0.165
Minimum Bending radius	mm	870	915	945	1020	1065	1110	1170	1260	1335	1455

The above values are based on the following conditions:

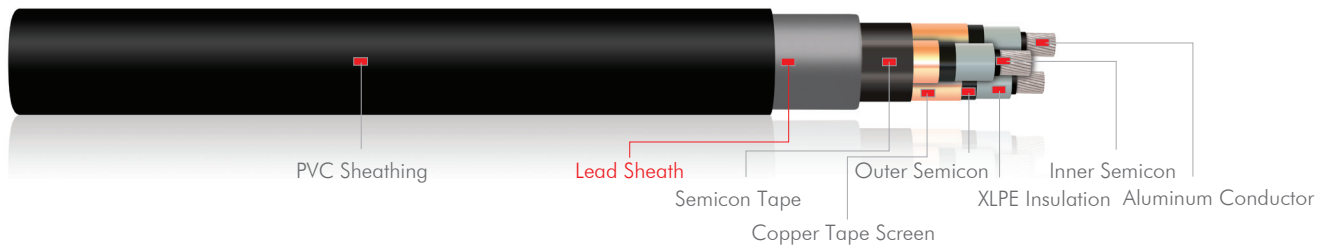
Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2

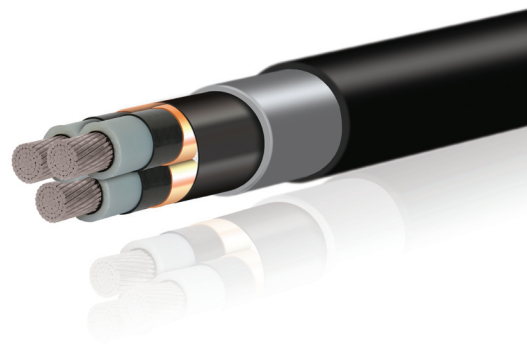
ALUMINUM CONDUCTOR | 18/30 (36)kV

AL/XLPE/LC/PVC



## THREE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
25860001	50	7.9	8.0	2.4	3.2	73	9200	500
25860002	70	9.7	8.0	2.5	3.3	77.5	10200	400
25860003	95	11.3	8.0	2.6	3.5	81	11300	400
25860004	120	12.6	8.0	2.7	3.6	83	12300	300
25860005	150	14.1	8.0	2.8	3.7	87	13500	300
25860006	185	16.0	8.0	2.9	3.8	91.5	15000	300
25860007	240	18.1	8.0	3.1	4.0	97	17000	250
25860008	300	20.4	8.0	3.2	4.1	103	19000	250





# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 18/30 (36)kV  
AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	50	70	95	120	150	185	240	300
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131
Inductance at 60 Hz	mH/Km	0.398	0.380	0.369	0.355	0.345	0.335	0.320	0.308
Reactance at 60 Hz	Ω/km	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12
Capacitance at 60 Hz	μF/Km	0.14	0.15	0.17	0.18	0.2	0.21	0.23	0.25

## Short Circuit Current For 1 second

1- Conductor	KA	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11
2- Metallic Sheath/Screen	KA	1.95	2.07	2.19	2.28	2.37	2.49	2.67	2.82

## Current Rating Capacity

1- Laid direct in ground (Approx.)	A	148	178	210	238	265	298	341	383
2- Laid in free air (Approx.)	A	144	178	215	248	281	323	378	432

Voltage Drop per phase	V/A/km	0.749	0.540	0.412	0.340	0.290	0.244	0.202	0.174
------------------------	--------	-------	-------	-------	-------	-------	-------	-------	-------

Minimum Bending radius	mm	1095	1155	1215	1245	1290	1350	1440	1545
------------------------	----	------	------	------	------	------	------	------	------

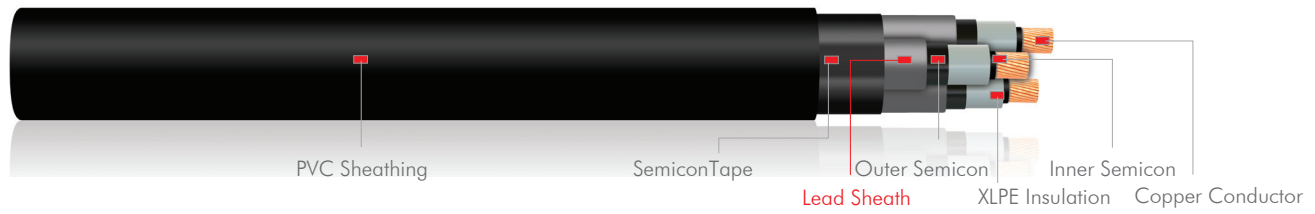
The above values are based on the following conditions:

Ambient Air Temperature:	40 °C
Ambient Ground Temperature:	35 °C
Depth of laying in ground:	0.80 m
Soil Thermal Resistivity:	1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

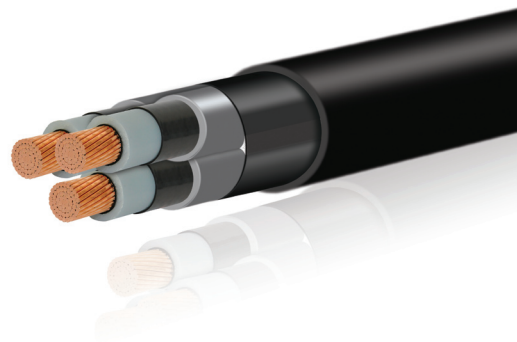
# XLPE INSULATED, INDIVIDUAL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2

COPPER CONDUCTOR | 8.7/15 (17.5)kV  
CU/XLPE/LC/PVC



## THREE CORE

Cable Code	Conductor		Insulation Thickness Nominal (mm)	Lead Sheath Thickness Nominal (mm)	Outer Sheath		Packaging	
	Cross Sectional Area Nominal (mm <sup>2</sup> )	Diameter Nominal (mm)			Thickness Nominal (mm)	Overall Diameter (Approx. mm)	Net Weight (Approx. Kg/Km)	Standard Drum (m +/-5%)
23760001	25	6.2	4.5	1.3	2.5	55	5000	500
23760002	35	7.2	4.5	1.4	2.6	58	5800	500
23760003	50	8.3	4.5	1.4	2.7	61	6400	500
23760004	70	10	4.5	1.4	2.8	64	7400	500
23760005	95	11.8	4.5	1.5	3.0	69	8800	500
23760006	120	13.1	4.5	1.5	3.1	72	9800	500
23760007	150	14.7	4.5	1.6	3.2	75	11400	400
23760008	185	16.1	4.5	1.6	3.3	79.5	12800	400
23760009	240	18.7	4.5	1.7	3.5	86	15500	300
23760010	300	20.8	4.5	1.7	3.6	91	17800	300
23760011	400	24	4.5	1.8	3.9	99	21900	250



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 8.7/15 (17.5)kV  
CU/XLPE/LC/PVC

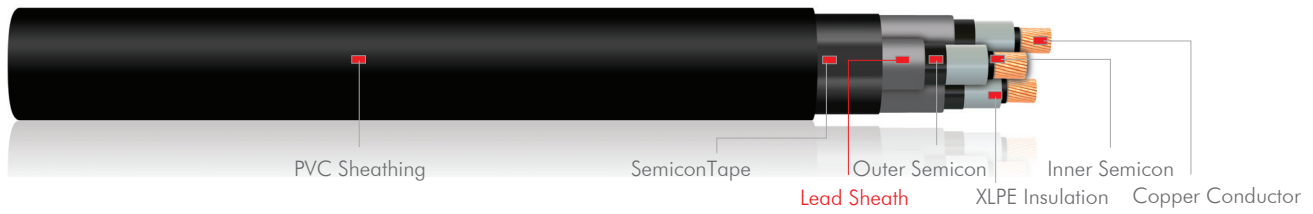
Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.927	0.669	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0815	0.0655
Inductance at 60 Hz	mH/Km	0.360	0.345	0.330	0.315	0.306	0.295	0.288	0.280	0.270	0.260	0.251
Reactance at 60 Hz	Ω/km	0.14	0.13	0.12	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.09
Capacitance at 60 Hz	μF/Km	0.17	0.18	0.2	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43
Short Circuit Current For 1 second												
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	5.5	6.6	6.8	7.3	8.0	8.8	9.5	10.3	11.6	12.8	14.8
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	140	168	195	248	275	310	346	395	445	505	565
2- Laid in free air (Approx.)	A	130	155	186	231	277	320	363	415	486	552	635
Voltage Drop per phase	V/A/km	0.823	0.613	0.472	0.345	0.266	0.225	0.194	0.166	0.141	0.123	0.107
Minimum Bending radius	mm	825	870	900	975	1035	1065	1125	1170	1275	1350	1470

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

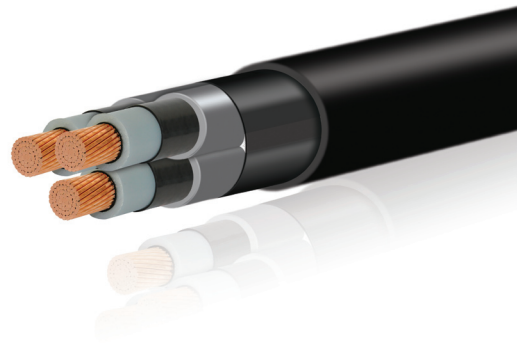
*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2**  
**COPPER CONDUCTOR | 12/20 (24)kV**  
**CU/XLPE/LC/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24760001	35	7.2	5.5	1.4	2.8	62.5	6500	500
24760002	50	8.3	5.5	1.5	2.9	66	7350	500
24760003	70	10	5.5	1.5	3.0	69	8300	500
24760004	95	11.8	5.5	1.6	3.1	73.5	9900	500
24760005	120	13.1	5.5	1.6	3.2	77	11000	400
24760006	150	14.7	5.5	1.6	3.3	81	12100	400
24760007	185	16.1	5.5	1.7	3.5	85	14000	400
24760008	240	18.7	5.5	1.7	3.6	91	16400	300
24760009	300	20.8	5.5	1.8	3.8	95.5	18500	300
24760010	400	24	5.5	1.9	4.1	104	23100	250



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 12/20 (24)kV  
CU/XLPE/LC/PVC

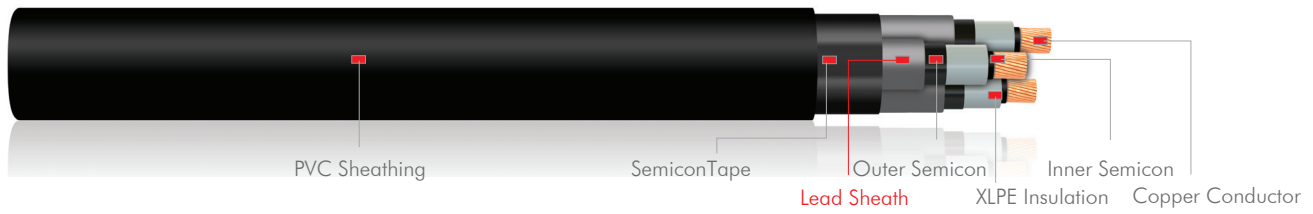
Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.668	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0810	0.0650
Inductance at 60 Hz	mH/Km	0.365	0.350	0.333	0.322	0.312	0.303	0.295	0.285	0.270	0.262
Reactance at 60 Hz	Ω/km	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.11	0.10	0.10
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.2	0.22	0.24	0.26	0.27	0.3	0.33	0.37
Short Circuit Current For 1 second											
1- Conductor	KA	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	6.9	7.6	8.2	9.1	9.8	10.6	11.5	12.8	14.1	16.1
Current Rating Capacity											
1- Laid direct in ground (Approx.)	A	168	195	248	275	310	346	395	445	505	565
2- Laid in free air (Approx.)	A	155	186	231	277	320	363	415	486	552	635
Voltage Drop per phase	V/A/km	0.620	0.475	0.350	0.271	0.228	0.198	0.170	0.143	0.125	0.111
Minimum Bending radius	mm	938	990	1035	1100	1155	1215	1275	1365	1433	1560

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2**  
**COPPER CONDUCTOR | 18/30 (36)kV**  
**CU/XLPE/LC/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
25760001	50	8.3	8.0	1.6	3.3	77.5	9600	400
25760002	70	10	8.0	1.7	3.4	82	11000	400
25760003	95	11.8	8.0	1.7	3.5	86	12300	400
25760004	120	13.1	8.0	1.7	3.6	89	13400	400
25760005	150	14.7	8.0	1.8	3.7	92	15000	300
25760006	185	16.1	8.0	1.8	3.9	96	16500	300
25760007	240	18.7	8.0	1.9	4.0	103	29500	250
25760008	300	20.8	8.0	2.0	4.2	108	22400	250



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 18/30 (36)kV  
CU/XLPE/LC/PVC

Size	mm <sup>2</sup>	50	70	95	120	150	185	240	300
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.494	0.341	0.247	0.196	0.161	0.128	0.098	0.0801
Inductance at 60 Hz	mH/Km	0.398	0.380	0.369	0.355	0.345	0.335	0.320	0.308
Reactance at 60 Hz	Ω/km	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12
Capacitance at 60 Hz	μF/Km	0.14	0.15	0.17	0.18	0.2	0.21	0.23	0.25

## Short Circuit Current For 1 second

1- Conductor	KA	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90
2- Metallic Sheath/Screen	KA	10.2	10.4	11.9	12.7	13.6	14.6	16.0	17.4

## Current Rating Capacity

1- Laid direct in ground (Approx.)	A	195	248	275	310	346	395	445	505
2- Laid in free air (Approx.)	A	186	231	277	320	363	415	486	552
Voltage Drop per phase	V/A/km	0.485	0.361	0.280	0.237	0.206	0.178	0.153	0.134
Minimum Bending radius	mm	1163	1230	1290	1335	1380	1440	1545	1620

The above values are based on the following conditions:

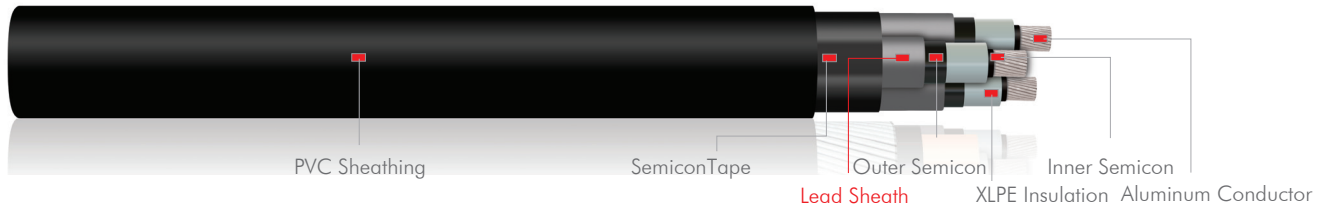
Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, INDIVIDUAL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2

ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV

AL/XLPE/LC/PVC



## THREE CORE

Cable Code	Conductor		Insulation Thickness Nominal (mm)	Lead Sheath Thickness Nominal (mm)	Outer Sheath		Packaging	
	Cross Sectional Area Nominal (mm <sup>2</sup> )	Diameter Nominal (mm)			Thickness Nominal (mm)	Overall Diameter (Approx. mm)	Net Weight (Approx. Kg/Km)	Standard Drum (m +/-5%)
23850001	25	5.7	4.5	1.3	2.5	54	4550	500
23850002	35	7.1	4.5	1.4	2.6	57.5	5200	500
23850003	50	7.9	4.5	1.4	2.7	60	5450	500
23850004	70	9.7	4.5	1.4	2.8	63.5	6100	500
23850005	95	11.3	4.5	1.5	3.0	68	7000	500
23850006	120	12.6	4.5	1.5	3.1	71	7600	500
23850007	150	14.1	4.5	1.6	3.2	74	8700	500
23850008	185	16.0	4.5	1.6	3.3	79	9400	500
23850009	240	18.1	4.5	1.7	3.5	85	11100	400
23850010	300	20.4	4.5	1.7	3.6	90	12300	400
23850011	400	23.1	4.5	1.8	3.9	97	14500	300





# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV  
AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.360	0.345	0.330	0.315	0.306	0.295	0.288	0.280	0.270	0.260	0.251
Reactance at 60 Hz	Ω/km	0.14	0.13	0.12	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.09
Capacitance at 60 Hz	μF/Km	0.17	0.18	0.2	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43
Short Circuit Current For 1 second												
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	5.5	6.6	6.8	7.3	8.0	8.8	9.5	10.3	11.6	12.8	14.8
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	108	127	148	178	210	238	265	298	341	383	435
2- Laid in free air (Approx.)	A	100	120	144	178	215	248	281	323	378	432	502
Voltage Drop per phase	V/A/km	1.313	0.968	0.733	0.525	0.390	0.327	0.277	0.232	0.191	0.163	0.136
Minimum Bending radius	mm	810	863	900	953	1020	1065	1110	1185	1275	1350	1455

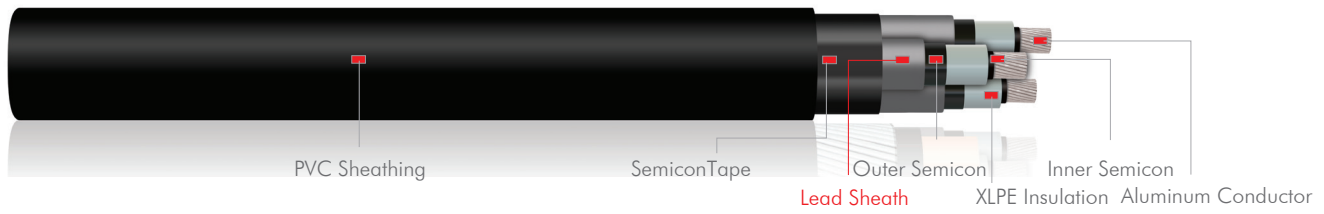
The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, INDIVIDUAL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2

ALUMINUM CONDUCTOR | 12/20 (24)kV  
AL/XLPE/LC/PVC



## THREE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24760001	35	7.1	5.5	1.4	2.8	62	5900	500
24760002	50	7.9	5.5	1.5	2.9	65	6450	500
24760003	70	9.7	5.5	1.5	3.0	68.5	7000	500
24760004	95	11.3	5.5	1.6	3.1	72.5	8200	500
24760005	120	12.6	5.5	1.6	3.2	76	8800	500
24760006	150	14.1	5.5	1.6	3.3	80	9400	500
24760007	185	16.0	5.5	1.7	3.5	84.5	10600	400
24760008	240	18.1	5.5	1.7	3.6	90	12400	400
24760009	300	20.4	5.5	1.8	3.8	94.5	13500	400
24760010	400	23.1	5.5	1.9	4.1	102	15700	300



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 12/20 (24)kV  
AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.365	0.350	0.333	0.322	0.312	0.303	0.295	0.285	0.270	0.262
Reactance at 60 Hz	Ω/km	0.14	0.13	0.13	0.12	0.12	0.11	0.11	0.11	0.10	0.10
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.2	0.22	0.24	0.26	0.27	0.3	0.33	0.37
Short Circuit Current For 1 second											
1- Conductor	KA	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	6.9	7.6	8.2	9.1	9.8	10.6	11.5	12.8	14.1	16.1
Current Rating Capacity											
1- Laid direct in ground (Approx.)	A	127	148	178	210	238	265	298	341	383	435
2- Laid in free air (Approx.)	A	120	144	178	215	248	281	323	378	432	502
Voltage Drop per phase	V/A/km	1.320	0.973	0.737	0.530	0.402	0.331	0.281	0.236	0.194	0.165
Minimum Bending radius	mm	930	975	1028	1088	1140	1200	1268	1350	1426	1530

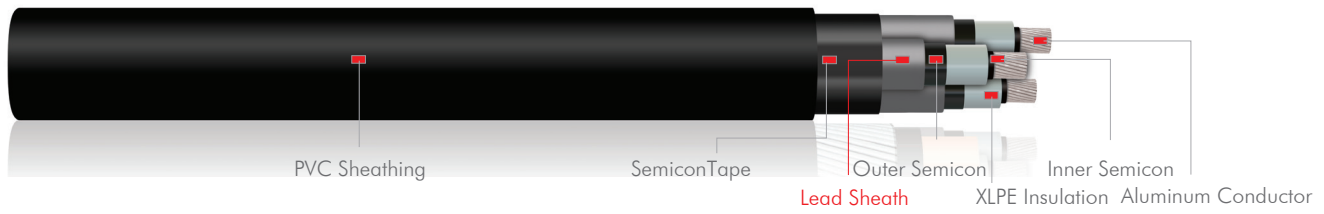
The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, INDIVIDUAL LEAD SHEATHED & PVC SHEATHED UNARMoured CABLE AS PER IEC 60502-2

ALUMINUM CONDUCTOR | 18/30 (36)kV  
AL/XLPE/LC/PVC



## THREE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
25850001	50	7.9	8.0	1.6	3.3	76.5	8700	500
25850002	70	9.7	8.0	1.7	3.4	81.5	9700	500
25850003	95	11.3	8.0	1.7	3.5	85	10550	400
25850004	120	12.6	8.0	1.7	3.6	88	11200	400
25850005	150	14.1	8.0	1.8	3.7	91	12300	400
25850006	185	16.0	8.0	1.8	3.9	95.5	13100	300
25850007	240	18.1	8.0	1.9	4.0	102	25100	300
25850008	300	20.4	8.0	2.0	4.2	107	15000	300



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 18/30 (36)kV  
AL/XLPE/LC/PVC

Size	mm <sup>2</sup>	50	70	95	120	150	185	240	300
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131
Inductance at 60 Hz	mH/Km	0.398	0.380	0.369	0.355	0.345	0.335	0.320	0.308
Reactance at 60 Hz	Ω/km	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12
Capacitance at 60 Hz	μF/Km	0.14	0.15	0.17	0.18	0.2	0.21	0.23	0.25

## Short Circuit Current For 1 second

1- Conductor	KA	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11
2- Metallic Sheath/Screen	KA	10.2	10.4	11.9	12.7	13.6	14.6	16.0	17.4

## Current Rating Capacity

1- Laid direct in ground (Approx.)	A	148	178	210	238	265	298	341	383
2- Laid in free air (Approx.)	A	144	178	215	248	281	323	378	432
Voltage Drop per phase	V/A/km	0.749	0.540	0.412	0.340	0.290	0.244	0.202	0.174
Minimum Bending radius	mm	1140	1215	1275	1320	1380	1440	1515	1590

The above values are based on the following conditions:

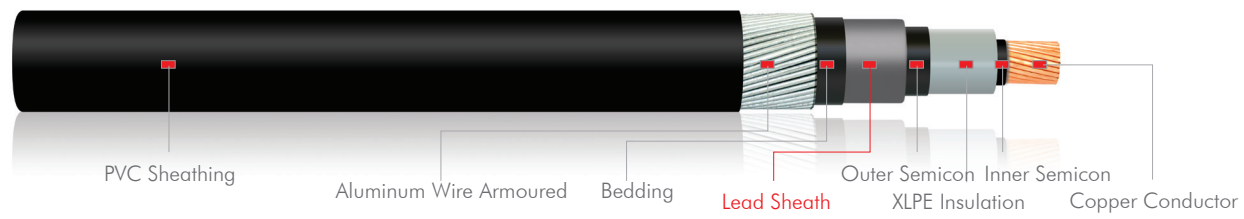
Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, LEAD SHEATHED, ALUMINUM WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2

COPPER CONDUCTOR | 3.6/6 (7.2)kV

CU/XLPE/LC/PVC/AWA/PVC



## SINGLE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
21700001	25	6.2	2.5	1.2	1.0	1.80	1.8	26.5	1600	1000
21700002	35	7.2	2.5	1.2	1.0	1.80	1.8	27.5	1750	1000
21700003	50	8.3	2.5	1.3	1.0	1.80	1.8	28.5	2030	1000
21700004	70	10	2.5	1.3	1.0	1.80	1.9	30.5	2380	1000
21700005	95	11.8	2.5	1.4	1.0	1.80	1.9	32.5	2850	1000
21700006	120	13.1	2.5	1.4	1.1	2.00	2.0	34.5	3270	1000
21700007	150	14.7	2.5	1.5	1.1	2.00	2.1	37.0	3770	1000
21700008	185	16.1	2.5	1.5	1.1	2.00	2.1	38.5	4240	1000
21700009	240	18.7	2.6	1.6	1.2	2.00	2.2	42.0	5150	1000
21700010	300	20.8	2.8	1.6	1.2	2.00	2.3	45.0	5950	500
21700011	400	24	3.0	1.7	1.3	2.50	2.5	49.5	7480	500
21700012	500	27	3.2	1.8	1.4	2.50	2.6	54.5	8700	500
21700013	630	30.8	3.2	1.9	1.4	2.50	2.7	59.0	11170	500



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 3.6/6 (7.2)kV  
CU/XLPE/LC/PVC/AWA/PVC

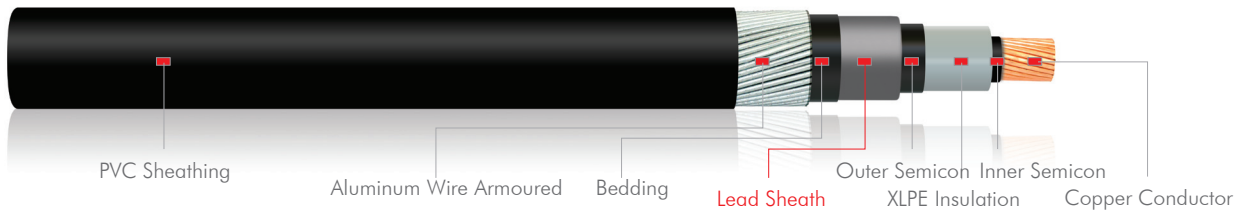
Size	mm2	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	$\Omega/km$	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
Approximate AC resistance of Conductor @ 90°C	$\Omega/km$	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.129	0.099	0.0804	0.0647	0.0527	0.0434
Inductance at 60 Hz	mH/Km	0.472	0.461	0.440	0.417	0.405	0.392	0.379	0.370	0.355	0.346	0.3335	0.328	0.315
Reactance at 60 Hz	$\Omega/km$	0.18	0.17	0.17	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12
Capacitance at 60 Hz	$\mu F/Km$	0.25	0.28	0.31	0.35	0.39	0.43	0.47	0.52	0.56	0.58	0.60	0.63	0.75
Short Circuit Current For 1 second														
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09
2- Metallic Sheath/Screen	KA	1.3	1.5	1.6	1.8	2.1	2.3	2.5	2.7	3.1	3.6	4.3	4.9	5.6
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	153	175	211	250	274	315	370	415	470	530	595	680	740
Flat Formation (Approx.)	A	157	181	218	258	282	323	378	420	473	525	550	640	685
2- Laid in free air														
Trefoil Formation (Approx.)	A	163	205	245	269	329	379	430	494	583	669	769	860	1000
Flat Formation (Approx.)	A	178	217	260	324	395	455	509	580	678	770	854	895	1035
Voltage Drop per phase	V/A/km	0.850	0.641	0.492	0.365	0.289	0.246	0.215	0.185	0.159	0.140	0.127	0.115	0.107
Minimum Bending radius	mm	530	550	570	610	650	690	740	770	840	900	990	1090	1180

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, LEAD SHEATHED, ALUMINUM WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**COPPER CONDUCTOR | 6/10 (12)kV**  
**CU/XLPE/LC/PVC/AWA/PVC**



**SINGLE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
22700001	25	6.2	3.4	1.3	1.0	1.80	1.8	28.5	1800	1000
22700002	35	7.2	3.4	1.3	1.0	1.80	1.8	29.5	1990	1000
22700003	50	8.3	3.4	1.3	1.0	1.80	1.9	30.5	2200	1000
22700004	70	10	3.4	1.4	1.0	1.80	2.0	32.5	2630	1000
22700005	95	11.8	3.4	1.4	1.1	2.00	2.0	35.0	3080	1000
22700006	120	13.1	3.4	1.5	1.1	2.00	2.1	36.5	3550	1000
22700007	150	14.7	3.4	1.5	1.1	2.00	2.2	38.0	3940	1000
22700008	185	16.1	3.4	1.6	1.2	2.00	2.2	40.5	4580	1000
22700009	240	18.7	3.4	1.6	1.2	2.00	2.3	43.5	5400	1000
22700010	300	20.8	3.4	1.7	1.3	2.50	2.4	47.0	6500	500
22700011	400	24	3.4	1.8	1.3	2.50	2.5	51.0	7830	500
22700012	500	27	3.4	1.9	1.4	2.50	2.6	55.5	9300	500
22700013	630	30.8	3.4	1.9	1.4	2.50	2.7	60.0	11670	400





# TECHNICAL INFORMATION

COPPER CONDUCTOR | 6/10 (12)kV  
CU/XLPE/LC/PVC/AWA/PVC

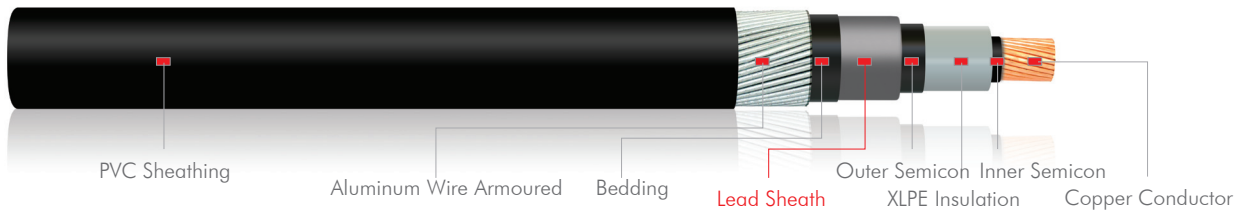
Size	mm2	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	$\Omega/km$	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
Approximate AC resistance of Conductor @ 90°C	$\Omega/km$	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.129	0.099	0.0804	0.0647	0.0527	0.0434
Inductance at 60 Hz	mH/Km	0.489	0.472	0.450	0.429	0.415	0.401	0.390	0.378	0.364	0.352	0.338	0.328	0.317
Reactance at 60 Hz	$\Omega/km$	0.18	0.18	0.17	0.16	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12	0.12
Capacitance at 60 Hz	$\mu F/Km$	0.20	0.23	0.25	0.29	0.30	0.33	0.37	0.40	0.45	0.49	0.54	0.60	0.70
Short Circuit Current For 1 second														
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09
2- Metallic Sheath/Screen	KA	1.5	1.7	1.9	2.1	2.3	2.6	2.8	3.0	3.4	3.8	4.5	5.0	5.7
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	153	175	211	250	274	315	370	415	470	530	595	680	740
Flat Formation (Approx.)	A	157	181	218	258	282	323	378	420	473	525	550	640	685
2- Laid in free air														
Trefoil Formation (Approx.)	A	163	205	245	269	329	379	430	494	583	669	769	860	1000
Flat Formation (Approx.)	A	178	217	260	324	395	455	509	580	678	770	854	895	1035
Voltage Drop per phase	V/A/km	0.851	0.641	0.495	0.370	0.292	0.248	0.215	0.187	0.160	0.142	0.125	0.117	0.106
Minimum Bending radius	mm	570	590	610	650	700	730	760	810	870	940	1020	1110	1200

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, LEAD SHEATHED, ALUMINUM WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**COPPER CONDUCTOR | 8.7/15 (17.5)kV**  
**CU/XLPE/LC/PVC/AWA/PVC**



**SINGLE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
23700001	25	6.2	4.5	1.3	1.0	1.80	1.9	30.5	2060	1000
23700002	35	7.2	4.5	1.4	1.0	1.80	1.9	32.5	2330	1000
23700003	50	8.3	4.5	1.4	1.1	1.80	2.0	33.5	2580	1000
23700004	70	10	4.5	1.4	1.1	2.00	2.1	35.5	2990	1000
23700005	95	11.8	4.5	1.5	1.1	2.00	2.1	37.5	3500	1000
23700006	120	13.1	4.5	1.5	1.1	2.00	2.2	39.0	3870	1000
23700007	150	14.7	4.5	1.6	1.2	2.00	2.2	41.5	4400	1000
23700008	185	16.1	4.5	1.6	1.2	2.00	2.3	44.5	4900	1000
23700009	240	18.7	4.5	1.7	1.3	2.50	2.4	47.0	6000	500
23700010	300	20.8	4.5	1.7	1.3	2.50	2.5	50.0	6800	500
23700011	400	24	4.5	1.8	1.4	2.50	2.6	53.0	8170	500
23700012	500	27	4.5	1.9	1.4	2.50	2.7	57.0	9340	500
23700013	630	30.8	4.5	2.0	1.5	2.50	2.8	62.0	11880	500



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 8.7/15 (17.5)kV  
CU/XLPE/LC/PVC/AWA/PVC

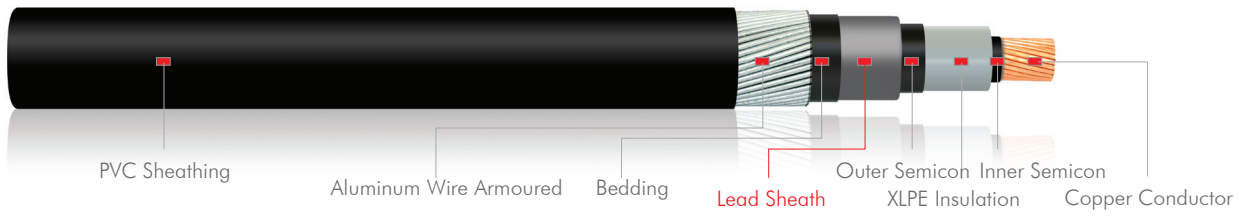
Size	mm2	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	$\Omega/km$	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
Approximate AC resistance of Conductor @ 90°C	$\Omega/km$	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.129	0.099	0.0804	0.0647	0.0527	0.0434
Inductance at 60 Hz	mH/Km	0.504	0.485	0.463	0.440	0.428	0.414	0.400	0.389	0.374	0.361	0.345	0.338	0.325
Reactance at 60 Hz	$\Omega/km$	0.19	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12
Capacitance at 60 Hz	$\mu F/Km$	0.17	0.18	0.20	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43	0.48	0.53
Short Circuit Current For 1 second														
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09
2- Metallic Sheath/Screen	KA	1.8	2.0	2.2	2.4	2.7	2.9	3.2	3.4	3.9	4.3	4.9	5.5	6.2
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	153	175	211	250	274	315	370	415	470	530	595	680	740
Flat Formation (Approx.)	A	157	181	218	258	282	323	378	420	473	525	550	640	685
2- Laid in free air														
Trefoil Formation (Approx.)	A	163	205	245	269	329	379	430	494	583	669	769	860	1000
Flat Formation (Approx.)	A	178	217	260	324	395	455	509	580	678	770	854	895	1035
Voltage Drop per phase	V/A/km	0.855	0.645	0.500	0.374	0.295	0.250	0.220	0.190	0.163	0.145	0.130	0.119	0.108
Minimum Bending radius	mm	610	650	670	710	750	780	830	890	940	1000	1060	1140	1240

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, LEAD SHEATHED, ALUMINUM WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**COPPER CONDUCTOR | 12/20 (24)kV**  
**CU/XLPE/LC/PVC/AWA/PVC**



**SINGLE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24700001	35	7.2	5.5	1.4	1.1	2.00	2.0	35.0	2600	1000
24700002	50	8.3	5.5	1.5	1.1	2.00	2.1	36.0	2940	1000
24700003	70	10	5.5	1.5	1.1	2.00	2.1	38.0	3280	1000
24700004	95	11.8	5.5	1.6	1.2	2.00	2.2	40.0	3850	1000
24700005	120	13.1	5.5	1.6	1.2	2.00	2.3	42.0	4240	1000
24700006	150	14.7	5.5	1.6	1.2	2.00	2.3	43.5	4380	1000
24700007	185	16.1	5.5	1.7	1.3	2.50	2.4	46.5	5490	1000
24700008	240	18.7	5.5	1.7	1.3	2.50	2.5	49.5	6320	500
24700009	300	20.8	5.5	1.8	1.3	2.50	2.6	52.0	7320	500
24700010	400	24	5.5	1.9	1.4	2.50	2.7	57.0	8720	500
24700011	500	27	5.5	2.0	1.5	2.50	2.8	60.5	10400	500
24700012	630	30.8	5.5	2.1	1.5	2.50	2.9	65.0	12450	400



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 12/20 (24)kV  
CU/XLPE/LC/PVC/AWA/PVC

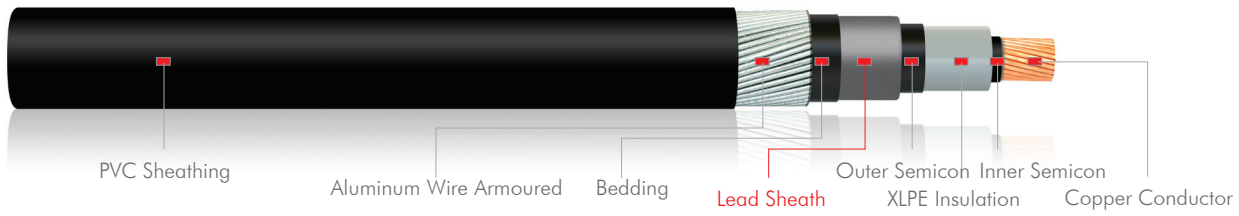
Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.668	0.494	0.342	0.247	0.196	0.160	0.129	0.099	0.0804	0.0647	0.0527	0.0434
Inductance at 60 Hz	mH/Km	0.495	0.474	0.452	0.438	0.423	0.412	0.398	0.393	0.371	0.356	0.346	0.334
Reactance at 60 Hz	Ω/km	0.19	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.14	0.13	0.13	0.13
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.20	0.22	0.24	0.26	0.27	0.30	0.33	0.37	0.41	0.46
Short Circuit Current For 1 second													
1- Conductor	KA	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09
2- Metallic Sheath/Screen	KA	2.3	2.5	2.7	3.0	3.3	3.5	3.8	4.3	4.7	5.4	6.0	6.7
Current Rating Capacity													
1- Laid direct in ground													
Trefoil Formation (Approx.)	A	175	211	250	274	315	370	415	470	530	595	680	740
Flat Formation (Approx.)	A	181	218	258	282	323	378	420	473	525	550	640	685
2- Laid in free air													
Trefoil Formation (Approx.)	A	205	245	269	329	379	430	494	583	669	769	860	1000
Flat Formation (Approx.)	A	217	260	324	395	455	509	580	678	770	854	895	1035
Voltage Drop per phase	V/A/km	0.645	0.500	0.377	0.300	0.254	0.221	0.192	0.165	0.148	0.133	0.120	0.112
Minimum Bending radius	mm	700	720	760	800	840	870	930	990	1040	11400	1210	1300

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, LEAD SHEATHED, ALUMINUM WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**COPPER CONDUCTOR | 18/30 (36)kV**  
**CU/XLPE/LC/PVC/AWA/PVC**



**SINGLE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
25700001	50	8.3	8.0	1.6	1.2	2.00	2.3	42.5	3750	1000
25700002	70	10	8.0	1.7	1.2	2.00	2.3	44.0	4250	1000
25700003	95	11.8	8.0	1.7	1.3	2.50	2.4	47.0	4870	1000
25700004	120	13.1	8.0	1.7	1.3	2.50	2.5	49.0	5280	1000
25700005	150	14.7	8.0	1.8	1.3	2.50	2.5	50.5	5860	500
25700006	185	16.1	8.0	1.8	1.4	2.50	2.6	52.5	6440	500
25700007	240	18.7	8.0	1.9	1.4	2.50	2.7	55.5	7480	500
25700008	300	20.8	8.0	2.0	1.4	2.50	2.8	58.0	8560	500
25700009	400	24	8.0	2.0	1.5	2.50	2.9	62.5	9990	500
25700010	500	27	8.0	2.1	1.6	2.50	3.0	66.5	11600	500
25700011	630	30.8	8.0	2.2	1.6	2.50	3.1	70.5	13700	500



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 18/30 (36)kV

CU/XLPE/LC/PVC/AWA/PVC

Size	mm <sup>2</sup>	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.494	0.342	0.247	0.196	0.160	0.129	0.099	0.0804	0.0647	0.0527	0.0434
Inductance at 60 Hz	mH/Km	0.505	0.481	0.467	0.450	0.438	0.425	0.408	0.395	0.378	0.368	0.358
Reactance at 60 Hz	Ω/km	0.19	0.18	0.18	0.17	0.17	0.16	0.15	0.15	0.14	0.14	0.13
Capacitance at 60 Hz	μF/Km	0.14	0.15	0.17	0.18	0.20	0.21	0.23	0.25	0.27	0.30	0.34
Short Circuit Current For 1 second												
1- Conductor	KA	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09
2- Metallic Sheath/Screen	KA	3.4	3.6	4.0	4.2	4.5	4.9	5.3	5.8	6.6	7.2	8.1
Current Rating Capacity												
1- Laid direct in ground												
Trefoil Formation (Approx.)	A	211	250	274	315	370	415	470	530	595	680	740
Flat Formation (Approx.)	A	218	258	282	323	378	420	473	525	550	640	685
2- Laid in free air												
Trefoil Formation (Approx.)	A	245	269	329	379	430	494	583	669	769	860	1000
Flat Formation (Approx.)	A	260	324	395	455	509	580	678	770	854	895	1035
Voltage Drop per phase	V/A/km	0.509	0.383	0.305	0.260	0.228	0.198	0.171	0.153	0.137	0.125	0.116
Minimum Bending radius	mm	850	880	940	980	1010	1050	1110	1160	1250	1330	1410

The above values are based on the following conditions:

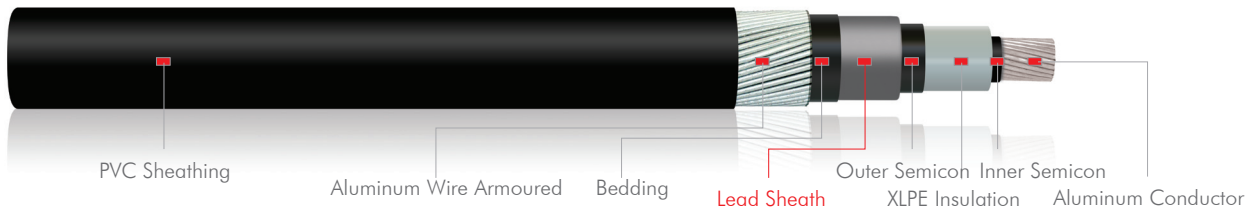
Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, LEAD SHEATHED, ALUMINUM WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2

ALUMINUM CONDUCTOR | 3.6/6 (7.2)kV

AL/XLPE/LC/PVC/AWA/PVC



## SINGLE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
21840001	25	5.7	2.5	1.2	1.0	1.80	1.8	26.0	1430	1000
21840002	35	7.1	2.5	1.2	1.0	1.80	1.8	27.0	1540	1000
21840003	50	7.9	2.5	1.3	1.0	1.80	1.8	28.0	1740	1000
21840004	70	9.7	2.5	1.3	1.0	1.80	1.9	30.0	1960	1000
21840005	95	11.3	2.5	1.4	1.0	1.80	1.9	32.0	2270	1000
21840006	120	12.6	2.5	1.4	1.1	2.00	2.0	34.0	2520	1000
21840007	150	14.1	2.5	1.5	1.1	2.00	2.1	36.5	2870	1000
21840008	185	16.0	2.5	1.5	1.1	2.00	2.1	38.0	3100	1000
21840009	240	18.1	2.6	1.6	1.2	2.00	2.2	41.5	3680	1000
21840010	300	20.4	2.8	1.6	1.2	2.00	2.3	44.5	4100	1000
21840011	400	23.1	3.0	1.7	1.3	2.50	2.5	48.5	5070	1000
21840012	500	25.9	3.2	1.8	1.4	2.50	2.6	53.5	5900	500
21840013	630	29.5	3.2	1.9	1.4	2.50	2.7	58.0	7600	500





# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 3.6/6 (7.2)kV  
AL/XLPE/LC/PVC/AWA/PVC

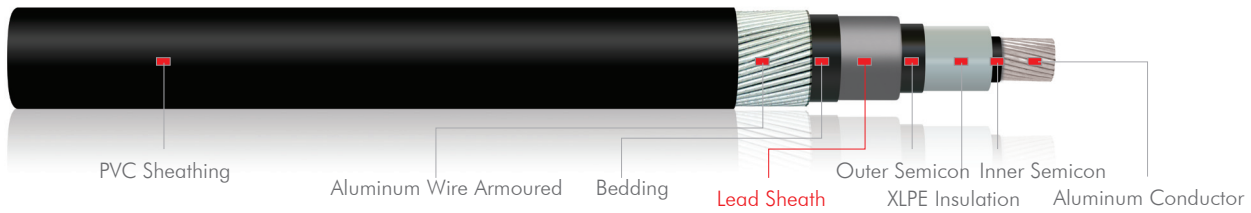
Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.568	0.411	0.326	0.265	0.211	0.161	0.130	0.1016	0.0799	0.0632
Inductance at 60 Hz	mH/Km	0.472	0.461	0.440	0.417	0.405	0.392	0.379	0.370	0.355	0.346	0.3335	0.328	0.315
Reactance at 60 Hz	Ω/km	0.18	0.17	0.17	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12
Capacitance at 60 Hz	μF/Km	0.25	0.28	0.31	0.35	0.39	0.43	0.47	0.52	0.56	0.58	0.60	0.63	0.75
Short Circuit Current For 1 second														
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48	46.85	59.03
2- Metallic Sheath/Screen	KA	1.3	1.5	1.6	1.8	2.1	2.3	2.5	2.7	3.1	3.6	4.3	4.9	5.6
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	100	120	135	165	200	230	260	293	330	370	415	520	750
Flat Formation (Approx.)	A	105	125	140	170	210	240	270	303	341	379	400	500	690
2- Laid in free air														
Trefoil Formation (Approx.)	A	116	140	167	209	255	295	335	386	457	525	612	705	800
Flat Formation (Approx.)	A	139	168	202	253	308	356	400	459	540	616	700	790	885
Voltage Drop per phase	V/A/km	1.338	0.995	0.758	0.549	0.421	0.349	0.298	0.252	0.210	0.182	0.157	0.138	0.122
Minimum Bending radius	mm	520	540	560	600	640	680	730	760	830	890	970	1070	1160

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, LEAD SHEATHED, ALUMINUM WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**ALUMINUM CONDUCTOR | 6/10 (12)kV**  
**AL/XLPE/LC/PVC/AWA/PVC**



**SINGLE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
22830001	25	5.7	3.4	1.3	1.0	1.80	1.8	28.0	1640	1000
22830002	35	7.1	3.4	1.3	1.0	1.80	1.8	29.0	1770	1000
22830003	50	7.9	3.4	1.3	1.0	1.80	1.9	30.0	1890	1000
22840004	70	9.7	3.4	1.4	1.0	1.80	2.0	32.0	2190	1000
22840005	95	11.3	3.4	1.4	1.1	2.00	2.0	35.0	2490	1000
22840006	120	12.6	3.4	1.5	1.1	2.00	2.1	36.0	2800	1000
22840007	150	14.1	3.4	1.5	1.1	2.00	2.2	37.5	3010	1000
22840008	185	16.0	3.4	1.6	1.2	2.00	2.2	40.5	3430	1000
22840009	240	18.1	3.4	1.6	1.2	2.00	2.3	43.0	3910	1000
22840010	300	20.4	3.4	1.7	1.3	2.50	2.4	46.5	4640	1000
22840011	400	23.1	3.4	1.8	1.3	2.50	2.5	50.0	5350	1000
22840012	500	25.9	3.4	1.9	1.4	2.50	2.6	53.5	6200	500
22840013	630	29.5	3.4	1.9	1.4	2.50	2.7	59.0	8000	500



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 6/10 (12)kV  
AL/XLPE/LC/PVC/AWA/PVC

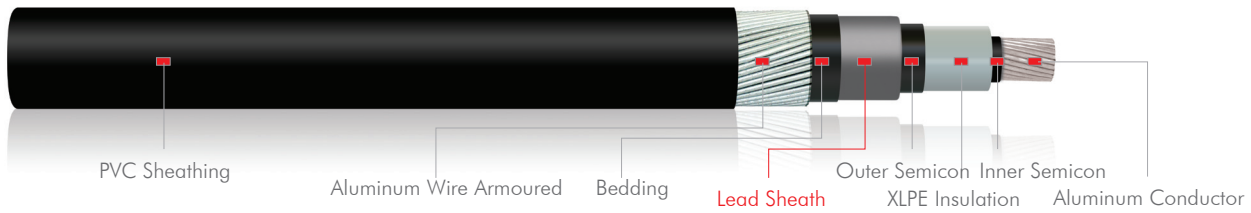
Size	mm2	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	$\Omega/km$	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Approximate AC resistance of Conductor @ 90°C	$\Omega/km$	1.54	1.113	0.822	0.568	0.411	0.326	0.265	0.211	0.161	0.130	0.1016	0.0799	0.0632
Inductance at 60 Hz	mH/Km	0.489	0.472	0.450	0.429	0.415	0.401	0.390	0.378	0.364	0.352	0.338	0.328	0.317
Reactance at 60 Hz	$\Omega/km$	0.18	0.18	0.17	0.16	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12	0.12
Capacitance at 60 Hz	$\mu F/Km$	0.20	0.23	0.25	0.29	0.30	0.33	0.37	0.40	0.45	0.49	0.54	0.60	0.70
Short Circuit Current For 1 second														
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48	46.85	59.03
2- Metallic Sheath/Screen	KA	1.5	1.7	1.9	2.1	2.3	2.6	2.8	3.0	3.4	3.8	4.5	5.0	5.7
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	100	120	135	165	200	230	260	293	330	370	415	520	750
Flat Formation (Approx.)	A	105	125	140	170	210	240	270	303	341	379	400	500	690
2- Laid in free air														
Trefoil Formation (Approx.)	A	116	140	167	209	255	295	335	386	457	525	612	705	800
Flat Formation (Approx.)	A	139	168	202	253	308	356	400	459	540	616	700	790	885
Voltage Drop per phase	V/A/km	1.343	0.997	0.761	0.551	0.423	0.351	0.300	0.254	0.212	0.183	0.158	0.139	0.123
Minimum Bending radius	mm	560	580	600	640	700	720	750	810	860	930	1000	1070	1180

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, LEAD SHEATHED, ALUMINUM WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV**  
**AL/XLPE/LC/PVC/AWA/PVC**



**SINGLE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
23840001	25	5.7	4.5	1.3	1.0	1.80	1.9	30.0	1900	1000
23840002	35	7.1	4.5	1.4	1.0	1.80	1.9	32.0	2100	1000
23840003	50	7.9	4.5	1.4	1.1	1.80	2.0	33.0	2280	1000
23840004	70	9.7	4.5	1.4	1.1	2.00	2.1	35.0	2560	1000
23840005	95	11.3	4.5	1.5	1.1	2.00	2.1	37.0	2910	1000
23840006	120	12.6	4.5	1.5	1.1	2.00	2.2	38.5	3140	1000
23840007	150	14.1	4.5	1.6	1.2	2.00	2.2	41.0	3520	1000
23840008	185	16.0	4.5	1.6	1.2	2.00	2.3	44.0	3780	1000
23840009	240	18.1	4.5	1.7	1.3	2.50	2.4	46.5	4500	1000
23840010	300	20.4	4.5	1.7	1.3	2.50	2.5	49.5	4960	1000
23840011	400	23.1	4.5	1.8	1.4	2.50	2.6	52.0	5770	500
23840012	500	25.9	4.5	1.9	1.4	2.50	2.7	56.0	6500	500
23840013	630	29.5	4.5	2.0	1.5	2.50	2.8	61.0	8300	500



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV  
AL/XLPE/LC/PVC/AWA/PVC

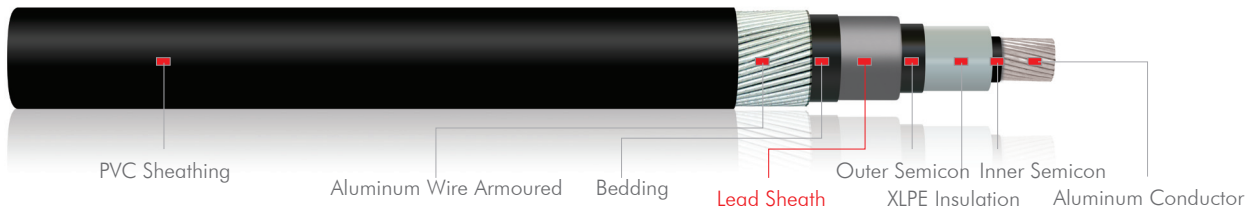
Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.568	0.411	0.326	0.265	0.211	0.161	0.130	0.1016	0.0799	0.0632
Inductance at 60 Hz	mH/Km	0.504	0.485	0.463	0.440	0.428	0.414	0.400	0.389	0.374	0.361	0.345	0.338	0.325
Reactance at 60 Hz	Ω/km	0.19	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.14	0.14	0.13	0.13	0.12
Capacitance at 60 Hz	μF/Km	0.17	0.18	0.20	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43	0.48	0.53
Short Circuit Current For 1 second														
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48	46.85	59.03
2- Metallic Sheath/Screen	KA	1.8	2.0	2.2	2.4	2.7	2.9	3.2	3.4	3.9	4.3	4.9	5.5	6.2
Current Rating Capacity														
1- Laid direct in ground														
Trefoil Formation (Approx.)	A	100	120	135	165	200	230	260	293	330	370	415	520	750
Flat Formation (Approx.)	A	105	125	140	170	210	240	270	303	341	379	400	500	690
2- Laid in free air														
Trefoil Formation (Approx.)	A	116	140	167	209	255	295	335	386	457	525	612	705	800
Flat Formation (Approx.)	A	139	168	202	253	308	356	400	459	540	616	700	790	885
Voltage Drop per phase	V/A/km	1.345	1.001	0.765	0.554	0.426	0.353	0.303	0.257	0.214	0.186	0.160	0.141	0.125
Minimum Bending radius	mm	600	640	660	700	740	770	820	880	930	990	1040	1120	1220

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, LEAD SHEATHED, ALUMINUM WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**ALUMINUM CONDUCTOR | 12/20 (24)kV**  
**AL/XLPE/LC/PVC/AWA/PVC**



**SINGLE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24840001	35	5.7	5.5	1.4	1.1	2.00	2.0	35.0	2380	1000
24840002	50	7.1	5.5	1.5	1.1	2.00	2.1	35.5	2630	1000
24840003	70	7.9	5.5	1.5	1.1	2.00	2.1	37.5	2840	1000
24840004	95	9.7	5.5	1.6	1.2	2.00	2.2	39.5	3260	1000
24840005	120	11.3	5.5	1.6	1.2	2.00	2.3	41.5	3490	1000
24840006	150	12.6	5.5	1.6	1.2	2.00	2.3	43.0	3450	1000
24840007	185	14.1	5.5	1.7	1.3	2.50	2.4	46.0	4340	1000
24840008	240	16.0	5.5	1.7	1.3	2.50	2.5	49.0	4830	1000
24840009	300	18.1	5.5	1.8	1.3	2.50	2.6	51.5	5460	1000
24840010	400	20.4	5.5	1.9	1.4	2.50	2.7	56.0	6240	500
24840011	500	23.1	5.5	2.0	1.5	2.50	2.8	59.5	7300	500
24840012	630	25.9	5.5	2.1	1.5	2.50	2.9	63.5	8550	500



# TECHNICAL INFORMATION

## ALUMINUM CONDUCTOR | 12/20 (24)kV AL/XLPE/LC/PVC/AWA/PVC

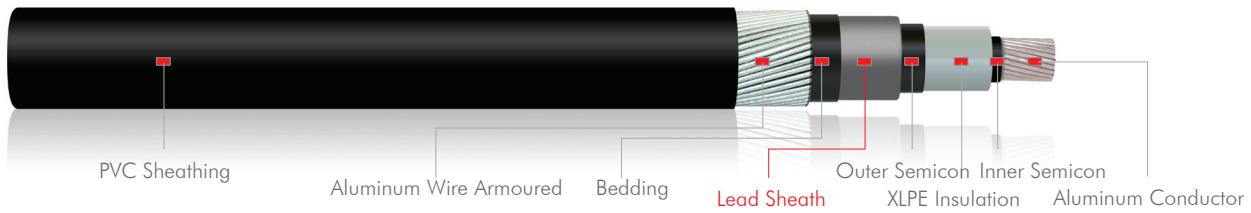
Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.113	0.822	0.568	0.411	0.326	0.265	0.211	0.161	0.130	0.1016	0.0799	0.0632
Inductance at 60 Hz	mH/Km	0.495	0.474	0.452	0.438	0.423	0.412	0.398	0.393	0.371	0.356	0.346	0.334
Reactance at 60 Hz	Ω/km	0.19	0.18	0.17	0.17	0.16	0.16	0.15	0.15	0.14	0.13	0.13	0.13
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.20	0.22	0.24	0.26	0.27	0.30	0.33	0.37	0.41	0.46
Short Circuit Current For 1 second													
1- Conductor	KA	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48	46.85	59.03
2- Metallic Sheath/Screen	KA	2.3	2.5	2.7	3.0	3.3	3.5	3.8	4.3	4.7	5.4	6.0	6.7
Current Rating Capacity													
1- Laid direct in ground													
Trefoil Formation (Approx.)	A	100	120	135	165	200	230	260	293	330	370	415	520
Flat Formation (Approx.)	A	105	125	140	170	210	240	270	303	341	379	400	500
2- Laid in free air													
Trefoil Formation (Approx.)	A	116	140	167	209	255	295	335	386	457	525	612	705
Flat Formation (Approx.)	A	139	168	202	253	308	356	400	459	540	616	700	790
Voltage Drop per phase	V/A/km	1.003	0.766	0.557	0.428	0.356	0.305	0.259	0.216	0.188	0.162	0.142	0.126
Minimum Bending radius	mm	700	710	750	790	830	860	920	920	980	1030	1120	1190

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, LEAD SHEATHED, ALUMINUM WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**ALUMINUM CONDUCTOR | 18/30 (36)kV**  
**AL/XLPE/LC/PVC/AWA/PVC**



**SINGLE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Aluminum wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
25840001	50	7.1	8.0	1.6	1.2	2.00	2.3	42.0	3440	1000
25840002	70	7.9	8.0	1.7	1.2	2.00	2.3	43.5	3810	1000
25840003	95	9.7	8.0	1.7	1.3	2.50	2.4	46.5	4280	1000
25840004	120	11.3	8.0	1.7	1.3	2.50	2.5	48.5	4530	1000
25840005	150	12.6	8.0	1.8	1.3	2.50	2.5	50.0	4930	1000
25840006	185	14.1	8.0	1.8	1.4	2.50	2.6	52.0	5290	1000
25840007	240	16.0	8.0	1.9	1.4	2.50	2.7	55.0	5990	500
25840008	300	18.1	8.0	2.0	1.4	2.50	2.8	57.5	6700	500
25840009	400	20.4	8.0	2.0	1.5	2.50	2.9	61.5	7510	500
25840010	500	23.1	8.0	2.1	1.6	2.50	3.0	65.5	8500	500
25840011	630	25.9	8.0	2.2	1.6	2.50	3.1	69.5	9800	500





# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 18/30 (36)kV  
AL/XLPE/LC/PVC/AWA/PVC

Size	mm <sup>2</sup>	50	70	95	120	150	185	240	300	400	500	630
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.822	0.568	0.411	0.326	0.265	0.211	0.161	0.130	0.1016	0.0799	0.0632
Inductance at 60 Hz	mH/Km	0.505	0.481	0.467	0.450	0.438	0.425	0.408	0.395	0.378	0.368	0.358
Reactance at 60 Hz	Ω/km	0.19	0.18	0.18	0.17	0.17	0.16	0.15	0.15	0.14	0.14	0.13
Capacitance at 60 Hz	μF/Km	0.14	0.15	0.17	0.18	0.20	0.21	0.23	0.25	0.27	0.30	0.34
Short Circuit Current For 1 second												
1- Conductor	KA	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48	46.85	59.03
2- Metallic Sheath/Screen	KA	3.4	3.6	4.0	4.2	4.5	4.9	5.3	5.8	6.6	7.2	8.1
Current Rating Capacity												
1- Laid direct in ground												
Trefoil Formation (Approx.)	A	100	120	135	165	200	230	260	293	330	370	415
Flat Formation (Approx.)	A	105	125	140	170	210	240	270	303	341	379	400
2- Laid in free air												
Trefoil Formation (Approx.)	A	116	140	167	209	255	295	335	386	457	525	612
Flat Formation (Approx.)	A	139	168	202	253	308	356	400	459	540	616	700
Voltage Drop per phase	V/A/km	0.773	0.563	0.434	0.362	0.311	0.265	0.222	0.193	0.167	0.147	0.131
Minimum Bending radius	mm	840	870	930	970	1000	1040	1100	1150	1230	1310	1390

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, OVERALL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2

COPPER CONDUCTOR | 3.6/6 (7.2)kV  
 CU/XLPE/LC/PVC/SWA/PVC



## THREE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
21790001	25	6.2	2.5	1.6	1.3	2.50	2.4	48	5790	500
21790002	35	7.2	2.5	1.7	1.3	2.50	2.5	51	6560	500
21790003	50	8.3	2.5	1.7	1.4	2.50	2.6	53.5	7290	500
21790004	70	10	2.5	1.8	1.4	2.50	2.7	57.5	8550	500
21790005	95	11.8	2.5	1.9	1.5	2.50	2.9	62	10080	500
21790006	120	13.1	2.5	2.0	1.6	2.50	3.0	65.5	11520	400
21790007	150	14.7	2.5	2.1	1.6	2.50	3.1	69	13030	400
21790008	185	16.1	2.5	2.2	1.7	2.50	3.2	73.5	14910	300
21790009	240	18.7	2.6	2.4	1.8	3.15	3.5	83.5	19050	300
21790010	300	20.8	2.8	2.5	1.9	3.15	3.7	89	22360	250
21790011	400	24	3.0	2.7	2.1	3.15	3.9	99	27200	200



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 3.6/6 (7.2)kV

CU/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.927	0.669	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0815	0.0660
Inductance at 60 Hz	mH/Km	0.365	0.345	0.334	0.322	0.316	0.10	0.303	0.300	0.294	0.286	0.279
Reactance at 60 Hz	Ω/km	0.14	0.13	0.13	0.12	0.12	0.04	0.11	0.11	0.11	0.11	0.11
Capacitance at 60 Hz	μF/Km	0.26	0.30	0.32	0.36	0.39	0.44	0.46	0.53	0.56	0.58	0.60
Short Circuit Current For 1 second												
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	4.03	5.53	5.16	5.88	6.75	7.56	8.42	9.39	11.03	12.81	15.63
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	140	170	196	245	278	310	344	390	440	490	530
2- Laid in free air (Approx.)	A	132	158	189	240	285	320	365	415	484	545	615
Voltage Drop per phase	V/A/km	0.820	0.613	0.471	0.345	0.269	0.228	0.197	0.170	0.145	0.130	0.121
Minimum Bending radius	mm	720	760	803	863	920	983	1035	1102	1253	1335	1485

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, OVERALL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2

COPPER CONDUCTOR | 6/10 (12)kV

CU/XLPE/LC/PVC/SWA/PVC



## THREE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
22790001	25	6.2	3.4	1.7	1.3	2.50	2.6	53	6580	500
22790002	35	7.2	3.4	1.8	1.4	2.50	2.6	55.5	7420	500
22790003	50	8.3	3.4	1.9	1.4	2.50	2.8	58	8350	500
22790004	70	10	3.4	1.9	1.5	2.50	2.9	62.5	9500	500
22790005	95	11.8	3.4	2.0	1.6	2.50	3.0	66.5	11000	500
22790006	120	13.1	3.4	2.1	1.6	2.50	3.1	70.5	12500	400
22790007	150	14.7	3.4	2.2	1.7	2.50	3.2	74	14000	300
22790008	185	16.1	3.4	2.3	1.8	3.15	3.4	79.5	16900	300
22790009	240	18.7	3.4	2.5	1.9	3.15	3.6	86	20300	250
22790010	300	20.8	3.4	2.6	2.0	3.15	3.8	92	23300	250
22790011	400	24	3.4	2.8	2.1	3.15	4.0	100	27800	200



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 6/10 (12)kV  
CU/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.927	0.669	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0815	0.0660
Inductance at 60 Hz	mH/Km	0.387	0.369	0.355	0.342	0.335	0.326	0.320	0.313	0.305	0.298	0.290
Reactance at 60 Hz	Ω/km	0.15	0.14	0.13	0.13	0.13	0.12	0.12	0.12	0.11	0.11	0.11
Capacitance at 60 Hz	μF/Km	0.20	0.23	0.25	0.29	0.30	0.33	0.37	0.40	0.45	0.49	0.54
Short Circuit Current For 1 second												
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	4.87	5.41	6.09	6.87	7.8	8.67	9.58	10.6	12.2	13.75	16.3
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	140	168	195	248	275	310	346	395	445	505	565
2- Laid in free air (Approx.)	A	130	155	186	231	277	320	363	415	486	552	635
Voltage Drop per phase	V/A/km	0.829	0.618	0.475	0.352	0.274	0.231	0.200	0.173	0.149	0.132	0.117
Minimum Bending radius	mm	795	833	870	938	998	1058	1110	1192	1290	1380	1500

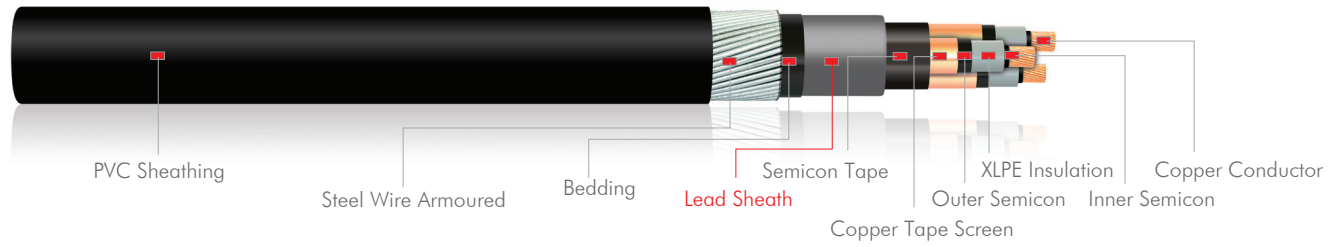
The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**

**COPPER CONDUCTOR | 8.7/15 (17.5)kV  
CU/XLPE/LC/PVC/SWA/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
23810001	25	6.2	4.5	1.8	1.4	2.50	2.7	59	7900	500
23810002	35	7.2	4.5	1.9	1.5	2.50	2.8	62.5	8750	500
23810003	50	8.3	4.5	2.0	1.5	2.50	2.9	64.5	9700	500
23810004	70	10	4.5	2.1	1.6	2.50	3.1	68.5	11200	500
23810005	95	11.8	4.5	2.2	1.7	2.50	3.2	74	12870	400
23810006	120	13.1	4.5	2.3	1.7	3.15	3.3	77	15200	300
23810007	150	14.7	4.5	2.4	1.8	3.15	3.5	82.5	17000	300
23810008	185	16.1	4.5	2.5	1.9	3.15	3.6	84.5	19100	250
23810009	240	18.7	4.5	2.6	2.0	3.15	3.8	92	22200	250
23810010	300	20.8	4.5	2.7	2.1	3.15	3.9	97	25500	200
23810011	400	24	4.5	2.9	2.2	3.15	4.2	106	30200	200



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 8.7/15 (17.5)kV  
 CU/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.927	0.669	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0815	0.0655
Inductance at 60 Hz	mH/Km	0.415	0.395	0.380	0.365	0.356	0.345	0.339	0.330	0.321	0.312	0.302
Reactance at 60 Hz	Ω/km	0.16	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12	0.12	0.11
Capacitance at 60 Hz	μF/Km	0.17	0.18	0.2	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43
Short Circuit Current For 1 second												
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	1.32	1.38	1.47	1.59	1.68	1.8	1.89	2.01	2.16	2.31	2.52
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	140	168	195	248	275	310	346	395	445	505	565
2- Laid in free air (Approx.)	A	130	155	186	231	277	320	363	415	486	552	635
Voltage Drop per phase	V/A/km	0.835	0.625	0.480	0.358	0.277	0.235	0.204	0.178	0.152	0.135	0.118
Minimum Bending radius	mm	895	938	968	1025	1110	1153	1238	1268	1380	1455	1590

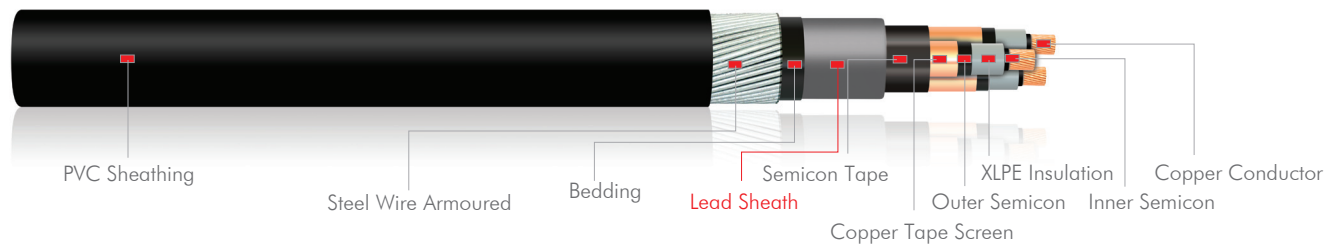
The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**

**COPPER CONDUCTOR | 12/20 (24)kV  
CU/XLPE/LC/PVC/SWA/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24810001	35	7.2	5.5	2.0	1.6	2.50	3.0	67.5	9800	500
24810002	50	8.3	5.5	2.1	1.6	2.50	3.1	70.5	10800	500
24810003	70	10	5.5	2.2	1.7	2.50	3.2	72.5	12390	400
24810004	95	11.8	5.5	2.3	1.8	3.15	3.4	79.5	15000	300
24810005	120	13.1	5.5	2.4	1.8	3.15	3.5	82.5	16630	300
24810006	150	14.7	5.5	2.5	1.9	3.15	3.6	86	18500	300
24810007	185	16.1	5.5	2.6	2.0	3.15	3.8	91	20600	250
24810008	240	18.7	5.5	2.7	2.1	3.15	3.9	97	23800	200
24810009	300	20.8	5.5	2.9	2.2	3.15	4.1	102.5	27350	200
24810010	400	24	5.5	3.1	2.3	3.15	4.4	111.5	32300	200





# TECHNICAL INFORMATION

COPPER CONDUCTOR | 12/20 (24)kV  
 CU/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.668	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0810	0.0650
Inductance at 60 Hz	mH/Km	0.415	0.400	0.381	0.374	0.362	0.354	0.345	0.335	0.320	0.305
Reactance at 60 Hz	Ω/km	0.16	0.15	0.14	0.14	0.14	0.13	0.13	0.13	0.12	0.11
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.2	0.22	0.24	0.26	0.27	0.3	0.33	0.37
Short Circuit Current For 1 second											
1- Conductor	KA	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	1.5	1.59	1.71	1.83	1.92	2.04	2.16	2.31	2.46	2.64
Current Rating Capacity											
1- Laid direct in ground (Approx.)	A	168	195	248	275	310	346	395	445	505	565
2- Laid in free air (Approx.)	A	155	186	231	277	320	363	415	486	552	635
Voltage Drop per phase	V/A/km	0.630	0.486	0.361	0.283	0.240	0.210	0.180	0.156	0.137	0.120
Minimum Bending radius	mm	1013	1058	1088	1193	1238	1290	1365	1455	1538	1673

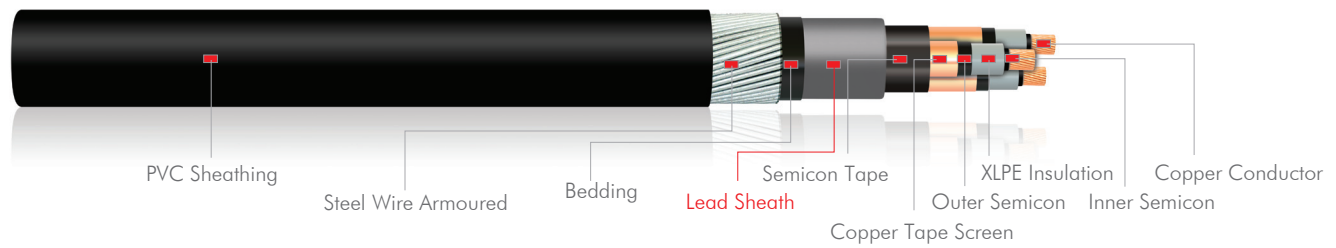
The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**

**COPPER CONDUCTOR | 18/30 (36)kV  
CU/XLPE/LC/PVC/SWA/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
25810001	50	8.3	8.0	2.4	1.9	3.15	3.6	84.5	15270	300
25810002	70	10	8.0	2.5	1.9	3.15	3.7	89	16870	300
25810003	95	11.8	8.0	2.6	2.0	3.15	3.8	93	18800	250
25810004	120	13.1	8.0	2.7	2.1	3.15	3.9	95	20600	250
25810005	150	14.7	8.0	2.8	2.1	3.15	4.0	99	22450	250
25810006	185	16.1	8.0	2.9	2.2	3.15	4.2	103.5	24700	200
25810007	240	18.7	8.0	3.1	2.3	3.15	4.4	109.5	28400	200
25810008	300	20.8	8.0	3.2	2.4	3.15	4.5	115.5	31800	200



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 18/30 (36)kV  
CU/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	50	70	95	120	150	185	240	300
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.494	0.341	0.247	0.196	0.161	0.128	0.098	0.0801
Inductance at 60 Hz	mH/Km	0.450	0.432	0.420	0.405	0.395	0.385	0.372	0.360
Reactance at 60 Hz	Ω/km	0.17	0.16	0.16	0.15	0.15	0.15	0.14	0.14
Capacitance at 60 Hz	μF/Km	0.14	0.15	0.17	0.18	0.2	0.21	0.23	0.25
Short Circuit Current For 1 second									
1- Conductor	KA	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90
2- Metallic Sheath/Screen	KA	1.95	2.07	2.19	2.28	2.37	2.49	2.67	2.82
Current Rating Capacity									
1- Laid direct in ground (Approx.)	A	195	248	275	310	346	395	445	505
2- Laid in free air (Approx.)	A	186	231	277	320	363	415	486	552
Voltage Drop per phase	V/A/km	0.497	0.372	0.292	0.248	0.217	0.190	0.164	0.143
Minimum Bending radius	mm	1268	1335	1395	1425	1485	1553	1642	1733

The above values are based on the following conditions:

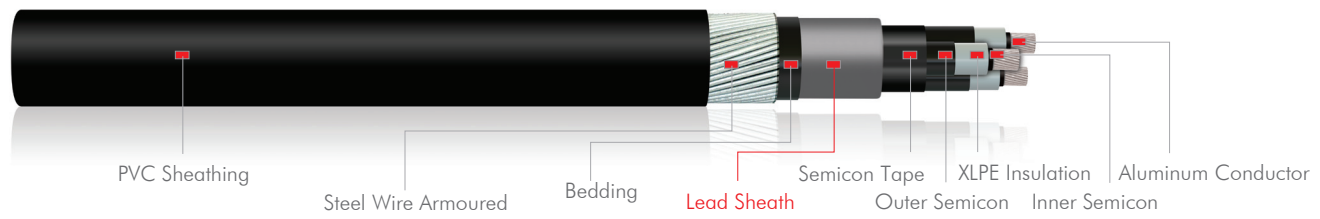
Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, OVERALL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2

ALUMINUM CONDUCTOR | 3.6/6 (7.2)kV

AL/XLPE/LC/PVC/SWA/PVC



## THREE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
21820001	25	5.7	2.5	1.6	1.3	2.50	2.4	47	5320	500
21820002	35	7.1	2.5	1.7	1.3	2.50	2.5	50	5910	500
21820003	50	7.9	2.5	1.7	1.4	2.50	2.6	52.5	6360	500
21820004	70	9.7	2.5	1.8	1.4	2.50	2.7	56.5	7250	500
21820005	95	11.3	2.5	1.9	1.5	2.50	2.9	61	8310	500
21820006	120	12.6	2.5	2.0	1.6	2.50	3.0	64.5	9290	500
21820007	150	14.1	2.5	2.1	1.6	2.50	3.1	68	10240	500
21820008	185	16.0	2.5	2.2	1.7	2.50	3.2	73	11470	400
21820009	240	18.1	2.6	2.4	1.8	3.15	3.5	82.5	14590	300
21820010	300	20.4	2.8	2.5	1.9	3.15	3.7	88	16780	300
21820011	400	23.1	3.0	2.7	2.1	3.15	3.9	97	19770	250



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 3.6/6 (7.2)kV  
AL/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.365	0.345	0.334	0.322	0.316	0.10	0.303	0.300	0.294	0.286	0.279
Reactance at 60 Hz	Ω/km	0.14	0.13	0.13	0.12	0.12	0.04	0.11	0.11	0.11	0.11	0.11
Capacitance at 60 Hz	μF/Km	0.26	0.30	0.32	0.36	0.39	0.44	0.46	0.53	0.56	0.58	0.60
Short Circuit Current For 1 second												
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	4.03	5.53	5.16	5.88	6.75	7.56	8.42	9.39	11.03	12.81	15.63
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	108	127	148	178	211	238	264	297	339	379	426
2- Laid in free air (Approx.)	A	101	121	145	178	217	249	281	322	378	430	496
Voltage Drop per phase	V/A/km	1.313	0.968	0.733	0.527	0.400	0.330	0.281	0.237	0.196	0.169	0.140
Minimum Bending radius	mm	705	750	788	848	915	968	1020	1095	1238	1320	1455

The above values are based on the following conditions:

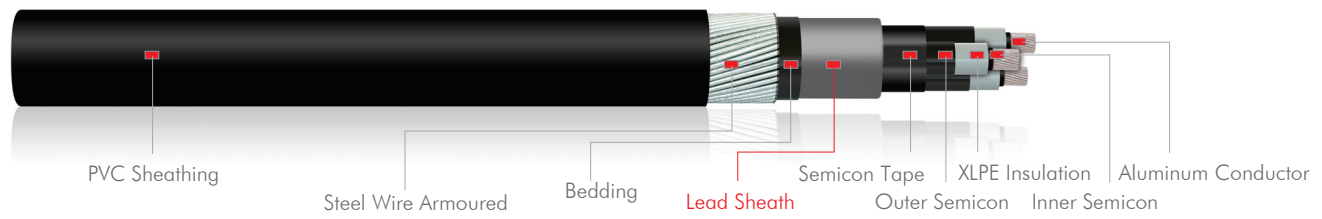
Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, OVERALL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2

ALUMINUM CONDUCTOR | 6/10 (12)kV

AL/XLPE/LC/PVC/SWA/PVC



## THREE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
22820001	25	5.7	3.4	1.7	1.3	2.50	2.6	52	6110	500
22820002	35	7.1	3.4	1.8	1.4	2.50	2.6	55	6770	500
22820003	50	7.9	3.4	1.9	1.4	2.50	2.8	57	7420	500
22820004	70	9.7	3.4	1.9	1.5	2.50	2.9	61.5	8200	500
22820005	95	11.3	3.4	2.0	1.6	2.50	3.0	65.5	9230	500
22820006	120	12.6	3.4	2.1	1.6	2.50	3.1	69.5	10270	500
22820007	150	14.1	3.4	2.2	1.7	2.50	3.2	73	11210	500
22820008	185	16.0	3.4	2.3	1.8	3.15	3.4	79	13460	400
22820009	240	18.1	3.4	2.5	1.9	3.15	3.6	85	15840	300
22820010	300	20.4	3.4	2.6	2.0	3.15	3.8	91	17720	300
22820011	400	23.1	3.4	2.8	2.1	3.15	4.0	98	20370	250



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 6/10 (12)kV  
AL/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.387	0.369	0.355	0.342	0.335	0.326	0.320	0.313	0.305	0.298	0.290
Reactance at 60 Hz	Ω/km	0.15	0.14	0.13	0.13	0.13	0.12	0.12	0.12	0.11	0.11	0.11
Capacitance at 60 Hz	μF/Km	0.20	0.23	0.25	0.29	0.30	0.33	0.37	0.40	0.45	0.49	0.54
Short Circuit Current For 1 second												
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	4.87	5.41	6.09	6.87	7.8	8.67	9.58	10.6	12.2	13.75	16.3
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	108	127	148	178	210	238	265	298	341	383	435
2- Laid in free air (Approx.)	A	100	120	144	178	215	248	281	323	378	432	502
Voltage Drop per phase	V/A/km	1.319	0.974	0.739	0.532	0.405	0.334	0.284	0.240	0.199	0.172	0.142
Minimum Bending radius	mm	780	825	855	923	983	1043	1095	1185	1275	1365	1470

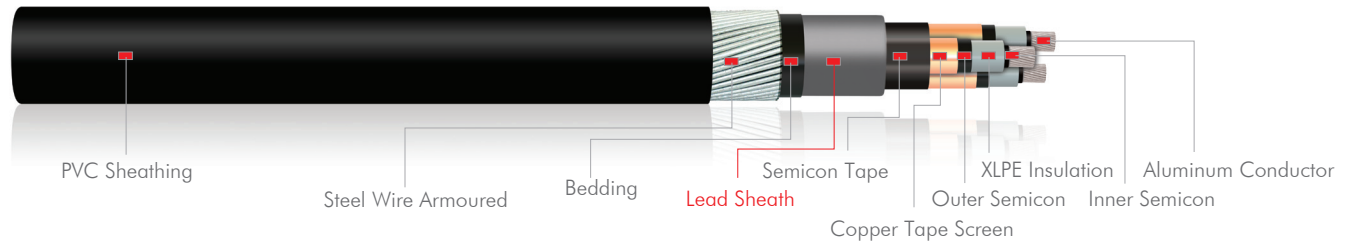
The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**

**ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV**  
**AL/XLPE/LC/PVC/SWA/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
23870001	25	5.7	4.5	1.8	1.4	2.50	2.7	58	7420	500
23870002	35	7.1	4.5	1.9	1.5	2.50	2.8	62	8090	500
23870003	50	7.9	4.5	2.0	1.5	2.50	2.9	63.5	8810	500
23870004	70	9.7	4.5	2.1	1.6	2.50	3.1	67.5	9920	500
23870005	95	11.3	4.5	2.2	1.7	2.50	3.2	73	11100	400
23870006	120	12.6	4.5	2.3	1.7	3.15	3.3	76	12970	400
23870007	150	14.1	4.5	2.4	1.8	3.15	3.5	81.5	14260	300
23870008	185	16.0	4.5	2.5	1.9	3.15	3.6	84	15660	300
23870009	240	18.1	4.5	2.6	2.0	3.15	3.8	91	17700	300
23870010	300	20.4	4.5	2.7	2.1	3.15	3.9	96	19870	250
23870011	400	23.1	4.5	2.9	2.2	3.15	4.2	104	22960	200





# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV  
AL/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.415	0.395	0.380	0.365	0.356	0.345	0.339	0.330	0.321	0.312	0.302
Reactance at 60 Hz	Ω/km	0.16	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12	0.12	0.11
Capacitance at 60 Hz	μF/Km	0.17	0.18	0.2	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43
Short Circuit Current For 1 second												
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	1.32	1.38	1.47	1.59	1.68	1.8	1.89	2.01	2.16	2.31	2.52
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	108	127	148	178	210	238	265	298	341	383	435
2- Laid in free air (Approx.)	A	100	120	144	178	215	248	281	323	378	432	502
Voltage Drop per phase	V/A/km	1.325	0.980	0.744	0.537	0.410	0.338	0.289	0.243	0.202	0.175	0.145
Minimum Bending radius	mm	870	930	953	1013	1095	1140	1223	1260	1365	1440	1560

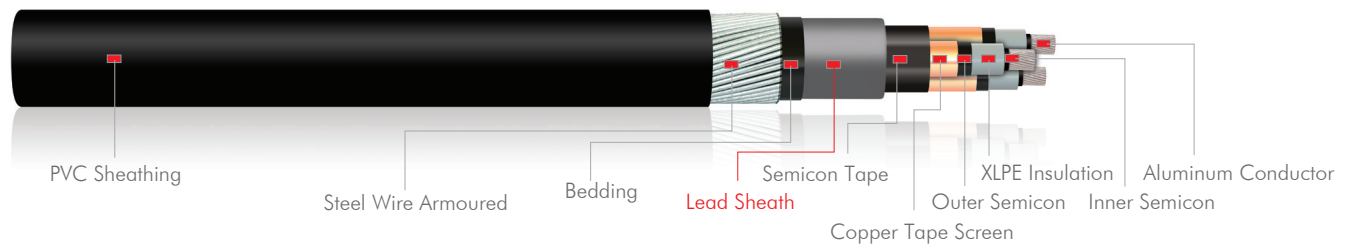
The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**

**ALUMINUM CONDUCTOR | 12/20 (24)kV  
AL/XLPE/LC/PVC/SWA/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24870001	35	7.1	5.5	2.0	1.6	2.50	3.0	67	9140	500
24870002	50	7.9	5.5	2.1	1.6	2.50	3.1	69.5	9910	500
24870003	70	9.7	5.5	2.2	1.7	2.50	3.2	71.5	11110	500
24870004	95	11.3	5.5	2.3	1.8	3.15	3.4	78.5	13230	400
24870005	120	12.6	5.5	2.4	1.8	3.15	3.5	81.5	14400	300
24870006	150	14.1	5.5	2.5	1.9	3.15	3.6	85	15760	300
24870007	185	16.0	5.5	2.6	2.0	3.15	3.8	90.5	17160	300
24870008	240	18.1	5.5	2.7	2.1	3.15	3.9	96	19300	250
24870009	300	20.4	5.5	2.9	2.2	3.15	4.1	101.5	21720	200
24870010	400	23.1	5.5	3.1	2.3	3.15	4.4	109.5	25060	200



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 12/20 (24)kV  
AL/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.415	0.400	0.381	0.374	0.362	0.354	0.345	0.335	0.320	0.305
Reactance at 60 Hz	Ω/km	0.16	0.15	0.14	0.14	0.14	0.13	0.13	0.13	0.12	0.11
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.2	0.22	0.24	0.26	0.27	0.3	0.33	0.37
Short Circuit Current For 1 second											
1- Conductor	KA	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	1.5	1.59	1.71	1.83	1.92	2.04	2.16	2.31	2.46	2.64
Current Rating Capacity											
1- Laid direct in ground (Approx.)	A	127	148	178	210	238	265	298	341	383	435
2- Laid in free air (Approx.)	A	120	144	178	215	248	281	323	378	432	502
Voltage Drop per phase	V/A/km	0.984	0.749	0.541	0.413	0.342	0.292	0.247	0.205	0.176	0.147
Minimum Bending radius	mm	1005	1043	1073	1178	1223	1275	1358	1440	1523	1643

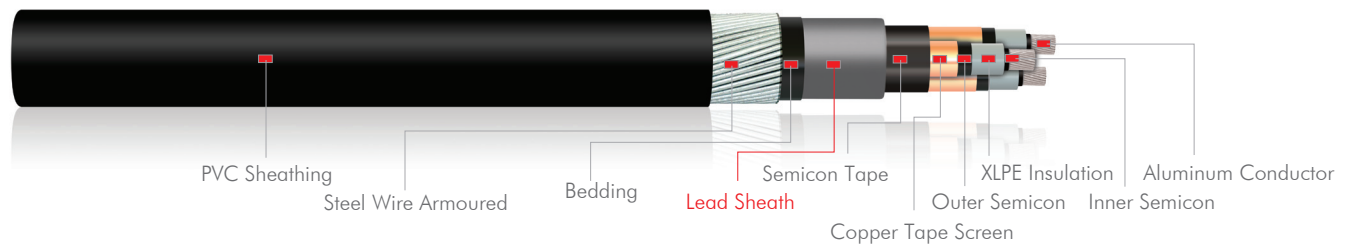
The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL CU TAPE SCREENED, OVERALL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**

**ALUMINUM CONDUCTOR | 18/30 (36)kV  
AL/XLPE/LC/PVC/SWA/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
25870001	50	7.9	8.0	2.4	1.9	3.15	3.6	83.5	14380	300
25870002	70	9.7	8.0	2.5	1.9	3.15	3.7	88	15590	300
25870003	95	11.3	8.0	2.6	2.0	3.15	3.8	92	17030	300
25870004	120	12.6	8.0	2.7	2.1	3.15	3.9	94	18370	250
25870005	150	14.1	8.0	2.8	2.1	3.15	4.0	98	19710	250
25870006	185	16.0	8.0	2.9	2.2	3.15	4.2	103	21260	200
25870007	240	18.1	8.0	3.1	2.3	3.15	4.4	108.5	23900	200
25870008	300	20.4	8.0	3.2	2.4	3.15	4.5	113.5	26170	200



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 18/30 (36)kV  
AL/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	50	70	95	120	150	185	240	300
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131
Inductance at 60 Hz	mH/Km	0.450	0.432	0.420	0.405	0.395	0.385	0.372	0.360
Reactance at 60 Hz	Ω/km	0.17	0.16	0.16	0.15	0.15	0.15	0.14	0.14
Capacitance at 60 Hz	μF/Km	0.14	0.15	0.17	0.18	0.2	0.21	0.23	0.25
Short Circuit Current For 1 second									
1- Conductor	KA	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11
2- Metallic Sheath/Screen	KA	1.95	2.07	2.19	2.28	2.37	2.49	2.67	2.82
Current Rating Capacity									
1- Laid direct in ground (Approx.)	A	148	178	210	238	265	298	341	383
2- Laid in free air (Approx.)	A	144	178	215	248	281	323	378	432
Voltage Drop per phase	V/A/km	0.760	0.552	0.424	0.352	0.301	0.256	0.214	0.185
Minimum Bending radius	mm	1253	1320	1380	1410	1470	1545	1628	1703

The above values are based on the following conditions:

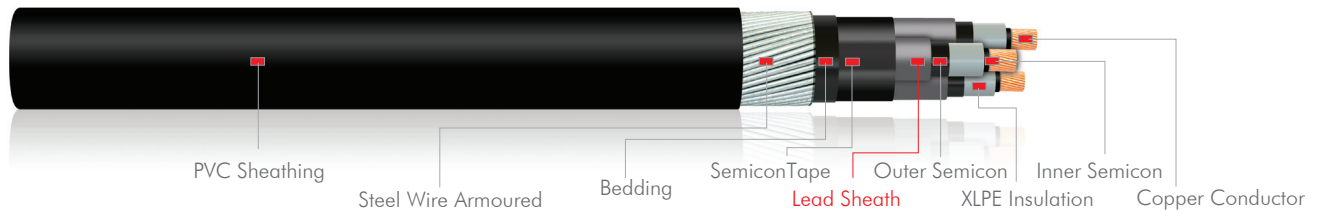
Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, INDIVIDUAL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2

COPPER CONDUCTOR | 8.7/15 (17.5)kV

CU/XLPE/LC/PVC/SWA/PVC



## THREE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
23790001	25	6.2	4.5	1.3	1.5	2.50	2.8	63.5	8350	500
23790002	35	7.2	4.5	1.4	1.5	2.50	2.9	66.5	9300	500
23790003	50	8.3	4.5	1.4	1.6	2.50	3.0	69.5	10150	500
23790004	70	10	4.5	1.4	1.6	2.50	3.1	73.5	11300	400
23790005	95	11.8	4.5	1.5	1.7	2.50	3.3	77.5	13100	400
23790006	120	13.1	4.5	1.5	1.8	3.15	3.4	82.5	15300	300
23790007	150	14.7	4.5	1.6	1.9	3.15	3.5	87	17100	300
23790008	185	16.1	4.5	1.6	1.9	3.15	3.7	91	18950	250
23790009	240	18.7	4.5	1.7	2.0	3.15	3.8	97	22100	250
23790010	300	20.8	4.5	1.7	2.1	3.15	4.0	102.5	24800	200
23790011	400	24	4.5	1.8	2.3	3.15	4.3	110.5	29500	200



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 8.7/15 (17.5)kV  
CU/XLPE/LC/PVC/SWA/PVC

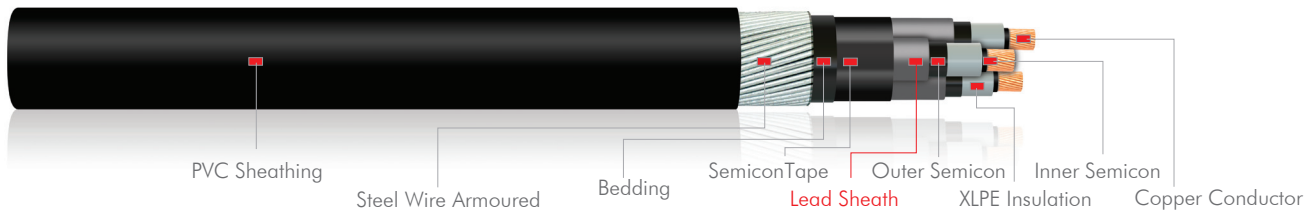
Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.927	0.669	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0815	0.0655
Inductance at 60 Hz	mH/Km	0.415	0.395	0.380	0.365	0.356	0.345	0.339	0.330	0.321	0.312	0.302
Reactance at 60 Hz	Ω/km	0.16	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12	0.12	0.11
Capacitance at 60 Hz	μF/Km	0.17	0.18	0.2	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43
Short Circuit Current For 1 second												
1- Conductor	KA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	5.5	6.6	6.8	7.3	8.0	8.8	9.5	10.3	11.6	12.8	14.8
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	140	168	195	248	275	310	346	395	445	505	565
2- Laid in free air (Approx.)	A	130	155	186	231	277	320	363	415	486	552	635
Voltage Drop per phase	V/A/km	0.835	0.625	0.480	0.358	0.277	0.235	0.204	0.178	0.152	0.135	0.118
Minimum Bending radius	mm	953	998	1043	1103	1163	1237	1305	1365	1455	1538	1658

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**COPPER CONDUCTOR | 12/20 (24)kV**  
**CU/XLPE/LC/PVC/SWA/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24790001	35	7.2	5.5	1.4	1.6	2.50	3.1	71.5	10250	500
24790002	50	8.3	5.5	1.5	1.7	2.50	3.2	75	11400	500
24790003	70	10	5.5	1.5	1.7	3.15	3.3	79	13400	400
24790004	95	11.8	5.5	1.6	1.8	3.15	3.5	84.5	15400	300
24790005	120	13.1	5.5	1.6	1.9	3.15	3.6	88	16700	300
24790006	150	14.7	5.5	1.6	1.9	3.15	3.7	92	18200	300
24790007	185	16.1	5.5	1.7	2.0	3.15	3.8	96	20500	250
24790008	240	18.7	5.5	1.7	2.1	3.15	4.0	102.5	23300	250
24790009	300	20.8	5.5	1.8	2.2	3.15	4.2	107	26600	200
24790010	400	24	5.5	1.9	2.3	3.15	4.4	115.5	31200	200





# TECHNICAL INFORMATION

COPPER CONDUCTOR | 12/20 (24)kV

CU/XLPE/LC/PVC/SWA/PVC

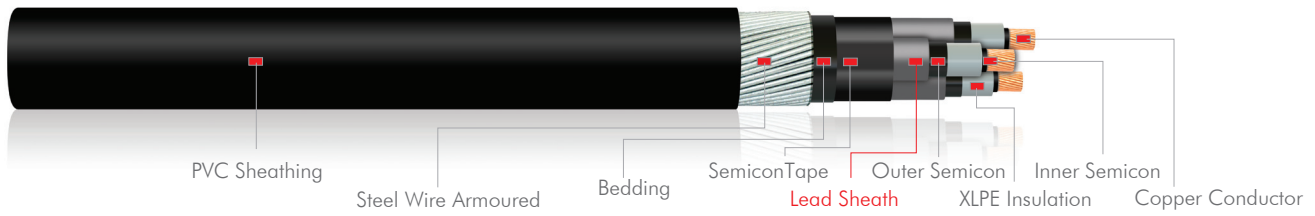
Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.668	0.494	0.344	0.247	0.196	0.161	0.129	0.099	0.0810	0.0650
Inductance at 60 Hz	mH/Km	0.415	0.400	0.381	0.374	0.362	0.354	0.345	0.335	0.320	0.305
Reactance at 60 Hz	Ω/km	0.16	0.15	0.14	0.14	0.14	0.13	0.13	0.13	0.12	0.11
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.2	0.22	0.24	0.26	0.27	0.3	0.33	0.37
Short Circuit Current For 1 second											
1- Conductor	KA	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20
2- Metallic Sheath/Screen	KA	6.9	7.6	8.2	9.1	9.8	10.6	11.5	12.8	14.1	16.1
Current Rating Capacity											
1- Laid direct in ground (Approx.)	A	168	195	248	275	310	346	395	445	505	565
2- Laid in free air (Approx.)	A	155	186	231	277	320	363	415	486	552	635
Voltage Drop per phase	V/A/km	0.630	0.486	0.361	0.283	0.240	0.210	0.180	0.156	0.137	0.120
Minimum Bending radius	mm	1073	1125	1185	1268	1320	1380	1440	1538	1605	1733

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**COPPER CONDUCTOR | 18/30 (36)kV**  
**CU/XLPE/LC/PVC/SWA/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
25790001	50	8.3	8.0	1.6	1.9	3.15	3.6	89	15280	300
25790002	70	10	8.0	1.7	2.0	3.15	3.8	93	17130	300
25790003	95	11.8	8.0	1.7	2.0	3.15	3.9	97	18730	300
25790004	120	13.1	8.0	1.7	2.1	3.15	4.0	101	20160	250
25790005	150	14.7	8.0	1.8	2.2	3.15	4.1	104	22100	250
25790006	185	16.1	8.0	1.8	2.2	3.15	4.2	108	24000	250
25790007	240	18.7	8.0	1.9	2.3	3.15	4.4	115	27400	200
25790008	300	20.8	8.0	2.0	2.4	3.15	4.6	120	31000	200



# TECHNICAL INFORMATION

COPPER CONDUCTOR | 18/30 (36)kV  
CU/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	50	70	95	120	150	185	240	300
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.494	0.341	0.247	0.196	0.161	0.128	0.098	0.0801
Inductance at 60 Hz	mH/Km	0.450	0.432	0.420	0.405	0.395	0.385	0.372	0.360
Reactance at 60 Hz	Ω/km	0.17	0.16	0.16	0.15	0.15	0.15	0.14	0.14
Capacitance at 60 Hz	μF/Km	0.14	0.15	0.17	0.18	0.2	0.21	0.23	0.25
Short Circuit Current For 1 second									
1- Conductor	KA	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90
2- Metallic Sheath/Screen	KA	10.2	10.4	11.9	12.7	13.6	14.6	16.0	17.4
Current Rating Capacity									
1- Laid direct in ground (Approx.)	A	195	248	275	310	346	395	445	505
2- Laid in free air (Approx.)	A	186	231	277	320	363	415	486	552
Voltage Drop per phase	V/A/km	0.497	0.372	0.292	0.248	0.217	0.190	0.164	0.143
Minimum Bending radius	mm	1335	1395	1455	1515	1560	1620	1725	1800

The above values are based on the following conditions:

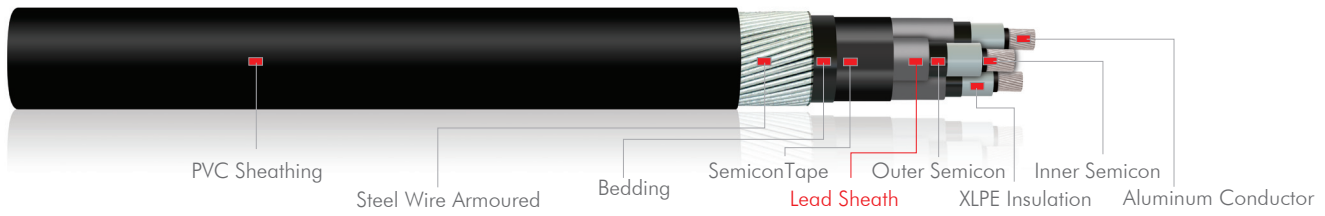
Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# XLPE INSULATED, INDIVIDUAL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2

ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV

AL/XLPE/LC/PVC/SWA/PVC



## THREE CORE

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
23820001	25	5.7	4.5	1.3	1.5	2.50	2.8	62.5	7880	500
23820002	35	7.1	4.5	1.4	1.5	2.50	2.9	65.5	8650	500
23820003	50	7.9	4.5	1.4	1.6	2.50	3.0	68.5	9220	500
23820004	70	9.7	4.5	1.4	1.6	2.50	3.1	72.5	10000	500
23820005	95	11.3	4.5	1.5	1.7	2.50	3.3	76.5	11330	400
23820006	120	12.6	4.5	1.5	1.8	3.15	3.4	81.5	13070	400
23820007	150	14.1	4.5	1.6	1.9	3.15	3.5	86	14310	300
23820008	185	16.0	4.5	1.6	1.9	3.15	3.7	90	15510	300
23820009	240	18.1	4.5	1.7	2.0	3.15	3.8	95	17640	300
23820010	300	20.4	4.5	1.7	2.1	3.15	4.0	100.5	19130	250
23820011	400	23.1	4.5	1.8	2.3	3.15	4.3	108.5	22000	250



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 8.7/15 (17.5)kV  
AL/XLPE/LC/PVC/SWA/PVC

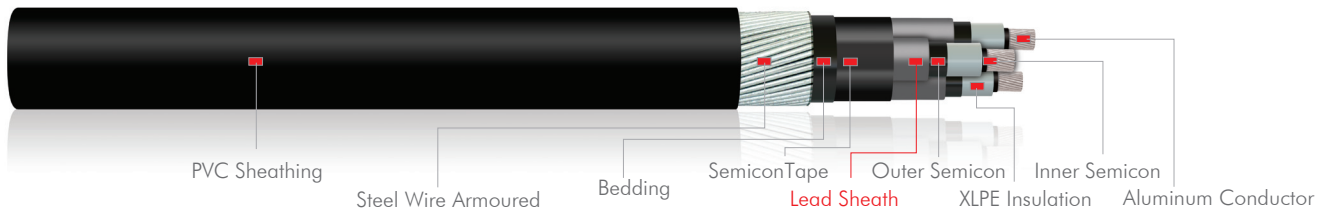
Size	mm <sup>2</sup>	25	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.54	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.415	0.395	0.380	0.365	0.356	0.345	0.339	0.330	0.321	0.312	0.302
Reactance at 60 Hz	Ω/km	0.16	0.15	0.14	0.14	0.13	0.13	0.13	0.12	0.12	0.12	0.11
Capacitance at 60 Hz	μF/Km	0.17	0.18	0.2	0.23	0.25	0.27	0.29	0.32	0.35	0.39	0.43
Short Circuit Current For 1 second												
1- Conductor	KA	2.34	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	5.5	6.6	6.8	7.3	8.0	8.8	9.5	10.3	11.6	12.8	14.8
Current Rating Capacity												
1- Laid direct in ground (Approx.)	A	108	127	148	178	210	238	265	298	341	383	435
2- Laid in free air (Approx.)	A	100	120	144	178	215	248	281	323	378	432	502
Voltage Drop per phase	V/A/km	1.325	0.980	0.744	0.537	0.410	0.338	0.289	0.243	0.202	0.175	0.145
Minimum Bending radius	mm	938	983	1028	1088	1148	1223	1290	1350	1425	1507	1628

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**ALUMINUM CONDUCTOR | 12/20 (24)kV**  
**AL/XLPE/LC/PVC/SWA/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
24820001	35	7.1	5.5	1.4	1.6	2.50	3.1	71	9600	500
24820002	50	7.9	5.5	1.5	1.7	2.50	3.2	74	10470	500
24820003	70	9.7	5.5	1.5	1.7	3.15	3.3	78	12100	400
24820004	95	11.3	5.5	1.6	1.8	3.15	3.5	83.5	13630	400
24820005	120	12.6	5.5	1.6	1.9	3.15	3.6	87	14470	300
24820006	150	14.1	5.5	1.6	1.9	3.15	3.7	91	15410	300
24820007	185	16.0	5.5	1.7	2.0	3.15	3.8	95.5	17060	300
24820008	240	18.1	5.5	1.7	2.1	3.15	4.0	101.5	18840	250
24820009	300	20.4	5.5	1.8	2.2	3.15	4.2	106	21020	250
24820010	400	23.1	5.5	1.9	2.3	3.15	4.4	113.5	23770	200



# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 12/20 (24)kV  
AL/XLPE/LC/PVC/SWA/PVC

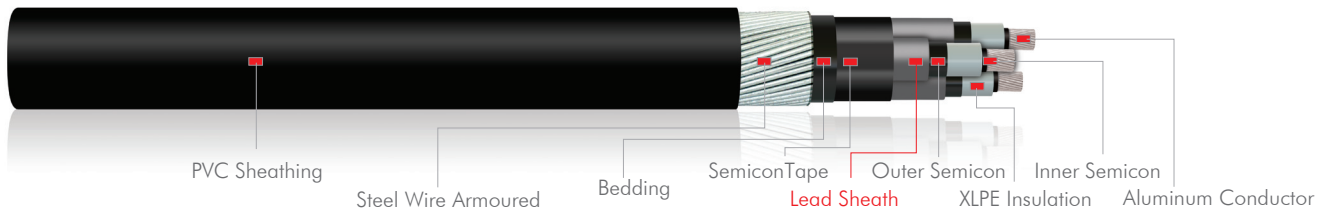
Size	mm <sup>2</sup>	35	50	70	95	120	150	185	240	300	400
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778
Approximate AC resistance of Conductor @ 90°C	Ω/km	1.113	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131	0.1034
Inductance at 60 Hz	mH/Km	0.415	0.400	0.381	0.374	0.362	0.354	0.345	0.335	0.320	0.305
Reactance at 60 Hz	Ω/km	0.16	0.15	0.14	0.14	0.14	0.13	0.13	0.13	0.12	0.11
Capacitance at 60 Hz	μF/Km	0.15	0.17	0.2	0.22	0.24	0.26	0.27	0.3	0.33	0.37
Short Circuit Current For 1 second											
1- Conductor	KA	3.28	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11	37.48
2- Metallic Sheath/Screen	KA	6.9	7.6	8.2	9.1	9.8	10.6	11.5	12.8	14.1	16.1
Current Rating Capacity											
1- Laid direct in ground (Approx.)	A	127	148	178	210	238	265	298	341	383	435
2- Laid in free air (Approx.)	A	120	144	178	215	248	281	323	378	432	502
Voltage Drop per phase	V/A/km	0.984	0.749	0.541	0.413	0.342	0.292	0.247	0.205	0.176	0.147
Minimum Bending radius	mm	1065	1110	1170	1253	1305	1365	1433	1523	1590	1703

The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

**XLPE INSULATED, INDIVIDUAL LEAD SHEATHED, STEEL WIRE ARMoured & PVC SHEATHED CABLE AS PER IEC 60502-2**  
**ALUMINUM CONDUCTOR | 18/30 (36)kV**  
**AL/XLPE/LC/PVC/SWA/PVC**



**THREE CORE**

Cable Code	Conductor		Insulation	Lead Sheath	Bedding	Armouring	Outer Sheath		Packaging	
	Cross Sectional Area Nominal mm <sup>2</sup>	Diameter Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Thickness Nominal mm	Dia. Of Steel wire Nominal mm	Thickness Nominal mm	Overall Diameter Approx. mm	Net Weight Approx. Kg/Km	Standard Drum m +/-5%
25820001	50	7.9	8.0	1.6	1.9	3.15	3.6	88	14350	300
25820002	70	9.7	8.0	1.7	2.0	3.15	3.8	92	15830	300
25820003	95	11.3	8.0	1.7	2.0	3.15	3.9	96	16960	300
25820004	120	12.6	8.0	1.7	2.1	3.15	4.0	100	17930	350
25820005	150	14.1	8.0	1.8	2.2	3.15	4.1	103	19310	250
25820006	185	16.0	8.0	1.8	2.2	3.15	4.2	107	20560	250
25820007	240	18.1	8.0	1.9	2.3	3.15	4.4	113	22940	200
25820008	300	20.4	8.0	2.0	2.4	3.15	4.6	118	25420	200





# TECHNICAL INFORMATION

ALUMINUM CONDUCTOR | 18/30 (36)kV  
AL/XLPE/LC/PVC/SWA/PVC

Size	mm <sup>2</sup>	50	70	95	120	150	185	240	300
Maximum DC resistance of Conductor @ 20°C	Ω/km	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100
Approximate AC resistance of Conductor @ 90°C	Ω/km	0.822	0.569	0.411	0.325	0.265	0.212	0.163	0.131
Inductance at 60 Hz	mH/Km	0.450	0.432	0.420	0.405	0.395	0.385	0.372	0.360
Reactance at 60 Hz	Ω/km	0.17	0.16	0.16	0.15	0.15	0.15	0.14	0.14
Capacitance at 60 Hz	μF/Km	0.14	0.15	0.17	0.18	0.2	0.21	0.23	0.25
Short Circuit Current For 1 second									
1- Conductor	KA	4.69	6.56	8.90	11.24	14.06	17.33	22.49	28.11
2- Metallic Sheath/Screen	KA	10.2	10.4	11.9	12.7	13.6	14.6	16.0	17.4
Current Rating Capacity									
1- Laid direct in ground (Approx.)	A	148	178	210	238	265	298	341	383
2- Laid in free air (Approx.)	A	144	178	215	248	281	323	378	432
Voltage Drop per phase	V/A/km	0.760	0.552	0.424	0.352	0.301	0.256	0.214	0.185
Minimum Bending radius	mm	1320	1380	1440	1500	1545	1605	1695	1770

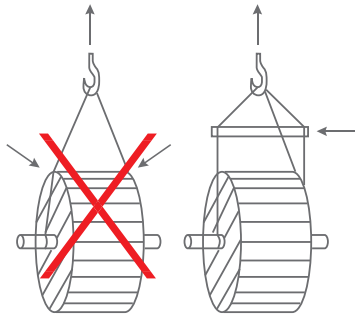
The above values are based on the following conditions:

Ambient Air Temperature: 40 °C  
 Ambient Ground Temperature: 35 °C  
 Depth of laying in ground: 0.80 m  
 Soil Thermal Resistivity: 1.2 °K.m/W

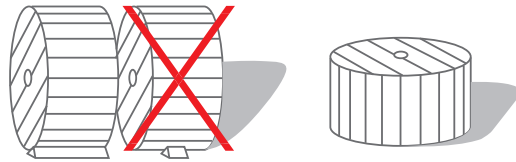
*(Current Rating Capacities for all cables mentioned in this catalogue are focused according to the special climatic conditions in the Middle East)*

# DRUM HANDLING INSTRUCTIONS

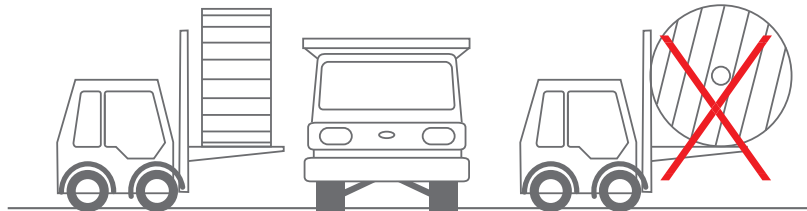
Cables and Conductors should be installed by trained personnel in accordance with good engineering practices, recognized codes of practise, statutory local requirements, IEE wiring regulations and where relevant, in accordance with any specific instructions issued by the company. Cables are often supplied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



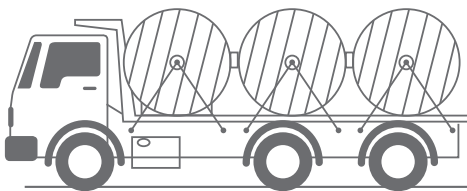
*Lifting cable drums using crane.*



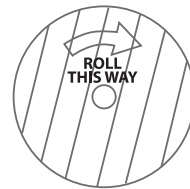
*Do not lay drums flat on their sides, use proper stops to prevent drums rolling.*



*Lift drums on fork trucks correctly.*



*Secure drums adequately before transportation.*



*Roll in the direction shown by the arrow.*

# RECOMMENDATIONS FOR CABLES INSTALLATION

## INSTALLATION

- Precautions should be taken to avoid mechanical damage to the cables before and during installation.
- Exceeding the manufacturer's recommended maximum pulling tensions should be avoided as this can result in damage to the cable.
- If cables are to be installed in ducts, the correct size of duct should be used.
- The type of jointing and filling compounds employed should be chemically compatible with the cable materials.
- The cable support system should be such as to avoid damage to the cables.
- Cables specified in this catalogue British Standard are designed for fixed installations only; they are not intended for use as, for example, trailing or reeling cables.
- Repeated over-voltage testing can lead to premature failure of the cable.
- The selection of cable glands, accessories and any associated tools should take account of all aspects of intended use. Any semi-conducting coating present on the oversheath should be removed for a suitable distance from joints and terminations.
- Care should be exercised with single-core cables to ensure that the bonding and earthing arrangements are adequate to cater for circulating currents in the armour and screen(s).

# ORDERING INFORMATION

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

1. Number of phases/cores (3 or 1).
2. Conductor required cross sectional area.
3. Metallic screen type (copper tape or copper wire) and area (copper wire screen)
4. System Voltage Rate.
5. System Short Circuit required.
6. Applicable customer specification or International Standard / Norm.
7. Conductor material (Copper/Aluminum).
8. Insulation Material (XLPE).
9. Bedding / Inner Sheathing (Inner Jacketing ( PVC/PE, .. ).
10. Lead Alloy
11. Armouring Type (SWA, AWA).
12. Cable jacketing material (PVC/MDPE).
13. Cable special features required, e.g. Flame Retardant Type to IEC 60332-3, Anti-termite
14. Required length of cables (drum schedules)

