

Technical Data for XLPE Insulated Cables

Four-core cable with aluminium sector shaped solid conductors, XLPE insulation, concentric copper conductor, PVC oversheath

General Description:

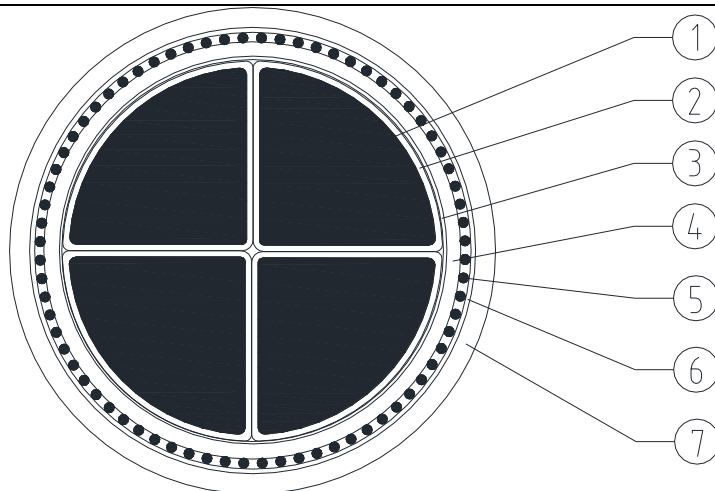
Cable code:	75152310326131
Standard specification:	BS 7870-3.40
Type of cable:	XLPE/NE(WAVEFORM)/PVC
Rated voltage U ₀ /U (U _{max}):	0.6/1 (1.2) kV
Number of cores x Nominal cross-section:	4x300 mm ²
Approximate cable overall diameter:	60 mm
Approximate cable overall weight:	6.1 kg/m
Nominal drum length (Tolerance):	250 m (± 0%) Approx. external drum dimensions (height x width, m): 2.20 x 1.10 Approx. drum gross weight: 2100 kg

Oversheath marking by embossing in two lines as follows:

- CABLEL 0317 2016* ELECTRIC CABLE 600/1000V BS 7870-3.40 Batch No
ELECTRIC CABLE 600/1000V BS 7870-3.40 4x300 AL
* Year of manufacture

Meter marking at one-meter intervals by ink on oversheath

Cable structure:



1 - Conductor:

Aluminium sector shaped solid class 1 (maximum DC resistance according BS EN 60228, geometrical shape according to BS 3988) of nominal cross-section equal to 300 sq.mm.

2 - Insulation:

XLPE type DIX3 according to BS 7870-1 of 1.8 mm minimum average thickness.

Core identification (skin colouration): Blue - Brown - Black - Grey

3 - Binding tape.

4 - Extruded rubber filling compound.

5 - Concentric conductor:

Copper wires concentrically applied over core with a waveform lay with a structure of approximate 41x1.88mm.

6 - Binding tape.

7 - Sheath:

PVC type DMV 23 according to BS 7870-1 of 3.1 mm minimum average thickness with UV additive.

Sheath colour: Black

Notes:

- The cables are fully tested according to BS 7870-3.40.

Y.Σ.:	2318/2015	Cable Engineering Department	
T.M.K.:	578/2015	Issued by:	M. Papagiannis
Date - Revision:	18/08/2017 - 1	Reviewed by:	P. Kolios - K. Tastavridis
Client - Destination country:	UK	Approved by:	G. Georgallis

Electrical Data:		
Frequency:	50	Hz
Maximum conductor's temperature at continuous operation:	90	°C
Maximum conductor DC resistance at 20°C:	0.100	Ω/km
Calculated conductor AC resistance at maximum operating temperature:	0.14	Ω/km
Maximum DC resistance of concentric conductor at 20°C:	0.164	Ω/km
Calculated inductive reactance:	0.069	Ω/km
Calculated phase capacitance:	0.923·10 ⁶	pF/km
Calculated charging current: <i>Based on the calculated phase capacitance and operating phase-to-ground voltage</i>	0.17	mA/m/phase
Zero sequence impedance: <i>Return through metallic sheath only, resistance calculated at 20°C</i>	0.588+j·0.079	Ω/km
Continuous current carrying capacity of cables:		
A	<ul style="list-style-type: none"> - Cable laid directly in ground - Soil thermal resistivity: 1.2 K.m/W - Depth of laying (top of the cables): 0.45 m - Ground temperature: 15 °C, - Load factor: 1.0 - One cable 	
	Current:	459 A, for each phase
B	<ul style="list-style-type: none"> - Cable laid directly in ground - Soil thermal resistivity: 0.9 K.m/W - Depth of laying (top of the cables): 0.45 m - Ground temperature: 15 °C, - Load factor: 1.0 - One cable 	
	Current:	504 A, for each phase
C	<ul style="list-style-type: none"> - Cable in single way PE duct of 150mm internal diameter - Soil thermal resistivity: 1.2 K.m/W - Depth of laying (top of the cables): 0.45 m - Ground temperature: 15 °C, - Load factor: 1.0 - One cable 	
	Current:	401 A, for each phase
D	<ul style="list-style-type: none"> - Cable in single way PE duct of 150mm internal diameter - Soil thermal resistivity: 0.9 K.m/W - Depth of laying (top of the cables): 0.45 m - Ground temperature: 15 °C, - Load factor: 1.0 - One cable 	
	Current:	421 A, for each phase
E	<ul style="list-style-type: none"> - Cable laid in air (not exposed in sunlight) - Air temperature: 25 °C - Load factor: 1.0 - One cable 	
	Current:	493 A, for each phase
Maximum pulling force with pulling head attached on one conductor:	915	kgF
Maximum pulling force with pulling stocking:	3660	kgF
Minimum dynamic bending radius (during installation directly in ground):	490	mm
Minimum static bending radius (adjacent to joints or termination with former):	490	mm

Y.Σ.:	2318/2015	Cable Engineering Department	
T.M.K.:	578/2015	Issued by:	M. Papagiannis
Date – Revision:	18/08/2017 – 1	Reviewed by:	P. Kolios - K. Tastavridis
Client – Destination country:	UK	Approved by:	G. Georgallis

Υ.Σ.:	2318/2015	Cable Engineering Department	
Τ.Μ.Κ.:	578/2015	Issued by:	M. Papagiannis
Date – Revision:	18/08/2017 – 1	Reviewed by:	P. Kolios - K. Tastavridis
Client – Destination country:	UK	Approved by:	G. Georgallis