

## Technical data sheet for XLPE insulated cable

Single core cable with aluminium round compacted conductor, XLPE insulation, aluminium wire screen, polyethylene oversheath

<b>General Description:</b>	
Cable code:	FC_0146_0006 (750146016561*)
Standard Specification:	IEC:60502-2
Type of cable:	AL/XLPE/AWS/HDPE
Rated voltage U <sub>0</sub> /U (U <sub>max</sub> ):	19/33 (36) kV
Number of cores x Nominal cross section:	1x150 sq. mm
Approximate cable overall diameter:	41 mm
Approximate cable overall weight:	1.6 kg/m
Nominal drum length (Tolerance):	1400 m (+/-5)%

<b>Marking:</b>	
Oversheath marking by indenting as follows:	
<ul style="list-style-type: none"> <li>● CABLEL 0317 2019* ELECTRIC CABLE 19/33 KV IEC 60502-2 AL/XLPE/AWS/HDPE 1x150RM/58AL</li> </ul>	
*Year of manufacture	
Meter marking at one-meter intervals by indenting on oversheath (from zero on each drum)	

<b>Cable Structure:</b>	
1	<b>Conductor:</b> Aluminium round stranded compacted class 2 IEC 60228 of nominal cross-section equal to 150 sq.mm longitudinally waterblocked by waterblocking yarns and waterblocking tapes between conductor inner strands
2	<b>Conductor Non-Metallic Extruded Screen:</b> Extruded semiconducting compound
3	<b>Insulation:</b> XLPE according to IEC 60502-2 of 8.0 mm nominal thickness.
4	<b>Core Non-Metallic Extruded Screen:</b> Extruded semiconducting compound bonded to Insulation
5	Semiconductive waterblocking tape applied helically with overlap
6	<b>Metallic screen:</b> Aluminum Wire Screen helically applied Nominal cross section of aluminium (sq. mm): 58
7	Semiconductive waterblocking tape applied helically with overlap
8	<b>Radial watertightness:</b> AL/PE laminated tape of 0.15 mm approximate thickness bonded to oversheath, longitudinally applied with overlap.
9	<b>Sheath:</b> HDPE type ST7 according to IEC 60502-2 of 3.0 mm minimum average thickness with UV additive. Sheath colour: Black

Y/S:	081/19	Cable Engineering Department	
T.M.K.:	013/19	Issued by:	G. Stavrianoudakis
Date - Revision:	28/02/2019-1	Reviewed by:	P. Kolios, K. Tastavridis
Client:	RARIK-ICELAND	Approved by:	G. Georgallis

**Notes:**

- Longitudinal water tightness of conductor and metallic screen are tested according to IEC 60502-2 Annex F.
- Aluminium wire screen resistance is equivalent to copper 35 sq.mm resistance, according to IEC 60228.

**Electrical Data:**

Frequency:	50	Hz
Maximum conductor's temperature at continuous operation:	90	°C
Maximum conductor DC resistance at 20°C:	0.206	Ω/km
Calculated conductor AC resistance at maximum operating temperature:	0.264	Ω/km
Calculated inductance:	0.41	mH/km
Nominal phase capacitance:		
Calculated considering nominal insulation thickness	0.19	μF/km
Calculated reactance:	0.13	Ω/km
Maximum permissible short-circuit current of the conductor for 1 second duration:	14.1	kA

Continuous current carrying capacity of cables – trefoil touching formation:

<ul style="list-style-type: none"> <li>• Directly buried in ground</li> </ul> Installation conditions: <ul style="list-style-type: none"> <li>- 1 circuit</li> <li>- Load factor: 1.0</li> <li>- Ground temperature: 20oC</li> <li>- Ground thermal resistivity: 1.5 K.m/W</li> <li>- Thermal resistivity of earthenware ducts: 1.2 K.m/W</li> <li>- Depth of laying: 0.8 m</li> <li>- Metallic sheaths are bonded at both ends</li> </ul>	281	A
<ul style="list-style-type: none"> <li>• In a buried duct</li> </ul> Installation conditions: <ul style="list-style-type: none"> <li>- 1 circuit</li> <li>- Load factor: 1.0</li> <li>- Ground temperature: 20oC</li> <li>- Ground thermal resistivity: 1.5 K.m/W</li> <li>- Thermal resistivity of earthenware ducts: 1.2 K.m/W</li> <li>- Depth of laying: 0.8 m</li> <li>- Metallic sheaths are bonded at both ends</li> </ul>	267	A
<ul style="list-style-type: none"> <li>• In air</li> </ul> Installation conditions: <ul style="list-style-type: none"> <li>- 1 circuit</li> <li>- load factor: 1.0</li> <li>- Ambient air temperature: 30°C</li> <li>- No solar radiation considered</li> <li>- Metallic sheaths are bonded at both ends</li> </ul>	368	A

**Installation Data:**

Minimum bending radius during installation directly in ground:	850	mm
Minimum bending radius adjacent to joints or terminations:	650	mm

Y/S:	081/19	Cable Engineering Department	
T.M.K.:	013/19	Issued by:	G. Stavrianoudakis
Date - Revision:	28/02/2019-1	Reviewed by:	P. Kolios, K. Tastavidis
Client:	RARIK-ICELAND	Approved by:	G. Georgallis