



## 40/69kV XLPE Insulated, PE Sheathed High Voltage Power Cables

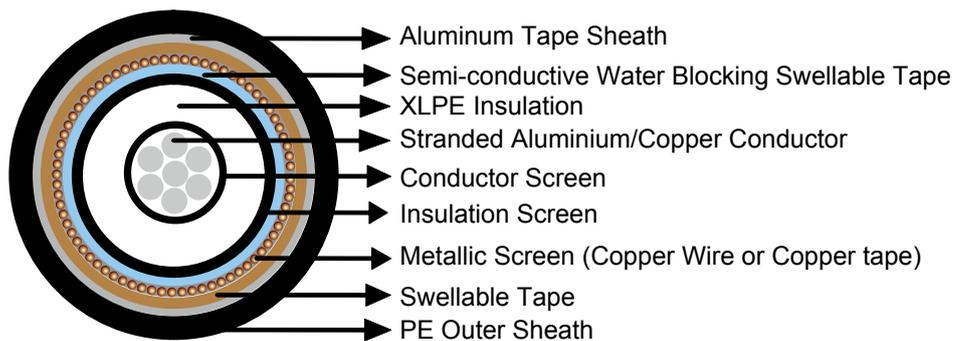
### APPLICATIONS

These single core cables are designed for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations. If the cable gets water inside due to the mechanical damages, swellable tapes prevent the movement of the water inside the cable.

### Standard

IEC 60840

### CONSTRUCTION



**Conductor:** Copper/Aluminium wire, stranded to BS 6360 class 2.

**Conductor Screen:** The conductor screen consists of an extruded layer of non metallic, semi-conducting compound applied on top of a semi-conducting tape. The conductor screen is applied under triple extrusion process over the conductor along with the insulation and the insulation screen. The extruded semi-conducting compound is firmly bonded to the insulation to exclude all air voids and can be easily hand stripped on site.

**Insulation:** Extruded cross-linked polyethylene (XLPE-GP8) compound insulation

**Insulation Screen:** The insulation screen consists of an extruded layer of non metallic, semi-conducting compound extruded over the insulation of each core. The extruded semi-conducting layer shall consist of bonded or cold strippable semi-conducting compound capable of removal for jointing or terminating.

**Semi-conductive Water Blocking Swellable Tape:** A semi-conducting tape shall be

# Caledonian High Voltage Cables

applied over the core assembly as a bedding for the metallic layer. The minimum thickness is 0.3 mm and the maximum resistivity is 500 Ohm-m at 90°C. The screen is tightly fitted to the insulation to exclude all air voids and can be easily hand stripped on site. The screen may be covered by semi-conductive water blocking swellable tape to ensure longitudinal watertightness.

**Metallic Layer:** The metallic layer may be applied over the core assembly collectively.

The metallic screen shall consist of either copper tapes or a concentric layer of copper wires or a combination of tapes and wires.

**Swellable Tape:** Swellable material

**Separation Sheath:** Aluminum Tape sheath

**Outer Sheath:** Thermoplastic HDPE-ST3 compound

## Dimensional Data

Nom. Cross-Section Area	Nom. Insulation Thickness	Metallic Screen Area	Approx. Overall Diameter	Approx. Weight	
				CU	AL
mm <sup>2</sup>	mm	mm <sup>2</sup>	mm	kg/m	
240	11.0	35	56.9	4.3	2.9
300	11.0	50	59.9	5.1	3.3
400	11.0	50	61.5	6.0	3.8
500	11.0	50	63.0	7.0	4.1
630	11.0	50	67.0	8.5	4.6
800	11.0	50	71.0	10.3	5.4
1000	11.0	50	77.0	12.6	6.3
1200	11.0	70	83.0	14.7	7.6

## Electrical Data

Nom. Cross-Section Area	DC Resistance @20°C		AC Resistance @90°C		Capacitance per core	Inductance	Continuous Current Rating for Single Circuit					
							Cu conductor			Al conductor		
	Cu	Al	Cu	Al			Direct Buried	In Air		Direct Buried	In Air	
	Ω/km	Ω/km	Ω/km	Ω/km				Trefoil	Flat		Trefoil	Flat
mm <sup>2</sup>	Ω/km	Ω/km	Ω/km	Ω/km	μF/km	mH/km	A			A		
240	0.0754	0.125	0.0970	0.1608	0.174	0.414	545	576	715	424	449	557
300	0.0601	0.100	0.0777	0.1289	0.189	0.397	617	658	820	481	515	642
400	0.0470	0.0778	0.0613	0.1006	0.207	0.381	706	762	955	554	601	752
500	0.0366	0.0605	0.0485	0.0787	0.242	0.360	805	877	1108	635	697	878
630	0.0283	0.0469	0.0384	0.0616	0.267	0.446	920	1012	1292	728	807	1023
800	0.0221	0.0367	0.0311	0.0489	0.291	0.334	1039	1049	1483	830	931	1189
1000	0.0176	0.0291	0.0232	0.0378	0.329	0.323	1157	1292	1688	937	1060	1364
1200	0.0151	0.0247	0.0201	0.0322	0.363	0.315	1333	1542	1974	1054	1226	1558