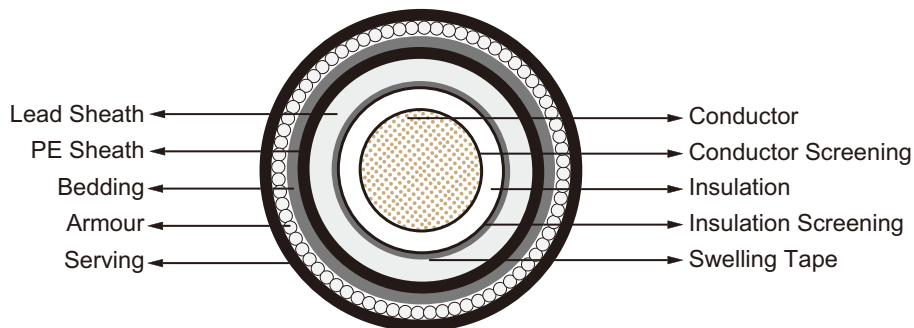




XLPE Insulated DC High-Voltage Submarine Cable



Application

These submarine cables are used for power transmission to offshore islands, oil platforms or to cross-rivers and lakes. Cable design based on the mayor national or international standards e.g. VDE, IEC and ICEA or according to customers design and standards.

Construction

- **Conductor:** Copper conductor, water blocked.
- **Conductor Screening:** Extruded semi-conductive compound.
- **Insulation:** XLPE.
- **Insulation Screening:** Extruded semi-conductive compound.
- **Separator:** Swelling tape.
- **Core Sheath1:** Lead Sheath.
- **Core Sheath2:** PE sheath.
- **Bedding:** Bedding layer.
- **Armour:** Galvanized steel wires filled with bitumen compound.
- **Serving:** Polypropylene yarn.



High Voltage Submarine Cables

www.caledonian-cables.co.uk

Electrical Data

127/220(245) kV

Nominal Cross Section Area mm ²	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz A/km
500	0.14	1.42	5.8
630	0.16	1.40	6.4
800	0.17	1.37	6.9
1000	0.19	1.35	7.4
1200	0.20	1.33	7.8
1400	0.21	1.32	8.2
1600	0.22	1.31	8.6

160/275(300) kV

Nominal Cross Section Area mm ²	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz A/km
500	0.14	1.42	6.8
630	0.16	1.40	7.7
800	0.17	1.37	8.3
1000	0.18	1.35	9.0
1200	0.19	1.33	9.5
1400	0.20	1.32	10.0
1600	0.21	1.31	10.4

200/345(362) kV

Nominal Cross Section Area mm ²	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz A/km
630	0.14	1.40	8.8
800	0.15	1.37	9.7
1000	0.17	1.35	10.7
1200	0.18	1.33	11.1
1400	0.19	1.32	11.6
1600	0.20	1.31	12.1

230/400(420) kV

Nominal Cross Section Area mm ²	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz A/km
630	0.13	1.40	9.6
800	0.15	1.37	10.7





Nominal Cross Section Area mm ²	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz A/km
1000	0.16	1.35	11.7
1200	0.18	1.33	12.9
1400	0.19	1.32	13.5
1600	0.19	1.31	14.1

Dimension and Weight

127/220(245) kV

Nominal Cross Section Area mm ²	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight kg/m
500	26.2	24.0	77.6	2.9	111.0	29.3
630	29.8	23.0	79.2	3.0	112.8	31.2
800	33.7	23.0	83.1	3.1	117.5	34.5
1000	37.9	23.0	87.3	3.1	121.9	37.7
1200	41.2	23.0	90.6	3.1	125.2	40.4
1400	44.4	23.0	93.8	3.1	128.6	43.2
1600	47.4	23.0	96.8	3.1	131.8	46.0

160/275(300) kV

Nominal Cross Section Area mm ²	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight kg/m
500	26.2	26.0	81.6	3.0	115.2	31.1
630	29.8	24.0	81.2	3.0	114.8	31.8
800	33.7	24.0	85.1	3.1	119.5	35.2
1000	37.9	24.0	89.3	3.1	123.9	38.4
1200	41.2	24.0	92.6	3.1	127.4	41.6
1400	44.4	24.0	95.8	3.1	130.6	44.4
1600	47.4	24.0	98.8	3.1	133.8	47.2

200/345(362) kV

Nominal Cross Section Area mm ²	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight kg/m
630	29.8	28.0	89.2	3.1	123.4	35.2
800	33.7	27.0	91.1	3.1	125.9	37.5
1000	37.9	26.0	93.3	3.1	128.1	39.9
1200	41.2	25.0	94.6	3.1	129.4	42.0



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Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nominal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm ²	mm	mm	mm	mm	mm	kg/m
1400	44.4	25.0	97.8	3.1	132.8	44.9
1600	47.4	25.0	100.8	3.1	135.8	47.7

230/400(420) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nominal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm ²	mm	mm	mm	mm	mm	kg/m
630	29.8	32.0	98.2	3.1	132.8	38.8
800	33.7	30.0	98.1	3.1	133.1	40.2
1000	37.9	29.0	100.3	3.1	135.3	42.6
1200	41.2	27.0	99.6	3.1	134.6	44.0
1400	44.4	27.0	102.8	3.1	138.0	46.9
1600	47.4	27.0	105.8	3.1	141.0	49.7

