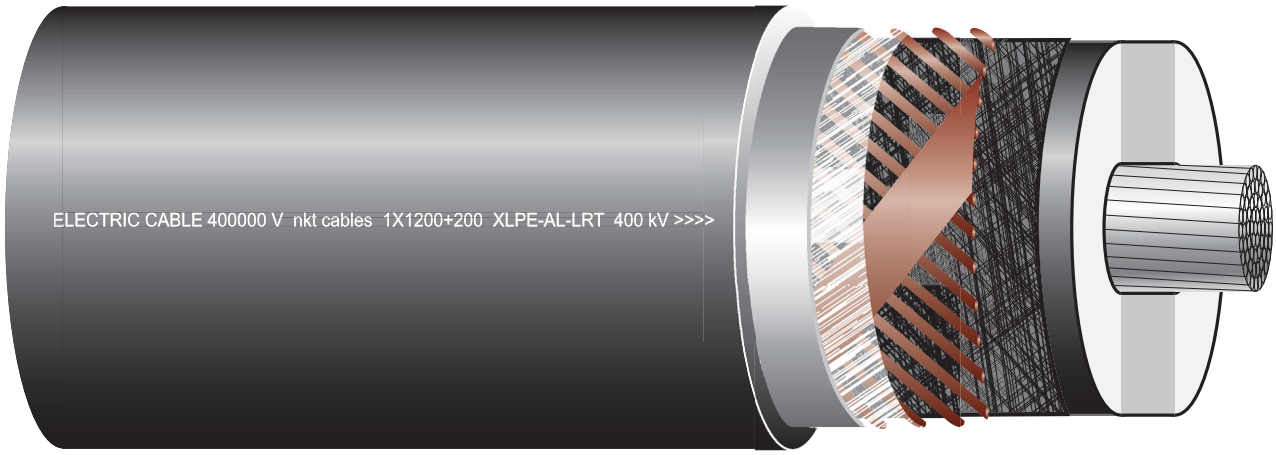
WWW.CABLEJOINTS.CO.UK
THORNE & DERRICK UK
TEL 0044 191 490 1547 FAX 0044 477 5371
TEL 0044 117 977 4647 FAX 0044 977 5582
WWW.THORNEANDDERRICK.CO.UK

Extra High voltage

400 kV single core cable XLPE-AL-LRT — Halogen free



Application

Application	400 kV A.C. Electricity transmission cable.
Conductor temperature	Max. 90°C
Short circiut temperature	Max. 250°C
Installation temperature	Min. -15°C
Min. radius of bend	15 x D
Max. pulling tension	Directly on conductor 30 N/mm² of total conductor cross section.

Construction

Conductor	Circular stranded sectional aluminium conductor
Conductor screen	Extruded semi-conducting compound
Insulation	XLPE
Insulation screen	Extruded semi-conducting compound
Winding	Semi-conducting queld-tape
Screen	Concentric layer of copper wires with a copper tape applied in the opposite direction.
Water barrier	Water sweallable tape + aluminium foil.
Outer sheath	PE
Colour of sheath	Black

Technical

Standard	IEC 62067
Marking of sheath	ELECTRIC CABLE 400000 V nkt cables ‘Dimension’ ‘Year’ ‘Metres’ (additional text on request)
Rated voltage	400 kV AC between phases
Standard length	Available on request
Screen sizes	Other screen sizes on request
Outer sheath	Semi-conducting outer layer on request
Cable design	Project specified designs on request

Nominel area of conductor and screen	Diameter of conductor nominel	Radial thickness of insulation	Standard lenght	Outer dimension max. (D)	Approx weight	EAN-nr
mm²	mm	mm	m	mm	kg pr. km	
1X1000+200	36.0	34	On request	138.5	16000	
1X1200+200	39.2	32	-	138.0	16200	
1X1600+200	45.0	31	-	142.0	17700	

Extra High voltage

400 kV single core cable XLPE-AL-LRT — Halogen free

Nominel area of conductor and screen	Diameter of conductor nominel	Radial thickness of insulation	Standard lenght	Outer dimension max. (D)	Approx weight	EAN-nr
mm²	mm	mm	m	mm	kg pr. km	
1X2000+200	50.6	29	-	144.0	18700	

Mechanical properties

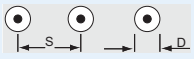
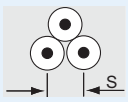
Area of conductor	mm²	1000	1200	1600	2000
Diameter of conductor, nom.	mm	36.0	39.2	45.0	50.6
Insulation thickness, nom	mm	34	32	31	29
Diameter over isulation, nom.	mm	109.6	108.8	112.6	114.2
Area of copper screen, nom.	mm^2	200	200	200	200
Diameter over screen, nom.	mm	120.4	119.6	123.4	125.0
Thickness of sheath, nom.	mm	5.2	5.2	5.3	5.4
Diameter over sheath, nom.	mm	131.6	130.8	134.8	136.5
Diameter over sheath, max.	mm	138.5	138.0	142.0	144.0
weight of cable. appr.	kg/m	16.0	16.2	17.7	18.7
Radius of bend, min.	mm	2000	2000	2050	2050
Pulling tension on the cable.	kN	30	35	40	40

Electrical properties

Area of conductor	mm²	1000	1200	1600	2000
Resistance, DC, at 20°C, max.	Ω/km	0.0291	0.0247	0.0186	0.0149
Capacitance, max.	µF/km	0.14	0.16	0.17	0.20
Short circuit rating for 1 sec. Conductor with initial temperature 90°C and final temperature 250°C	kA	94.5	113.4	151.2	189.0
Short curcuit rating for 1 sec. Screen with final screen temperature 300°C	kA	40	40	40	40

Current carrying capacity

G)Continuous current carrying capacity for maximum conductor temperature 90°C: Direct in ground at 15°C, dept 1,0 m, thermal resistivity 1,2° Km/W.
A)Continuous current carrying capacity for maximum conductor temperature 90°C: In free air at. 25°C.

Compacted conductor area	mm²	1000	1200	1600	2000
Cable formation					
 					
G)					
Screens bonded at both ends					
trefoil formation, close together S = D	A	770	810	880	930
flat formation, close together S = D	A	695	725	770	800
flat formaton, free distance between cable S = D + 70 mm	A	685	715	755	785
Screens bonded at a single point					
trefoil formation, close together S = D	A	865	925	1035	1115
flat formation, close together S = D	A	830	885	975	1040
flat formaton, free distance between cable S = D + 70 mm	A	905	975	1095	1190

Extra High voltage

400 kV single core cable XLPE-AL-LRT — Halogen free

Current carrying capacity

G)Continuous current carrying capacity for maximum conductor temperature 90°C: Direct in ground at 15°C, dept 1,0 m, thermal resistivity 1,2° Km/W.
A)Continuous current carrying capacity for maximum conductor temperature 90°C: In free air at. 25°C.

Compacted conductor area	mm²	1000	1200	1600	2000
A)					
Screens bonded at both ends					
trefoil formation, close together S = D	A	1085	1165	1305	1405
flat formation, close together S = D	A	990	1045	1135	1195
flat formaton, free distance between cable S = D + 70 mm	A	1005	1055	1140	1190
Screens bonded at a single point					
trefoil formation, close together S = D	A	1180	1285	1470	1630
flat formation, close together S = D	A	1160	1260	1435	1575
flat formaton, free distance between cable S = D + 70 mm	A	1270	1400	1630	1830
Reactance at 50 Hz					
trefoil formation, close together S = D	Ω/km	0.13	0.12	0.12	0.11
flat formation, close together S = D	Ω/km	0.13	0.12	0.12	0.11
flat formaton, free distance between cable S = D + 70 mm	Ω/km	0.13	0.13	0.12	0.11