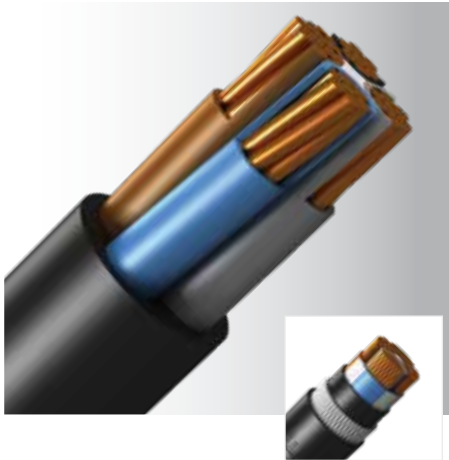


LSZH Flame Retardant Cables

600/1000V 2-Core ~ 5-Core
XLPE Insulated, Unarmoured & Armoured, LSZH Sheathed
Description: CU/XLPE/LSZH-AT or CU/XLPE/LSZH/SWA/LSZH-AT
Model Code: XL-AT or XLSL-AT



Application :	This cable is mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings
Voltage rating :	600/1000V
Construction :	Plain annealed copper, XLPE or XLEVA compound insulated, unarmoured or galvanized steel wires armoured, Anti-termite LSZH compound sheathed cable
Insulation colour :	2-Core: (Brown & Blue) 3-Core: (Brown, Black & Grey) 4-Core: (Brown, Black, Grey & Blue) 5-Core & above: (Brown, Black, Grey, Blue, Green/Yellow) (other core colour upon request)
Sheath colour :	Black (other colour upon request)
Specification :	IEC60502-1, BS6724, IEC60332-3, IEC60332-1-2, IEC60754, IEC61034-2
Operating temperature:	90°C (or 110°C upon request)

2-CORE

Conductor	Insulation	Unarmoured Cable			Armoured Cable		
		Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
(mm ²)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1.5	0.7	07026289	10.1	130	07026297	14.5	362
2.5	0.7	08026289	11.0	165	08026297	15.5	410
4	0.7	09026289	12.0	215	09026297	16.5	490
6	0.7	10026289	13.1	270	10026297	18.0	580
10	0.7	11026289	16.0	390	11026297	20.8	800
16	0.7	12026289	18.0	495	12026297	22.9	1050
25(cs)	0.9	13026289	21.2	726	13026297	26.7	1473
35(cs)	0.9	14026289	23.4	944	14026297	29.0	1780
50(cs)	1.0	15026289	26.8	1257	15026297	32.4	2188
70(cs)	1.1	16026289	30.4	1724	16026297	36.3	2805
95(cs)	1.1	17026289	34.0	2299	17026297	41.2	3827
120(cs)	1.2	18026289	37.0	2848	18026297	44.2	4488
150(cs)	1.4	19026289	41.0	3479	19026297	48.2	5277
185(cs)	1.6	20026289	45.8	4323	20026297	54.4	6860
240(cs)	1.7	21026289	51.8	5608	21026297	60.4	8445
300(cs)	1.8	22026289	57.4	6948	22026297	66.3	10132
400(cs)	2.0	23026289	65.0	8854	23026297	74.0	12388

Current rating and voltage drop

For Unarmoured Cable, please refer to Tables 16 & 17 (Page 52)
For Armoured Cable, please refer to Tables 18 & 19 (Page 53)

(cs): Circular Compact Stranded Conductor

LSZH Flame Retardant Cables



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600/1000V 2-Core ~ 5-Core

XLPE Insulated, Unarmoured & Armoured, LSZH Sheathed

Description: CU/XLPE/LSZH-AT or CU/XLPE/LSZH/SWA/LSZH-AT

Model Code: XL-AT or XLSL-AT

3-CORE

Conductor Nominal Area (mm ²)	Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
		Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)	Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
1.5	0.7	07036290	10.5	145	07036298	15.0	390
2.5	0.7	08036290	11.4	190	08036298	16.0	435
4	0.7	09036290	12.8	250	09036298	17.0	550
6	0.7	10036290	14.0	320	10036298	18.5	660
10	0.7	11036290	16.9	480	11036298	21.7	900
16	0.7	12036290	19.0	661	12036298	24.0	1260
25(cs)	0.9	13036290	22.5	987	13036298	28.0	1791
35(cs)	0.9	14036290	25.0	1299	14036298	30.5	2193
50(cs)	1.0	15036290	28.5	1734	15036298	34.5	2755
70(cs)	1.1	16036290	32.6	2418	16036298	40.0	3881
95(cs)	1.1	17036290	36.5	3245	17036298	44.0	4897
120(cs)	1.2	18036290	39.7	4034	18036298	47.5	5812
150(cs)	1.4	19036290	44.0	4930	19036298	53.2	7401
185(cs)	1.6	20036290	49.2	6138	20036298	58.2	8870
240(cs)	1.7	21036290	55.6	7976	21036298	65.0	11111
300(cs)	1.8	22036290	61.6	9903	22036298	71.0	13373
400(cs)	2.0	23036290	70.0	12624	23036298	80.5	17404

4-CORE

Conductor Nominal Area (mm ²)	Insulation Thickness (mm)	Unarmoured Cable			Armoured Cable		
		Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)	Part No.	Approx. Overall Diam. (mm)	Approx. Weight (kg/km)
1.5	0.7	07046616	11.5	180	07046618	15.5	430
2.5	0.7	08046616	12.5	230	08046618	16.5	495
4	0.7	09046616	14.0	315	09046618	18.0	610
6	0.7	10046616	15.5	395	10046618	20.0	810
10	0.7	11046616	18.4	590	11046618	23.2	1120
16	0.7	12046616	21.4	860	12046618	27.0	1480
25(s)	0.9	13046291	22.0	1225	13046299	27.5	2000
35(s)	0.9	14046291	25.0	1625	14046299	30.5	2480
50(s)	1.0	15046291	28.0	2200	15046299	34.0	3180
70(s)	1.1	16046291	32.0	3050	16046299	39.5	4500
95(s)	1.1	17046291	37.0	4110	17046299	44.0	5775
120(s)	1.2	18046291	42.0	5915	18046299	50.2	7450
150(s)	1.4	19046291	46.0	6350	19046299	54.5	8830
185(s)	1.6	20046291	50.5	7985	20046299	59.0	10805
240(s)	1.7	21046291	58.0	10595	21046299	68.0	13630
300(s)	1.8	22046291	64.0	13220	22046299	73.0	16530
400(s)	2.0	23046291	73.0	16805	23046299	85.0	21840

Current rating and voltage drop

For Unarmoured Cable, please refer to Tables 16 & 17 (Page 52)
For Armoured Cable, please refer to Tables 18 & 19 (Page 53)

(cs) : Circular Compact Stranded Conductor
(s) : Sector Shaped Stranded Conductors

LSZH Flame Retardant Cables



tel (65) 6367 0107 fax (65) 6365 2963
www.keystone-cable.com

600/1000V 2-Core ~ 5-Core

XLPE Insulated, Unarmoured & Armoured, LSZH Sheathed

Description: CU/XLPE/LSZH-AT or CU/XLPE/LSZH/SWA/LSZH-AT

Model Code: XL-AT or XLSL-AT

5-CORE							
Conductor	Insulation	Unarmoured Cable			Armoured Cable		
Nominal Area	Thickness	Part No.	Approx. Overall Diam.	Approx. Weight	Part No.	Approx. Overall Diam.	Approx. Weight
(mm ²)	(mm)		(mm)	(kg/km)		(mm)	(kg/km)
1.5	0.7	07056292	12.8	208	07056300	16.8	455
2.5	0.7	08056292	13.9	263	08056300	17.8	540
4	0.7	09056292	15.4	355	09056300	20.0	795
6	0.7	10056292	16.9	465	10056300	21.8	956
10	0.7	11056292	19.8	700	11056300	24.8	1272
16	0.7	12056292	22.5	1020	12056300	28.6	1845
25 (cs)	0.9	13056292	27.0	1530	13056300	32.6	2500
35 (cs)	0.9	14056292	30.0	2035	14056300	36.2	3140
50 (cs)	1.0	15056292	34.5	2720	15056300	41.5	4300
70 (cs)	1.1	16056292	39.6	3825	16056300	46.8	5585
95 (cs)	1.1	17056292	45.0	5185	17056300	53.0	7675
120 (cs)	1.2	18056292	49.2	6320	18056300	57.6	9125
150 (cs)	1.4	19056292	54.5	7800	19056300	63.0	10824
185 (cs)	1.6	20056292	60.5	9800	20056300	70.0	13211
240 (cs)	1.7	21056292	68.8	12520	21056300	79.2	17466

Current rating and voltage drop

For Unarmoured Cable, please refer to Tables 16 & 17 (Page 52)

For Armoured Cable, please refer to Tables 18 & 19 (Page 53)

(cs): Circular Compact Stranded Conductor

Current Rating and Voltage Drop

XLPE (or LSZH) Insulated Cables
Multi-Core, Unarmoured



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Multi-Core Cables with XLPE (or LSZH) Insulation, PVC (or LSZH) Outersheath 300/500V or 600/1000V

Table 16 : Current-Carrying Capacities (Amp) [CU/XLPE/PVC, CU/XLPE/LSZH or CU/MT/XLPE/LSZH Cables]

Conductor Operating Temperature :90°C

Ambient Temperature :30°C

IEC60502-1

Conductor cross-sectional area	Reference Method 4 (enclosed in an conduit insulated wall etc)	Reference Method 3 (enclosed in conduit on a wall or ceiling, or in trunking)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray), or Reference Method 13 (free air)	
	one 3-core cable or one 4-core cable 3-phase a.c.	one 2-core cable single-phase a.c. or d.c.	one 3-core cable or one 4-core cable 3-phase a.c.	one 2-core cable single-phase a.c. or d.c.	one 3-core cable or one 4-core cable 3-phase a.c.	one 2-core cable single-phase a.c. or d.c.	one 3-core cable or one 4-core cable 3-phase a.c.
1	2	3	4	5	6	7	8
mm ²	A	A	A	A	A	A	A
1.5	16.5	22	19.5	24	22	26	23
2.5	22	30	26	33	30	36	32
4	30	40	35	45	40	49	42
6	38	51	44	58	52	63	54
10	51	69	60	80	71	86	75
16	68	91	80	107	96	115	100
25	89	119	105	138	119	149	127
35	109	146	128	171	147	185	158
50	130	175	154	209	179	225	192
70	164	221	194	269	229	289	246
95	197	265	233	328	278	352	298
120	227	305	268	382	322	410	346
150	259	334	300	441	371	473	399
185	295	384	340	506	424	542	456
240	346	459	398	599	500	641	538
300	396	532	455	693	576	741	621
400	-	625	536	803	667	865	741

Note : For rating factors of ambient temperature other than 30°C please refer to Table 27
For rating factors of ground temperature other than 15°C please refer to Table 30

Table 17 : Voltage Drop (Per Amp Per Meter) [CU/XLPE/PVC, CU/XLPE/LSZH or CU/MT/XLPE/LSZH Cables]

Conductor Operating Temperature :90°C

Ambient Temperature :30°C

IEC60502-1

Conductor cross-sectional area	2-core cable d.c.	2-core cable single-phase a.c.			3-core or 4-core cable 3-phase a.c.		
1	2	3			4		
mm ²	mV/A/m	mV/A/m			mV/A/m		
1.5	31						27
2.5	19						16
4	12						10
6	7.9						6.8
10	4.7						4.0
16	2.9						2.5
		r	x	z	r	x	z
25	1.85	1.85	0.160	1.90	1.60	0.140	1.65
35	1.35	1.35	0.155	1.35	1.15	0.135	1.15
50	0.98	0.99	0.155	1.00	0.86	0.135	0.87
70	0.67	0.67	0.150	0.69	0.59	0.130	0.60
95	0.49	0.50	0.150	0.52	0.43	0.130	0.45
120	0.39	0.40	0.145	0.42	0.34	0.130	0.37
150	0.31	0.32	0.145	0.35	0.28	0.125	0.30
185	0.25	0.26	0.145	0.29	0.22	0.125	0.26
240	0.195	0.20	0.140	0.24	0.175	0.125	0.21
300	0.155	0.16	0.140	0.21	0.140	0.120	0.185
400	0.120	0.13	0.140	0.19	0.115	0.120	0.165

Note : r = conductor resistance at operating temperature
x = reactance
z = impedance

Current Rating and Voltage Drop

XLPE (or LSZH) Insulated Cables
Multi-Core, Armoured



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www.keystone-cable.com

Multi-Core Cables with XLPE (or LSZH) Insulation, Armoured, PVC or LSZH Outersheath 600/1000V

Table 18 : Current-Carrying Capacities (Amp)
[CU/XLPE/PVC/SWA/PVC, CU/XLPE/LSZH/SWA/LSZH, CU/MT/XLPE/LSZH/SWA/LSZH Cables]

Conductor Operating Temperature :90°C
Ambient Temperature :30°C
Ground Temperature :15°C

Depth of Laying :0.5m

BS 6724
IEC60502-1
Soil Thermal Resistivity :1.2 k•m/W

Conductor cross-sectional area	Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated horizontal cable tray or Reference Method 13 [free air])		In single-way ducts		Laid direct in ground	
	one 2-core cable single-phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single-phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single-phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.	one 2-core cable single-phase a.c. or d.c.	one 3-core or 4-core cable 3-phase a.c.
1	2	3	4	5	6	7	8	9
mm ²	A	A	A	A	A	A	A	A
1.5	27	23	29	25	-	23	-	28
2.5	36	31	39	33	-	30	-	36
4	49	42	52	44	-	40	-	48
6	62	53	66	56	-	50	-	60
10	85	73	90	78	-	65	-	80
16	110	94	115	99	115	94	140	115
25	146	124	152	131	145	125	180	150
35	180	154	188	162	175	150	215	180
50	219	187	228	197	210	175	255	215
70	279	238	291	251	260	215	315	265
95	338	289	354	304	310	260	380	315
120	392	335	410	353	355	300	430	360
150	451	386	472	406	400	335	480	405
185	515	441	539	463	455	380	540	460
240	607	520	636	546	520	440	630	530
300	698	599	732	628	590	495	700	590
400	787	673	847	728	660	560	790	670

Note : For rating factors of ambient temperature other than 30°C please refer to Table 27
For rating factors of ground temperature other than 15°C please refer to Table 30

Table 19 : Voltage Drop (Per Amp Per Meter)
[CU/XLPE/PVC/SWA/PVC, CU/XLPE/LSZH/SWA/LSZH, CU/MT/XLPE/LSZH/SWA/LSZH Cables]

Conductor Operating Temperature :90°C
Ambient Temperature :30°C
Ground Temperature :15°C

Depth of Laying :0.5m

BS 6724
IEC60502-1
Soil Thermal Resistivity :1.2 k•m/W

Conductor cross-sectional area	2-core cable d.c.	2 cables, single-phase a.c.			3 or 4 cables, 3-phase a.c.			2 cables, single-phase a.c.	3 or 4 cables, 3-phase a.c.
								In ducts or in ground	In ducts or in ground
1	2	3			4			5	6
mm ²	mV/A/m	mV/A/m			mV/A/m			mV/A/m	mV/A/m
1.5	31.0	31.0			27.0			31.0	25.0
2.5	19.0	19.0			16.0			19.0	15.0
4	12.0	12.0			10.0			12.0	9.7
6	7.9	7.9			6.8			7.9	6.5
10	4.7	4.7			4.0			4.7	3.9
16	2.9	2.9			2.5			2.9	2.6
		r	x	z	r	x	z		
25	1.850	1.850	0.160	1.900	1.600	0.140	1.650	1.900	1.600
35	1.350	1.350	0.155	1.350	1.150	0.135	1.150	1.350	1.200
50	0.980	0.990	0.155	1.000	0.860	0.135	0.870	1.000	0.870
70	0.670	0.670	0.150	0.690	0.590	0.130	0.600	0.690	0.610
95	0.490	0.500	0.150	0.520	0.430	0.130	0.450	0.520	0.450
120	0.390	0.400	0.145	0.420	0.340	0.130	0.370	0.420	0.360
150	0.310	0.320	0.145	0.350	0.280	0.125	0.300	0.350	0.300
185	0.250	0.260	0.145	0.290	0.220	0.125	0.260	0.290	0.250
240	0.195	0.200	0.140	0.240	0.175	0.125	0.210	0.240	0.210
300	0.155	0.160	0.140	0.210	0.140	0.120	0.185	0.210	0.190
400	0.120	0.130	0.140	0.190	0.115	0.120	0.165	0.190	0.180

Note : r = conductor resistance at operating temperature
x = reactance
z = impedance