

Royal Trading

Castings & Cables · Dubai

LV Cable Catalogue

XLPE and PVC power, control and flexible cables

650/1100 V · IS 7098 Part 1 · IS 694

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About this catalogue

Dimensions are in millimetres, weights in kilograms per kilometre and currents in amperes. Dimensions and weights are approximate and subject to manufacturing tolerance.

Current ratings assume 40 °C ambient air and 30 °C ground with the conductor at 90 °C for the XLPE range, and are derived from IS 3961 Part 6. The PVC flexible ratings follow BS 7671 Table 4D2A at 70 °C. Apply the de-rating factors at the back for other conditions, and a grouping factor where cables run together.

What we need to quote

- Maximum operating voltage and system earthing
- Prospective fault level and required short circuit withstand
- Load to be carried, plus any expected overload duration
- Route length and permissible voltage drop
- Installation method — buried, ducted, tray, conduit or free air
- Ambient and ground temperature, soil thermal resistivity, grouping
- Flame retardance, low smoke or halogen free requirements

PVC Flexible Cables

Bunched copper, PVC insulated and sheathed, 1100 V

Flexible multicore cable with class 5 bunched copper conductors, PVC insulated and PVC sheathed. For power and lighting circuits indoors and outdoors, on single or three phase systems up to 1100 V.

Standard IS 694 · **Voltage** 1100 V AC / 1500 V DC to earth · **Range** 2, 3, 4 and 5 core

Construction

- **Conductor:** Bunched copper to IS 8130, class 5
- **Insulation:** PVC Type D to IS 5831
- **Sheath:** PVC Type ST3 to IS 5831
- **Test voltage:** 3000 V AC at 20 ± 5 °C
- **Temperature:** Fixed installation -15 °C to $+70$ °C
- **Bending radius:** 6 × overall diameter fixed, 8 × occasional

Two core — dimensions and weight

Size (n × mm ²)	Insulation thickness	Overall dia.	Weight (kg/km)
2 × 0.5	0.6	6.02	52
2 × 0.75	0.6	6.43	62
2 × 1	0.6	6.78	71
2 × 1.5	0.6	7.32	87
2 × 2.5	0.7	8.83	131
2 × 4	0.8	10.32	188
2 × 6	0.8	11.67	252
2 × 10	1	14.76	412
2 × 16	1	17.04	583
2 × 25	1.2	20.37	861
2 × 35	1.2	23.15	1154
2 × 50	1.4	27.75	1657
2 × 70	1.4	31.51	2219
2 × 95	1.6	36.28	2974
2 × 120	1.6	39.56	3633

Three core — dimensions and weight

Size (n × mm ²)	Insulation thickness	Overall dia.	Weight (kg/km)
3 × 0.5	0.6	6.36	60
3 × 0.75	0.6	6.80	73
3 × 1	0.6	7.18	85
3 × 1.5	0.6	7.76	105
3 × 2.5	0.7	9.38	160
3 × 4	0.8	10.98	231
3 × 6	0.8	12.63	321

3 × 10	1	15.93	524
3 × 16	1	18.18	741
3 × 25	1.2	21.97	1113
3 × 35	1.2	24.75	1486
3 × 50	1.4	29.65	2133
3 × 70	1.4	33.68	2874
3 × 95	1.6	38.80	3862
3 × 120	1.6	42.32	4738
3 × 150	1.8	46.69	5797
3 × 185	2	52.03	7241
3 × 240	2.2	58.33	9210
3 × 300	2.4	64.88	11518

Four core — dimensions and weight

Size (n × mm ²)	Insulation thickness	Overall dia.	Weight (kg/km)
4 × 0.5	0.6	6.91	73
4 × 0.75	0.6	7.41	88
4 × 1	0.6	7.83	103
4 × 1.5	0.6	8.68	134
4 × 2.5	0.7	10.26	198
4 × 4	0.8	12.07	289
4 × 6	0.8	13.86	402
4 × 10	1	17.51	658
4 × 16	1	20.03	937
4 × 25	1.2	24.46	1426
4 × 35	1.2	27.54	1906
4 × 50	1.4	32.74	2715
4 × 70	1.4	37.20	3668
4 × 95	1.6	42.89	4935
4 × 120	1.6	46.81	6066
4 × 150	1.8	51.69	7428
4 × 185	2	57.62	9285
4 × 240	2.2	64.63	11820
4 × 300	2.4	71.92	14794

Five core — dimensions and weight

Size (n × mm ²)	Insulation thickness	Overall dia.	Weight (kg/km)
5 × 0.5	0.6	7.50	73

5 × 0.75	0.6	8.06	90
5 × 1	0.6	8.72	110
5 × 1.5	0.6	9.45	139
5 × 2.5	0.7	11.22	206
5 × 4	0.8	13.43	309

Current carrying capacity and conductor resistance

Size (mm²)	B — 2 core	B — 3/4 core	C — 2 core	C — 3/4 core	E — 2 core	E — 3/4 core	Max. DC res. (Ω/km)
0.5	4	3.6	4	3.6	—	—	39
0.75	7	6	7	6	—	—	26
1	11	10	12	11	14	12	19.5
1.5	14	12	16	14	18	15	13.3
2.5	19	17	22	20	25	21	7.98
4	25	22	30	26	33	28	4.95
6	31	28	38	34	42	36	3.3
10	43	38	52	47	58	50	1.91
16	57	51	70	63	78	66	1.21
25	76	68	95	81	100	85	0.78
35	94	84	116	100	125	106	0.554
50	112	100	142	122	152	129	0.386
70	142	122	180	155	196	165	0.272
95	170	151	218	188	238	201	0.206
120	196	174	252	219	277	233	0.161
150	218	190	290	252	320	269	0.129
185	248	215	331	288	366	307	0.106
240	290	251	389	340	434	363	0.0801
300	332	286	447	392	500	419	0.0641

Reference method B: enclosed in conduit or trunking. C: clipped direct. E: free air or perforated tray. Ambient air 40 °C, conductor 70 °C. Derived from BS 7671 Table 4D2A.

De-rating factor — ambient temperature

Ambient	35 °C	40 °C	45 °C	50 °C	55 °C	60 °C	65 °C
Factor	1.08	1.00	0.91	0.82	0.70	0.57	0.40

XLPE Single Core Power Cables

Copper or aluminium, armoured or unarmoured, 650/1100 V

Single core XLPE insulated power cable in stranded compacted copper or aluminium, PVC sheathed, with the option of aluminium round wire or flat strip armour. XLPE runs at 90 °C continuous and 250 °C on short circuit.

Standard IS 7098 Part 1 · **Voltage** 650/1100 V AC / 1500 V DC to earth · **Range** Single core, 4 mm² to 1000 mm²

Construction

- **Conductor:** Stranded compacted copper or aluminium to IS 8130, class 1 or 2
- **Insulation:** Cross-linked polyethylene (XLPE) to IS 7098-1
- **Armour:** Aluminium round wire or flat strip (armoured types)
- **Sheath:** Extruded PVC Type ST2 / FRLS / FR / LSZH
- **Cores:** Red / Black / Yellow / Blue / Natural
- **Bending radius:** 12 × overall diameter, fixed installation

Copper, round wire armoured — dimensions and weight

Size (mm ²)	Insulation	Armour wire	Sheath (min.)	Overall dia.	Weight (kg/km)
1 × 10	1	1.4	1.24	12	219
1 × 16	1	1.4	1.24	13	281
1 × 25	1.2	1.4	1.24	14	390
1 × 35	1.2	1.4	1.24	16	485
1 × 50	1.3	1.4	1.24	17	608
1 × 70	1.4	1.4	1.24	19	817
1 × 95	1.4	1.6	1.4	22	1102
1 × 120	1.5	1.6	1.4	23.5	1339
1 × 150	1.7	1.6	1.4	24.5	1615
1 × 185	1.9	1.6	1.4	26.5	1976
1 × 240	2	1.6	1.4	29	2508
1 × 300	2.1	1.6	1.56	31.5	3078
1 × 400	2.4	2	1.56	36	3962
1 × 500	2.6	2	1.56	39.5	4969
1 × 630	2.8	2	1.72	43	6318
1 × 800	3.1	2	1.88	48.5	7990
1 × 1000	3.3	2.5	2.04	54	10051

Copper, flat strip armoured — dimensions and weight

Size (mm ²)	Insulation	Armour strip	Sheath (min.)	Overall dia.	Weight (kg/km)
1 × 95	1.4	4 × 0.8	1.4	18.6	1036
1 × 120	1.5	4 × 0.8	1.4	20.4	1264
1 × 150	1.7	4 × 0.8	1.4	22.2	1530
1 × 185	1.9	4 × 0.8	1.4	24.4	1890

1 × 240	2	4 × 0.8	1.4	26.6	2404
1 × 300	2.1	4 × 0.8	1.56	29.6	2974
1 × 400	2.4	4 × 0.8	1.56	33.2	3726
1 × 500	2.6	4 × 0.8	1.56	36.7	4770
1 × 630	2.8	4 × 0.8	1.72	41.2	6070
1 × 800	3.1	4 × 0.8	1.88	45.1	7676
1 × 1000	3.3	4 × 0.8	2.04	50.6	9567

Copper, unarmoured — dimensions and weight

Size (mm²)	Class	Insulation	Sheath	Overall dia.	Weight (kg/km)
1 × 4	Class 1	0.7	1.8	7.5	85.5
1 × 6	Class 1	0.7	1.8	8	109
1 × 4	Class 2	0.7	1.8	8	88
1 × 6	Class 2	0.7	1.8	8.5	114
1 × 10	Class 2	0.7	1.8	9.5	152
1 × 16	Class 2	0.7	1.8	10	209
1 × 25	Class 2	0.9	1.8	12	309
1 × 35	Class 2	0.9	1.8	13	399
1 × 50	Class 2	1	1.8	14	513
1 × 70	Class 2	1.1	1.8	16	712
1 × 95	Class 2	1.1	1.8	17.5	940
1 × 120	Class 2	1.2	1.8	19	1168
1 × 150	Class 2	1.4	2	21.5	1444
1 × 185	Class 2	1.6	2	23.5	1786
1 × 240	Class 2	1.7	2	26	2299
1 × 300	Class 2	1.8	2	28.5	2840
1 × 400	Class 2	2	2.2	33	3629
1 × 500	Class 2	2.2	2.2	36	4598
1 × 630	Class 2	2.4	2.2	40	5880
1 × 800	Class 2	2.6	2.4	43.7	7486
1 × 1000	Class 2	2.8	2.6	49.2	9358

Aluminium, round wire armoured — dimensions and weight

Size (mm²)	Insulation	Armour wire	Sheath (min.)	Overall dia.	Weight (kg/km)
1 × 10	1	1.4	1.24	11.35	167
1 × 16	1	1.4	1.24	12.5	190
1 × 25	1.2	1.4	1.24	14	247

1 × 35	1.2	1.4	1.24	15	290
1 × 50	1.3	1.4	1.24	16.5	342
1 × 70	1.4	1.4	1.24	18.5	428
1 × 95	1.4	1.6	1.4	20.2	560
1 × 120	1.5	1.6	1.4	22.5	665
1 × 150	1.7	1.6	1.4	24	779
1 × 185	1.9	1.6	1.4	26.5	921
1 × 240	2	1.6	1.4	29	1121
1 × 300	2.1	1.6	1.56	31.5	1349
1 × 400	2.4	2	1.56	35.5	1739
1 × 500	2.6	2	1.56	39.5	2128
1 × 630	2.8	2	1.72	43	2660
1 × 800	3.1	2	1.88	47.9	3296
1 × 1000	3.3	2.5	2.04	54.37	4142

Aluminium, flat strip armoured — dimensions and weight

Size (mm ²)	Insulation	Armour strip	Sheath (min.)	Overall dia.	Weight (kg/km)
1 × 95	1.4	4 × 0.8	1.4	18.6	494
1 × 120	1.5	4 × 0.8	1.4	20.4	589
1 × 150	1.7	4 × 0.8	1.4	22.5	694
1 × 185	1.9	4 × 0.8	1.4	24.5	827
1 × 240	2	4 × 0.8	1.4	26.6	1026
1 × 300	2.1	4 × 0.8	1.56	29.6	1235
1 × 400	2.4	4 × 0.8	1.56	33	1548
1 × 500	2.6	4 × 0.8	1.56	36.7	1909
1 × 630	2.8	4 × 0.8	1.72	40.5	2413
1 × 800	3.1	4 × 0.8	1.72	46	2992
1 × 1000	3.3	4 × 0.8	1.88	50	3667

Aluminium, unarmoured — dimensions and weight

Size (mm ²)	Class	Insulation	Sheath	Overall dia.	Weight (kg/km)
1 × 4	Class 1	0.7	1.8	7.5	60
1 × 6	Class 1	0.7	1.8	8	70
1 × 10	Class 1	0.7	1.8	9	80
1 × 4	Class 2	0.7	1.8	8	65
1 × 6	Class 2	0.7	1.8	8.5	75
1 × 10	Class 2	0.7	1.8	9.5	90

1 × 16	Class 2	0.7	1.8	10	115
1 × 25	Class 2	0.9	1.8	12	155
1 × 35	Class 2	0.9	1.8	13	180
1 × 50	Class 2	1	1.8	14	240
1 × 70	Class 2	1.1	1.8	15.5	310
1 × 95	Class 2	1.1	1.8	17.5	385
1 × 120	Class 2	1.2	1.8	19.5	470
1 × 150	Class 2	1.4	2	21.5	600
1 × 185	Class 2	1.6	2	23.5	710
1 × 240	Class 2	1.7	2	26	900
1 × 300	Class 2	1.8	2	28.5	1158
1 × 400	Class 2	2	2.2	31.5	1385
1 × 500	Class 2	2.2	2.2	35.5	1650
1 × 630	Class 2	2.4	2.2	39.5	2100
1 × 800	Class 2	2.6	2.4	44.5	2730
1 × 1000	Class 2	2.8	2.6	48.5	3350

Copper — current carrying capacity

Size (mm²)	Ground 2 core	Ground 3 core	Duct 2 core	Duct 3 core	Air 2 core	Air 3 core	DC res. (Ω/km)
1.5	32	28	27	26	28	24	12.1
2.5	42	36	36	33	37	31	7.41
4	54	47	46	43	48	41	4.61
6	67	58	57	53	61	52	3.08
10	90	77	76	70	83	71	1.83
16	115	98	97	89	108	94	1.15
25	148	126	124	114	144	126	0.727
35	177	150	148	136	176	154	0.524
50	208	177	174	160	212	187	0.387
70	255	216	213	195	269	238	0.268
95	312	260	256	233	340	303	0.193
120	355	295	291	264	396	354	0.153
150	396	329	324	294	450	403	0.124
185	447	371	365	330	519	468	0.0991
240	515	427	420	379	613	553	0.0754
300	576	477	469	422	700	634	0.0601
400	651	537	528	473	813	737	0.047

500	727	598	589	525	930	844	0.0366
630	806	661	651	578	1056	961	0.0283
800	877	721	707	626	1179	1077	0.0221
1000	935	772	751	668	1288	1188	0.0176

Columns give 2 single core cables / 3 single core cables in each installation condition. Air 40 °C, ground 30 °C, conductor 90 °C. To IS 3961 Part 6.

Aluminium — current carrying capacity

Size (mm ²)	Ground 2 core	Ground 3 core	Duct 2 core	Duct 3 core	Air 2 core	Air 3 core	DC res. (Ω/km)
4	43	37	36	34	38	33	7.41
6	55	47	47	43	50	43	4.61
10	69	59	58	54	64	55	3.08
16	89	76	75	69	84	72	1.91
25	115	98	96	89	112	98	1.2
35	137	116	115	106	137	119	0.868
50	161	137	135	124	165	145	0.641
70	198	168	165	151	209	185	0.443
95	243	202	199	181	264	235	0.32
120	276	230	226	206	308	276	0.253
150	308	256	252	229	350	314	0.206
185	349	290	285	258	406	366	0.164
240	404	335	329	298	480	434	0.125
300	454	376	369	333	551	500	0.1
400	518	429	421	378	647	589	0.0778
500	588	485	476	426	751	685	0.0605
630	663	546	536	477	868	793	0.0469
800	740	608	596	528	992	907	0.0367
1000	812	665	652	575	1117	1022	0.0291

Air 40 °C, ground 30 °C, conductor 90 °C. To IS 3961 Part 6.

XLPE Multicore Copper Power Cables

2, 3, 3.5 and 4 core, armoured or unarmoured, 650/1100 V

Multicore XLPE power cable with stranded compacted sector-shaped copper conductors, PVC inner sheath and galvanised steel armour where specified. The 3.5 core has a reduced neutral for balanced three phase distribution.

Standard IS 7098 Part 1 · **Voltage** 650/1100 V AC / 1500 V DC to earth · **Range** 2, 3, 3.5 and 4 core, 4 mm² to 400 mm²

Construction

- **Conductor:** Stranded compacted copper to IS 8130, class 1 or 2
- **Insulation:** Cross-linked polyethylene (XLPE) to IS 7098-1
- **Inner sheath:** Extruded PVC Type ST2 to IS 5831
- **Armour:** Galvanised steel flat strip or round wire to IS 3975
- **Sheath:** Extruded PVC Type ST2 / FRLS / FR / LSZH
- **Bending radius:** 12 × overall diameter, fixed installation

Two core, unarmoured

Size	Class	Insulation	Sheath	Overall dia.	Weight (kg/km)
2 × 4	Class 1	0.7	1.8	12.5	165
2 × 6	Class 1	0.7	1.8	13.5	210
2 × 4	Class 2	0.7	1.8	13	175
2 × 6	Class 2	0.7	1.8	14	225
2 × 10	Class 2	0.7	1.8	16	300
2 × 16	Class 2	0.7	1.8	14	422
2 × 25	Class 2	0.9	2	17	636
2 × 35	Class 2	0.9	2	19	817
2 × 50	Class 2	1	2	21	1054
2 × 70	Class 2	1.1	2	23	1453
2 × 95	Class 2	1.1	2.2	26.5	1966
2 × 120	Class 2	1.2	2.2	28.5	2413
2 × 150	Class 2	1.4	2.2	32	2935
2 × 185	Class 2	1.6	2.4	35.5	3676
2 × 240	Class 2	1.7	2.6	39.5	4750
2 × 300	Class 2	1.8	2.8	43.5	5918
2 × 400	Class 2	2	3	49	7495

Two core, flat strip armoured

Size	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
2 × 25	0.9	4 × 0.8	1.4	18.5	804
2 × 35	0.9	4 × 0.8	1.4	20	1020
2 × 50	1	4 × 0.8	1.4	22.5	1311

2 × 70	1.1	4 × 0.8	1.56	25.5	1757
2 × 95	1.1	4 × 0.8	1.56	28	2289
2 × 120	1.2	4 × 0.8	1.56	30.5	2755
2 × 150	1.4	4 × 0.8	1.72	31.8	3353
2 × 185	1.6	4 × 0.8	1.72	37	4094
2 × 240	1.7	4 × 0.8	1.88	38.7	5225
2 × 300	1.8	4 × 0.8	2.04	42.5	6412
2 × 400	2	4 × 0.8	2.36	48.2	8075

Two core, round wire armoured

Size	Class	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
2 × 4	Class 1	0.7	1.4	1.24	14	408
2 × 4	Class 2	0.7	1.4	1.24	14.5	427
2 × 6	Class 1	0.7	1.4	1.24	15	484
2 × 6	Class 2	0.7	1.4	1.24	16	522
2 × 10	Class 2	0.7	1.4	1.24	17.5	665
2 × 16	Class 2	0.7	1.4	1.4	17	697
2 × 25	Class 2	0.9	1.6	1.4	20	1002
2 × 35	Class 2	0.9	1.6	1.4	22	1224
2 × 50	Class 2	1	1.6	1.4	24	1520
2 × 70	Class 2	1.1	1.6	1.56	27	2004
2 × 95	Class 2	1.1	2	1.56	30.5	2736
2 × 120	Class 2	1.2	2	1.56	33	3230
2 × 150	Class 2	1.4	2	1.72	36	3876
2 × 185	Class 2	1.6	2	1.88	40	4731
2 × 240	Class 2	1.7	2.5	2.04	42.4	6203
2 × 300	Class 2	1.8	2.5	2.2	46.2	7514
2 × 400	Class 2	2	2.5	2.36	51.6	9262

Three core, unarmoured

Size	Class	Insulation	Sheath	Overall dia.	Weight (kg/km)
3 × 4	Class 1	0.7	1.8	13	210
3 × 4	Class 2	0.7	1.8	13.5	232
3 × 6	Class 1	0.7	1.8	14	280
3 × 6	Class 2	0.7	1.8	15	299
3 × 10	Class 2	0.7	1.8	16.5	415

3 × 16	Class 2	0.7	1.8	16.2	425
3 × 25	Class 2	0.9	2	19.5	874
3 × 35	Class 2	0.9	2	21.5	1150
3 × 50	Class 2	1	2	24.5	1501
3 × 70	Class 2	1.1	2.2	28	2118
3 × 95	Class 2	1.1	2.2	30.8	2821
3 × 120	Class 2	1.2	2.2	33.8	3496
3 × 150	Class 2	1.4	2.4	37.9	4322
3 × 185	Class 2	1.6	2.6	42	5377
3 × 240	Class 2	1.7	2.8	46.9	6992
3 × 300	Class 2	1.8	3	51.5	8683
3 × 400	Class 2	2	3.2	58.6	11029

Three core, flat strip armoured

Size	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
3 × 16	0.7	4 × 0.8	1.24	16.8	772
3 × 25	0.9	4 × 0.8	1.4	20.1	1102
3 × 35	0.9	4 × 0.8	1.4	22	1396
3 × 50	1	4 × 0.8	1.4	24.8	1767
3 × 70	1.1	4 × 0.8	1.56	28.5	2441
3 × 95	1.1	4 × 0.8	1.56	31.3	3182
3 × 120	1.2	4 × 0.8	1.56	34.3	3895
3 × 150	1.4	4 × 0.8	1.72	38.3	4759
3 × 185	1.6	4 × 0.8	1.88	42.3	5852
3 × 240	1.7	4 × 0.8	2.04	47.3	7505
3 × 300	1.8	4 × 0.8	2.2	51.8	9243
3 × 400	2	4 × 0.8	2.52	58.5	11704

Three core, round wire armoured

Size	Class	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
3 × 4	Class 1	0.7	1.4	1.24	15	530
3 × 4	Class 2	0.7	1.4	1.24	16	460
3 × 6	Class 1	0.7	1.4	1.24	16	640
3 × 6	Class 2	0.7	1.4	1.24	17	551
3 × 10	Class 2	0.7	1.4	1.24	19	722
3 × 16	Class 2	0.7	1.4	1.4	18.8	921

3 × 25	Class 2	0.9	1.6	1.4	21.7	1282
3 × 35	Class 2	0.9	1.6	1.4	23.6	1596
3 × 50	Class 2	1	1.6	1.56	26.8	2042
3 × 70	Class 2	1.1	1.6	1.56	30.9	2888
3 × 95	Class 2	1.1	2	1.56	33.7	3686
3 × 120	Class 2	1.2	2	1.72	37	4455
3 × 150	Class 2	1.4	2	1.88	41.1	5396
3 × 185	Class 2	1.6	2	2.04	46	6868
3 × 240	Class 2	1.7	2.5	2.2	50.9	8654
3 × 300	Class 2	1.8	2.5	2.36	55.5	10526
3 × 400	Class 2	2	2.5	2.68	64	13718

Three and a half core, unarmoured

Size	Insulation (main/neutral)	Sheath	Overall dia.	Weight (kg/km)
3.5 × 25	0.9 / 0.7	2	21.3	1035
3.5 × 35	0.9 / 0.7	2	23.6	1311
3.5 × 50	1 / 0.9	2	26.8	1748
3.5 × 70	1.1 / 0.9	2.2	31	2460
3.5 × 95	1.1 / 1	2.2	34.3	3287
3.5 × 120	1.2 / 1.1	2.2	37.6	4142
3.5 × 150	1.4 / 1.1	2.4	42.3	4987
3.5 × 185	1.6 / 1.1	2.6	46.8	6279
3.5 × 240	1.7 / 1.2	2.8	52.4	8122
3.5 × 300	1.8 / 1.4	3	57	10079
3.5 × 400	2 / 1.6	3.4	65	12835

Three and a half core, flat strip armoured

Size	Insulation (main/neutral)	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
3.5 × 25	0.9 / 0.7	4 × 0.8	1.4	21.9	1272
3.5 × 35	0.9 / 0.7	4 × 0.8	1.4	24.2	1586
3.5 × 50	1 / 0.9	4 × 0.8	1.4	27.4	2061
3.5 × 70	1.1 / 0.9	4 × 0.8	1.56	31.5	2831
3.5 × 95	1.1 / 1	4 × 0.8	1.56	34.8	3686
3.5 × 120	1.2 / 1.1	4 × 0.8	1.72	38.5	4617
3.5 × 150	1.4 / 1.1	4 × 0.8	1.72	42.7	5481
3.5 × 185	1.6 / 1.1	4 × 0.8	1.88	47.2	6830

3.5 × 240	1.7 / 1.2	4 × 0.8	2.04	52.7	8711
3.5 × 300	1.8 / 1.4	4 × 0.8	2.2	57.9	10716
3.5 × 400	2 / 1.6	4 × 0.8	2.52	65.5	13556

Three and a half core, round wire armoured

Size	Insulation (main/neutral)	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
3.5 × 25	0.9 / 0.7	1.6	1.4	23.6	1491
3.5 × 35	0.9 / 0.7	1.6	1.4	25.8	1824
3.5 × 50	1 / 0.9	1.6	1.56	29	2337
3.5 × 70	1.1 / 0.9	2	1.56	33.9	3296
3.5 × 95	1.1 / 1	2	1.56	37.2	4237
3.5 × 120	1.2 / 1.1	2	1.72	41	5225
3.5 × 150	1.4 / 1.1	2	1.88	45	6194
3.5 × 185	1.6 / 1.1	2.5	2.04	50	7989
3.5 × 240	1.7 / 1.2	2.5	2.2	56	10003
3.5 × 300	1.8 / 1.4	2.5	2.36	61	12131
3.5 × 400	2 / 1.6	3.15	2.68	70	15817

Four core, unarmoured

Size	Class	Insulation	Sheath	Overall dia.	Weight (kg/km)
4 × 4	Class 1	0.7	1.8	13.5	260
4 × 6	Class 1	0.7	1.8	14.7	350
4 × 4	Class 2	0.7	1.8	14.2	280
4 × 6	Class 2	0.7	1.8	15.5	365
4 × 10	Class 2	0.7	1.8	17.8	510
4 × 16	Class 2	0.7	1.8	17.5	741
4 × 25	Class 2	0.9	2	21	1140
4 × 35	Class 2	0.9	2	23.5	1491
4 × 50	Class 2	1	2	26	1957
4 × 70	Class 2	1.1	2.2	30.5	2774
4 × 95	Class 2	1.1	2.2	33.5	3714
4 × 120	Class 2	1.2	2.4	37.5	4645
4 × 150	Class 2	1.4	2.6	42	5719
4 × 185	Class 2	1.6	2.8	46.5	7125
4 × 240	Class 2	1.7	3	52.5	9253
4 × 300	Class 2	1.8	3.2	58	11524

Four core, flat strip armoured

Size	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
4 × 16	0.7	4 × 0.8	1.4	20	969
4 × 25	0.9	4 × 0.8	1.4	23	1406
4 × 35	0.9	4 × 0.8	1.4	25	1786
4 × 50	1	4 × 0.8	1.56	28	2308
4 × 70	1.1	4 × 0.8	1.56	32	3154
4 × 95	1.1	4 × 0.8	1.56	35	4161
4 × 120	1.2	4 × 0.8	1.72	39	5101
4 × 150	1.4	4 × 0.8	1.88	43.5	6232
4 × 185	1.6	4 × 0.8	2.04	48	7676
4 × 240	1.7	4 × 0.8	2.2	54	9880
4 × 300	1.8	4 × 0.8	2.36	59.5	12198

Four core, round wire armoured

Size	Class	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
4 × 4	Class 1	0.7	1.4	1.24	15.3	503
4 × 4	Class 2	0.7	1.4	1.24	16	533
4 × 6	Class 1	0.7	1.4	1.24	16.5	618
4 × 6	Class 2	0.7	1.4	1.24	17.3	646
4 × 10	Class 2	0.7	1.4	1.4	19.8	870
4 × 16	Class 2	0.7	1.6	1.4	21	1159
4 × 25	Class 2	0.9	1.6	1.4	25	1615
4 × 35	Class 2	0.9	1.6	1.4	26.5	2033
4 × 50	Class 2	1	1.6	1.56	29.5	2593
4 × 70	Class 2	1.1	2	1.56	34	3686
4 × 95	Class 2	1.1	2	1.72	38	4769
4 × 120	Class 2	1.2	2	1.88	42	5795
4 × 150	Class 2	1.4	2.5	2.04	47	7324
4 × 185	Class 2	1.6	2.5	2.2	52	8901
4 × 240	Class 2	1.7	2.5	2.36	57.5	11210
4 × 300	Class 2	1.8	3.15	2.52	64.5	14279

Current carrying capacity — 3, 3.5 and 4 core copper

Size (mm²)	Buried in ground	In ducts	In air	Max. DC res. (Ω/km)
4	45	38	41	4.61

XLPE Multicore Aluminium Power Cables

2, 3, 3.5 and 4 core, armoured or unarmoured, 650/1100 V

The aluminium equivalent of the multicore range — substantially lighter and lower cost for the same duty, at one or two sizes larger. The usual choice for distribution feeders and long runs where weight and price matter more than cross-section.

Standard IS 7098 Part 1 · **Voltage** 650/1100 V AC / 1500 V DC to earth · **Range** 2, 3, 3.5 and 4 core, 4 mm² to 630 mm²

Construction

- **Conductor:** Stranded compacted aluminium to IS 8130, class 1 or 2
- **Insulation:** Cross-linked polyethylene (XLPE) to IS 7098-1
- **Inner sheath:** Extruded PVC Type ST2 to IS 5831
- **Armour:** Galvanised steel flat strip or round wire to IS 3975
- **Sheath:** Extruded PVC Type ST2 / FRLS / FR / LSZH
- **Bending radius:** 12 × overall diameter, fixed installation

Two core, unarmoured

Size	Class	Insulation	Sheath	Overall dia.	Weight (kg/km)
2 × 4	Class 1	0.7	1.8	12.5	140
2 × 6	Class 1	0.7	1.8	13.5	170
2 × 10	Class 1	0.7	1.8	15	205
2 × 4	Class 2	0.7	1.8	13	150
2 × 6	Class 2	0.7	1.8	14	180
2 × 10	Class 2	0.7	1.8	16	225
2 × 16	Class 2	0.7	1.8	14	225
2 × 25	Class 2	0.9	2	17	330
2 × 35	Class 2	0.9	2	19	410
2 × 50	Class 2	1	2	21	510
2 × 70	Class 2	1.1	2	23	675
2 × 95	Class 2	1.1	2.2	26.5	893
2 × 120	Class 2	1.2	2.2	28.5	1050
2 × 150	Class 2	1.4	2.2	32	1215
2 × 185	Class 2	1.6	2.4	35.5	1510
2 × 240	Class 2	1.7	2.6	39.5	1900
2 × 300	Class 2	1.8	2.8	43.5	2360
2 × 400	Class 2	2	3	49	3100
2 × 500	Class 2	2.2	3.4	55.5	4000
2 × 630	Class 2	2.4	3.6	61.5	4997

Two core, flat strip armoured

Size	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
2 × 25	0.9	4 × 0.8	1.4	18.5	509
2 × 35	0.9	4 × 0.8	1.4	20	606
2 × 50	1	4 × 0.8	1.4	22.5	753
2 × 70	1.1	4 × 0.8	1.56	25.5	989
2 × 95	1.1	4 × 0.8	1.56	28	1204
2 × 120	1.2	4 × 0.8	1.56	30.5	1408
2 × 150	1.4	4 × 0.8	1.72	31.8	1690
2 × 185	1.6	4 × 0.8	1.72	37	2004
2 × 240	1.7	4 × 0.8	1.88	38.7	2480
2 × 300	1.8	4 × 0.8	2.04	42.5	2964
2 × 400	2	4 × 0.8	2.36	48.2	3676
2 × 500	2.2	4 × 0.8	2.52	56.5	4599
2 × 630	2.4	4 × 0.8	2.68	62.5	5662

Two core, round wire armoured

Size	Class	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
2 × 4	Class 1	0.7	1.4	1.24	14.5	375
2 × 4	Class 2	0.7	1.4	1.24	15	403
2 × 6	Class 1	0.7	1.4	1.24	15.5	437
2 × 6	Class 2	0.7	1.4	1.24	16.5	465
2 × 10	Class 1	0.7	1.4	1.24	16	503
2 × 10	Class 2	0.7	1.4	1.24	18	551
2 × 16	Class 2	0.7	1.4	1.4	17	480
2 × 25	Class 2	0.9	1.6	1.4	20	672
2 × 35	Class 2	0.9	1.6	1.4	22	776
2 × 50	Class 2	1	1.6	1.4	24	938
2 × 70	Class 2	1.1	1.6	1.56	27	1187
2 × 95	Class 2	1.1	2	1.56	28.68	1573
2 × 120	Class 2	1.2	2	1.56	33	1849
2 × 150	Class 2	1.4	2	1.72	36	2183
2 × 185	Class 2	1.6	2	1.88	37.7	2598
2 × 240	Class 2	1.7	2.5	2.04	45	3419
2 × 300	Class 2	1.8	2.5	2.2	46.22	4019
2 × 400	Class 2	2	2.5	2.36	51.61	4854

2 × 500	Class 2	2.2	3.15	2.68	61.5	6517
2 × 630	Class 2	2.4	3.15	2.84	67.5	7790

Three core, unarmoured

Size	Class	Insulation	Sheath	Overall dia.	Weight (kg/km)
3 × 4	Class 1	0.7	1.8	13	140
3 × 6	Class 1	0.7	1.8	14.5	170
3 × 10	Class 1	0.7	1.8	15.5	220
3 × 4	Class 2	0.7	1.8	13.5	160
3 × 6	Class 2	0.7	1.8	15	190
3 × 10	Class 2	0.7	1.8	17	230
3 × 16	Class 2	0.7	1.8	16.2	304
3 × 25	Class 2	0.9	2	19.5	446
3 × 35	Class 2	0.9	2	21.5	551
3 × 50	Class 2	1	2	24.5	693
3 × 70	Class 2	1.1	2.2	28	950
3 × 95	Class 2	1.1	2.2	30.8	1206
3 × 120	Class 2	1.2	2.2	33.8	1463
3 × 150	Class 2	1.4	2.4	37.9	1814
3 × 185	Class 2	1.6	2.6	42	2242
3 × 240	Class 2	1.7	2.8	46.9	2869
3 × 300	Class 2	1.8	3	51.5	3505
3 × 400	Class 2	2	3.2	58.6	4427
3 × 500	Class 2	2.2	3.6	66	5681
3 × 630	Class 2	2.4	3.8	72	7125

Three core, flat strip armoured

Size	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
3 × 16	0.7	4 × 0.8	1.24	16.8	488
3 × 25	0.9	4 × 0.8	1.4	20.1	671
3 × 35	0.9	4 × 0.8	1.4	22	798
3 × 50	1	4 × 0.8	1.4	24.8	960
3 × 70	1.1	4 × 0.8	1.56	28.5	1282
3 × 95	1.1	4 × 0.8	1.56	31.3	1577
3 × 120	1.2	4 × 0.8	1.56	34.3	1871

3 × 150	1.4	4 × 0.8	1.72	38.3	2100
3 × 185	1.6	4 × 0.8	1.88	42.3	2500
3 × 240	1.7	4 × 0.8	2.04	47.3	3382
3 × 300	1.8	4 × 0.8	2.2	51.8	5101
3 × 400	2	4 × 0.8	2.52	58.5	5101
3 × 500	2.2	4 × 0.8	2.68	65	6365
3 × 630	2.4	4 × 0.8	2.84	73	7894

The 300 and 400 mm² rows carry the same published weight; confirm both against the mill certificate before pricing.

Three core, round wire armoured

Size	Class	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
3 × 4	Class 1	0.7	1.4	1.24	15	460
3 × 4	Class 2	0.7	1.4	1.24	16	399
3 × 6	Class 1	0.7	1.4	1.24	16	530
3 × 6	Class 2	0.7	1.4	1.24	17	470
3 × 10	Class 1	0.7	1.4	1.24	18	640
3 × 10	Class 2	0.7	1.4	1.24	18.5	551
3 × 16	Class 2	0.7	1.6	1.4	19	648
3 × 25	Class 2	0.9	1.6	1.4	21.7	855
3 × 35	Class 2	0.9	1.6	1.4	23.6	997
3 × 50	Class 2	1	1.6	1.56	26.8	1235
3 × 70	Class 2	1.1	2	1.56	30.9	1729
3 × 95	Class 2	1.1	2	1.56	33.7	2077
3 × 120	Class 2	1.2	2	1.72	37	2422
3 × 150	Class 2	1.4	2	1.88	41.1	2888
3 × 185	Class 2	1.6	2.5	2.04	46	3733
3 × 240	Class 2	1.7	2.5	2.2	50.9	4531
3 × 300	Class 2	1.8	2.5	2.36	55.45	5339
3 × 400	Class 2	2	3.15	2.68	64	7115
3 × 500	Class 2	2.2	3.15	2.84	73	8597
3 × 630	Class 2	2.4	4	3	78	11295

Three and a half core, unarmoured

Size	Insulation (main/neutral)	Sheath	Overall dia.	Weight (kg/km)
3.5 × 25	0.9 / 0.7	2	21.3	525

3.5 × 35	0.9 / 0.7	2	23.6	625
3.5 × 50	1 / 0.9	2	26.8	800
3.5 × 70	1.1 / 0.9	2.2	31	1100
3.5 × 95	1.1 / 1	2.2	34.3	1400
3.5 × 120	1.2 / 1.1	2.2	37.5	1650
3.5 × 150	1.4 / 1.1	2.4	41	2000
3.5 × 185	1.6 / 1.1	2.6	46.5	2550
3.5 × 240	1.7 / 1.2	2.8	52.5	3200
3.5 × 300	1.8 / 1.4	3	56	4000
3.5 × 400	2 / 1.6	3.4	64	5177
3.5 × 500	2.2 / 1.7	3.6	72.5	6500

Three and a half core, flat strip armoured

Size	Insulation (main/neutral)	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
3.5 × 25	0.9 / 0.7	4 × 0.8	1.4	21.9	733
3.5 × 35	0.9 / 0.7	4 × 0.8	1.4	24.2	886
3.5 × 50	1 / 0.9	4 × 0.8	1.4	27.4	1113
3.5 × 70	1.1 / 0.9	4 × 0.8	1.56	31.5	1451
3.5 × 95	1.1 / 1	4 × 0.8	1.56	34.8	1796
3.5 × 120	1.2 / 1.1	4 × 0.8	1.72	38.5	2199
3.5 × 150	1.4 / 1.1	4 × 0.8	1.72	42	2579
3.5 × 185	1.6 / 1.1	4 × 0.8	1.88	47.2	3156
3.5 × 240	1.7 / 1.2	4 × 0.8	2.04	52.7	3913
3.5 × 300	1.8 / 1.4	4 × 0.8	2.2	57	4693
3.5 × 400	2 / 1.6	4 × 0.8	2.52	65	5890
3.5 × 500	2.2 / 1.7	4 × 0.8	2.68	73.5	7400

Three and a half core, round wire armoured

Size	Insulation (main/neutral)	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
3.5 × 25	0.9 / 0.7	1.6	1.4	23.6	969
3.5 × 35	0.9 / 0.7	1.6	1.4	25.8	1139
3.5 × 50	1 / 0.9	1.6	1.56	29.5	1387
3.5 × 70	1.1 / 0.9	2	1.56	34	1938
3.5 × 95	1.1 / 1	2	1.56	37.2	2356

3.5 × 120	1.2 / 1.1	2	1.72	41	2800
3.5 × 150	1.4 / 1.1	2	1.88	45	3296
3.5 × 185	1.6 / 1.1	2.5	2.04	50	4313
3.5 × 240	1.7 / 1.2	2.5	2.2	56	5156
3.5 × 300	1.8 / 1.4	2.5	2.36	61	6108
3.5 × 400	2 / 1.6	3.15	2.68	70	8151
3.5 × 500	2.2 / 1.7	3.15	2.84	77	9880

Four core, unarmoured

Size	Class	Insulation	Sheath	Overall dia.	Weight (kg/km)
4 × 4	Class 1	0.7	1.8	13.5	160
4 × 6	Class 1	0.7	1.8	14.7	200
4 × 10	Class 1	0.7	1.8	16.6	250
4 × 4	Class 2	0.7	1.8	14.2	180
4 × 6	Class 2	0.7	1.8	15.5	215
4 × 10	Class 2	0.7	1.8	17.5	260
4 × 16	Class 2	0.7	1.8	17.8	350
4 × 25	Class 2	0.9	2	21	550
4 × 35	Class 2	0.9	2	23.5	680
4 × 50	Class 2	1	2	26	875
4 × 70	Class 2	1.1	2.2	30.5	1200
4 × 95	Class 2	1.1	2.2	33.5	1530
4 × 120	Class 2	1.2	2.4	37.5	1850
4 × 150	Class 2	1.4	2.6	42	2280
4 × 185	Class 2	1.6	2.8	46.5	2800
4 × 240	Class 2	1.7	3	52.5	3700
4 × 300	Class 2	1.8	3.2	58	4600
4 × 400	Class 2	2	3.6	65.5	6000

Four core, flat strip armoured

Size	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
4 × 16	0.7	4 × 0.8	1.4	20	608
4 × 25	0.9	4 × 0.8	1.4	23	829
4 × 35	0.9	4 × 0.8	1.4	25	997

4 × 50	1	4 × 0.8	1.56	28	1235
4 × 70	1.1	4 × 0.8	1.56	32	1615
4 × 95	1.1	4 × 0.8	1.56	35	2014
4 × 120	1.2	4 × 0.8	1.72	39	2403
4 × 150	1.4	4 × 0.8	1.88	43	2888
4 × 185	1.6	4 × 0.8	2.04	48	3505
4 × 240	1.7	4 × 0.8	2.2	54	4389
4 × 300	1.8	4 × 0.8	2.36	59.5	5291
4 × 400	2	4 × 0.8	2.68	66.5	6538

Four core, round wire armoured

Size	Class	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
4 × 4	Class 1	0.7	1.4	1.24	15.3	413
4 × 4	Class 2	0.7	1.4	1.24	16	435
4 × 6	Class 1	0.7	1.4	1.24	16.5	473
4 × 6	Class 2	0.7	1.4	1.24	17.3	506
4 × 10	Class 1	0.7	1.4	1.4	18.6	592
4 × 10	Class 2	0.7	1.4	1.4	19.8	633
4 × 16	Class 2	0.7	1.6	1.4	21	795
4 × 25	Class 2	0.9	1.6	1.4	25	1045
4 × 35	Class 2	0.9	1.6	1.4	26.5	1244
4 × 50	Class 2	1	1.6	1.56	29.5	1520
4 × 70	Class 2	1.1	2	1.56	34	2137
4 × 95	Class 2	1.1	2	1.72	38	2622
4 × 120	Class 2	1.2	2	1.88	42	3087
4 × 150	Class 2	1.4	2.5	2.04	47	3980
4 × 185	Class 2	1.6	2.5	2.2	52	4721
4 × 240	Class 2	1.7	2.5	2.36	57.5	5709
4 × 300	Class 2	1.8	3.15	2.52	64.5	7372
4 × 400	Class 2	2	3.15	2.84	71.5	8985

Current carrying capacity — 3, 3.5 and 4 core aluminium

Size (mm²)	Buried in ground	In ducts	In air	Max. DC res. (Ω/km)
4	35	30	32	7.41

6	46	38	42	4.61
10	57	48	54	3.08
16	74	61	69	1.91
25	95	79	93	1.2
35	114	94	114	0.868
50	134	112	138	0.641
70	164	137	175	0.443
95	197	164	216	0.32
120	223	187	249	0.253
150	249	209	284	0.206
185	282	238	329	0.164
240	327	276	392	0.125
300	369	312	452	0.1
400	420	356	526	0.0778
500	478	412	612	0.0605

Air 40 °C, ground 30 °C, conductor 90 °C. To IS 3961 Part 6. Two core ratings run higher — see the two core schedule.

XLPE Control Cables

1.5 and 2.5 mm², 2 to 61 cores, 650/1100 V

Multicore control cable for switchgear, panel interconnection and instrumentation wiring. XLPE insulated with numbered cores from six cores upward, armoured or unarmoured.

Standard IS 7098 Part 1 · **Voltage** 650/1100 V AC / 1500 V DC to earth · **Range** 2 to 61 cores, 1.5 and 2.5 mm²

Construction

- **Conductor:** Stranded or solid copper to IS 8130, class 1 or 2
- **Insulation:** Cross-linked polyethylene (XLPE) to IS 7098-1
- **Inner sheath:** Extruded PVC Type ST2 / FRLS / FR / LSZH
- **Armour:** Galvanised steel strip or round wire to IS 3975
- **Sheath:** Extruded PVC Type ST2 / FRLS / FR / LSZH, black
- **Bending radius:** 12 × overall diameter, fixed installation

1.5 mm² unarmoured — dimensions and weight

Cores	Insulation	Sheath	Overall dia.	Weight (kg/km)
2	0.7	1.8	10	140
3	0.7	1.8	10.5	160
4	0.7	1.8	11.5	171
5	0.7	1.8	12.1	195
6	0.7	1.8	12.9	222
7	0.7	1.8	12.9	239
8	0.7	1.8	14	275
9	0.7	1.8	15	308
10	0.7	1.8	15.7	327
12	0.7	1.8	16.1	365
14	0.7	1.8	16.8	413
16	0.7	1.8	17.7	460
19	0.7	1.8	18.5	513
21	0.7	2	19.8	560
24	0.7	2	21.7	627
27	0.7	2	22.1	684
30	0.7	2	22.8	741
33	0.7	2	23.7	807
37	0.7	2	24.5	874
44	0.7	2	27.3	1026

52	0.7	2	28.4	1178
61	0.7	2.2	30.7	1387

1.5 mm² round wire armoured — dimensions and weight

Cores	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
2	0.7	1.4	1.24	11.9	288
3	0.7	1.4	1.24	12.4	302
4	0.7	1.4	1.24	13.1	349
5	0.7	1.4	1.24	13.9	385
6	0.7	1.4	1.24	14.7	432
7	0.7	1.4	1.24	14.7	450
8	0.7	1.4	1.24	16.5	494
9	0.7	1.4	1.24	17.5	542
10	0.7	1.4	1.24	17.5	594
12	0.7	1.4	1.24	18	646
14	0.7	1.4	1.4	18.9	709
16	0.7	1.6	1.4	20.1	807
19	0.7	1.6	1.4	20.9	900
21	0.7	1.6	1.4	21.8	960
24	0.7	1.6	1.4	23.7	1094
27	0.7	1.6	1.4	24.1	1152
30	0.7	1.6	1.4	24.9	1229
33	0.7	1.6	1.4	25.7	1322
37	0.7	1.6	1.4	26.5	1415
44	0.7	1.6	1.56	29.7	1662
52	0.7	1.6	1.56	30.9	1833
61	0.7	2	1.56	33.5	2251

1.5 mm² flat strip armoured — dimensions and weight

Cores	Insulation	Armour	Sheath (min.)	Overall dia.	Weight (kg/km)
16	0.7	4 × 0.8	1.4	18.5	651
19	0.7	4 × 0.8	1.4	19.3	736
21	0.7	4 × 0.8	1.4	20.2	788
24	0.7	4 × 0.8	1.4	22.1	874

27	0.7	4 × 0.8	1.4	22.5	950
30	0.7	4 × 0.8	1.4	23.2	1016
33	0.7	4 × 0.8	1.4	24.1	1102
37	0.7	4 × 0.8	1.4	24.9	1168
44	0.7	4 × 0.8	1.4	27.7	1358
52	0.7	4 × 0.8	1.56	29.2	1548
61	0.7	4 × 0.8	1.56	31.1	1757

2.5 mm² unarmoured — dimensions and weight

Cores	Insulation	Sheath	Overall dia.	Weight (kg/km)
2	0.7	1.8	10.9	173
3	0.7	1.8	11.4	202
4	0.7	1.8	12.2	218
5	0.7	1.8	13.1	254
6	0.7	1.8	14	291
7	0.7	1.8	14	313
8	0.7	1.8	16	342
9	0.7	1.8	16.5	385
10	0.7	1.8	17.2	427
12	0.7	1.8	17.7	484
14	0.7	1.8	18.5	551
16	0.7	2	19.8	636
19	0.7	2	20.8	722
21	0.7	2	21.8	769
24	0.7	2	24	864
27	0.7	2	24.5	950
30	0.7	2	25.3	1035
33	0.7	2	26.2	1130
37	0.7	2	27.2	1235
44	0.7	2.2	30.9	1501
52	0.7	2.2	32.2	1719
61	0.7	2.2	34.1	1976

2.5 mm² round wire armoured — dimensions and weight

44	0.7	4 × 0.8	1.56	31.3	1862
52	0.7	4 × 0.8	1.56	32.6	2109
61	0.7	4 × 0.8	1.56	34.5	2375

Current rating — 1.5 mm² (12.1 Ω/km)

Cores	In ground (A)	In air (A)
2	31	27
3	26	23
4	26	23
5	26	23
6	23	20
7	20	18
8	17	15
9	17	15
10	17	15
12	16	14
14	16	14
16	14	12
19	14	12
21	12	11
24	12	11
27	11	9
30	11	9
33	11	9
37	11	9
44	9	8
52	9	8
61	9	8

Air 40 °C, ground 30 °C, conductor 90 °C.

Current rating — 2.5 mm² (7.41 Ω/km)

Cores	In ground (A)	In air (A)
2	41	36
3	34	30

Reference

XLPE against PVC

Property	PVC	XLPE
Nature	Thermoplastic — softens as it heats.	Thermosetting — cross-linked, holds its form.
Max. conductor temp.	70 °C continuous.	90 °C continuous.
Short circuit temp.	160 °C.	250 °C.
Current rating	Baseline.	Higher for the same cross-section.
Short circuit rating	Baseline.	Approximately 1.2 × PVC.
Insulation resistance	Baseline.	Substantially higher.
Moisture resistance	Moderate.	High.
Dielectric losses	Higher.	Low.
Diameter and bending	Larger diameter, larger bending radius.	Smaller diameter — less tray and duct space.
Service life	Good.	Longer, particularly where it runs warm.

Conductor data — IS 8130, stranded class 2

Size (mm ²)	Wires Cu	Wires Al	DC res. Cu (Ω/km)	DC res. Al (Ω/km)	AC res. 90 °C Cu	AC res. 90 °C Al
1.5	3	3	12.1	18.1	15.4	23.2
2.5	3	3	7.41	12.1	9.45	15.5
4	7	3	4.61	7.41	5.88	9.5
6	7	3	3.08	4.61	3.93	5.91
10	7	7	1.83	3.08	2.33	3.95
16	7	7	1.15	1.91	1.47	2.44
25	7	7	0.727	1.2	0.93	1.54
35	7	7	0.524	0.868	0.668	1.11
50	19	19	0.387	0.641	0.494	0.82
70	19	19	0.268	0.443	0.342	0.568
95	19	19	0.193	0.32	0.247	0.41
120	37	37	0.153	0.253	0.196	0.325
150	37	37	0.124	0.206	0.159	0.264
185	37	37	0.0991	0.164	0.128	0.211
240	61	37	0.0754	0.125	0.0985	0.161
300	61	61	0.0601	0.100	0.0796	0.129

400	61	61	0.0470	0.0778	0.0637	0.101
500	61	61	0.0366	0.0605	0.0515	0.0786
630	91	91	0.0283	0.0469	0.0421	0.0615
800	91	91	0.0221	0.0367	0.0354	0.0488
1000	91	91	0.0176	0.0291	0.0225	0.0372

Minimum number of wires for non-compacted stranded conductors to IS 8130 class 2. Sizes 1.5 to 10 mm² can also be supplied solid.

De-rating factors

Ambient air temperature — cable in free air

Ambient	25 °C	30 °C	35 °C	40 °C	45 °C	50 °C	55 °C	60 °C
Factor	1.14	1.10	1.05	1.00	0.95	0.89	0.84	0.77

Ground temperature — buried direct or in duct

Ground	15 °C	20 °C	25 °C	30 °C	35 °C	40 °C	45 °C	50 °C
Factor	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82

Maximum conductor temperature 90 °C for the XLPE range.

Standards

Standard	Title
IS 7098 Part 1	XLPE insulated cables for working voltages up to 1100 V
IS 694	PVC insulated cables for working voltages up to 1100 V
IS 8130 : 2013	Conductors for insulated electric cables and flexible cords
IS 5831 : 1984	PVC insulation and sheath of electric cables
IS 3975 : 1979	Galvanised steel wires, formed wires and tapes for armouring
IS 3961 Part 6	Recommended current ratings for PVC and XLPE insulated cables
IEC 60332-1-2	Flame propagation test for a single insulated conductor
BS 7671	Requirements for electrical installations — current rating tables

Enquiries

Send sizes and core counts, drum lengths, and whether you need FR, FRLS or LSZH. We come back with a priced offer and a lead time.

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Data is offered in good faith as a selection guide and is not a substitute for the manufacturer's certificate. Confirm dimensions, weights and ratings against the approved drawing and mill certificate before ordering.