



**TRADE AND TECH
INTERNATIONAL
CATALOG
Wires & Cables**



Authorized Distributor



**COLEMAN
WIRES AND CABLES**

PowerCABLE

Introduction

PVC Insulated Flame retardant cables are fixed laid in the circuit with frequency 50Hz and voltage up to 0.6/1kV.

We can also produce Fire Resistant (FR) and Fire Resistant Low Smoke (FRLS) Power Cables

Rated voltage 0.6/1kV

Conductor of cables can be Copper and Aluminium.

The cables can be single core, two cores, three cores, four cores, (include three main cores and neutral) five cores (include three main cores and one neutral and one earthing core, Four main cores and one neutral), We also produce Control/Auxilliary cables from 5-cores up to and including 48-cores. The cables can be with armour and without armour.

We can produce cables with PVC outer sheath, Fire Resistant PVC outer sheath or with Fire resistant Low Smoke insulation.

The cables are produced according to NIS/IEC 60227, IEC60502, IEC60332 or IEC60331 and or the BS, DIN, or other international standards. And we also design and produce cables according to the requirement of our clients.



Application

1. Long term Working temperature is up to 70°C
2. The highest conductor temperature is not more than 160°C (lasting time not over 5 seconds)
3. Laying temperature not less than 0°C and the drop height is out of consideration.
4. The cable with chemical stability, anti acid, anti alkali, anti oil, anti organic solvent, not easy to be burning.
5. Easy for installation, easy bending and light.

Minimum Bending Radius Table

Cable Type	Bending Radius Bending when laying	
	One Time	Several Times
Paper/Lead, XLPE or PVC Cables without armouring but with concentric Conductor	12D	15D
XLPE or PVC 1 - Core Cables	12D	15D
Muti-Core Cable	9D	12D
XLPE or PVC with Armouring	12D	15D

Note: D is the overall diameter of Cable



1. Cable Type And Name

PVC insulated , non sheathed Power Cable NCY

Description	
NCYY	PVC insulated and sheathed power cable with CU/Al core
NCYY...F	PVC insulated and sheathed flat wiring cable
NCYY...f	PVC insulated and sheathed flexible wiring cable
NCY2Y	PVC insulated and PE sheathed power cable with Cu/Al core
NC2XRY	Steel tape armored, XLPE insulated and PVC sheathed power cable with Cu/Al core
NC2YRY	Steel wire armored, PE insulated and PVC sheathed power cable with Cu/Al core
NCYRY	Steel tape armored, PVC insulated and sheathed power cable with Cu/Al core
NC2XRY	Steel tape armored, XLPE insulated and PVC sheathed power cable with Cu/Al core

2. Nominal Cross Section Area of the Conducting Core (mm²)

1-Core	1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300, 400, 500, 630, 800, 1000
2-Core	1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300
3-Core	1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300
4-Core	1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300
5-Core	1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300

3. Nominal Thickness of the Insulation

Thickness mm	cross section mm ²	Voltage kV										
		1	1.5	2.5	4	6	10	16	25	35	50	70
0.6/1(1.2)		0.8	0.8	0.8	1.0	1.0	1.0	1.0	1.2	1.2	1.4	1.4
		95	120	150	185	240	300	400	500	630	800	1000
		1.6	1.6	1.8	2.0	2.2	2.4	2.6	2.8	2.8	2.8	3.0

4. DC Resistance of Conductor

Nominal cross section mm ²	DC Resistance at 20°C not more than		Nominal cross section mm ²	DC Resistance at 20°C not more than		Nominal cross section mm ²	DC Resistance at 20°C not more than	
	Cu	Al		Cu	Al		Cu	Al
1.5	12.1	18.1	35	0.524	0.868	240	0.0754	0.125
2.5	7.41	12.1	50	0.387	0.641	300	0.0601	0.100
4	4.61	7.41	70	0.268	0.443	400	0.0470	0.0778
6	3.08	4.61	95	0.193	0.320	500	0.0366	0.0605
10	1.83	3.08	120	0.153	0.253	630	0.0283	0.0469
16	1.15	1.91	150	0.124	0.206	800	0.0221	0.0369
25	0.727	1.20	185	0.0991	0.164	1000	0.0176	0.0291

5. Insulation Resistance

A.	0.6/1kV	Volume Resistivity (Ωcm)
	@ 20°C min.	1 x 10 ¹³
	@ 70°C min.	1 x 10 ¹⁰
B.	0.6/1kV	Constant of Insulation Resistance (MΩKm)
	@ 20°C min.	36.7
	@ 70°C min.	0.037

6. AC voltage test

Rated voltage U ₀ /U(Um)P	Test voltage kV	Time (min)
0.6/1.0	3.5	5

7. Correction Coefficient of Current Carrying Capacity

Correction coefficient of the current carrying capacity under the different environment temperature

Operating Temperature °C	Air temperature °C										Soil temperature °C						
	10	15	20	25	30	40	35	45	50	5	10	15	20	25	30	35	
70	1.26	1.22	1.18	1.14	1.09	1.04	1.00	0.94	0.89	1.14	1.11	1.07	1.04	1.00	0.96	0.92	

Correction coefficient of the current carrying capacity under the different soil with the heat-resistance coefficient

Rated voltage kV	Scope of cross section mm	Soil heat resistance				
		0.8	1.0	1.2	1.5	2.0
0.6/1	Not more than 35	1.06	1.00	0.95	0.88	0.80
	50-150	1.08	1.00	0.94	0.87	0.77
	Not less than 185	1.09	1.00	0.93	0.85	0.76

STRUCTURE SIZE, REFERENCE WEIGHT AND MAIN TECHNICAL PARAMETERS

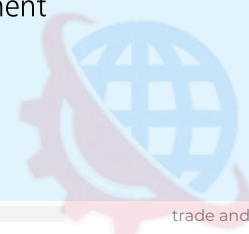
1. Single-core, PVC insulated and sheathed power cable

Single-core, PVC insulated and PE sheathed power cable

Single-core, PVC insulated and sheathed, flame-retardant power cable

Specification Core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable kg/km		DC resistance of conductor at 20 ⁰ C Ω/km		Cable current carrying Capacity Amps			
								In air		Directly buried under ground	
								Cu	Al	Cu	Al
1x 1.5	0.8	1.4	6.6	59	-	12.1	18.1	24	-	29	-
1 x 2.5	0.8	1.4	7.0	72	57	7.41	12.1	31	24	39	30
1 x 4	1.0	1.4	7.9	98	73	4.61	7.41	41	25	49	39
1 x 6	1.0	1.4	8.4	122	85	3.08	4.61	52	32	61	50
1 x 10	1.0	1.4	9.7	173	111	1.83	3.08	72	44	83	64
1 x 16	1.0	1.4	9.9	227	140	1.15	1.91	88	59	107	83
1 x 25	1.2	1.4	11.6	337	186	0.727	1.20	110	73	138	105
1x 35	1.2	1.4	12.8	442	222	0.524	0.868	137	90	164	125
1 x 50	1.4	1.4	14.5	579	284	0.387	0.641	167	110	195	150
1 x 70	1.4	1.4	16.5	803	364	0.268	0.443	216	140	238	185
1 x 95	1.6	1.5	19	1095	477	0.193	0.320	269	170	286	220
1 x 120	1.6	1.5	20.6	1343	563	0.153	0.253	308	197	325	250
1 x 150	1.8	1.6	22.8	1626	692	0.124	0.206	356	227	365	285
1 x 185	2.0	1.7	25.2	2050	859	0.0991	0.164	409	259	413	320
1 x 240	2.2	1.8	28.5	2662	1060	0.0754	0.125	485	305	479	375
1 x 300	2.4	1.9	31.5	3312	1322	0.0601	0.100	561	351	541	425
1 x 400	2.6	2.0	35.1	4194	1675	0.0470	0.0778	656	404	614	490
1 x 500	2.8	2.1	38.8	5238	2080	0.0366	0.0605	749	460	693	560
1 x 630	2.8	2.2	42.9	6634	2538	0.0283	0.0469	855	525	777	645
1x 800	2.8	2.3	47.4	8330	3166	0.0221	0.0367	983	740	859	735
1 x 1000	3.0	2.5	52.5	10348	3866	0.0176	0.0291	1129	860	936	825

Note: The reference current carrying capacity of the single-core cable is defined by laying the 3-core cable evenly. Adjacent distance equals to outer diameter of cable. Environment temperature: 40⁰C in the air, 25⁰C in the soil. Heat-resistant coefficient is 1.0km/w.



2. 3-Core, PVC Insulated And Sheathed Power Cable

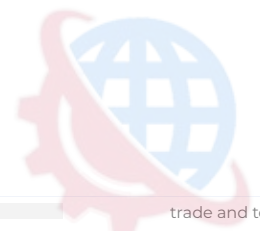
Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity Amps			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
3 x 1.5	0.8	1.8	10.1	145	122	12.1	18.1	18.5	-	26	-
3 x 2.5	0.8	1.8	10.9	186	160	7.41	12.1	25	15	34	23
3 x 4	1.0	1.8	12.9	220	211	4.61	7.41	34	20	44	30
3 x 6	1.0	1.8	13.9	345	244	3.08	4.61	43	26	56	39
3 x 10	1.0	1.8	16.7	557	337	1.83	3.08	60	35	74	50
3 x 16	1.0	1.8	18.9	707	370	1.15	1.91	80	61	96	74
3 x 25	1.2	1.8	22.6	1054	523	0.727	1.20	101	78	123	94
3 x 35	1.2	1.8	25.4	1408	654	0.524	0.868	126	96	147	114
3 x 50	1.4	1.8	26.5	1758	793	0.387	0.641	153	117	174	134
3 x 70	1.4	1.9	28.9	2398	1028	0.268	0.443	196	150	216	167
3 x 95	1.6	2.1	30.3	3234	1366	0.193	0.320	238	183	256	197
3 x 120	1.6	2.2	32.9	4098	1652	0.153	0.253	276	212	290	224
3 x 150	1.8	2.3	36.6	4894	2020	0.124	0.206	319	245	329	254
3 x 185	2.0	2.5	41.5	6116	2512	0.0991	0.164	364	280	369	286
3 x 240	2.2	2.7	45.2	7938	3208	0.0754	0.125	420	330	424	329
3 x 300	2.4	2.8	49.7	9964	3980	0.0601	0.100	497	381	480	371

3-Core, PVC Insulated, Steel-Tape Armoured, PVC Sheathed Power Cable

Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity Amps			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
3 x 1.5	0.8	1.8	14.8	306	278	12.1	18.1	15	-	22	-
3 x 2.5	0.8	1.8	15.7	374	327	7.41	12.1	19	15	29	23
3 x 4	1.0	1.8	17.6	477	402	4.61	7.41	26	20	38	30
3 x 6	1.0	1.8	18.7	561	449	3.08	4.61	32	26	47	39
3 x 10	1.0	1.8	21.5	765	578	1.83	3.08	46	35	65	50
3 x 16	1.0	1.8	23.7	1007	708	1.15	1.91	60	47	84	65
3 x 25	1.2	1.8	27.0	1361	896	0.727	1.20	77	60	110	84
3 x 35	1.2	1.8	28.9	1682	1047	0.524	0.868	95	74	130	100
3 x 50	1.4	2.0	33.9	2533	1668	0.387	0.641	115	90	155	120
3 x 70	1.4	2.1	37.8	3282	2030	0.268	0.443	145	115	195	150
3 x 95	1.6	2.2	42.3	4207	2493	0.193	0.320	185	140	230	185
3 x 120	1.6	2.3	45.7	5047	2886	0.153	0.253	210	165	260	205
3 x 150	1.8	2.5	50.4	6147	3450	0.124	0.206	245	190	300	230
3 x 185	2.0	2.6	55.4	7542	4125	0.0991	0.164	280	215	335	260
3 x 240	2.2	2.8	61.1	9291	4971	0.0754	0.125	335	260	390	300
3 x 300	2.4	3.0	67.8	11603	6062	0.0601	0.100	375	295	435	340

3-core, PVC Insulated, Steel-Wire Armored, PVC Sheathed Power Cable

Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity Amps			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
3 x 4	1.0	1.8	17.4	626	584	4.61	7.41	34	20	44	30
3 x 6	1.0	1.8	18.4	739	651	3.08	4.61	43	26	56	39
3 x 10	1.0	1.8	21.5	1037	840	1.83	3.08	60	35	74	50
3 x 16	1.0	1.8	23.7	1327	913	1.15	1.91	80	61	96	74
3 x 25	1.2	1.8	26.2	1382	1003	0.727	1.20	101	78	123	94
3 x 35	1.2	1.9	29.2	1873	1226	0.524	0.868	126	96	147	114
3 x 50	1.4	2.0	27.6	2249	1317	0.387	0.641	153	117	174	134
3 x 70	1.4	2.1	30.4	2934	1606	0.268	0.443	196	150	216	167
3 x 95	1.6	2.3	34.7	3942	2098	0.193	0.320	238	183	256	197
3 x 120	1.6	2.4	37.3	4868	2432	0.153	0.253	276	212	290	224
3 x 150	1.8	2.6	41.0	5204	2884	0.124	0.206	319	245	329	254
3 x 185	2.0	2.7	46.1	7138	3514	0.0991	0.164	364	280	369	286
3 x 240	2.2	2.9	50.0	8993	4395	0.0754	0.12	430	330	424	329
3 x 300	2.4	3.2	54.3	11152	5396	0.0601	0.100	497	381	480	371



3. 3+1/2- Core, PVC Insulated, Steel-Wire Armored, PVC Sheathed Power Cable

Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity Amps			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
3 x 4 + 1 x 2.5	1.0 / 0.8	1.8	15.0	330	240	4.61/7.41	7.41/12.1	26	20	38	30
3 x 6 + 1 x 4	1.0 / 1.0	1.8	16.4	422	286	3.08/4.61	4.61/7.41	32	26	47	39
3 x 10 + 1 x 6	1.0 / 1.0	1.8	19.1	591	367	1.83/3.08	3.08/4.61	46	35	65	50
3 x 16 + 1 x 10	1.0 / 1.0	1.8	21.8	832	471	1.15/1.83	1.91/3.08	60	47	84	65
3 x 25 + 1 x 16	1.2 / 1.0	1.8	25.1	1216	652	0.727/1.15	1.20/1.91	77	60	110	84
3 x 35 + 1 x 16	1.2 / 1.0	1.8	27.3	2039	1215	0.524/1.15	0.868/1.91	126	96	147	114
3 x 50 + 1 x 25	1.4 / 1.2	1.8	30.8	2420	1534	0.387/0.727	0.641/1.20	153	117	174	134
3 x 70 + 1 x 35	1.4 / 1.2	1.9	34.7	3518	1952	0.268/0.524	0.443/0.868	196	150	216	167
3 x 95 + 1 x 50	1.6 / 1.4	2.0	39.2	4620	2446	0.193/0.387	0.320/0.641	238	183	256	197
3 x 120 + 1 x 70	1.6 / 1.4	2.1	42.9	5802	2888	0.153/0.268	0.253/0.443	276	212	290	224
3 x 150 + 1 x 70	1.8 / 1.4	2.2	46.6	6394	3396	0.124/0.268	0.206/0.443	319	245	329	254
3 x 185 + 1 x 95	2.0 / 1.6	2.4	51.2	8372	4132	0.0991/0.193	0.164/0.320	364	280	369	286
3 x 240 + 1 x 120	2.2 / 1.6	2.5	57.4	9928	4688	0.0754/0.153	0.125/0.253	430	330	424	329
3 x 300 + 1 x 150	2.4 / 1.8	2.7	63.5	11299	6200	0.0601/0.124	0.100/0.206	497	381	480	371

3+1/2- Core, PVC Insulated, Steel-Wire Armored, PE Sheathed Power Cable

Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity Amps			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
3 x 4 + 1 x 2.5	1.0 / 0.8	1.8	18.2	491	401	4.61/7.41	7.41/12.1	26	20	38	30
3 x 6 + 1 x 4	1.0 / 1.0	1.8	19.6	601	464	3.08/4.61	4.61/7.41	32	26	47	39
3 x 10 + 1 x 6	1.0 / 1.0	1.8	22.3	831	607	1.83/3.08	3.08/4.61	46	35	65	50
3 x 16 + 1 x 10	1.0 / 1.0	1.8	25.0	1116	755	1.15/1.83	1.91/3.08	60	47	84	65
3 x 25 + 1 x 16	1.2 / 1.0	1.8	28.	1544	981	0.727/1.15	1.20/1.91	77	60	110	84
3 x 35 + 1 x 16	1.2 / 1.0	1.8	29.9	1841	1107	0.524/1.15	0.868/1.91	95	74	130	100
3 x 50 + 1 x 25	1.4 / 1.2	1.9	35.1	2771	1752	0.387/0.727	0.641/1.20	115	90	15	120
3 x 70 + 1 x 35	1.4 / 1.2	2.0	38.9	3599	2136	0.268/0.524	0.443/0.868	145	115	195	150
3x 95 + 1 x 50	1.6 / 1.4	2.2	43.9	4685	2683	0.193/0.387	0.320/0.641	185	140	230	185
3 x 120 + 1 x 70	1.6 / 1.4	2.3	47.7	5730	3153	0.153/0.268	0.253/0.443	210	165	260	205
3 x 150 + 1 x 70	1.8 / 1.4	2.4	51.5	6779	3661	0.124/0.268	0.206/0.443	245	190	300	230
3 x 185 + 1 x 95	2.0 / 1.6	2.5	57.	8454	4465	0.0991/0.193	0.164/0.320	280	215	335	260
3 x 240 + 1 x 120	2.2 / 1.6	2.7	62.9	10443	5403	0.0754/0.153	0.125/0.253	335	260	390	300
3 x 300 + 1 x 150	2.4 / 1.8	2.9	69.7	13031	6591	0.0601/0.124	0.100/0.206	375	295	435	340

3+1/2 - Core, PVC Insulated, Steel-Wire Armored, PVC Sheathed, Flame-Retardant Power Cable

Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity Amps			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
3 x 4 + 1 x 2.5	1.0/0.8	1.8	15.0	609	594	4.61/7.41	7.41/12.1	26	20	38	30
3 x 6 + 1 x 4	1.0/1.0	1.8	16.4	691	666	3.08/4.61	4.61/7.41	32	26	47	39
3 x 10 + 1 x 6	1.0/1.0	1.8	19.1	866	828	1.83/3.08	3.08/4.61	46	35	65	50
3 x 16 + 1 x 10	1.0/1.0	1.8	21.8	1271	1209	1.15/1.83	1.91/3.08	60	47	84	65
3 x 25 + 1 x 16	1.2/1.0	1.8	25.1	2177	1614	0.727/1.15	1.20/1.91	77	60	110	84
3 x 35 + 1 x 16	1.2/1.0	1.8	27.3	2513	1778	0.524/1.15	0.868/1.91	95	74	130	100
3 x 50 + 1 x 25	1.4/1.2	2.0	30.8	3232	2212	0.387/0.727	0.641/1.20	115	90	155	120
3 x 70 + 1 x 35	1.4/1.2	2.1	34.7	4404	2940	0.268/0.524	0.443/0.868	145	115	195	150
3 x 95 + 1 x 50	1.6/1.4	2.2	39.2	5575	3573	0.193/0.387	0.320/0.641	185	140	230	185
3 x 120 + 1 x 70	1.6/1.4	2.3	42.9	6690	4112	0.153/0.268	0.253/0.443	210	165	260	205
3 x 150 + 1 x 70	1.8/1.4	2.5	46.6	8310	5192	0.124/0.268	0.206/0.443	245	190	300	230
3 x 185 + 1 x 95	2.0/1.6	2.6	51.2	10176	6188	0.0991/0.193	0.164/0.320	280	215	335	260
3 x 240 + 1 x 120	2.2/1.6	2.8	57.4	13123	8084	0.0754/0.153	0.125/0.253	335	260	390	300
3 x 300 + 1 x 150	2.4/1.8	3.0	63.5	15989	9549	0.0601/0.124	0.100/0.206	375	295	435	340

4. 4-Core, PVC Insulated, Steel-Wire Armoured, PVC Sheathed Power Cable

Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity Amps			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
4 x 1.5	0.8	1.8	14.8	399	-	12.1	18.1	18.5	-	26	-
4 x 2.5	0.8	1.8	16.5	549	-	7.41	12.1	25	-	34	-
4 x 4	1.0	1.8	18.7	710	454	4.61	7.41	34	20	44	30
4 x 6	1.0	1.8	20.0	837	512	3.08	4.61	43	26	56	39
4 x 10	1.0	1.8	23.3	1211	677	1.83	3.08	60	35	74	50
4 x 16	1.0	1.8	24.5	1430	601	1.15	1.91	80	61	96	74
4 x 25	1.2	1.8	28.8	1992	888	0.727	1.20	101	78	123	94
4 x 35	1.2	1.9	27.3	2243	1285	0.524	0.868	126	96	147	114
4 x 50	1.4	2.1	29.9	2869	1620	0.387	0.641	153	117	174	134
4 x 70	1.4	2.2	34.2	3858	2072	0.268	0.443	196	150	216	167
4 x 95	1.6	2.4	39.2	5074	2612	0.193	0.320	238	183	256	197
4 x 120	1.6	2.5	42.6	6330	3072	0.153	0.253	276	212	290	224
4 x 150	1.8	2.6	46.6	7460	3692	0.124	0.206	319	245	329	254
4 x 185	2.0	2.8	51.2	9263	4453	0.0991	0.164	364	280	369	286
4 x 240	2.2	3.0	57.4	11820	5595	0.0754	0.125	430	330	424	329
4 x 300	2.4	3.2	63.4	14744	6784	0.0601	0.100	497	381	480	371

4-Core, PVC Insulated, Steel-Wire Armoured, PE Sheathed Power Cable

Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity Amps			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
4 x 4	1.0	1.8	20.3	766	666	4.61	7.41	26	20	38	30
4 x 6	1.0	1.8	21.6	891	742	3.08	4.61	32	26	47	39
4 x 8	1.0	1.8	25.9	1437	1189	1.83	3.08	46	35	65	50
4 x 16	1.0	1.8	28.4	1792	1394	1.15	1.91	60	47	84	65
4 x 25	1.2	1.9	32.4	2380	1761	0.727	1.20	77	60	110	84
4 x 35	1.2	2.0	34.8	2869	2022	0.524	0.868	95	74	130	100
4 x 50	1.4	2.1	39.7	3857	2703	0.387	0.641	115	90	155	120
4 x 70	1.4	2.3	44.2	4958	3288	0.268	0.443	145	115	195	150
4 x 95	1.6	2.5	50.6	6691	4406	0.193	0.320	185	140	230	185
4 x 120	1.6	2.6	54.4	7921	5041	0.153	0.253	210	165	260	205
4 x 150	1.8	2.7	59.2	9477	5882	0.124	0.206	245	190	300	230
4 x 185	2.0	3.0	66.6	12265	7708	0.0991	0.164	280	215	335	260
4 x 240	2.2	3.2	73.2	14841	9082	0.0754	0.125	335	260	390	300
4 x 300	2.4	3.4	80.5	18155	10767	0.0601	0.100	375	295	435	340

4-Core, PVC Insulated, Steel-Wire Armoured, PVC Sheathed, Flame Retardant Power Cable

Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
4 x 4	1.0	1.8	18.7	348	248	4.61	7.41	26	20	38	30
4 x 6	1.0	1.8	20.0	440	290	3.08	4.61	32	26	47	39
4 x 10	1.0	1.8	23.3	664	415	1.83	3.08	46	35	65	50
4 x 16	1.0	1.8	24.5	921	523	1.15	1.91	60	47	84	65
4 x 25	1.2	1.8	28.8	1331	712	0.727	1.20	77	60	110	84
4 x 35	1.2	1.8	27.3	1723	876	0.524	0.868	95	74	130	100
4 x 50	1.4	1.9	29.9	2310	1156	0.387	0.641	115	90	155	120
4 x 70	1.4	2.0	34.2	3176	1507	0.268	0.443	145	115	195	150
4 x 95	1.6	2.2	39.2	4242	1957	0.193	0.320	185	140	230	185
4 x 120	1.6	2.3	42.6	5257	2377	0.153	0.253	210	165	260	205
4 x 150	1.8	2.5	46.6	6549	2954	0.124	0.206	245	190	300	230
4 x 185	2.0	2.6	51.2	8227	3670	0.0991	0.164	280	215	335	260
4 x 240	2.2	2.9	57.4	10324	4564	0.0754	0.125	335	260	390	300
4 x 300	2.4	3.1	63.4	13081	5693	0.0601	0.100	375	295	435	340

5. 5-Core, PVC Insulated, Steel-Wire Armoured, PVC Sheathed Power Cable

Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity Amps			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
5 x 4	1.0	1.8	19.9	423	298	4.61	7.41	26	20	38	30
5 x 6	1.0	1.8	21.6	536	394	3.08	4.61	32	26	47	39
5 x 10	1.0	1.8	23.9	776	465	1.83	3.08	46	35	65	50
5 x 16	1.0	1.8	26.6	1093	596	1.15	1.91	60	47	84	65
5 x 25	1.2	1.8	31.6	1602	829	0.727	1.20	77	60	110	84
5 x 35	1.2	1.9	35.4	2073	1015	0.524	0.868	95	74	130	100
5 x 50	1.4	2.0	40.4	2821	1379	0.387	0.641	115	90	155	120
5 x 70	1.4	2.2	45.9	3916	1829	0.268	0.443	145	115	195	150
5 x 95	1.6	2.3	52.7	5248	2393	0.193	0.320	185	140	230	185
5 x 120	1.6	2.5	50.5	6476	2875	0.153	0.253	210	165	260	205
5 X 150	1.8	2.6	55.8	8013	3519	0.124	0.206	245	190	300	230
5 x 185	2.0	2.8	62.2	10087	4390	0.0991	0.164	280	215	335	260
5 x 240	2.2	3.1	69.2	12648	5448	0.0754	0.125	335	260	390	300
5 x 300	2.4	3.3	77.2	16043	6807	0.0601	0.100	375	295	435	340

5-Core, PVC Insulated, Steel-Wire Armoured, PE Sheathed Power Cable

Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity Amps			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
5 x 4	1.0	1.8	19.9	396	520	4.61	7.41	30	20	39	30
5 x 6	1.0	1.8	21.6	523	589	3.08	4.61	38	26	47	39
5 x 10	1.0	1.8	23.9	752	749	1.83	3.08	53	35	63	50
5 x 16	1.0	1.8	26.6	1076	971	1.15	1.91	71	55	81	61
5 x 25	1.2	1.9	31.6	3254	1270	0.727	1.20	89	67	109	80
5 x 35	1.2	2.0	35.4	2178	1853	0.524	0.868	111	83	126	96
5 x 50	1.4	2.2	40.4	2892	2288	0.387	0.641	135	101	149	113
5 x 70	1.4	2.3	45.9	4024	2860	0.268	0.443	174	130	183	140
5 x 95	1.6	2.5	52.7	5623	3609	0.193	0.320	212	158	216	166
5 x 120	1.6	2.6	50.5	7770	4170	0.153	0.253	210	165	260	205
5 X 150	1.8	2.8	55.8	9496	5002	0.124	0.206	245	190	300	230
5 x 185	2.0	3.0	62.2	11764	6067	0.0991	0.164	280	215	335	260
5 x 240	2.2	3.3	69.2	14577	7378	0.0754	0.125	335	260	390	300
5 x 300	2.4	3.5	77.2	18226	8990	0.0601	0.100	375	295	435	340

5-Core, PVC Insulated, Steel-Wire Armoured, PVC Sheathed, Flame-Retardant Power Cable

Specification core Number x cross section mm ²	Insulation thickness mm	Sheath thickness mm	Outer diameter of cable mm	Calculated Weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Cable current capacity Amps			
								In air		Directly buried underground	
								Cu	Al	Cu	Al
5 x 4	1.0	1.8	19.9	645	520	4.61	7.41	26	20	38	30
5 x 6	1.0	1.8	21.6	776	589	3.08	4.61	32	26	47	39
5 x 10	1.0	1.8	23.9	1060	749	1.83	3.08	46	35	65	50
5 x 16	1.0	1.8	26.6	1468	971	1.15	1.91	60	47	84	65
5 x 25	1.2	1.9	31.6	2043	1270	0.727	1.20	77	60	110	84
5 x 35	1.2	2.0	35.4	2911	1853	0.524	0.868	95	74	130	100
5 x 50	1.4	2.2	40.4	3730	2288	0.387	0.641	115	90	155	120
5 x 70	1.4	2.3	45.9	4947	2860	0.268	0.443	145	115	195	150
5 x 95	1.6	2.5	52.7	6465	3609	0.193	0.320	185	140	230	185
5 x 120	1.6	2.6	50.5	7770	4170	0.153	0.253	210	165	260	205
5 X 150	1.8	2.8	55.8	9496	5002	0.124	0.206	245	190	300	230
5 x 185	2.0	3.0	62.2	11764	6067	0.099	0.164	280	215	335	260
5 x 240	2.2	3.3	69.2	14577	7378	0.0754	0.125	335	260	390	300
5 x 300	2.4	3.5	77.2	18226	8990	0.0601	0.100	375	295	435	340



Rated Voltage 1kV (1.2kV) XLPE Insulated Flame Retardant And Fire Resistant Power Cables

Product Standard

XLPE insulated Flame retardant and Fire resistant Power cables are fixed laid in the circuit with frequency 50Hz and voltage upto 1kV (1.2kV)

We can also produce Fire Resistant (FR) and Fire Resistant Low Smoke (FRLS) Power Cables

material use for the Conductor of cables can be Copper or Aluminium.

The cables can be single core, two cores, three cores, four cores, (include three main cores and neutral) five cores (include three main cores and one neutral and one earthing core, four main cores and one neutral). The cables can be with armoured and unarmoured.

We can produce cables with PVC outer sheath, Flame retardant PVC outer sheath or with fire resistant insulation. The cables are produced according to IEC60502 and IEC60332 or IEC60331 and or the BS, DIN. And we also design and produce cables according to the requirement of our clients.

Note: XLPE Cross Linked Polyethylene



Application Characteristics

1. Long term working temperature is upto 90°C
2. The highest conductor temperature is not more than 250°C (lasting time not over 5 seconds)
3. Laying temperature not less than 0°C and the drop height is out of consideration.
4. The cable with chemical stability anti acid, anti alkali, anti oil, anti organic solvent, not easy to be burning.
5. Easy for installation, easy bending and light.
6. Bending ratio

Minimum Bending Radius of Cable

Cable Type	Bending Radius Bending when laying	
	One Time	Several Times
Paper/Lead, XLPE or PVC Cables without armouring but with concentric Conductor	12D	15D
XLPE or PVC 1 - Core Cables	12D	15D
Muti-Core Cable	9D	12D
XLPE or PVC with Armouring	12D	15D

Note: D is the overall diameter of cable



Correction Coefficient of Current Carrying Capacity at Different Temperature

Operating Temperature °C	Air Temperature									Soil Temperature °C						
	10	15	20	25	30	35	40	45	50	5	10	15	20	25	30	35
90	1.26	1.22	1.18	1.14	1.09	1.04	1.00	0.94	0.89	1.14	1.11	1.07	1.04	1.00	0.96	0.95

Correction Coefficient of Current Carrying at Different Heat-resistance Coefficient of Soil

Rated voltage	Nominal cross section mm ²	Heat-Resistance coefficient of soil				
		0.8	1.0	1.2	1.5	2.0
0.6/1	≤35	1.06	1.00	0.95	0.88	0.80
	50-150	1.08	1.00	0.94	0.87	0.77
	≥185	1.09	1.00	0.93	0.86	0.76

Cable Type, Name and Application

Type		Description	Application
Cu	Al		
NC2XY	NA2XY	XLPE insulated and PVC sheathed power cable	Can be laid in indoors, tunnels, cable canal, pipelines and loose soil. Cable should not bear outside mechanic force, but can bear a certain breaking force.
		XLPE insulated and PVC sheathed power cable	
NC2XRY	NA2XRY	XLPE - Insulated, Steel - Tape armonred, PVC - Sheathed Power Cables	Laid underground, cable can bear mechanic force, but should not bear large breaking force
		XLPE - Insulated, Steel Tape armonred, PE - Sheathed Power Cables	
		XLPE - Insulated, Steel Wire armonred, PE - Sheathed Power Cables	Laid in water or soil with drop height, the cable can bear mechanic force and large breaking force.
		XLPE - Insulated, Steel wire armonred, PE - Sheathed Power Cables	
		XLPE - Insulated, Steel wire armonred, PVC - Sheathed Power Cables	Can be laid in water or soil with drop height, the cable can bear larger breaking force.

Structure Size, Reference Weight and Main Technical Parameters

1. 0.6/1kV Single-Core, XLPE Insulated, PVC Sheathed Power Cable

Nominal cross-section of conductor mm ²	Nominal insulation thickness mm	Nominal Sheath thickness mm	outer diameter of cable mm	Calculated weight of cable Kg/km		DC resistance of conductor at 20°C Ω/km		Insulation resistance MΩ x km	Cable current carrying Capacity Amps A				Delivery length M
									In air		Directly buried under the ground		
				Cu	Al	Cu	Al		Cu	Al	Cu	Al	
1.5	0.7	1.5	5.8	53		≤12.1	≤18.1	≥1.10	25		35		100
2.5	0.7	1.5	6.2	68	53	≤7.41	≤12.1	≥0.916	30	25	45	35	100
4	0.7	1.5	6.7	87	64	≤4.61	≤7.41	≥0.757	45	35	60	50	100
6	0.7	1.5	7.2	110	73	≤3.08	≤4.61	≥0.645	55	45	70	50	100
10	0.7	1.5	8.0	115	95	≤1.83	≤3.08	≥0.523	75	60	95	75	1000
16	0.7	1.5	9.4	210	111	≤1.15	≤1.91	≥0.431	108	66	115	86	1000
25	0.9	1.5	11.1	314	155	≤0.727	≤1.20	≥0.444	135	103	148	106	1000
35	0.9	1.5	12.3	414	195	≤0.524	≤0.868	≥0.379	169	129	177	130	1000
50	1.0	1.5	13.8	542	244	≤0.387	≤0.641	≥0.355	207	159	209	161	1000
70	1.1	1.5	16.0	764	325	≤0.268	≤0.443	≥0.335	268	206	256	204	1000
95	1.1	1.5	17.9	1042	419	≤0.193	≤0.320	≥0.290	328	253	307	252	1000
120	1.2	1.5	19.9	1289	530	≤0.153	≤0.253	≥0.282	383	296	349	295	1000
150	1.4	2.0	22.1	1574	650	≤0.124	≤0.206	≥0.294	444	343	393	339	1000
185	1.6	2.0	24.4	1961	795	≤0.0991	≤0.164	≥0.303	510	395	445	395	500
240	1.7	2.0	27.5	2558	1009	≤0.0754	≤0.125	≥0.283	607	471	517	472	500
300	1.8	2.5	30.3	3178	1238	≤0.0601	≤0.100	≥0.263	823	547	583	547	500
400	2.0	2.5	33.9	4018	1598	≤0.0470	≤0.0778	≥0.243s	946	663	663	643	500
500	2.2	2.6	37.9	5054	1946	≤0.0366	-	≥0.223	1088	770	749	754	500
630	2.4	2.6	42.3	6452	2448	≤0.0283	-	≥0.200	1251	899	843	882	500
800	2.6	2.8	47.2	8154	-	≤0.0221	-	≥0.180	1439	-	935	-	500
1000	2.8	3.0	52.1	10110	-	≤0.0176	-	≥0.160	1023	-	1023	-	400

2. 0.6/1kV 2-Core, XLPE Insulated, PVC Sheathed Power Cable

Nominal cross-section of conductor mm ²	Outer diameter of cable mm		Calculated Weight of cable Kg/km				DC resistance of conductor at 20°C Ω/km		Cable current carrying Capacity Amps A			
	Non-Armoured	Armo-ured	Cu		Al		Cu	Al	In air		Directly buried under the ground	
			Non-Armoured	Armoured	Non-Armoured	Armoured			Cu	Al	Cu	Al
2 x 1.5	9.7	13.2	102	312	12.1	-	23	-	26	-	37	-
2 x 2.5	10.5	14.0	129	355	89	-	7.41	12.1	36	24	49	32
2 x 4	12.3	15.0	165	416	116	334	4.61	7.41	49	32	63	42
2 x 6	13.3	16.7	216	570	136	311	3.08	4.61	63	43	80	54
2 x 10	15.8	19.3	330	720	183	459	1.83	3.08	86	56	104	71
2 x 16	16.8	21.6	467	955	267	756	1.15	1.91	115	91	136	104
2 x 25	20.3	23.8	696	1150	378	830	0.727	1.20	149	108	173	133
2 x 35	22.6	26.3	915	1410	477	961	0.524	0.868	185	135	209	160
2 x 50	25.6	29.4	1196	1770	599	1172	0.387	0.641	225	164	247	189
2 x 70	29.8	34.2	1675	2362	813	1516	0.268	0.443	289	211	304	233
2 x 95	33.8	38.2	2262	3076	1066	1880	0.193	0.320	352	257	360	276
2 x 120	37.8	42.0	2842	3724	1326	2208	0.153	0.253	410	300	410	314
2 x 150	42.3	46.8	3480	4518	1620	2656	0.124	0.206	473	396	463	356
2 x 185	-	-	-	-	1663	2696	0.0991	0.164	-	-	-	-
2 x 240	-	-	-	-	2157	3498	0.0754	0.125	-	-	-	-

3. 3-Core 0.6/1kV XLPE Insulated, PVC Sheathed Power Cable

Nominal cross-section of conductor mm ²	Outer diameter of cable mm		Calculated Weight of cable Kg/km				DC resistance of conductor at 20°C Ω/km		A Cable current carrying Capacity Amps			
									In air		Directly buried under the ground	
	Non-Armoured	Armoured	Cu		A1		Cu	Al	Cu	Al	Cu	Al
3 x 1.5	9.8	13.6	118	336	64	-	12.1	18.1	23	-	31	-
3x 2.5	10.7	14.4	159	390	106	-	7.41	12.1	32	20	41	27
3 x 4	11.8	16.2	205	545	141	369	4.61	7.41	42	27	53	36
3 x 6	12.9	17.3	271	650	170	525	3.08	4.61	54	35	66	46
3 x 10	15.7	20.1	420	835	233	556	1.83	3.08	75	47	87	59
3 x 16	17.8	22.6	611	1135	311	831	1.15	1.91	100	77	113	87
3 x 25	21.5	25.1	921	1380	446	902	0.727	1.20	127	97	144	111
3 x 35	24.1	27.7	1223	1750	565	1089	0.524	0.868	158	120	174	134
3 x 50	22.2	25.8	1619	2110	673	1160	0.387	0.641	192	146	206	160
3 x 70	25.2	29.0	2259	2830	909	1471	0.268	0.443	246	187	254	197
3 x 95	27.8	31.8	3030	3650	1170	1396	0.193	0.320	298	222	301	234
3 x 120	30.9	35.3	3908	4646	1456	2196	0.153	0.253	346	263	343	266
3 x 150	34.8	39.0	4648	5454	1804	2610	0.124	0.206	399	304	387	300
3 x 185	38.5	43.8	5868	6774	2238	3124	0.0991	0.164	456	347	434	337
3 x 240	42.7	47.5	7548	8620	3538	4680	0.0754	0.125	538	409	501	389

4. 3+1/2 - Core, 0.6/1kV XLPE Insulated, PVC Sheathed Power Cable

Nominal cross-section of conductor mm ²	Outer diameter of cable mm		Calculated Weight of cable Kg/km				DC resistance of conductor at 20°C Ω/km		A Cable current carrying Capacity Amps			
									In air		Directly buried under the ground	
	Non-Armoured	Armoured	Cu		A1		Cu	Al	Cu	Al	Cu	Al
3 x 4 + 2.5	13.6	17.2	251	486	162	401	4.61/7.41	7.41/12.1	34	27	45	36
3 x 6 + 4	14.8	18.4	332	590	198	457	3.08/4.61	4.61/7.41	43	35	57	46
3 x 10 + 6	17.6	24.8	489	828	279	618	1.83/3.08	3.08/4.61	60	47	77	59
3 x 16 + 10	21.2	27.7	765	1108	393	736	1.15/1.83	1.91/3.08	83	64	105	80
3 x 25 + 16	25.0	29.4	1124	1721	562	1158	0.727/1.15	1.20/1.91	105	82	125	100
3 x 35 + 16	27.3	31.7	1419	2068	675	1324	0.524/1.15	0.868/1.91	125	100	155	120
3 x 50 + 25	28.8	33.2	1987	2671	874	1558	0.387/0.727	0.641/1.20	160	125	185	145
3 x 70 + 35	32.1	37.5	2665	3500	1150	1986	0.268/0.524	0.443/0.868	200	155	225	175
3 x 95 + 50	37.9	42.3	3665	4534	1548	2458	0.193/0.387	0.320/0.641	245	200	270	210
3 x 120 + 70	40.6	46.2	4532	5668	1885	2941	0.153/0.268	0.253/0.443	285	220	310	240
3 x 150 + 70	44.7	50.5	5441	6625	2236	3420	0.124/0.268	0.206/0.443	325	250	345	270
3 x 185 + 95	50.5	55.5	6863	8094	2844	4076	0.0991/0.193	0.164/0.320	375	295	390	305
3 x 240 + 120	56.0	61.2	8703	10095	3519	4912	0.0754/0.153	0.125/0.253	440	345	450	335



5. 4-Core, 0.6/1kV XLPE Insulated, PVC Sheathed Power Cable

Nominal cross-section of conductor mm ²	Outer diameter of cable mm		Calculated Weight of cable Kg/km				DC resistance of conductor at 20°C Ω/km		A Cable current carrying Capacity Amps			
									In air		Directly buried under the ground	
	Non-Armoured	Armoured	Cu		Al		Cu	Al	Cu	Al		
			Non-Armoured	Armoured	Non-Armoured	Armoured						
4 x 1.5	11.6	14.3	142	375	64	156	12.1	18.1	23	-	31	-
4 x 2.5	12.5	15.2	187	450	106	260	7.41	12.1	32	20	41	27
4 x 4	14.0	17.1	254	615	141	416	4.61	7.41	42	27	53	36
4 x 6	15.2	18.3	340	745	170	511	3.08	4.61	54	35	66	46
4 x 10	18.3	21.9	539	1050	233	639	1.83	3.08	75	47	87	59
4 x 16	21.9	24.3	784	1360	385	803	1.15	1.91	100	77	113	87
4 x 25	25.9	27.2	1189	1715	556	1078	0.727	1.20	127	97	144	111
4 x 35	28.7	25.8	1625	2115	663	1147	0.524	0.868	158	120	174	134
4 x 50	27.9	28.7	2125	2700	863	1405	0.387	0.641	192	146	206	160
4 x 70	31.7	32.5	2983	3630	1184	1805	0.268	0.443	246	187	254	197
4 x 95	36.3	36.4	4030	4790	1548	2310	0.193	0.320	298	222	301	234
4 x 120	38.8	40.5	5208	6070	1934	2772	0.153	0.253	346	263	343	266
4 x 150	43.8	44.4	6148	7140	2356	3346	0.124	0.206	399	304	387	300
4 x 185	48.0	49	7798	8900	2953	3586	0.0991	0.164	456	347	434	337
4 x 240	53.2	54.3	10063	11300	3743	5014	0.0754	0.125	538	409	501	389

6. 4+1/2 - Core, 0.6/1kV XLPE Insulated, PVC Sheathed Power Cable

Nominal cross-section of conductor mm ²	Outer diameter of cable mm		Calculated Weight of cable Kg/km				DC resistance of conductor at 20°C Ω/km		A Cable current carrying Capacity Amps			
									In air		Directly buried under the ground	
	Non-Armoured	Armoured	Cu		Al		Cu	Al	Cu	Al		
		Non-Armoured	Armoured	Non-Armoured	Armoured							
4 x 4 + 2.5	17.3	20.7	342	673	251	329	4.61/7.41	7.41/12.1	34	27	45	36
4 x 6 + 4	19.0	22.4	546	846	328	558	3.08/4.61	4.61/7.41	43	35	57	46
4 x 10 + 6	22.3	25.7	710	1092	426	809	1.83/3.08	3.08/4.61	60	47	77	59
4 x 16 + 10	25.4	28.9	1031	1491	574	1033	1.15/1.83	1.91/3.08	83	64	105	80
4 x 26 + 16	30.1	34.7	1547	2308	831	1591	0.727/1.15	1.20/1.91	105	82	125	100
4 x 35 + 16	32.7	37.5	1925	2715	959	1750	0.524/1.15	0.868/1.91	125	100	155	120
4 x 50 + 25	37.7	42.4	2735	3668	1343	2276	0.387/0.727	0.641/1.20	160	125	185	145
4 x 70 + 35	41.9	46.9	3624	4692	1674	2742	0.268/0.524	0.443/0.868	200	155	225	175
4 x 95 + 50	47.6	52.4	4894	6088	2232	3427	0.193/0.387	0.320/0.641	245	200	270	210
4 x 120 + 10	52.0	57.1	6260	7787	2855	4383	0.153/0.268	0.253/0.443	285	220	310	240
4 x 150 + 70	56.8	61.7	7625	9486	3478	5340	0.124/0.268	0.206/0.443	325	250	345	270
4 x 185 + 95	63.0	67.9	9503	11822	4334	6855	0.0991/0.193	0.164/0.320	375	295	390	305
4 x 240 + 20	74.7	79.1	12292	15291	5606	8607	0.0754/0.153	0.125/0.253	440	345	450	355



7. 3+2-Core, 0.6/1kV XLPE Insulated, PVC Sheathed Power Cable

Nominal cross-section of conductor mm ²	Outer diameter of cable mm		Calculated Weight of cable Kg/km				DC resistance of conductor at 20°C Ω/km		Cable current carrying Capacity Amps ^A			
									In air		Directly buried under the ground	
	Non-Armoured	Armoured	Cu		Al		Cu	Al	Cu	Al		
			Non-Armoured	Armoured	Non-Armoured	Armoured	Cu	Al	Cu	Al	Cu	Al
3x4+2x2.5	16.9	20.3	283	561	183	235	4.61	7.41	34	27	45	36
3x6+2x4	18.7	22.1	449	727	284	415	3.08	4.61	43	35	57	46
3x10+2x6	21.5	25.0	658	1029	401	771	1.83	3.08	60	47	77	59
3x16+2x10	24.8	28.3	961	1410	541	993	1.15	1.91	83	64	105	80
3x25+2x16	29.0	33.8	1439	2149	778	1293	0.727	1.20	105	82	125	100
3x35+2x16	31.1	35.8	1724	2485	876	1449	0.524	0.868	125	100	155	120
3x50+2x25	36.1	41.0	2444	3325	1206	2088	0.387	0.641	160	125	185	145
3x70+2x18	40.3	45.0	3264	4285	1531	2552	0.268	0.443	200	155	225	175
3x95+2x50	45.4	50.4	4428	5532	2044	3149	0.193	0.320	245	200	270	210
3x120+2x70	50.1	54.9	5735	7106	2624	4042	0.153	0.253	285	220	310	240
3x150+2x70	53.6	58.4	6957	8593	3137	4888	0.124	0.206	325	250	345	270
3x185+2x95	65.7	70.7	8698	10742	3966	6110	0.0991	0.164	375	295	390	305
3x240+2x120	74.4	79.6	11238	13881	5125	7896s	0.0754	0.125	440	345	450	355

8. 5-Core, 0.6/1kV XLPE Insulated, PVC Sheathed Power Cable

Nominal cross-section of conductor mm ²	Outer diameter of cable mm		Calculated Weight of cable Kg/km				DC resistance of conductor at 20°C Ω/km		Cable current carrying Capacity Amps ^A			
									In air		Directly buried under the ground	
	Non-Armoured	Armoured	Cu		Al		Cu	Al	Cu	Al		
		Non-Armoured	Armoured	Non-Armoured	Armoured	Cu	Al	Cu	Al	Cu	Al	
5 x 1.5	16.4	15.1	169	423	119		12.1	18.1	19.5	18.1	26	-
5 x 2.5	17.5	16.8	226	590	199		7.41	12.1	22	20	34	27
5 x 4	19.9	18.2	310	714	318	422	4.61	7.41	37	27	44	36
5 x 6	21.6	19.5	416	848	372	701	3.08	4.61	47	35	56	46
5 x 10	23.9	23.5	665	1255	452	848	1.83	3.08	65	47	73	59
5 x 16	26.6	25.0	973	1482	474	930	1.15	1.91	86	68	96	73
5 x 25	31.6	29.8	1485	2112	514	1268	0.727	1.20	112	81	121	93
5 x 35	35.4	33.6	1998	2734	902	1588	0.524	0.868	139	101	146	111
5 x 50	40.4	38.0	2648	3514	1154	1940	0.387	0.641	169	123	173	131
5 x 70	45.9	43.8	3762	4776	1606	2618	0.268	0.443	217	158	213	163
5 x 95	52.7	49.8	5120	5930	2130	3246	0.193	0.320	264	194	251	193
5 x 120	53.7	58.5	6769	8391	3056	3858	0.153	0.253	285	225	310	220
5 x 150	59.5	64.5	8461	10489	3819	5848	0.124	0.206	325	250	345	270
5 x 185	65.3	70.7	10435	12936	4711	7213	0.0991	0.164	375	295	390	305
5 x 240	74.4	79.9	13538	16782	6111	9357	0.0754	0.125	440	345	450	355



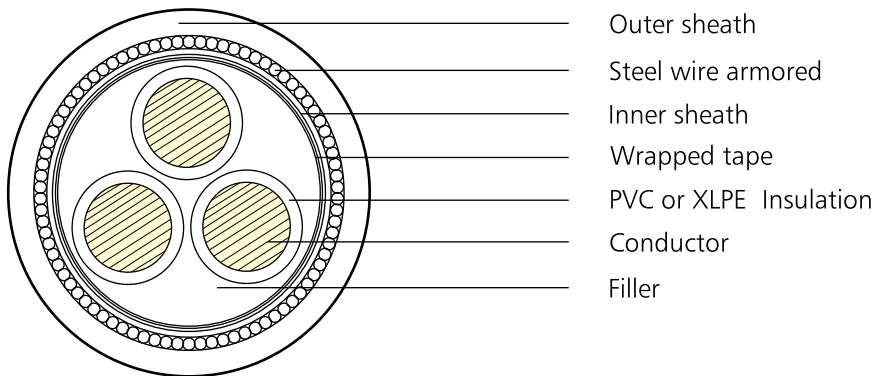
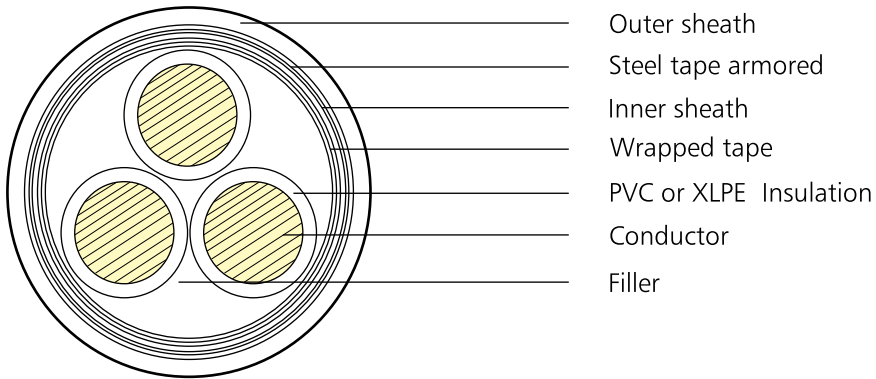
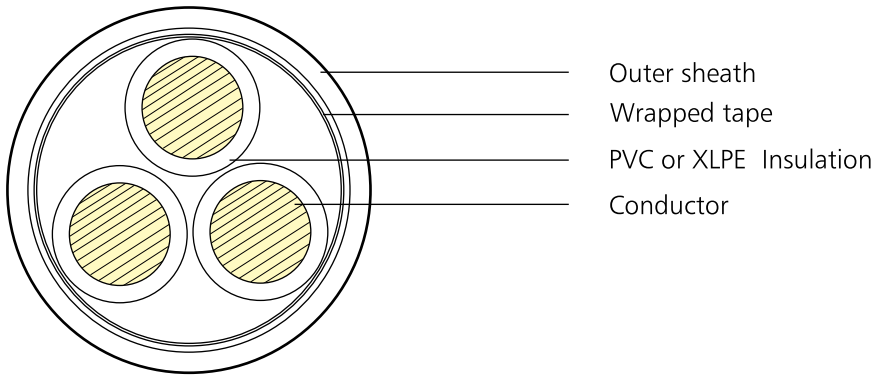
Derivative Product from 0.6/1kV Power Cable

No.	Description	Application Characteristics	Operating Temperature
1	Flame-retardant XLPE insulated power cable	Good flame retardant property	90
2	Fire-Resistant XLPE insulated power cable	Good fire –resistance Property	90
3	XLPE insulated low smoke and low Halogen power cable	For Situations where higher Safety requirements are desired	90
4	Flame-retardant XLPE insulated low–smoke and halogen –free power cable	For Situations where higher Safety requirements are desired	90
5	XLPE insulated power cable with branch	Easy installation stable performance	90
6	Fire-resistant XLPE insulated power cable with branch		90
7	Fire-resistant XLPE insulated power cable with branch		90
8	PVC insulated power cable with branch		70
9	Fire-resistant PVC insulated power cable with branch		70
10	Fire resistant PVC insulated power cable with branch		70



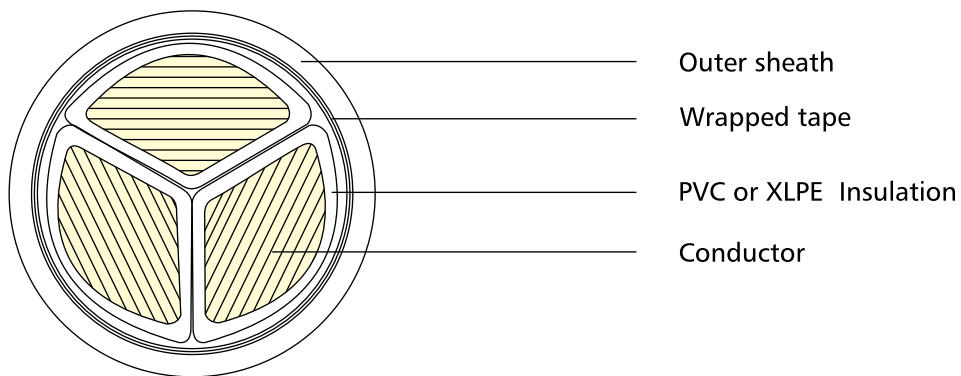
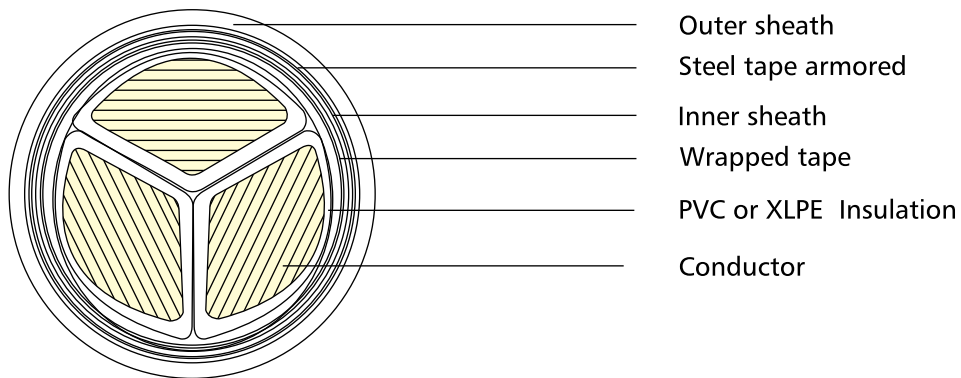
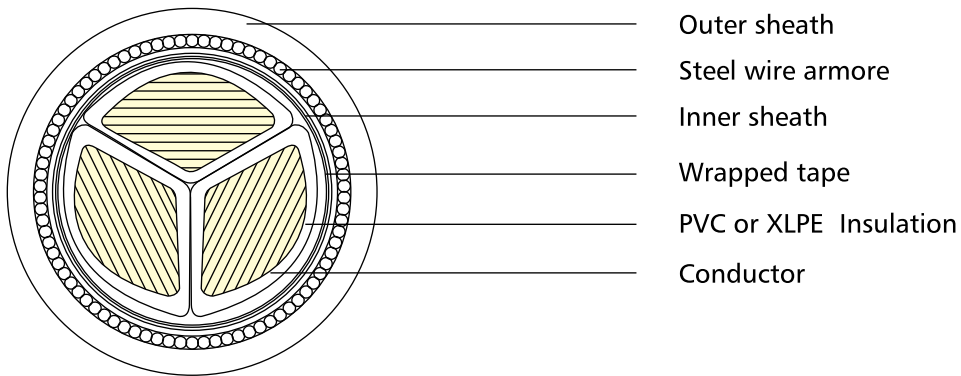
Power Cable Structure Diagram 0.6/1kV Power Cable

Structure of 0.6/1kV 3-core, power cable (Round Cores)



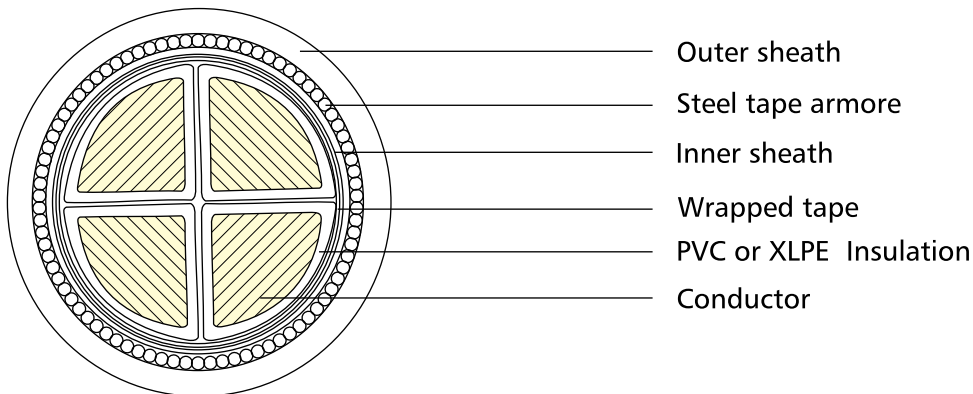
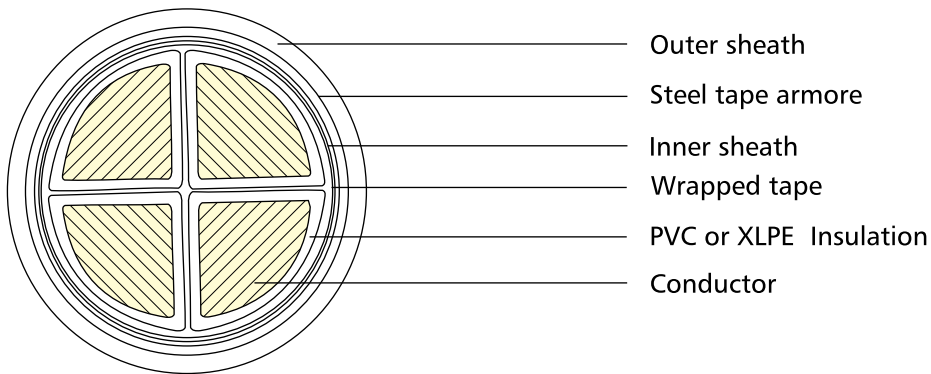
Power Cable Structure Diagram 0.6/1kV Power Cable

0.6/1kV 3-Core Power Cable (Sector Shaped Cores)



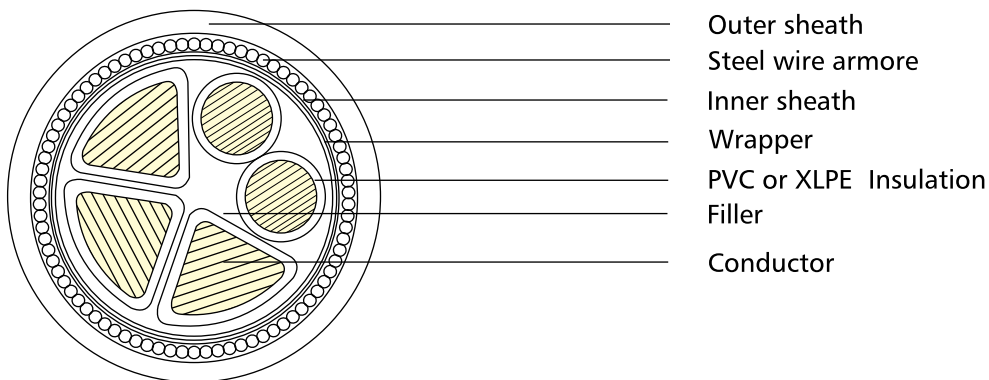
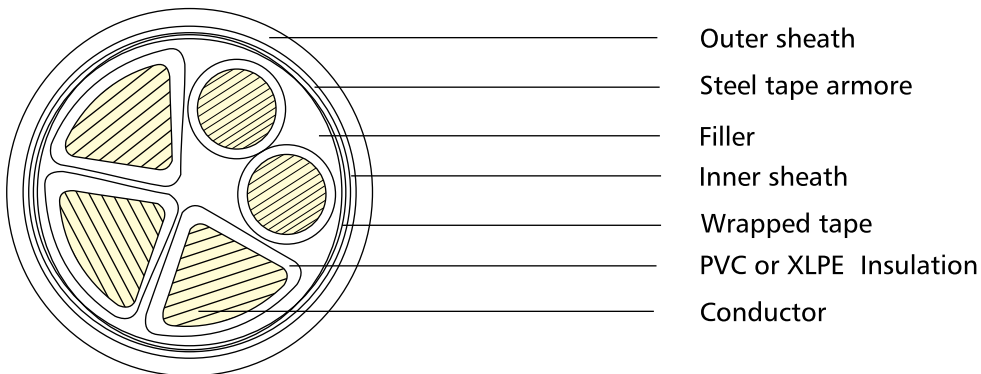
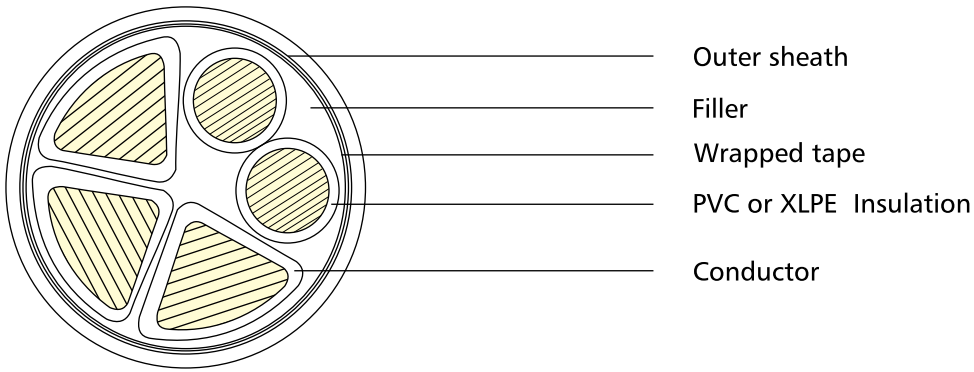
Power Cable Structure Diagram 0.6/1kV Power Cable

Structure of 0.6/1kV 4-core, power cable (Sector Shaped Cores)



Power Cable Structure Diagram 0.6/1kV Power Cable

Structure of 0.6/1kV 3 + 2-core, power cable



Rated Voltage 6/10kV and 18/36kV XLPE-Insulated Power Cable

The XLPE insulated cable has good electrical and physical properties, resistant to aging, resistant to the environment stress and chemical corrosion operation, with the characteristics of simple structure, easy to use, no drop-height restriction when laying, higher long-term working temperature (90°C).

Implemented standard IEC60502.

We are also capable of providing tailor made cable solutions upon the request of customers.

Table of the Voltage, Cores and Cross-Section

	Category A, B	6/10kV	18/36kV
	Category C	8.7/15kV	-
Single Core		25- 1200mm ²	50- 1200mm ²
Three- Core		25-400mm ²	50-400mm ²

The cable with category A rated voltage is used in the situation requiring not over 1 min. of grounding fault lasting time. For the cable with Category B rated voltage, the grounding fault lasting time normally is not over 1 hour, max. lasting time is not over 8 hours, annual ground fault lasting time altogether should not be over 125 hours, category C includes all the system except Category A and B.



Cable Types and Application

Type		Name	Application
Cu core	Al core		
NC2XY		XLPE insulated, PVC or PE sheathed power cable	Can be laid indoor, in tunnels, cables, canals, pipelines and loose soil, cable should not bear mechanic force, but can bear a certain breaking force
NC2XRY		XLPE insulated, steel tape armoured and PVC sheathed power cable	Laid indoor, in tunnels, cable canal and underground, cable can bear mechanic force, but can not bear large breaking force
NC2XRY		XLPE insulated, steel wire armoured and PVC or PE sheathed power cable	Laid indoor, in tunnels and mines cable can bear mechanic force and large breaking force

Voltage Test and Partial Discharge Test

			6/10kV (11)	18/36kV (33kV)
A	Voltage test	Test voltage kV	21	63
		Test time min.	5	5
	Partial discharge test	Magnitude of discharge at $1.73 U_0$ quantity \leq PC	5	5



1. 6/10 kV (11kV) Single-Core XLPE Insulated, PVC Sheathed Power Cable

Nominal cross section of conductor mm ²	Insulation thickness mm	Sheath Thickness mm	outer diameter of cable mm	Calculated weight of cable kg/km		DC resistance of conductor at 20°C Ω/km		Cable current carrying capacity A				Short circuit current kA			
								In air		Directly buried under ground		conductor		Shield	
				Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu Tape	Cu Wire
25	3.4	1.8	25	906	889	0.727	1.200	165	130	160	120	3.57	2.37	1.083	3.506
35	3.4	1.8	26	1040	1015	0.524	0.868	205	155	190	145	5.00	3.33	1.082	3.501
50	3.4	1.9	28	1227	1192	0.387	0.641	245	190	225	175	7.15	4.75	1.079	3.496
70	3.4	2.0	29	1471	1422	0.268	0.443	305	235	275	215	10.01	6.65	1.077	3.491
95	3.4	2.0	31	1778	1712	0.193	0.320	370	290	330	255	13.58	9.02	1.077	5.449
120	3.4	2.1	32	2056	1972	0.153	0.253	430	335	375	290	17.16	11.4	1.077	5.449
150	3.4	2.2	35	2482	2376	0.124	0.206	490	380	425	330	21.45	14.2	1.076	5.440
185	3.4	2.3	37	2921	2791	0.0991	0.164	560	435	480	370	26.45	17.5	1.251	7.590
240	3.4	2.3	40	3541	3372	0.0754	0.125	665	515	555	435	34.32	22.8	1.250	7.583
300	3.4	2.4	42	4191	3981	0.0601	0.100	765	595	630	490	42.9	28.5	1.246	7.560
400	3.4	2.5	46	5363	5089	0.0470	0.078	890	695	725	565	57.2	38.0	1.245	7.553
500	3.4	2.6	50	6493	6143	0.0366	0.0605	1030	810	825	650	71.5	47.5	1.244	7.547

2. 6/10kV (11kV) 3-Core XLPE Insulated, PVC Sheathed Power Cable

Nominal cross section of conductor mm ²	Insulation thickness mm	Sheath Thickness mm	Calculated outer diameter of cable mm	Calculated weight of cable kg/km		DC resistance of conductor at 20°C Ω/km		Cable current carrying capacity A				Short circuit current kA		
								In air		Directly buried under ground		conductor		Shield
				Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu Tape
25	3.4	2.3	43.0	2200	1731	0.727	1.200	120	90	125	100	3.57	2.37	2.958
35	3.4	2.3	45.0	2590	1933	0.524	0.868	140	110	155	120	5.00	3.33	2.958
50	3.4	2.4	48.0	3133	2195	0.387	0.641	165	130	180	140	7.15	4.75	2.958
70	3.4	2.6	52.0	3850	2537	0.268	0.443	210	165	220	170	10.01	6.65	2.958
95	3.4	2.7	56.0	4825	3044	0.193	0.320	355	200	265	210	13.58	9.02	2.958
120	3.4	2.8	59.0	5656	3407	0.153	0.253	290	225	300	235	17.16	11.4	2.958
150	3.4	2.9	63.0	6588	3776	0.124	0.206	330	255	340	360	21.45	14.2	2.958
185	3.4	3.0	66.0	7852	4384	0.0991	0.164	375	295	380	300	26.45	17.5	3.301
240	3.4	3.2	77.0	9818	5319	0.0754	0.125	435	345	435	345	34.32	22.8	3.301
300	3.4	3.3	77.0	11758	6134	0.0601	0.100	495	390	485	390	42.9	28.5	3.301
400	3.4	3.4	79.0	14874	7376	0.0470	0.0778	555	435	535	435	57.2	38.0	3.301
500	3.4	3.5	81.0	18049	8676	0.0366	0.0605	615	480	585	480	71.5	47.5	3.301

3 . 6/10kV (11kV) 3-Core XLPE Insulated, Steel-Tape Armoured and PVC Sheathed Power Cable.

Nominal cross section of conductor mm ²	Insulation thickness mm	Sheath Thickness mm	outer diameter of cable mm	Calculated weight of cable kg/km		DC resistance of conductor at 20 ^o c Ω/km		Cable current carrying capacity ^A				Short circuit current kA		
				Cu	Al	Cu	Al	In air		Directly buried under ground		conductor		Shield
								Cu	Al	Cu	Al	Cu	Al	Cu Tape
25	3.4	2.4	48.0	3190	2176	0.727	1.200	120	90	125	100	3.57	2.37	2.958
35	3.4	2.5	50.0	3731	3068	0.524	0.868	140	110	155	120	5.00	3.33	2.958
50	3.4	2.6	53.0	4396	3449	0.387	0.641	165	130	180	140	7.15	4.75	2.958
70	3.4	2.7	57.0	5198	3872	0.268	0.443	210	165	220	170	10.01	6.65	2.958
95	3.4	2.9	62.0	6350	4551	0.193	0.320	355	200	265	210	13.58	9.02	2.958
120	3.4	3.0	65.0	7257	4984	0.153	0.253	290	225	300	235	17.16	11.4	2.958
150	3.4	3.1	69.0	8383	5542	0.124	0.206	330	255	340	360	21.45	14.2	2.958
185	3.4	3.2	72.0	9741	6237	0.0991	0.164	375	295	380	300	26.45	17.5	3.301
240	3.4	3.3	78.0	11854	7309	0.0754	0.125	435	345	435	345	34.32	22.8	3.301
300	3.4	3.4	84.0	14861	9178	0.0601	0.100	495	390	485	390	42.9	28.5	3.301
400	3.4	3.5	90.0	17868	11047	0.0470	0.0778	555	435	535	435	57.2	38.0	3.301
500	3.4	3.6	96.0	29875	12916	0.0366	0.0605	615	480	585	480	71.5	47.5	3.301

4. 6/10kV (11kV) 3-Core XLPE Insulated, Steel-Wire Armoured and PVC Sheathed Power Cable.

Nominal cross section of conductor mm ²	Insulation thickness mm	Sheath Thickness mm	Calculated outer diameter of cable mm	Calculated weight of cable kg/km		DC resistance of conductor at 20 ^o c Ω/km		Cable current carrying capacity ^A				Short circuit current kA		
				Cu	Al	Cu	Al	In air		Directly buried under ground		conductor		Shield
								Cu	Al	Cu	Al	Cu	Al	Cu Tape
25	3.4	2.6	49.3	4535	4067	0.727	1.200	120	90	125	100	3.57	2.37	2.958
35	3.4	2.7	52.8	5055	4399	0.524	0.868	140	110	155	120	5.00	3.33	2.958
50	3.4	2.8	55.8	5749	4812	0.387	0.641	165	130	180	140	7.15	4.75	2.958
70	3.4	2.9	59.7	6653	5341	0.268	0.443	210	165	220	170	10.01	6.65	2.958
95	3.4	3.0	63.7	8007	6226	0.193	0.320	355	200	265	210	13.58	9.02	2.958
120	3.4	3.1	67.2	9001	6752	0.153	0.253	290	225	300	235	17.16	11.4	2.958
150	3.4	3.4	72.1	10150	7336	0.124	0.206	330	255	340	360	21.45	14.2	2.958
185	3.4	3.6	77.3	11644	8175	0.0991	0.164	375	295	380	300	26.45	17.5	3.301
240	3.4	3.8	82.0	14912	10412	0.0754	0.125	435	345	435	345	34.32	22.8	3.301
300	3.4	3.9	84.2	17215	11591	0.0601	0.100	495	390	485	390	42.9	28.5	3.301
400	3.4	4.0	96.5	20794	13295	0.0470	0.0778	555	435	535	435	57.2	38.0	3.301
500	3.4	4.2	102.3	25501	15109	0.0366	0.0605	615	480	585	480	71.5	47.5	3.301

5. 18/36kV (33kV) Single-Core XLPE Insulated PVC Sheath Power Cable

Nominal cross section of conductor mm ²	Insulation thickness mm	Sheath Thickness mm	outer diameter of cable mm	Calculated weight of cable kg/km		DC resistance of conductor at 20 ^o C Ω/km		Cable current carrying capacity A				Short circuit current kA			
								In air		Directly buried under ground		conductor		Shield	
								Cu	Al	Cu	Al	Cu	Al	Cu	Al
50	8.0	2.2	36.0	1964	1924	0.387	0.641	245	190	225	175	7.15	4.75	1.284	3.563
70	8.0	2.3	38.0	2236	2182	0.268	0.443	305	235	275	215	10.01	6.65	1.281	3.554
95	8.0	2.3	39.0	2580	2505	0.193	0.320	370	285	330	255	13.58	9.02	1.280	5.548
120	8.0	2.4	40.0	2883	2789	0.153	0.253	425	330	375	290	17.16	11.4	1.279	5.544
150	8.0	2.5	42.0	3395	3279	0.121	0.206	485	375	420	325	21.45	14.2	1.278	5.541
185	8.0	2.6	44.0	3883	3738	0.0991	0.164	555	430	475	370	26.45	17.5	1.275	7.736
240	8.0	2.7	46.0	4554	4367	0.0754	0.125	650	505	555	430	34.32	22.8	1.274	7.730
300	8.0	2.8	49.0	5251	5019	0.0601	0.100	745	580	630	490	42.9	28.5	1.271	7.713
400	8.0	2.89	51.0	6350	6040	0.0470	0.0778	870	680	720	565	57.2	38.0	1.27	7.706

6. 18/36kV (33kV) Single-Core XLPE Insulated PVC Sheath Power Cable

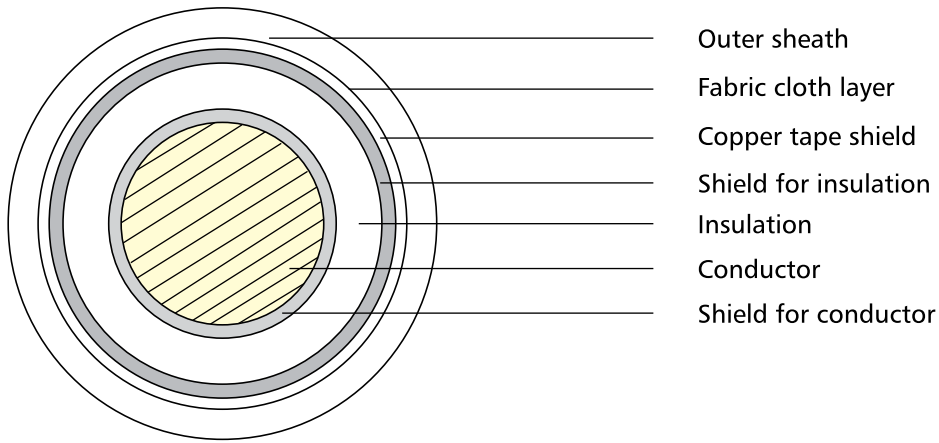
Nominal cross section of conductor mm ²	Insulation thickness mm	Sheath Thickness mm	outer diameter of cable mm	Calculated weight of cable kg/km		DC resistance of conductor at 20 ^o C Ω/km		Cable current carrying capacity A				Short circuit current kA			
								In air		Directly buried under ground		conductor		Shield	
								Cu	Al	Cu	Al	Cu	Al	Cu	Al
50	8.0	2.2	36.0	1964	1924	0.387	0.641	245	190	225	175	7.15	4.75	1.284	3.563
70	8.0	2.3	38.0	2236	2182	0.268	0.443	305	235	275	215	10.01	6.65	1.281	3.554
95	8.0	2.3	39.0	2580	2505	0.193	0.320	370	285	330	255	13.58	9.02	1.280	5.548
120	8.0	2.4	40.0	2883	2789	0.153	0.253	125	330	375	290	17.16	11.4	1.279	5.544
150	8.0	2.5	42.0	3395	3279	0.12	0.206	485	375	420	325	21.45	14.2	1.278	5.541
185	8.0	2.6	44.0	3883	3738	0.0991	0.164	555	430	475	370	26.45	17.5	1.275	7.736
240	8.0	2.7	46.0	4554	4367	0.0754	0.125	650	505	555	430	34.32	22.8	1.274	7.730
300	8.0	2.8	49.0	5251	5019	0.0601	0.100	745	580	630	490	42.9	28.5	1.271	7.713
400	8.0	2.89	51.0	6350	6040	0.0470	0.0778	870	680	720	565	57.2	38.0	1.27	7.706

7. 18/36kV (33kV) 3-Cores XLPE Insulated, Steel-Tape Armoured and PVC Sheathed Power Cable.

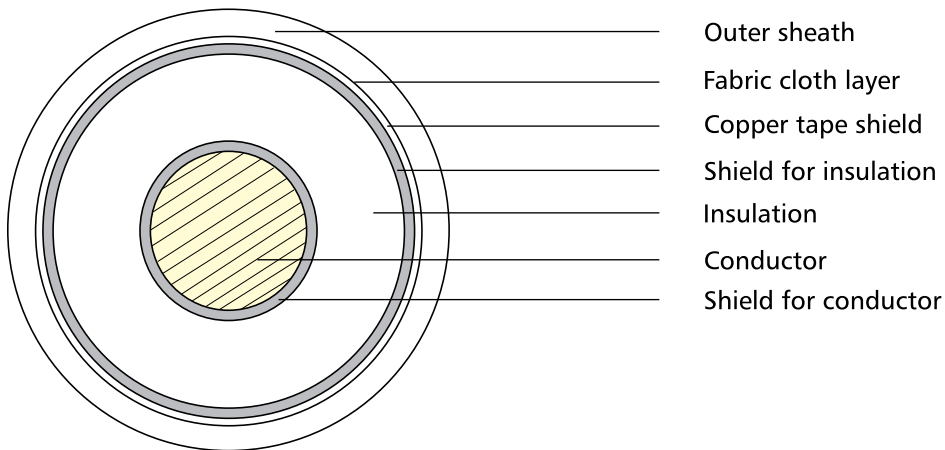
Nominal cross section of conductor mm ²	Insulation thickness mm	Sheath Thickness mm	outer diameter of cable mm	Calculated weight of cable kg/km		DC resistance of conductor at 20 ^o c Ω/km		Cable current carrying capacity A				Short circuit current kA		
								In air		Directly buried underground		conductor		Shield
								Cu	Al	Cu	Al	Cu	Al	Cu
50	8.0	3.4	75.9	9692	8750	0.387	0.641	220	168	228	176	7.15	4.75	2.958
70	8.0	3.6	81.2	11016	9698	0.268	0.443	272	212	280	216	10.01	6.65	2.958
95	8.0	3.7	85.1	12324	10536	0.193	0.320	332	256	336	260	13.58	9.02	2.958
120	8.0	3.9	88.4	13424	11165	0.153	0.253	380	296	384	296	17.16	11.14	2.958
150	8.0	4.0	92.3	14715	11892	0.124	0.206	432	336	432	336	21.45	14.20	2.958
185	8.0	4.1	96.1	16360	12878	0.0991	0.164	496	384	496	384	26.45	17.50	2.958
240	8.0	4.3	101.9	19117	14600	0.0754	0.125	584	468	580	464	34.30	22.8	2.958
300	8.0	4.5	107.3	21569	15900	0.0601	0.100	672	520	744	624	42.9	28.5	3.301
400	8.0	4.7	115.0	25318	17789	0.0470	0.0778	796	624	776	672	57.2	38.0	3.301
500	8.0	4.9	121.9	29203	22416	0.0366	0.0605	920	728	808	720	71.5	47.5	3.301



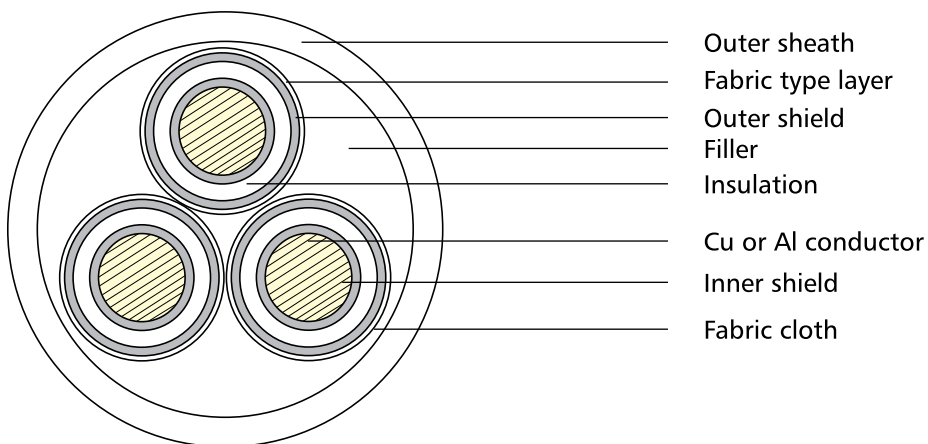
XLPE Power Cable Structure



6/10kV (11kV) Single-Core XLPE Insulated Power Cable



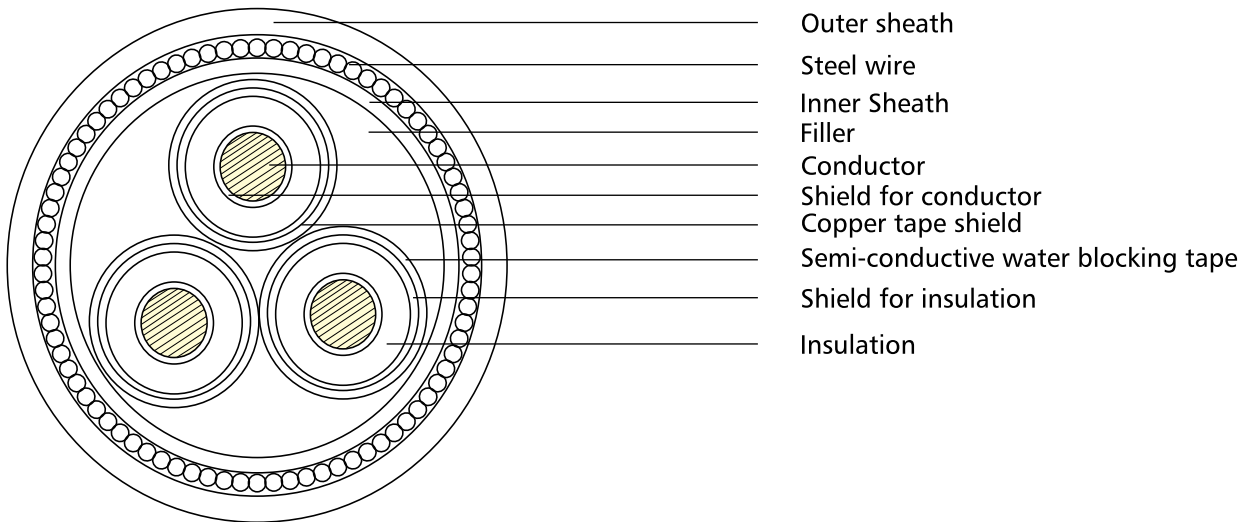
18/36kV (33kV) Single-Core XLPE Insulated Power Cable



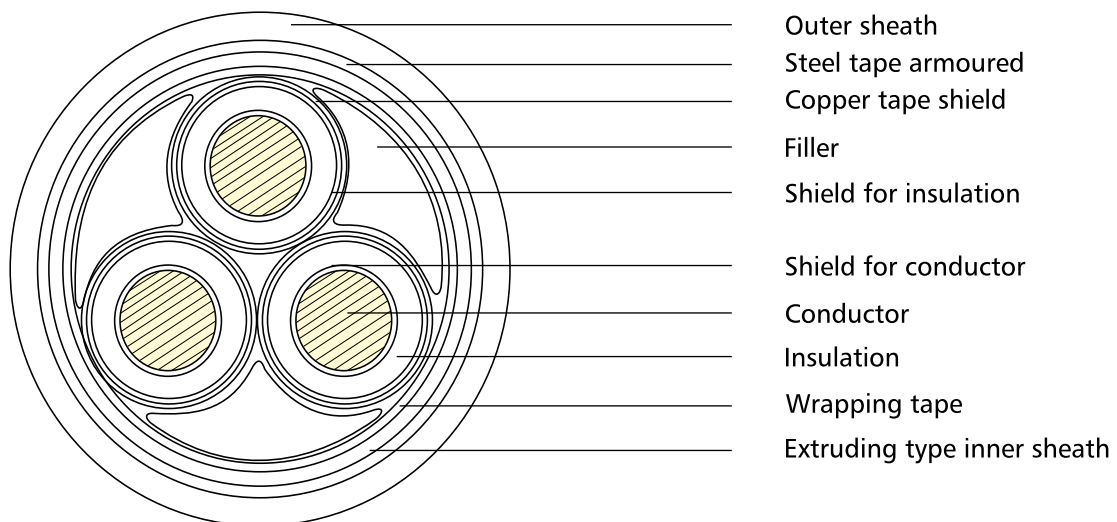
6/10kV (11kV) or 18/36kV (33kV) 3-core XLPE Insulated Power Cable



XLPE Power Cable Structure



6/10kV (11kV) or 18/36kV (33kV) 3-core XLPE Insulated Water-Proof, Steel-Wire Armoured Power Cable



6/10kV (11kV) or 18/36kV (33kV) 3-core XLPE Insulated, Steel-Tape Armoured Power Cable



ENVIRONMENTAL CONSERVATION CABLES (EC)

Some toxic materials are present in materials used in the manufacture of cables can harm environment cause ill effect on health of people and also damage environment including soil, water and air.

EC cable have the performance of Flame retardant, Low smoke, low toxin, no Lead, no cadmium and other harmful heavy metal, no phosphorus, and less smog, can be used in application where full environment protection is a perquisite. The cable can prevent the spread of toxic and gases and decrease the calamity when exposed to fire condition as we use flame retardant material. The subtle smog generated when these cables are exposed to fire are low in toxins and hence make it easy for people to be evacuated. As there is no Halogen and phosphorus, so the cable does not give off any toxic gases such as HCL, so there is no damage for the instrument, machines and personell

There is no Lead, cadmium and other heavy metals so the cable cannot cause any ill effect to soil and water during running and its residue.

We follow the principle of environment and health protection during cable designing, purchasing, production, and sales. And we also consider the environment and health protection during regeneration.



LSZH LOW TOXIN FLAME RETARDANT AND FIRE RESISTANT EC POWER CABLES WITH VOLTAGE UPTO 26/36kV

The insulation of LSZH Low toxin flame retardant and fire resistant EC Power cables is XLPE and or radiation cured XLPE. The outer sheath of the EC cables adopt the material of 90°C degree Celsius halogen free flame retardant polyolefin. The filler and the wrapping tape of the cables is Low smog halogen free, low toxin, flame retardant environmental conservation material.

Application Characteristic

1. Conductor working temperature
Long term allow working temperature 90°C
Max working temperature during short circuit (last time not more than 1 seconds)
250°C
2. Lay temperature not below 0°C
3. Bending radius
20 times (D+d) ±5% for single core cables
15 times (D+d) ±5% for multi-cores cables
D- is the diameter of cable
d- is the diameter of conductor



Low Smoke and Low Halogen Low Toxin Flame Retardant and Fire Resistant EC Cables

This group of cables can be of the following

1. Rated voltage up to 0.6/1kV LSZH and Low toxin and Flame retardant and fire resistant EC power cables.
2. EC cables for Lighting and internal wiring cables.
3. EC cables for control system
4. For rated voltage up to 18/36kV LSLH Low toxin XLPE insulated power EC cables

This group of cables does not include Halogen, no Lead, no cadmium no phosphorus and other toxic materials The cable does not burn easily and in the event of exposure to fire, it does not give off any toxic gases. So the cable is safe during application and no harmful effect to the environment due to its Low Smoke and low halogen, low toxin flame retardant and safety and environmental conservation performance/properties.

The cable is suitable for High density population construction (such as altitude building), central business district, Super marketplace, hospitals, office buildings, stations, landings, port underground and other directly populated and other commonality situation. These cables are also used for important places which require high level safety.



Low smoke and Zero Halogen

Characteristics of flame retardant is according to IEC60332

Smoke density is according to IEC61034)

PH Value and conductance is according to IEC60754-2)

Toxicity index is according to NES713

Fire resistant performance is according to IEC60331)

As the material consist of no Halogen no Lead, no cadmium etc it is safe for use.

LSOH Low toxin flame retardant characteristic

≥, % Smoke density	≥ PH Value	≤, s/mm Conductance	Flame retardant grade	Toxin index	RoHs ppm RoHs Restriction
	4.3	10	A, B, C, D	<5	

Remark: Pb () ≤ 1000; Cd () ≤ 100; Hg () ≤ 1000; Cr(VI) () ≤ 1000; PBB () ≤ 1000; PBDE () ≤ 1000



TYPE AND NAME OF CABLES

Copper conductor XLPE insulated LSZH outersheath EC power cables (A,BCD)
Aluminium Conductor XLPE insulated LSZH outer sheath EC power cables (ABCD)
Fire resistant Copper conductor XLPE insulated LSZH sheath EC power cable
Fire resistant Aluminium conductor XLPE insulated LSZH sheath EC power cable
Copper conductor XLPE insulated Steel tape armoured LSZH outersheath EC power cables (A,B,C)
Aluminium conductor XLPE insulated Steel tape armoured LSZH outersheath EC power cables (A, B, C)
Fire resistant Copper conductor XLPE insulated Steel tape armoured LSZH sheath EC power cable
Fire resistant Aluminium conductor XLPE insulated Steel tape armoured LSZH Outersheath EC power cable
Copper conductor XLPE insulated Steel wires armoured LSZH outersheath EC power cables (A,BC)
Aluminium conductor XLPE insulated Steel wires armoured LSZH outersheath EC power cables (A,BC)
Aluminium conductor XLPE insulated Steel wires armoured LSZH outersheath EC power cables (A,BC)
Fire resistant Copper conductor XLPE insulated Steel wires armoured LSZH outersheath EC power cables
Fire resistant Aluminium conductor XLPE insulated Steel wires armoured LSZH outersheath EC power cables
Copper conductor XLPE insulated thick Steel wires armoured LSZH outersheath EC power cables (A,BC)
Aluminium conductor XLPE insulated thick Steel wires armoured LSZH outersheath EC power cables (A,BC)
Fire resistant Copper conductor XLPE insulated thick steel wires armoured LSZH outersheath EC power cables
Fire resistant Aluminium conductor XLPE insulated thick Steel wires armoured LSZH outersheath EC power cables



Size

Cores	1	2,3,4,5	3+1, 3+2, 4+1
mm ² Cross section	1.5 - 1000	1.5 - 1000	2.5 - 300

"3+1", "3+2", "4+1"

Main conductor and neutral cross section

Sort	mm															
Main conductor	1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	300
Neutral Conductor	1	1.5	2.5	4	6	10	16	16	25	35	50	70	70	95	120	150

Main technical datas

1. DC Resistance of conductor

Nominal cross section mm ²	Max. DC resistance ohms/km at 20 degree C		Nominal cross section mm ²	Max. DC resistance ohms/km at 20 degree C	
	Copper	Aluminium		Copper	Aluminium
1.5	12.1	18.1	95	0.193	0.320
2.5	7.41	12.1	120	0.153	0.253
4	4.61	7.41	150	0.124	0.206
6	3.08	4.61	185	0.0991	0.164

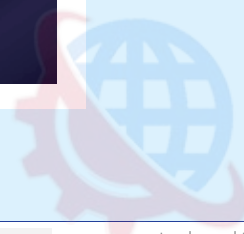
Rated Voltage kV U _{0/U}	0.6/1	3/3	3.6/6	6/6 6/10	8.7/10 8.7/15	12/20	18/20 18/20	21/35	26/35	
Voltage test	Test voltage kV	3.5	10.5	12.5	21	30.5	42	63	73.5	91
	Test time min	5	5	5		5	5	5	5	5
Partial discharge test	Test voltage kV	-	-	6.3		15.1	20.8	31.2	36.4	45
	Discharge capacity <pC	-	-	≤5	≤5	≤5	≤5	≤5	≤5	≤5





Coleman Wires & Cables

CONTROL**CABLE**



Brief introduction

Brief introduction

It is used as the control cable in the controlling, monitoring and protecting circuit with rated AC voltage up to 450/750V.

PVC insulated and sheathed control cable is general type, we can also manufacture the products suitable for using in the different sites according to the customers needs. Silicon rubber insulated control cable has excellent properties of resistant to high temperature, aging, oil, and radiation and is flexible. It is widely used as the transmitting wire for the instruments, apparatus and control system in the chemical, petroleum, power, metallurgical industry under the higher or lower temperature and all kinds of severe conditions.

Implemented Standard

Plastics insulated and sheathed control cable, implement BS 6724



Application Characteristic

1. Rated AC Voltage: 450/750V
2. Permitted long-term operating temperature of conductor: PVC insulation and sheath: 70°C and 105°C; PE insulation and sheath: 70°C; Cross-linked PE or EPR insulation: 90°C; Low-smoke and halogen-free, flame retardant polyolefin insulation and sheath: 70°C 90°C 125°C;
3. The lowest environment temperature: PVC insulation and sheath: Fixed laying - 40°C, Non-Fixed laying -15°C; Fluoroplastic, silicon rubber insulation and sheath: Fixed laying -60°C, Non-Fixed laying -20°C;
4. Installation and laying temperature: PVC sheath: Not lower than 0°C;
5. Permitted minimum bending radius: Not less than 6 times outer diameter for non-armoured, interlocked or braid armoured cable not less than 12 times outer diameter for copper-tape shield or steel wire tape winding, steel tape wrapping armoured cable.

Main Technical Parameters

Item	Unit	Technical Index															
DC resistance of conductor at 20°C ≤	Ω/km	Cross section		0.5mm ²		0.75mm ²		1.0mm ²		1.5mm ²		2.5mm ²		4.0mm ²		6.0mm ²	
		Plating		Un-tinned	Ti-nned	Un-tinned	Ti-nned	Un-tinned	Ti-nned	Un-tinned	Ti-nned	Un-tinned	Ti-nned	Un-tinned	Ti-nned	Un-tinned	Ti-nned
		A or B class		36.0	36.7	24.5	24.7	18.4	18.2	12.1	12.2	7.41	7.56	4.61	4.7	3.08	3.11
		R class		39.0	40.1	26.0	26.7	19.5	20.0	13.3	13.7	7.98	8.21	/	/	/	/
Insulation resistance at the highest operating temperature ≥	M Ωkm	PVC silicon rubber	A	/	0.012	0.011	0.011	0.01	0.0085	0.0070							
			B,R	0.013	0.011	0.010	0.010	0.009	0.0077	0.0065							
		PE, EPR															
Test voltage	kV/5min	3.0															
Flame-retardant property		A or B class (testing according to GB/18380.3)															



Basic Type, Product Name and Main Application

1. PVC XLPEinsulated Control Cable

Description	Application
PVC(XLPE) - insulated and sheathed control cable with Cu core	Laid at fixed occasions, such as indoors, cable duct and pipe, etc.
PVC(XLPE)-insulated and sheathed Copper-tape shield control cable with Cu core	Laid at fixed occasions, where screen is needed, such as indoors, cable duct and pipe, etc.
PVC(XLPE)- insulated and sheathed copper-tape shield control cable with Cu core	Laid at fixed occasions, where screen is needed, such as indoors, cable duct and pipe, etc.
PVC(XLPE)- insulated and sheathed Steel-tape armoured control cable with Cu core	Laid at fixed occasions, where larger mechanical forces can be withstood such as indoors, pipe and direct bury
PVC (XLPE)- insulated and sheathed flexible control cable with Cu core	Laid at movable occasions, such as indoors, where cable must be flexible.
PV(XLPE)- insulated and sheathed Cu wire braid-shield flexible control cable with Cu core	Laid at movable occasions, where flexible screen is needed, such as indoors



Code and its Meanings

Item	Code indication
Flame-retardant property	Non- flame-retardant can be omitted
	Common flame-retardant (C class)
	Low-smoke and low-halogen flame-retardant (C class)
	Low-smoke and halogen free flame-retardant (C class)
Code of series	Control cable
Insulation material	PVC, Flame-Retardant PVC, Low-Smoke And Low-Halogen Flame-Retardant PVC
	PE, Flame-Retardant PE (YJ-XLPE)
	PP
	Fluoro-plastic
	Silicon rubber
	Low-smoke and halogen-free flame retardant
Sheath material	Climate-resistant PE or flame-retardant PE
	PVC, flame-retardant PVC or low halogen, low-smoke flame-retardant PVC



Code and its Meanings

Shield Materials	P	Cu wire braid
	PS	Tinned copper braid
	P2	Copper-Mylar laminate tape or Cu tape
	P3	Aluminium-Mylar laminate tape
Sheath Characteristics	12	Interlocked Steel Taped Armoured, PVC Sheath
	13	Interlocked Steel Tape Armoured, PE Sheath
	22	Wrapped 2-Layer Steel Tapes Armoured, PVC Sheath
	23	Wrapped 2-Layer Steel Tapes Armoured, PE Sheath
	32	Winding Steel Wire Armoured, PVC Sheath
	33	Winding Steel Wire Armoured, PE Sheath
	92	Steel Braid Armoured, PVC Sheath
	93	Steel Braid Armoured, PE Sheath
	52	Interlocked Al tape of Al alloy tape armoured, PVC sheath
	53	Interlocked Al tape of Al alloy tape armoured, PE sheath
Heat-resistant degree	70	Material must adapt to temperature class
	90	The highest operating temperature is 70° C
	105	The highest operating temperature is 90° C
	200	The highest operating temperature is 105° C The highest operating temperature is 200° C
	A	Single conductor
	B	7 threads stranded conductor (indicated in the bracket behind the specification for A, B type)
	R	Multiple threads stranded conductor
		No. of cores x 2 x nominal cross section of conductor mm ²



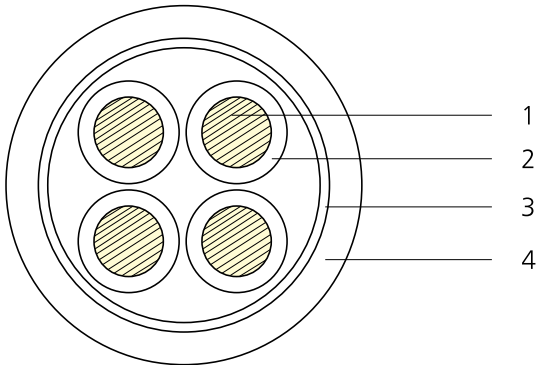
Structure size and Reference Weight

1. PVC, XLPE insulated control cable, EPR Insulated Control Cable, Silicon Rubber Insulated and Sheath Control Cable

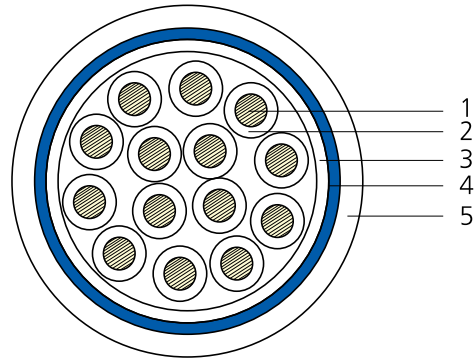
No. of cores x nominal cross section mm ²	(Core structure number / diameter of wires) mm		The maximum diameter mm			Reference weight kg/km				
	A	B	No shield	Braided shield	Copper tape shield	Steel tape armour	No shield	Braided shield	Copper tape shield	Steel tape armour
2 x 0.75	1 / 0.97	7 / 0.37	7.8	9.0	10.5	11.2	75	115	140	205
2 x 1.0	1 / 1.13	7 / 0.43	8.0	9.6	11.2	11.9	80	125	150	215
2 x 1.5	1 / 1.38	7 / 0.52	9.2	10.8	12.2	12.9	110	160	185	250
2 x 2.5	1 / 1.78	7 / 0.68	10.6	11.6	13.2	13.8	155	200	235	295
2 x 4.0	1 / 2.25	7 / 0.85	11.6	13.4	14.8	15.6	190	345	405	435
2 x 6.0	1 / 2.76	7 / 1.04	12.8	14.8	16.4	17.2	240	350	410	440
3 x 0.75	1 / 0.97	7 / 0.37	8.2	9.6	11.2	11.8	90	130	145	220
3 x 1.0	1 / 1.13	7 / 0.43	8.4	9.8	11.4	12.0	100	143	160	235
3 x 1.5	1 / 1.38	7 / 0.52	9.8	11.2	12.6	13.2	125	175	210	267
3 x 2.5	1 / 1.78	7 / 0.68	11.0	12.4	13.8	14.6	185	240	290	330
3 x 4.0	1 / 2.25	7 / 0.85	12.4	14.4	15.8	16.6	235	345	405	440
3 x 6.0	1 / 2.76	7 / 1.04	14.0	15.6	17.4	18.0	330	470	550	580
4 x 0.75	1 / 0.97	7 / 0.37	8.8	10.2	12.0	12.7	105	155	185	245
4 x 1.0	1 / 1.13	7 / 0.43	9.2	10.8	12.4	13.2	120	160	198	255
4 x 1.5	1 / 1.38	7 / 0.52	10.6	11.6	13.4	14.2	155	205	235	300
4 x 2.5	1 / 1.78	7 / 0.68	12.0	14.2	15.6	16.4	225	340	376	415
4 x 4.0	1 / 2.25	7 / 0.85	14.0	15.4	16.8	17.6	315	435	495	505
4 x 6.0	1 / 2.76	7 / 1.04	15.2	16.8	17.8	18.8	415	530	600	620
5 x 0.75	1 / 0.97	7 / 0.37	9.6	10.8	12.8	13.6	120	165	195	255
5 x 1.0	1 / 1.13	7 / 0.43	9.8	11.2	13.0	13.8	140	195	235	275
5 x 1.5	1 / 1.38	7 / 0.52	11.6	12.6	14.8	15.4	190	250	300	345
5 x 2.5	1 / 1.78	7 / 0.68	13.8	15.4	16.6	17.4	290	390	450	470
5 x 4.0	1 / 2.25	7 / 0.85	15.4	16.6	17.8	18.6	385	502	560	585
5 x 6.0	1 / 2.76	7 / 1.04	16.8	18.2	19.0	20.6	505	625	710	735
7 x 0.75	1 / 0.97	7 / 0.37	10.2	11.6	13.4	13.8	145	200	245	315
7 x 1.0	1 / 1.13	7 / 0.43	10.8	12.2	13.8	14.4	170	220	260	355
7 x 1.5	1 / 1.38	7 / 0.52	12.8	14.0	15.8	15.8	225	330	375	425
7 x 2.5	1 / 1.78	7 / 0.68	14.8	16.4	17.6	18.4	355	475	520	555
7 x 4.0	1 / 2.25	7 / 0.85	16.6	17.6	19.0	19.8	78	600	680	700
7 x 6.0	1 / 2.76	7 / 1.04	18.2	19.6	20.6	21.0	655	790	895	920
8 x 0.75	1 / 0.97	7 / 0.37	11.0	12.6	13.8	14.8	165	215	255	345
8 x 1.0	1 / 1.13	7 / 0.43	11.6	13.8	14.6	15.4	195	245	285	380
8 x 1.5	1 / 1.38	7 / 0.52	14.4	15.8	16.4	16.8	275	385	445	465
8 x 2.5	1 / 1.78	7 / 0.68	16.0	17.8	18.8	19.2	405	525	600	615
8 x 4.0	1 / 2.25	7 / 0.85	18.0	20.2	20.8	21.2	545	680	760	790
8 x 6.0	1 / 2.76	7 / 1.04	20.4	22.0	22.4	23.0	745	900	1000	1030
10 x 0.75	1 / 0.97	7 / 0.37	12.8	14.8	16.0	16.8	205	300	340	350
10 x 1.0	1 / 1.13	7 / 0.43	13.9	15.4	16.8	17.4	255	370	440	450
10 x 1.5	1 / 1.38	7 / 0.52	15.9	17.4	18.6	19.0	340	455	520	555
10 x 2.5	1 / 1.78	7 / 0.68	18.4	19.8	21.2	22.0	500	635	725	755
10 x 4.0	1 / 2.25	7 / 0.85	21.4	22.4	23.3	23.8	720	865	940	975
10 x 6.0	1 / 2.76	7 / 1.04	23.6	24.2	25.3	26.0	955	1110	1205	1245

No. of cores x nominal cross section mm ²	(Core structure number / diameter of wires) mm		The maximum diameter mm			Reference weight kg/km				
	A	B	No shield	Braided shield	Copper tape shield	Steel tape armour	No shield	Braided shield	Copper tape shield	Steel tape armour
12 x 0.75	1 / 0.97	7 / 0.37	13.6	15.0	16.6	17.2	240	345	395	360
12 x 1.0	1 / 1.13	7 / 0.43	14.4	15.8	17.0	17.6	290	370	470	485
12 x 1.5	1 / 1.38	7 / 0.52	16.4	17.8	19.0	19.6	385	500	595	610
12 x 2.5	1 / 1.78	7 / 0.68	19.2	21.0	21.8	22.4	575	705	815	830
12 x 4.0	1 / 2.25	7 / 0.85	22.2	23.2	24.0	24.4	825	970	1095	1110
12 x 6.0	1 / 2.76	7 / 1.04	34.4	25.6	26.0	26.6	1100	1275	1405	1420
14 x 0.75	1 / 0.97	7 / 0.37	14.2	15.8	17.0	18.0	285	395	450	465
14 x 1.0	1 / 1.13	7 / 0.43	15.0	16.4	17.8	18.6	320	445	520	530
14 x 1.5	1 / 1.38	7 / 0.52	17.0	18.6	19.6	20.6	432	550	670	685
14 x 2.5	1 / 1.78	7 / 0.68	20.0	22.0	22.6	23.8	670	800	900	915
14 x 4.0	1 / 2.25	7 / 0.85	23.2	24.4	25.0	26.0	915	1045	1150	1160
14 x 6.0	1 / 2.76	7 / 1.04	35.6	27.0	27.0	28.2	1100	1305	1435	1450
16 x 0.75	1 / 0.97	7 / 0.37	15.0	16.4	17.6	18.6	310	425	480	495
16 x 1.0	1 / 1.13	7 / 0.43	15.6	17.2	18.6	19.4	360	470	560	575
16 x 1.5	1 / 1.38	7 / 0.52	18.0	19.6	20.5	21.0	485	595	730	745
16 x 2.5	1 / 1.78	7 / 0.68	21.8	22.6	23.8	24.8	775	880	985	1005
19 x 0.75	1 / 0.97	7 / 0.37	15.8	16.8	18.4	19.0	345	455	530	515
19 x 1.0	1 / 1.13	7 / 0.43	16.4	17.8	19.0	19.6	410	630	630	645
19 x 1.5	1 / 1.38	7 / 0.52	18.8	21.0	21.6	22.4	535	805	805	825
19 x 2.5	1 / 1.78	7 / 0.68	22.8	24.0	24.8	25.6	1055	1105	1105	1120
24 x 0.75	1 / 0.97	7 / 0.37	18.2	19.0	19.0	21.0	400	475	475	640
24 x 1.0	1 / 1.13	7 / 0.43	19.0	20.6	21.6	22.6	510	760	760	775
24 x 1.5	1 / 1.38	7 / 0.52	22.6	24.0	24.0	25.0	745	985	985	1000
24 x 2.5	1 / 1.78	7 / 0.68	26.6	28.0	28.0	29.0	1110	1260	1360	1375
27 x 0.75	1 / 0.97	7 / 0.37	18.6	19.6	20.0	21.6	478	600	705	720
27 x 1.0	1 / 1.13	7 / 0.43	19.4	21.0	21.5	22.6	580	715	805	820
27 x 1.5	1 / 1.38	7 / 0.52	23.0	24.6	25.6	26.6	808	955	1045	1065
27 x 2.5	1 / 1.78	7 / 0.68	27.0	29.0	30.0	30.6	1210	1360	1465	1480
30 x 0.75	1 / 0.97	7 / 0.37	19.0	20.5	21.6	22.4	525	635	700	735
30 x 1.0	1 / 1.13	7 / 0.43	20.6	22.0	23.0	24.0	650	785	855	890
30 x 1.5	1 / 1.38	7 / 0.52	23.6	25.4	26.6	27.6	885	1095	1205	1275
30 x 2.5	1 / 1.78	7 / 0.68	28.0	30.0	31.0	31.4	1320	1415	1650	1685
37 x 0.75	1 / 0.97	7 / 0.37	20.5	22.0	23.0	24.0	600	705	805	825
37 x 1.0	1 / 1.13	7 / 0.43	22.0	23.6	24.6	25.0	770	915	995	1015
37 x 1.5	1 / 1.38	7 / 0.52	25.5	27.6	28.6	29.0	1050	1195	1315	1330
37 x 2.5	1 / 1.78	7 / 0.68	30.0	32.6	33.4	34.0	1590	1740	1900	2080
44 x 0.75	1 / 0.97	7 / 0.37	22.6	25.0	26.0	27.0	745	885	940	955
44 x 1.0	1 / 1.13	7 / 0.43	24.6	26.6	27.6	28.6	915	1035	1170	1185
44 x 1.5	1 / 1.38	7 / 0.52	29.0	30.6	31.6	33.0	1250	1395	1525	1815
44 x 2.5	1 / 1.78	7 / 0.68	34.6	37.0	38.0	39.0	1950	2100	2295	2485
48 x 0.75	1 / 0.97	7 / 0.37	23.6	25.0	26.0	27.0	830	925	1090	1105
48 x 1.0	1 / 1.13	7 / 0.43	25.0	26.6	27.6	28.6	965	1100	1220	1235
48 x 1.5	1 / 1.38	7 / 0.52	29.4	31.0	32.0	33.0	1325	1485	1620	1890
48 x 2.5	1 / 1.78	7 / 0.68	35.4	37.6	38.4	39.0	2075	2145	2345	2535
52 x 0.75	1 / 0.97	7 / 0.37	23.5	26.0	27.0	28.0	900	1010	1140	1170
52 x 1.0	1 / 1.13	7 / 0.43	25.5	27.5	28.5	29.5	1035	1185	1285	1305
52 x 1.5	1 / 1.38	7 / 0.52	30.0	32.5	33.5	34.5	1420	1580	1730	1895
52 x 2.5	1 / 1.78	7 / 0.68	36.5	39.0	40.0	40.5	2220	2395	2610	2800
61 x 0.75	1 / 0.97	7 / 0.37	25.5	27.5	28.5	29.5	965	1087	1233	1250
61 x 1.0	1 / 1.13	7 / 0.43	27.0	29.0	30.0	31.0	1185	1316	1450	1470
61 x 1.5	1 / 1.38	7 / 0.52	32.0	34.5	35.5	36.5	1680	1835	2020	2185
61 x 2.5	1 / 1.78	7 / 0.68	39.0	41.0	42.0	42.5	2600	2750	3015	3175

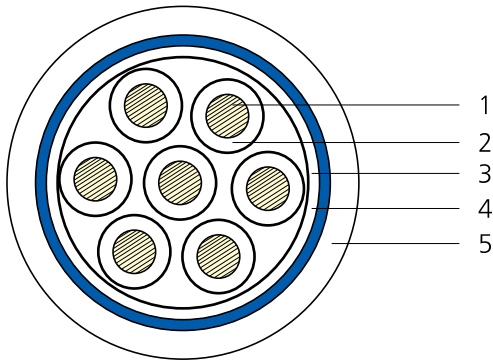
Control Cable Structure Diagram



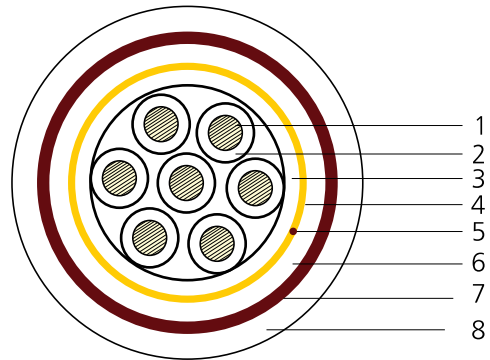
1. Copper conductor
2. F46 insulation
3. Insulation
4. F46 Sheath



1. Copper conductor
2. PVC insulation
3. Insulation
4. Tinned Copper wire braided shield
5. PVC Sheath



1. Copper conductor
2. PVC insulation
3. Insulation
4. Cu wire braided shield
5. PVC sheath



1. Copper Conductor
2. Flame-retardant PVC insulation
3. Insulation
4. Copper tape wrapped shield
5. Multiple threads tinned-copper wire ground wire
6. Flame-retardant PVC
7. Steel tape armour
8. Flame-retardant PVC sheath



FIRE-RESISTANT CONTROL CABLE

Brief Introduction

The product has high fire-resistant ability. When cables is on fire, break-circuit or short circuit failure will not occur in a certain of time. It is helpful to extinguish fire and reducing damage in case of fire disaster. It is used in fire protection system, such as, emergency lighting, elevator, fire protection circuitry and the electrical equipment and control system where fire danger exists and fire-proof safety is highly required.

Testing condition	IEC60331
Flame temperature	750
H Burning time	3 cooling 15min
Additive voltage	Rated Voltage
Additive current	3A



1. Rated AC voltage 450/750V.
2. Long-term operating temperature: flame-retardant PVC insulation and sheath 70°C and 105°C two types: XLPE insulation: 90°C Fluoroplastic insulation and sheath: 200°C two types: fluoroplastic insulation and 105°C flame-retardant PVC sheath: 105°C Silicon rubber: 200°C Low-smoke and halogen-free, flame-retardant polyolefin insulation and sheath: 70°C, low-smoke and halogen-free, cross-linked polyolefin insulation and sheath: 90°C and 125°C two types.
3. Lowest environment temperature Flame-retardant polyolefin insulation and sheath: Used for fixed laying 40°C, Used non-fixed laying 15°C Fluoroplastic or silicon rubber insulation and sheath: Used for fixed laying 60°C, Used for non-fixed laying 20°C
4. Installation and laying temperature: Ordinary cable is not lower than 0°C, fluoroplastic or silicon rubber cable is not lower than -25°C. it should be preheated if the temperature is too low.
5. Fire-resistant property: Comparison of the test conditions (See Table overleaf)
6. Permitted bending radius recommended when laying: For non-armor, interlocked or braided armor cable: not smaller than 8 times of the outer diameter of the cable for copper tape armor and steel wire tape wrapped armor cable: not smaller than 12 times of the outer diameter of the cable.



1. Rated AC voltage 450/750V.
2. Long-term operating temperature: flame-retardant PVC insulation and sheath 70°C and 105°C two types: XLPE insulation: 90°C Fluoroplastic insulation and sheath: 200°C two types: fluoroplastic insulation and 105°C flame-retardant PVC sheath: 105°C Silicon rubber: 200°C Low-smoke and halogen-free, flame-retardant polyolefin insulation and sheath: 70°C, low-smoke and halogen-free, cross-linked polyolefin insulation and sheath: 90°C and 125°C two types.
3. Lowest environment temperature Flame-retardant polyolefin insulation and sheath: Used for fixed laying 40°C, Used non-fixed laying 15°C Fluoroplastic or silicon rubber insulation and sheath: Used for fixed laying 60°C, Used for non-fixed laying 20°C
4. Installation and laying temperature: Ordinary cable is not lower than 0°C, fluoroplastic or silicon rubber cable is not lower than -25°C. it should be preheated if the temperature is too low.
5. Fire-resistant property: Comparison of the test conditions (See Table overleaf)
6. Permitted bending radius recommended when laying: For non-armour, interlocked or braided armour cable: not smaller than 8 times of the outer diameter of the cable for copper tape armour and steel wire tape wrapped armour cable: not smaller than 12 times of the outer diameter of the cable.

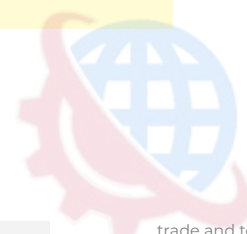


Main technical parameters

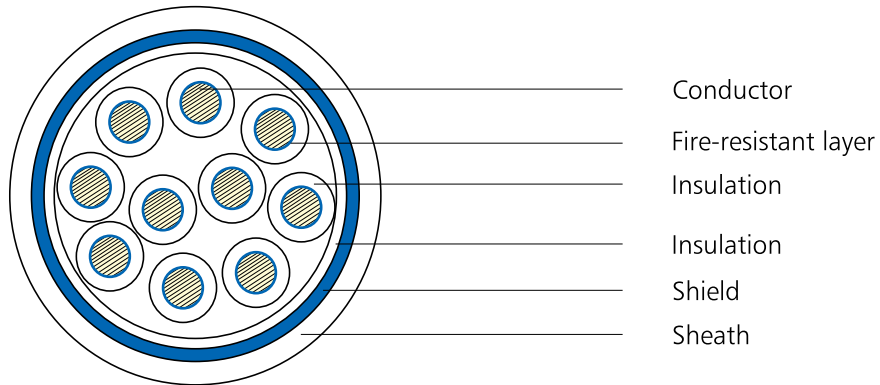
Property Item	Unit	Technical Parameter					
Conductor DC resistance At 20°C ≤	Ω k/m	Nominal cross section mm ²	0.5	0.75	1.0	1.5	2.5
		A class conductor	36.0	24.5	18.1	12.1	7.41
		R class conductor	39.0	26.0	19.5	13.3	7.98
Tested Voltage	kV	3.0 5 min					
Insulation resistance	MΩ km	1000					
Fire-resistance characteristics							
Flame-retardant characteristics		A, B, C, D, class					

Basic type and name

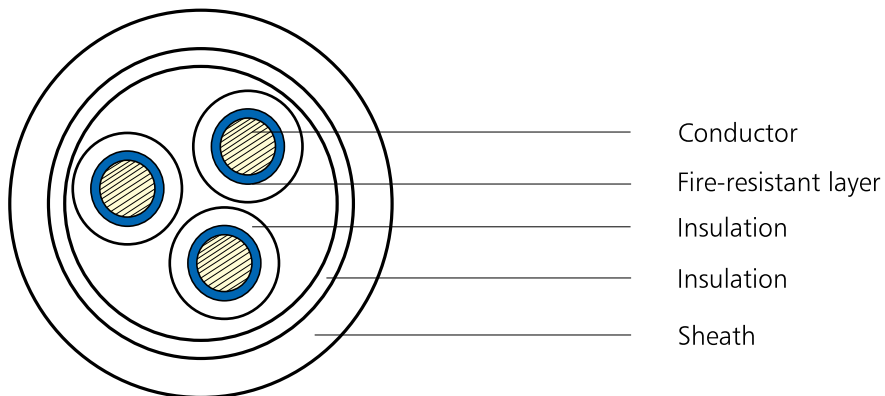
Name
Flame-retardant PVC insulated and sheathed fire-resistance control cable with Cu core
Flame-retardant PVC insulated and sheathed fire-resistance flexible control cable with Cu core
Flame-retardant PVC insulated and sheathed fire-resistance copper wire braided-shield control cable with Cu core
Flame-retardant PVC insulated and sheathed fire-resistance copper wire braided-shield flexible control cable with Cu core
Flame-retardant PVC insulated and sheathed fire-resistance, copper tape shield flexible control cable with Cu core
Flame-retardant PVC insulated and sheathed fire-resistance, copper tape shield flexible control cable with Cu core
XLPE insulated and flame-retardant low smoke and halogen free PO sheathed fire-resistance control cable with Cu core
XLPE insulated and flame-retardant low smoke and halogen free PO sheathed fire-resistance flexible control cable with Cu core
XLPE insulated and flame-retardant low smoke and halogen free PO sheathed fire-resistance Cu braided shield flexible control cable with Cu core
XLPE insulated and flame-retardant low smoke and halogen free PO sheathed fire-resistance Cu tape-shield control cable with Cu core
XLPE insulated and flame-retardant low smoke and halogen free PO sheathed fire-resistance Cu tape shield flexible control cable with Cu core.
Flame-retardant PVC insulated and sheathed fire-resistance power cable with Cu core
XLPE insulated and flame-retardant PVC sheathed fire-resistance power cable with Cu core



Fire Resistant Structure Diagram of Control Cable



Fire-resistant shielded control cable



Fire resistant control cable



Structure Size and Reference Weight

No. of cores x nominal cross section mm ²	(Core structure number / diameter of wires) mm		The maximum diameter mm			Reference weight kg/km		
	Single Conductor A	Bunched Conductor Flexible B	No Shield	Copper Tape Shield	Steel Wire/Tape Shield	No Shield	Copper Tape Shield	Steel Wire/Tape Shield
2 x 0.5	1 / 0.80	16 / 0.20	12.2	14.5	16.0	245	274	564
2 x 0.75	1 / 0.97	24 / 0.20	13.2	15.4	17.0	259	290	590
2 x 1.0	1 / 1.13	32 / 0.20	14.5	16.2	18.2	275	308	628
2 x 1.5	1 / 1.38	30 / 0.25	15.3	17.5	19.0	316	375	678
2 x 2.5	1 / 1.78	50 / 0.25	16.4	18.6	20.2	381	447	776
3 x 0.5	1 / 0.80	16 / 0.20	12.7	15.0	16.4	291	332	632
3 x 0.75	1 / 0.97	24 / 0.20	13.7	16.0	17.4	310	354	663
3 x 1.0	1 / 1.13	32 / 0.20	15.0	17.0	18.7	335	380	715
3 x 1.5	1 / 1.38	30 / 0.25	16.0	18.3	19.7	383	434	787
3 x 2.5	1 / 1.78	50 / 0.25	17.6	20.0	21.8	515	572	924
4 x 0.5	1 / 0.80	16 / 0.20	14.1	16.0	17.8	347	380	736
4 x 0.75	1 / 0.97	24 / 0.20	15.2	17.0	19.0	372	418	778
4 x 1.0	1 / 1.13	32 / 0.20	16.2	18.0	20.0	438	488	843
4 x 1.5	1 / 1.38	30 / 0.25	18.2	20.0	22.4	504	560	921
4 x 2.5	1 / 1.78	50 / 0.25	19.6	22.0	24.0	619	680	1070
5 x 0.5	1 / 0.80	16 / 0.20	15.2	17.0	19.0	445	492	850
5 x 0.75	1 / 0.97	24 / 0.20	16.8	18.8	20.8	476	527	891
5 x 1.0	1 / 1.13	30 / 0.20	18.0	19.8	22.2	506	562	958
5 x 1.5	1 / 1.38	30 / 0.25	19.7	21.6	24.0	585	647	1040
5 x 2.5	1 / 1.78	50 / 0.25	21.2	23.0	25.4	727	795	1210
7 x 0.5	1 / 0.80	16 / 0.20	16.8	18.0	20.0	537	587	958
7 x 0.75	1 / 0.97	24 / 0.20	17.6	19.5	20.8	578	634	1030
7 x 1.0	1 / 1.13	30 / 0.20	18.8	20.7	22.7	617	678	1090
7 x 1.5	1 / 1.38	30 / 0.25	20.8	23.0	24.6	722	790	1210
7 x 2.5	1 / 1.78	50 / 0.25	22.9	25.3	26.8	913	988	1420
8 x 0.5	1 / 0.80	16 / 0.20	17.3	19.2	21.0	595	650	1065
8 x 0.75	1 / 0.97	24 / 0.20	18.8	20.7	21.7	641	702	1120
8 x 1.0	1 / 1.13	32 / 0.20	20.2	22.3	22.5	685	752	1215
8 x 1.5	1 / 1.38	30 / 0.25	22.3	24.9	23.5	805	880	1335
8 x 2.5	1 / 1.78	50 / 0.25	24.6	27.0	26.0	1025	1107	1585
10 x 0.5	1 / 0.80	16 / 0.20	20.0	20.0	23.0	719	774	1250
10 x 0.75	1 / 0.97	24 / 0.20	21.7	24.4	24.5	777	850	1330
10 x 1.0	1 / 1.13	32 / 0.20	23.8	26.0	25.0	900	978	1470
10 x 1.5	1 / 1.38	30 / 0.25	26.4	28.6	26.8	1050	1140	1645
10 x 2.5	1 / 1.78	50 / 0.25	28.6	33.0	29.5	1340	1438	1990



Structure Size and Reference Weight

No. of cores x nominal cross section mm ²	(Core structure number / diameter of wires) mm		The maximum diameter mm			Reference weight kg/km		
	Single Conductor A	Bunched Conductor Flexible B	No Shield	Copper Tape Shield	Steel Wire/Tape Shield	No Shield	Copper Tape Shield	Steel Wire/Tape Shield
2 x 0.5	1 / 0.80	16 / 0.20	11.4	13.3	15.3	233	265	564
2 x 0.75	1 / 0.97	24 / 0.20	11.8	13.7	15.8	246	272	590
2 x 1.0	1 / 1/13	32 / 0.20	12.6	14.5	16.5	261	285	628
2 x 1.5	1 / 1.38	30 / 0.25	13.6	15.5	17.5	300	341	679
2 x 2.5	1 / 1.78	50 / 0.25	14.7	16.6	18.6	362	408	776
3 x 0.5	1 / 0.80	16 / 0.20	11.8	13.8	15.7	276	310	632
3 x 0.75	1 / 0.97	24 / 0.20	12.3	14.3	16.2	295	332	663
3 x 1.0	1 / 1/13	32 / 0.20	13.2	15.2	17.2	318	362	715
3 x 1.5	1 / 1.38	30 / 0.25	14.2	16.2	18.2	364	410	787
3 x 2.5	1 / 1.78	50 / 0.25	15.4	17.5	19.3	489	536	924
4 x 0.5	1 / 0.80	16 / 0.20	12.6	14.6	16.5	330	367	736
4 x 0.75	1 / 0.97	24 / 0.20	13.2	15.2	17.2	354	395	778
4 x 1.0	1 / 1/13	32 / 0.20	14.2	16.2	18.2	416	458	843
4 x 1.5	1 / 1.38	30 / 0.25	15.3	17.3	19.3	478	524	921
4 x 2.5	1 / 1.78	50 / 0.25	16.6	18.5	20.5	588	654	1070
5 x 0.5	1 / 0.80	16 / 0.20	13.5	15.4	17.5	423	464	850
5 x 0.75	1 / 0.97	24 / 0.20	14.1	16.0	18.2	452	485	891
5 x 1.0	1 / 1/13	32 / 0.20	15.2	17.0	19.2	481	528	958
5 x 1.5	1 / 1.38	30 / 0.25	17.0	19.0	21.0	556	607	1040
5 x 2.5	1 / 1.78	50 / 0.25	18.5	20.4	22.5	691	748	1210
7 x 0.5	1 / 0.80	16 / 0.20	14.5	16.3	18.8	510	555	958
7 x 0.75	1 / 0.97	24 / 0.20	15.0	17.0	19.5	549	608	1030
7 x 1.0	1 / 1/13	32 / 0.20	16.8	18.8	21.2	586	648	1090
7 x 1.5	1 / 1.38	30 / 0.25	18.3	20.0	22.5	686	757	1210
7 x 2.5	1 / 1.78	50 / 0.25	20.0	21.6	24.0	867	747	1420
8 x 0.5	1 / 0.80	16 / 0.20	15.3	17.2	19.6	565	625	1065
8 x 0.75	1 / 0.97	24 / 0.20	16.2	17.9	20.3	609	674	1120
8 x 1.0	1 / 1/13	32 / 0.20	17.9	19.3	21.8	651	720	1215
8 x 1.5	1 / 1.38	30 / 0.25	20.8	21.7	22.8	765	844	1335
8 x 2.5	1 / 1.78	50 / 0.25	22.8	23.8	25.0	974	1063	1585
10 x 0.5	1 / 0.80	16 / 0.20	17.5	19.4	21.4	683	753	1250
10 x 0.75	1 / 0.97	24 / 0.20	18.3	20.2	22.2	738	814	1330
10 x 1.0	1 / 1/13	32 / 0.20	20.0	22.6	24.6	855	942	1470
10 x 1.5	1 / 1.38	30 / 0.25	22.4	24.6	26.6	1000	1093	1645
10 x 2.5	1 / 1.78	50 / 0.25	24.6	26.8	28.8	1270	1143	1990



AERIAL CABLES

Insulated Aerial cable with rated voltage up to 36kV

Brief introduction

The product is made up of the compacted copper, aluminium (aluminium alloy) conductor, inner shield, climate-resistant insulation material and outer shield. It has structure and is safe and reliable. It has both excellent properties of the power cable and good physical properties of the aerial cable. By using the climate-resistant insulation material, the product has the excellent properties of resistance to air aging. Compare with the bare wire, it has good characteristics such as smaller laying distance, higher reliability. It is suitable for using in the high buildings, brushland and bad weather zone.

1. There are three rated voltage: 1kV, 11kV, 33kV.
2. Allowed long-term working temperature:
PE insulation - 70°C, PVC insulation - 70°C, Cross-linked PE - 90°C
3. When short-circuit (the longest time is not more than 5 second), the highest temperature:
PE insulation 130°C, PVC insulation 160°C, cross-linked PE 250°C.
4. The environment temperature for laying should be not lower than - 20°C.
5. The working environment temperature is from -40°C to +40°C, the relative humidity should not be more than 90% in rainy season.
6. Permitted bending radius

Cable with rated voltage 1kV and below: outer diameter of the cable $D \leq 25\text{mm}$, bending radius should be not less than $4D$. The outer diameter of cable $D > 25\text{mm}$, bending radius should be not less than $6D$.

Cable with rated voltage 11kV, 33kV: Single core cable: $20 \times (D+d) \pm 5\%$

Multiple core cable: $15 \times (D + d) \pm 5\%$ in which:

D the actual outer diameter of the cable, mm

d the actual outer diameter of the cable conductor, mm



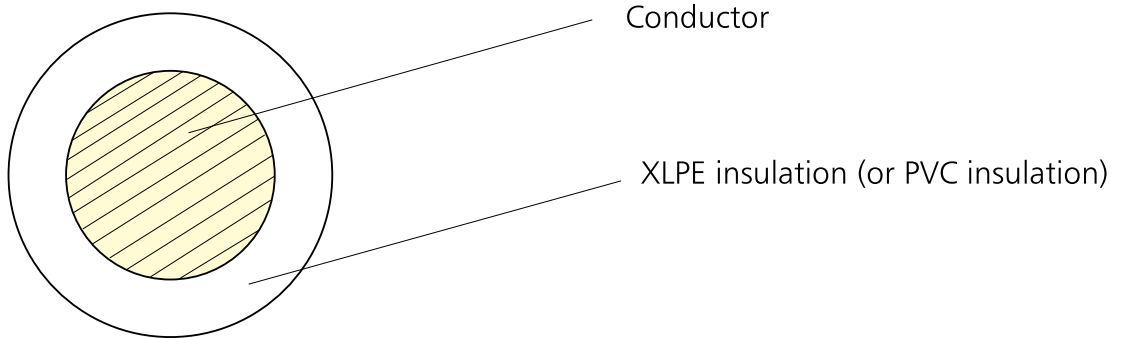
Type, Description and Application

Rated Voltage	Description	Application
1kV	Rated voltage 1kV, Copper conductor, PVC insulated aerial cable	As the entry wire when fixed-laying in aerial
	Rated voltage 1kV, Aluminium conductor, PVC insulated aerial cable	
	Rated voltage 1kV, Copper conductor, PE insulated aerial cable	
	Rated voltage 1kV, Aluminium conductor, PE insulated aerial cable	
	Rated voltage 1kV, Copper conductor, XLPE insulated aerial cable	
	Rated voltage 1kV, Aluminium conductor, XLPE insulated aerial cable	
	Rated voltage 0.6/1kV, Aluminium-steel core XLPE insulated aerial	
	Rated voltage 0.6/1kV, steel core, aluminium stranded, PVC insulated aerial cable	
10kV	Copper core, XLPE insulated aerial cable	When fixed-laying, the aerial cable should keep the distance from the tree. During operation it is allowed to contact the tree frequently.
	Aluminium core, XLPE insulated aerial cable	
	Copper core, PE insulated aerial cable	
	Aluminium core, PE insulated aerial cable	
	Rated voltage 10kV, Aluminium core, XLPE insulated light type aerial cable	
	Rated voltage 10kV, Aluminium steel, XLPE insulated light type aerial cable	
36kV	Aluminium core, XLPE insulated light type aerial cable	
	Aluminium core, insulated light type aerial cable XLPE	
	Aluminium core, PE insulated light type aerial cable	

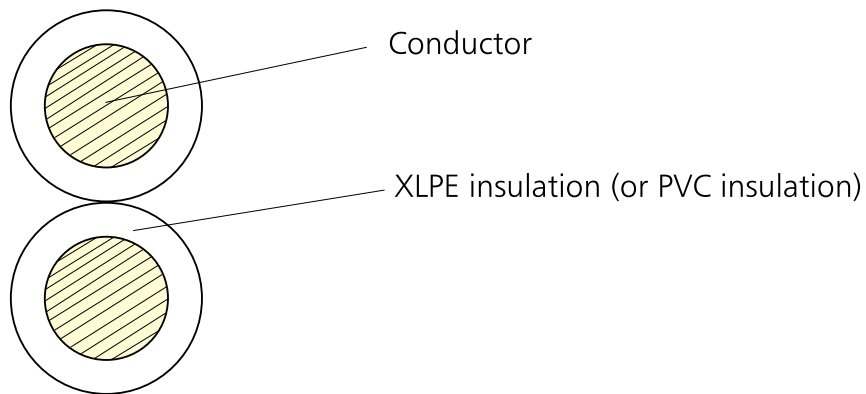
Structure Size, Reference Weight and main Technical Parameters

0.6/1kV insulated aerial cable

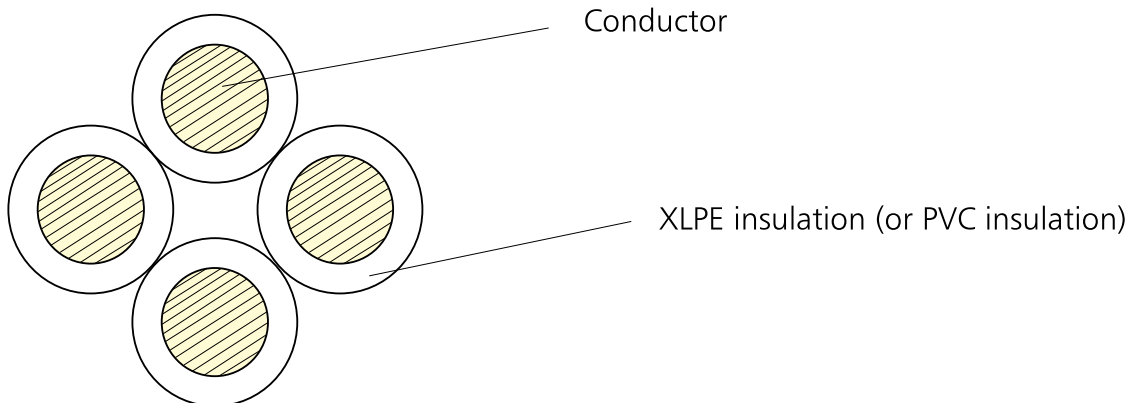
1. Structure diagram



1kV single-core insulated aerial cable



1kV 2-core insulated aerial cable



1kV 4-core insulated aerial cable



i. 0.6/1kV Insulated Aerial Cable

Nominal cross section mm ²	Overall Dia. of Compact mm	Insulation thickness mm	Outer dia of cable mm	Approx. Weight Kg/km			Dc resistance of conductor at 20°C Ω/km			Breaking force of conductor ≥ N		
							Cu	Al	Al Alloy	Cu	Al	Al Alloy
1 x 10	3.8	1.0	6.3	106.8	44.9	45.2	1.906	3.080	3.574	3471	1650	2514
1 x 16	4.8	1.2	7.6	167.6	98.0	98.8	1.198	1.910	2.217	5486	2512	6284
1 x 25	6.0	1.2	8.8	258.7	129.3	130.4	0.749	1.200	1.393	8486	3762	8800
1 x 35	6.9	1.4	10.1	341.9	168.8	170.3	0.540	0.868	1.007	11731	5177	12569
1 x 70	8.1	1.4	11.3	461.7	234.1	236.2	0.399	0.641	0.744	16502	7011	17596
1 x 95	9.8	1.4	13.0	662.9	314.2	317.0	0.276	0.443	0.514	23461	10354	23880
1 x 120	11.4	1.6	15.0	894.3	385.4	389.0	0.199	0.320	0.371	31759	13727	30164
1 x 150	12.8	1.6	16.4	1116.8	480.4	484.9	0.158	0.253	0.294	39911	17339	37706
1 x 185	14.3	1.8	18.3	1393.3	605.9	611.6	0.128	0.206	0.239	49505	21033	46503
1 x 240	16.1	2.0	20.5	1763.1	760.9	768.1	0.1021	0.164	0.190	61846	26732	60329

ii. 0.6/1kV Steel-Core Aluminium Stranded Aerial Cable

Nominal cross section Al/St mm ²	Diameter of conductor mm	Insulation thickness mm	Approx. outer diameter mm	Approx. weight of cable kg/km	Dc resistance of conductor at 20°C	Breaking force of conductor N
		1kV	1kV	1kV		
10/2	4.20	1.0	6.6	62.2	3.080	4120
16 / 3	5.20	1.2	8.0	92.8	1.910	6130
25 / 4	6.50	1.2	9.3	131.7	1.200	9290
35 / 6	7.93	1.4	11.1	186.3	0.868	12630
50 / 8	9.10	1.4	12.3	248.5	0.641	16870
70 / 10	10.74	1.4	13.9	325.1	0.443	23390
95 / 15	12.90	1.6	16.5	452.4	0.320	35000
120 / 7	13.50	1.6	17.1	460.8	0.253	27570
150 / 8	15.30	1.8	19.3	570.6	0.206	32860
185 / 10	16.50	2.0	20.9	700.2	0.164	40880
240 / 30	20.00	2.2	24.8	1042.4	0.125	75620
300 / 15	22.06	2.3	26.5	1106.0	0.100	75680

iii. 0.6/1kV 2-Core Insulated Aerial Cable

Nominal cross section mm ²	Insulation thickness mm	Approx. Outer diameter mm	Approx. Weight		Dc resistance of conductor at 20°C ≤		Breaking force of conductor ≥		Cable current carrying capacity	
			Cu Kg/km	Al Kg/km	Cu Ω/km	Al Ω/km	Cu Ω/km	Cu N	Al N	In air
									A	A
10	1.0	13.0	232	108	≤1.906	≤ 3.08	6594	3135	53	40
16	1.2	16.0	357	159	≤1.198	≤ 1.91	10423	4782	72	56
25	1.2	18.8	534	223	≤0.249	≤ 1.20	16083	7147	96	73
35	1.4	22.0	734	299	≤0.540	≤ 0.868	22288	9836	112	88
50	1.4	24.6	1021	400	≤0.339	≤ 0.641	31353	13320	144	112
70	1.4	28.2	1396	528	≤0.276	≤ 0.443	44575	19672	176	136
95	1.6	33.0	1894	715	≤0.199	≤ 0.320	60342	26081	216	168
120	1.6	36.2	2360	870	≤0.158	≤ 0.253	75830	32944	252	196

iv. 0.6/1kV 3-Core Insulated Aerial Cable

Nominal cross section mm ²	Insulation thickness mm	Approx. Outer diameter mm	Approx. Weight		Dc resistance of conductor at 20°C ≤		Breaking force of conductor ≥		Cable current carrying capacity	
			Cu Kg/km	Al Kg/km	Cu Ω/km	Al Ω/km	Cu Ω/km	Cu N	Al N	In air
									A	A
10	1.0	14.0	348	≤ 162	≤1.906	3.08	9397	4702	50	38
16	1.2	17.2	534	≤ 240	≤1.198	1.91	15583	7173	67	54
25	1.2	20.2	798	≤ 336	≤0.249	1.20	24125	10721	86	70
35	1.4	26.5	1530	≤ 600	≤0.399	0.641	41748	19981	138	109
50	1.4	23.7	1098	≤ 450	≤0.540	0.868	33433	14754	107	86
70	1.4	30.4	2091	≤ 792	≤0.276	0.443	66863	29508	166	134
95	1.6	35.5	2835	≤1074	≤0.199	0.320	90513	39121	206	166
120	1.6	39.0	3525	≤1305	≤0.158	0.253	113746	49416	236	192

v. 0.6/1kV 4-core Insulated Aerial Cable

Nominal cross section mm ²	Insulation thickness mm	Approx. Outer diameter mm	Approx. Weight		Dc resistance of conductor at 20°C ≤		Breaking force of conductor ≥		Cable current carrying capacity	
			Cu Kg/km	Al Kg/km	Cu Ω/km	Al Ω/km	Cu Ω/km	Cu N	Al N	In air
									A	A
10	1.0	15.7	464	216	≤1.906	≤ 3.08	13189	6270	42	32
16	1.2	19.3	712	320	≤1.198	≤ 1.91	17426	9564	59	47
25	1.2	22.7	1064	448	≤0.249	≤ 1.20	32167	14295	75	62
35	1.4	26.6	1464	600	≤0.540	≤0.868	44577	19672	94	77
50	1.4	29.7	2040	800	≤.0339	≤0.641	62707	26641	121	95
70	1.4	34.0	2788	1056	≤0.276	≤0.443	89151	39345	207	118
95	1.6	39.8	3780	1432	≤0.199	≤0.320	120684	52151	180	146
120	1.6	43.7	4700	1740	≤0.158	≤0.253	151661	65888	207	168

vi. 36kV 3-Core Cross-linked PE Insulated Aerial Cable

Nominal cross section mm ²	Overall Dia. Of Compact Conductor mm ²	Shield Thickness of conductor mm	Nominal insulation thickness mm	Shield Thickness of insulation mm	Approx. Outer diameter mm	Approx. weight kg/km			Dc resistance of conductor at 20°C ≤ Ω/km			Breaking force of conductor ≥ N		
						Cu	Al	Al Alloy	Cu	Al	Al Alloy	Cu	Al	Al Alloy
3x 50	8.1	0.5	9.3	1.5	68.7	3447.7	2564.6	2569.1	0.399	0.641	0.744	48516	20612	36953
3x 70	9.8	0.5	9.3	1.5	72.4	4215.6	2922.7	2929.1	0.276	0.443	0.514	68975	30441	52732
3x 95	11.4	0.5	9.3	1.5	75.8	5039.3	3290.0	3298.4	0.199	0.320	0.371	93371	40357	70207
3x 120	12.8	0.5	9.3	1.5	78.8	5840.4	3635.2	3646.0	0.158	0.253	0.294	117338	50977	88682
3x 150	14.3	0.5	9.3	1.5	82.1	6781.9	4029.5	4043.1	0.128	0.206	0.239	145545	61837	110856
3x 185	16.1	0.7	9.3	1.5	85.9	8025.6	4537.0	4553.9	0.1021	0.164	0.190	181827	78592	136719
3x 240	18	0.7	9.3	1.5	90.3	9553.0	5143.6	5165.3	0.0777	0.125	0.145	234680	101956	177367
3 x 300	20.5	0.7	9.3	1.5	95.4	11588.2	5931.7	5959.4	0.0619	0.100	0.110	293377	127446	221706

Derivative Products

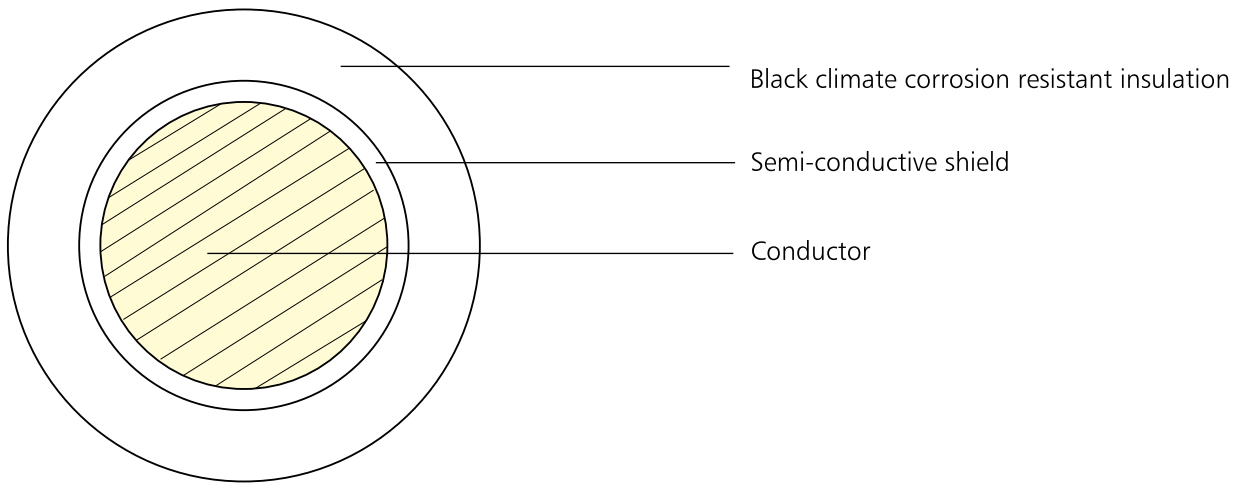
1. Aluminium-alloy aerial insulated cable
2. Parallel bundling aerial cable
3. Water-blocking aerial cable
4. Water-blocking bundling aerial cable
5. Non-standard insulated aerial cable

Item	Name	Specification	Feature
1	Aluminium – alloy aerial insulated cable	1 cores-4cross 10-240	High strength
2	Parallel aerial cable	2cores-4cores 10-240	Easy to lay
3	Water-blocking aerial cable	25-240	Good property of water-proof
4	Water-blocking aerial cable	3 25-240	Bundled laying
5	Aerial cable	10-240	According to the customer’s needs

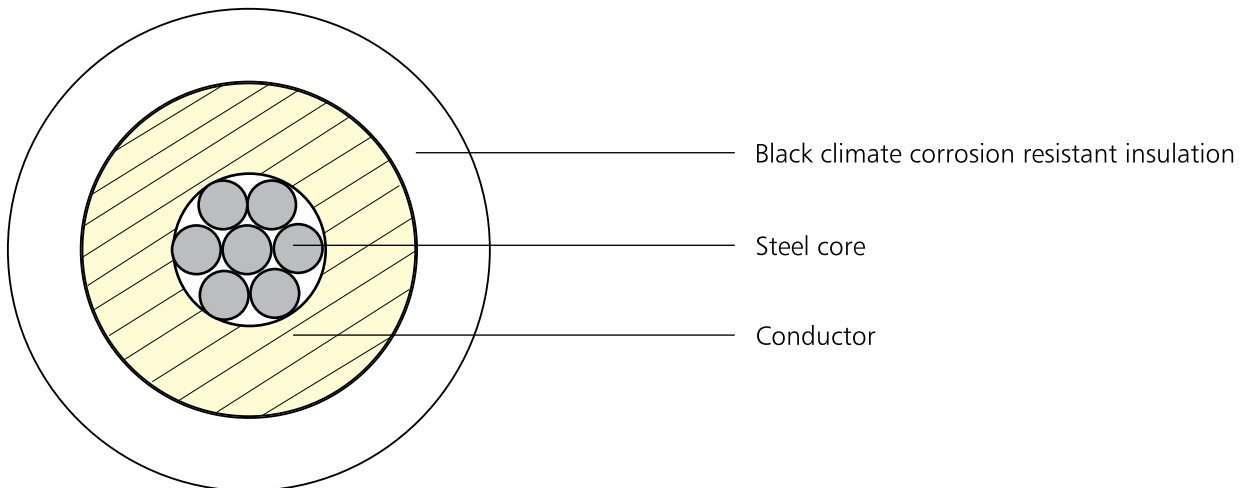


Structure of XLPE Insulated Aerial Cable

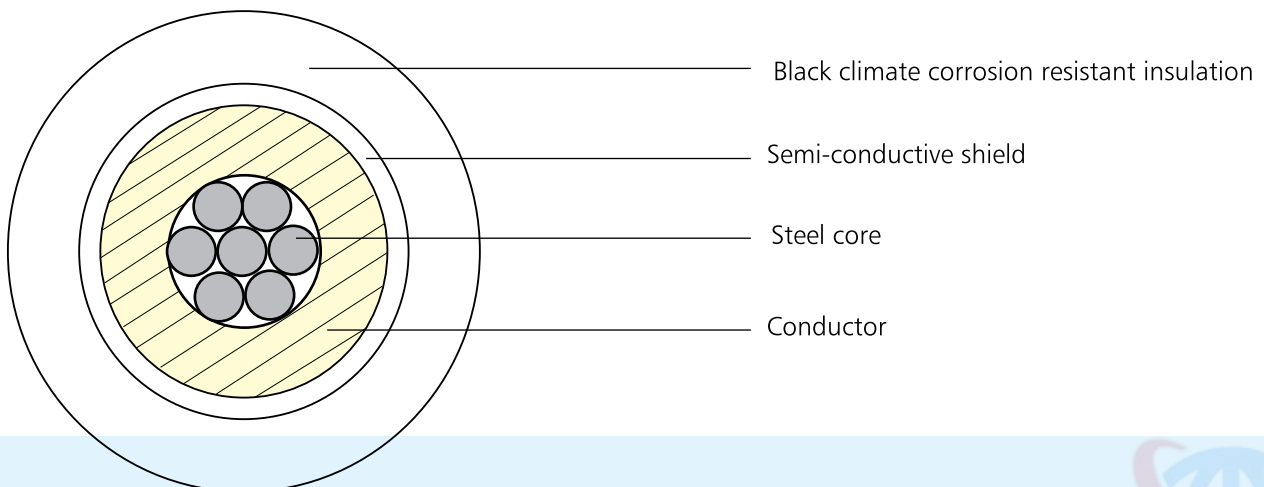
1. Structure diagram



10kV single-core XLPE insulated aerial cable



10kV steel-core reinforced single-core XLPE insulated light-type aerial cable



11kV steel-core reinforced single-core XLPE insulated aerial cable



AAC and ACSR

BRIEF INTRODUCTION

Aluminium stranded cable and steel-core aluminium stranded cable have the characteristics of simple structure, easy for laying and maintenance, low cost of circuit, bigger transmission capacity and convenience for laying across the river and valley with special geographic conditions. Thus the product is suitable for using in the aerial transmission circuit of all kinds of voltage.

Implemented standard, IEC61089.

Standard	IEC61089
Aluminium stranded cable	A1
Steel-core aluminium stranded cable	A1/S1A, A1/S1BA/S2A, A1/S2B, A1/S3A
Anti-corrossion steel-core Aluminium stranded cable	

According to the customers requirements, we can manufacture the aluminium stranded cable and aluminium stranded conductor steel reinforced based on the standard, such as ASTM, DIN, BS etc. We can also produce the non-standard aluminium stranded cable and steel-core aluminium stranded cable based on requirements of section, structure and properties put forward by the customer. According to the different anti-corrosion needs, the anti-corrosion paint can be coated in the way any layer of the aluminium stranded conductor steel reinforced, manufacture the anti-corrosion type aluminium stranded conductor steel reinforced.



Material Standard

The stiff aluminium wires used in the aluminium stranded conductor and aluminium stranded conductor steel reinforced equivalent to IEC60889

The galvanized steel wires of the aluminium stranded conductor steel reinforced implement IEC60888.

According to the customer's needs, we can manufacture the cable based on the material requirements.

Product characteristics

The properties of the aluminium stranded cable and steel core aluminium stranded cable is expressed by the kilometer resistance at 20°C. The specific resistance of the stiff aluminium wire should be not more than 0.028264 mm²/m, which is standard value internationally accepted.

There are three strength grades for the aluminium stranded conductor steel reinforced: general strength grade, high-strength grade and super-high strength grade.

Product Maintenance

During handling and transportation, the product should prevent from impact and collision. When transportation and storage, the cable drum should not be layed flatly. The moisture-proof measures should be used during the storage.

Notes for ordering

The following datas should be supplied when ordering or inquiry:

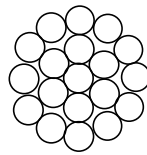
- Name, specification and stranded structure of the product.
- Implemented standard
- Product quantity
- Direction of the stranding (normally, the stranding direction of the outer layer is rightward)
- Anti-corrosion grade and requirements (if needed).
- Length and deviation of each cable drum, short-length and its proportion of the delivery
Quantity used in the engineering
- Package type and special requirements.
- Special inspection and package requirements
- Delivery period and delivery mode.



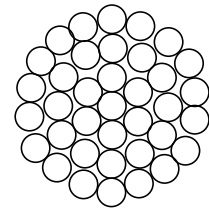
StructureDiagram



7(1+6)A1

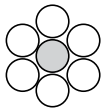


19(1+6+12)A1

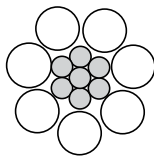


37(1+6+12+18)A1

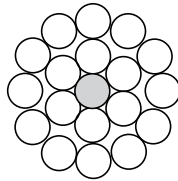
Diagram of AAC



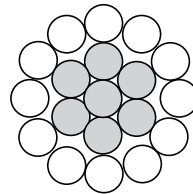
6A1/1St



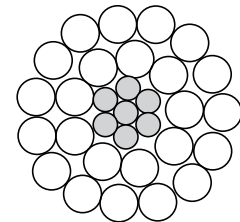
7A1/7St



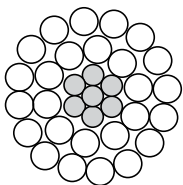
18A1/St



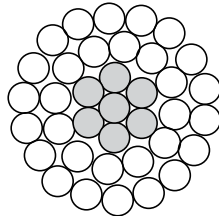
12A1/7St



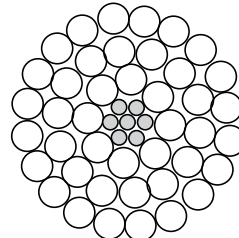
24A1/7St



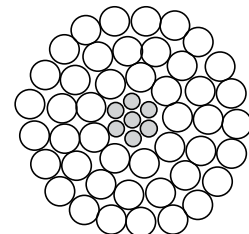
26A1/7St



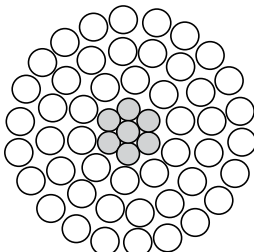
30A1/7St



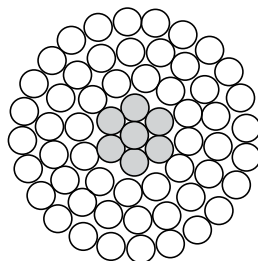
42A1/7St



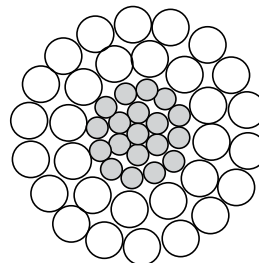
45A1/7St



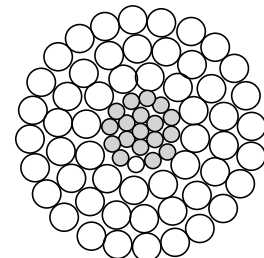
54A1/7St



54A1/7St



30A1/19St



54A1/19St

Diagram of ACSR



Structure Size, Reference Weight And Main Technical Parameters

Aluminium stranded cable (AAC /AOHL)

NOMINAL CROSS SECTIONAL AREA (mm ²)	CODE NAME	NO. OF THREAD	DIAMETER MM		WEIGHT PER KM KG/KM	RATED BRAKING FORCE	D.C RESISTANCE AT 20°C (Ω/Km)
			Single	Stranded		KN	
16		7	1.7	5.1	44	2.9	1.802
22	Midge	7	2.06	6.2	64	4	1.227
25		7	2.1	6.3	66	4.25	1.181
35		7	2.5	7.5	94	5.85	0.833
50	Ant	7	3.1	9.3	145	8.3	0.5419
50		19	1.8	9	133	8.6	0.595
60	Fly	7	3.4	10.2	174	9.9	0.4505
70		19	2.1	10.5	181	11.5	0.437
95		19	2.5	12.5	256	15.95	0.308
100	Beetle	19	2.67	13.4	293	17.42	0.27
100	Wasp	7	4.39	13.2	290	16	0.2702
120		19	2.8	14	322	19.1	0.246
150		37	2.25	15.8	406	25.7	0.196
150	Hornet	19	3.25	16.3	434	24.7	0.1825
185		37	2.5	17.5	501	31.05	0.159
200	Chaffer	19	3.78	18.9	587	32.4	0.1349
240		61	2.25	20.3	670	40.15	0.119
250	Cockroach	19	4.22	21.1	731	40.4	0.1083
300		61	2.5	22.5	827	48.5	0.097
300	Butterfly	19	4.65	23.3	888	48.75	0.0892
400		61	2.89	26	1105	61.9	0.072
400	Centipede	37	3.78	26.5	1145	63.1	0.0694
500		61	3.2	29.1	1381	76	0.058
630		61	3.62	32.6	1735	96.9	0.046
800		61	4.1	36.9	2225	120.55	0.036
1000		61	4.57	41.1	2764	148.45	0.029



Aluminum conductor Steel Reinforced (ACSR)

NOMINAL CROSS SECTIONAL AREA (mm ²)	CODE NAME	STRUCTURE NUMBER/DIAMETER		WEIGHT (Kg/Km)	OUTER DIAMETER OF CONDUCTOR (mm)	RATED BREAKING LOAD (kN)	D.C RESISTANCE AT 20°C (Ω/Km)
		Al	St				
		mm					
16/2.5	-	6 x 1.80	1 x 1.80	5.4	62	5.95	1.879
25/4	-	6 x 2.25	1 x 2.25	6.8	97	9.2	1.203
26/4	COPHER	6 x 2.36	1 x 2.36	7.1	106	9.61	1.093
35/6	-	6 x 2.70	1 x 2.70	8.1	140	12.85	0.835
30/5	WEASEL	6 x 2.59	1 x 2.59	7.8	128	11.45	0.908
50/8	-	6 x 3.20	1 x 3.20	9.6	196	17.1	0.595
52/8	RABBIT	6 x 3.35	1 x 3.35	10.1	214	18.4	0.5426
70/12	-	26 x 1.85	7 x 1.14	11.7	284	26.8	0.413
70/42	HORSE	12 x 2.79	7 x 2.79	14	538	61.2	0.394
95/15	-	26 x 2.15	7 x 1.67	13.6	383	35.75	0.306
100/15	DOG	6 x 4.72	7 x 1.57	14.2	394	32.7	0.2733
120/20	-	26 x 2.44	7 x 1.90	15.5	494	45.65	0.237
150/25	-	26 x 2.70	7 x 2.10	17.1	605	55.25	0.194
150/35	WOLF	30 x 2.59	7 x 2.59	18.1	726	69.2	0.1828
175/40	LYNX	30 x 2.79	7 x 2.79	19.5	842	79.8	0.1576
185/30	-	26 x 3.0	7 x 2.33	19	746	66.2	0.157
200/50	PANTHER	30 x 3.0	7 x 3.0	21	974	92.7	0.1363
240/40	-	26 x 3.45	7 x 2.68	21.9	987	86.4	0.119
264/62	BEAR	30 x 3.35	7 x 3.35	23.5	1216	111.1	0.1035
382/50	BISON	54 x 3.0	7 x 3.0	27	1443	120.9	0.0757
429/100	DEER	30 x 4.27	7 x 4.27	29.9	1947	178.5	0.0673

Aluminum conductor Steel Reinforced (ACSR)

Spec.No	Structure Number/ Diameter		Outer Diameter of conduct or mm	Weight per km Kg/km	Rated Breaking Force					DC Resistance at 20°C Ω/km
	Al	St			Al/SLA	Al/SLB	Al/S2A	Al/S2B	Al/S3A	
	mm				kN					
500	45 / 3.76	7 / 2.51	30.1	1650.2	119.41	116.99	124.25	121.83	128.94	0.0578
500	54 / 3.43	7 / 3.43	30.9	1887.9	153.80	47131	162.87	158.33	171.94	0.0578
560	45 / 3.98	7 / 2.65	31.8	1848.2	133.74	131.03	139.16	136.45	144.19	0.0516
560	54 / 3.63	19 / 2.18	32.7	2103.4	172.59	167.63	182.52	177.56	192.45	0.0516
630	45 / 4.22	7 / 2.81	33.8	2079.2	150.45	147.40	156.55	153.50	162.21	0.0459
630	54 / 3.85	19 / 2.31	34.7	2366.3	191.77	186.19	202.94	197.36	213.32	0.0459
710	45 / 4.48	7 / 2.99	35.9	2343.2	169.56	166.12	176.43	172.99	182.81	0.0407
710	54 / 4.09	19 / 2.45	36.8	2666.8	216.12	209.83	228.71	222.42	240.41	0.0407
800	72 / 3.76	7 / 2.51	37.6	2480.2	167.41	164.99	172.25	169.83	176.74	0.0361
800	84 / 3.48	7 / 3.48	38.3	2732.7	205.33	198.67	214.67	210.00	224.00	0.0362
800	54 / 4.34	19 / 2.61	39.1	3004.9	246.52	236.43	257.71	250.61	270.88	0.0362
900	72 / 3.99	7 / 2.66	39.9	2790.2	188.33	185.61	193.78	191.06	198.83	0.0321
900	84 / 3.69	7 / 3.69	40.6	3074.2	226.50	219.00	231.75	226.50	244.50	0.0322
1000	72 / 4.21	7 / 2.80	42.1	3100.3	209.26	206.23	215.31	212.28	220.93	0.0289
1120	72 / 4.45	19 / 1.78	44.5	3464.9	234.53	231.22	241.15	237.84	247.77	0.0258
1120	84 / 4.12	19 / 2.47	45.3	3811.5	283.17	276.78	295.94	289.55	307.79	0.0258
1250	72 / 4.70	19 / 1.88	47.0	3867.1	261.75	258.06	269.14	265.44	276.53	0.0231
1250	84 / 4.35	19 / 2.61	47.9	4253.9	316.04	308.91	330.29	323.16	343.52	0.0232



Aluminium Stranded Conductor

Nominal cross section mm ²	Structure Number/Diameter n/mm	Outer diameter of stranded conductor mm	Weight of stranded conductor kg/km	Breaking force kN	DC Resistance at 20°C Ω/km
16	7/1.70	5.10	43.5	2.84	1.802
25	7/2.15	6.45	69.6	4.36	1.127
35	7/2.50	7.50	94.1	5.76	0.8332
50	7/3.00	9.00	135.5	7.93	0.5786
70	7/3.60	10.80	195.1	10.95	0.4018
95	7/4.16	12.48	260.5	14.45	0.3009
120	19/2.85	14.25	333.5	19.42	0.2373
150	19/3.15	15.75	407.4	23.31	0.1943
185	19/3.50	17.50	503.0	28.44	0.1574
210	19/3.	18.75	577.4	32.26	0.1371
240	19/4.00	20.00	656.9	36.26	0.1205
300	37/3.20	22.40	820.4	46.85	0.09689
400	37/3.70	25.90	1097	61.15	0.07247
500	37/4.16	29.12	1387	76.37	0.05733
630	61/3.63	32.67	1744	91.94	0.04577
800	61/4.10	36.90	2225	115.90	0.03588



Nominal cross section mm ²	Structure Steel Wire Number/Diameter n/mm	Structure Aluminium conductor n/mm	Outside diameter of standard conductor mm	Weight of stranded conductor kg/km	Breaking force kN	Resistance at 20°C ≤ Ω/km
10/2	1/1.50	6 / 1.50	4.50	42.9	4.12	2.706
16/3	1/1.85	6 / 1.85	5.55	65.2	6.13	1.779
25/4	1/ 2.32	6 / 2.32	6.96	102.6	9.29	1.131
35/6	1/ 2.72	6 / 2.72	8.16	141.0	12.63	0.8230
50/8	1/3.20	6 / 3.20	9.60	195.1	16.87	0.5946
50/30	7 / 2.32	12/2.32	11.60	372.0	42.62	0.5692
70/10	1 / 3.80	6 / 3.80	11.40	275.2	23.39	0.4217
70/40	7/2.72	12 / 2.72	13.60	511.3	58.30	0.4141
95/15	7/1.67	26 / 2.15	13.61	380.8	35.00	0.3058
95/20	7/1.85	7 / 4.16	13.87	408.9	37.20	0.3019
95/55	7/3.20	12 / 3.20	16.00	707.7	78.11	0.2992
120/7	1/2.90	18 / 2.90	14.50	379.0	27.57	0.2422
120/20	7/1.85	26 / 2.38	15.07	466.8	41.00	0.2496
120/25	7 / 2.10	7 / 4.72	15.74	526.6	47.88	0.2345
120/70	7/3.60	12 / 3.60	18.0	895.6	98.37	0.2364
150/8	1 / 3.20	18 / 3.20	16.00	461.4	32.86	0.1989
150/20	7 / 1.85	24 / 2.78	16.67	549.4	46.63	0.1980
150/25	7/2.10	26 / 2.70	17.10	601.0	54.11	0.1939
150/35	7/2.50	30 / 2.50	17.50	676.2	65.02	0.1962
185/10	1/3.60	18 / 3.60	18.00	584.0	40.88	0.1572
185/25	7/2.10	24 / 3.15	18.90	706.1	59.42	0.1542
185/30	7/2.32	26 / 2.98	18.88	732.6	64.32	0.1592
185/45	7/ 2.80	30 / 2.80	19.60	848.2	80.19	0.1564
210/10	1/3.80	18 / 3.80	19.00	650.7	45.14	0.1411
210/25	7/2.22	24 / 3.33	19.98	789.1	65.99	0.1380
210/35	7/2.50	26 / 3.22	20.38	853.9	74.25	0.1363
210/50	7/2.98	30 / 2.98	20.86	960.8	90.83	0.1381
240/30	7/2.40	24 / 3.60	21.60	922.2	75.62	0.1181
240/40	7/2.68	26 / 3.42	21.66	964.3	83.37	0.1209
240/55	7/3.20	30 / 3.20	22.40	1108	102.10	0.1198
300/15	7/1.67	42 / 3.00	23.01	939.8	68.06	0.09724
300/20	7 / 1.95	45 / 2.93	23.43	1002	75.68	0.09520
300/25	7/2.22	48 / 2.85	23.76	1058	83.41	0.09433
300/40	7/2.66	24 / 3.99	23.94	1133	92.22	0.09614
300/50	7/ 2.98	26 / 3.83	24.26	1210	103.40	0.09636



Nominal cross section mm ²	Structure Steel Wire Number/Diameter n/mm	Structure Aluminium conductor n/mm	Outside diameter of standard conductor mm	Weight of stranded conductor kg/km	Breaking force kN	Resistance at 20°C ≤ Ω/km
300/70	7/ 3.60	30 / 3.60	25.20	1402	128.00	0.09463
400/20	7/1.95	42 / 3.15	26.91	1286	88.85	0.07104
400/25	7/2.22	45 / 3.33	26.64	1295	95.94	0.07370
400/35	7/2.50	48 / 3.22	26.82	1349	103.90	0.07389
500/35	7/2.50	45 / 3.60	30.00	1642	119.50	0.05812
500/45	7/2.80	48 / 3.60	30.00	1688	128.10	0.05912
500/65	7/3.44	54 / 3.44	30.96	1897	154.00	0.05760
630/45	7/ 2.80	45 / 4.20	33.60	2060	148.70	0.04633
630/55	7/3.20	48 / 4.12	34.32	2209	164.40	0.04514
630/80	19/2.32	54 / 3.87	34.82	2388	192.90	0.04551
800/55	7/3.20	45 / 4.80	38.40	2690	191.50	0.03547
800/70	7/3.60	48 / 4.63	38.58	2791	207.00	0.03574
800/100	19 2.60	54 / 4.33	38.98	2991	241.10	0.03635





Coleman Wires & Cables

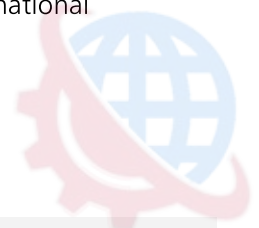
SPECIALITYCABLE



EXPLANATION FOR ORDERING AND TYPE SELECTION

Explanation for ordering and type selection

1. When ordering, please give the type and specification according to the catalogue. If additional requirements are needed, please give the explanation. Our technicians shall provide service for you in time to explain any unclear items.
2. The standard manufacturing length for all the cable and wire products is 1000m, length allowance is not more than $\pm 0.5\%$. if fixed-length products required, please give a note in the contract or agreement. The allowance for non-fixed length products not more than $\pm 3\%$. But for fixed-length products, only positive value be adopted.
3. Due to limited space, the products described here are of representative specification. We can also supply the other types (different structure, material and property) and specification (number of core, pair, bank and nominal cross-section).
4. The unlisted products can be designed and manufactured according to the requirement of the clients.
5. The products are supplied by cable drum which have two kinds, wooden one and iron-wooden one. The outer package adopts plastic tapes and bamboo curtain to seal. The package for export products adopts special wooden drum, and sealed by nails. For the cable with small outer-diameter and short length, they can be packed in circle and wrapped by composite plastic tape.
6. After ordering and choosing the types, please pay attention to the color of insulation and sheath, sheath marked, product package and storage, the outer diameter and weight, which should be matched with the bridge, joint, and connection box. You'd better to consider these in advance, and give notes in the contract or agreement.
7. Cables in this category of cannot be manufactured locally, may be produced from our technical partners in line with the customers requirement and prevailing international standard.



British and American cable gauge contrast list

Gauge	Diameter mm		AWG Cross section mm ²	Gauge	Diameter mm		AWG Cross section mm ²
	AWG	SWG			AWG	SWG	
0000000	-	12.70	-	23	0.5733	0.6069	0.258
000000	-	1.79	-	24	0.5106	0.5588	0.205
00000	-	10.97	-	25	0.4547	0.5080	0.162
0000	11.68	10.16	107.15	26	0.4049	0.4572	0.129
000	10.40	9.449	84.95	27	0.3606	0.4166	0.102
00	9.266	8.839	67.43	28	0.3211	0.3759	0.081
0	8.252	8.230	53.48	29	0.2859	0.3454	0.064
1	7.348	7.620	42.41	30	0.2548	0.3353	0.052
2	6.544	7.010	33.63	31	0.2268	0.2946	0.040
3	5.827	6.401	26.67	32	0.2019	0.2743	0.032
4	5.189	5.893	21.15	33	0.1798	0.2540	0.025
5	4.621	5.385	16.77	34	0.1601	0.2237	0.020
6	4.115	4.877	13.30	35	0.1426	0.2134	0.016
7	3.665	4.470	10.55	36	0.1270	0.1930	0.013
8	3.262	4.064	8.36	37	0.1131	0.1727	0.010
9	2.906	3.658	6.63	38	0.1007	0.1524	0.008
10	2.588	3.521	5.26	39	0.08969	0.1321	0.0063
11	2.305	2.946	4.17	40	0.07985	0.1219	0.0050
12	2.053	2.642	3.31	41	0.07112	0.1118	0.0040
13	1.828	2.337	2.62	42	0.06335	0.1016	0.0032
14	1.628	2.032	2.08	43	0.05641	0.09144	0.0025
15	1.450	1.829	1.65	44	0.05024	0.08128	0.0020
16	1.291	1.626	1.31	45	0.04473	0.07112	0.0016
17	1.150	1.422	1.04	46	0.03984	0.06096	0.0012
18	1.024	1.219	0.82	47	0.03547	0.05080	0.0010
19	0.9116	1.019	0.65	48	0.03159	0.04064	0.00078
20	0.8118	0.9144	0.52	49	0.02813	0.03048	0.00062
21	0.7229	0.8123	0.41	50	0.02505	0.02540	0.00049
22	0.6439	0.7112	0.33				

Conversion table of common units of length

	km	m	mm	mile	Yd	ft	in	mil	nm
km	1	1000		0.62138	1093.6	3280.83			0.5399
m		1	1000		1.0936	3.2808	39.37		
mm			1	1	1760		0.03937	39.37	
mile	1.60935				1	3			
Yd		0.9144			0.3333	1			
ft		0.3048					12		
in			25.4				1	1000	
mil			0.0254				0.001	1	
nm	1.852								1

Introduction of cable structure (for reference)

Our company is specialized in producing control, instrument, computer cable, conductors and cable in thermocouple compensation, oil pump, shipboard cable and below 35k V plastic power cable, such more than ten series cable and wires. The main material of conductor is copper, aluminium and alloy; main material of insulation and sheath is rubber and plastic, including silicon rubber, fluorin plastic, elastomers. The structure of cable includes different kinds of shields and screen to satisfy the different requirements. The following introduction is a brief statement of the common material, structure and characteristics of control, instrument, computer, low voltage power cable, just for reference. For the special properties, we like to discuss with the clients.

Conductor:

Besides alloy thread used for conductor in thermocouple compensation, copper is commonly used as conductor material. Generally, single strand, seven strands (Class B, bigger cross section is more than 7 strands), multiple strands (Class R), and multiple conductors are in accordance with IEC60228 and are separated into Class 5 and Class 6. Cable of Class 6 are the softest with most threads. To enhance the capability of antioxidation, anti-cauterization and high temperature resistance, then tinned, silver-gilt and nickel-plated copper are usually adopted. Tinned copper can endure the temperature of 150°C, for silver-gilt 200°C and for nickel plated 260°C. if increase by another 50°C, it can guarantee long-term use without oxidation. The tinned and silver-gilt copper conductor have good weldable property, and silver-gilt conductor also has characteristic of low contact resistance.

Insulation :

Commonly used materials are as PVC, PE, XLPE, PP, EPR, silicon rubber and fluorin plastic, etc, which have good electric, physical property and aging resistant property. The insulated material should be chosen according to the places. PVC is a typical insulated material, mostly used for control and low voltage cable. The commonly used PVC has certain flame-retardant characteristic. Though altering its characteristics, PVC can be enhanced its characteristics of flame-retardant and low smoke and low halogen. It can bear the temperature of 105°C. PE is a commonly used insulated material, has higher volume resistivity and dielectric intensity, lower dielectric constant and medium wasting coefficient. It's an ideal insulated material for computer and instrument cable. XPLE has the similar electric characteristic with PE, but has higher operating and short circuit resistant temperature. The operating temperature can reach 90°C (irradiative cross-link 125°C); short circuit temperature can reach 250°C/5S. After cross-linked, its physical characteristics can be enhanced. EPR has good electric characteristic, and can bear the temperature of 90°C. Silicon rubber and fluoroplastic (F46) are typical high temperature resistant material. They can work at -80°C - 200°C for long time. The PFA in fluoroplastic can work -80°C - 260°C for long time. Besides high temperature resistant characteristic, silicon rubber has good property of softness, fluoroplastic has characteristic of anticauterization.

Sheath:

Commonly used materials are as PVC, PE, PCP, NBR, silicon rubber, fluoroplastic, which have good physical, electric, aging resistant, anti-cauterization, waterproof properties. PVC is a typical sheath material with balance characteristics and low cost. PE has good properties of aging resistant and waterproof. PE with flame retardant ingredient, can be processed to become low smoke and halogen-free flame-retardant materials.

Shield:

Normally used three types of shield, that is copper wire or tinned copper wire braiding shield, copper tape or copper-plastic composite tape wrapped shield and aluminium-plastic composite tape wrapped shield, which are all with the ideal shielded structure, generally can meet the needs of the control, computer instrument cable, suitable for using in the different sites with its specialties. The copper wire braiding shield is flexible and suitable for using the movable sites. The copper tape wrapped shield is a bit of stiff with higher coverage percentage, suitable for using in the fixed laying sites. The aluminium-plastic tape wrapped shield has smaller outer diameter, lighter weight and lower cost, the composite structure can also be used. The cable of multiple groups can be divided into general shield, sub shield, sub plus general shield. In order to reinforce the magnetic screen property, steel wire or steel tape wrapped layer can be added. When selecting the shield type, it should be considered for the electromagnetic interference, cable laying conditions, the transmission signal characteristics in the cable and interference conditions mutually.

Armor:

The galvanized steel wire wrapped or galvanized steel tape winding is often used. It should be used the braiding steel wire or steel tape (or aluminium tape) interlocked armour, in which a bedding is extruded in order to prevent from damage of the steel wire (tape) and core.

Color Mark of the Insulation Core and Sheath Printing Mark:

Insulation cores of the multiple-core control cable are identified by the marked number, with a yellow/green core sometimes. For the multiple-pair computer cable, it is used, the two colors of cores: white and red; for three cores, it is white, red and black. Each group can use other different colors wrapped with numbered binder tape to distinguish from other group, or different colors to identify the cores and groups. Color circle is used for identifying the cable according to DIN, VDE standards. For low-voltage power cable, color is used to identify, 2-core: red and blue, 3-core: red, yellow and green, 4-core: red, yellow, green and blue, 5-core: red, yellow, green, black, and blue. According to the China National Standard, the number mark can also be used, 4-core and 5-core, one core marked with "0". For the compensation wire, there are strict specifications in the standards. This catalogue gives the color mark of the insulation and sheath stipulated in China National Standard, which is different from the specifications in IEC and the foreign standard. Generally the sheath color is black, for the compensation wire, precision grade is grey, high-temperature grade is yellow, intrinsically safe cable is blue. The sheath color can be any different color according to the needs. The sheath mark should include the manufacturer's name, type and specification, the number of meter, also can be marked according to the customer's requirements.



Characteristics and Application Sites of Cables with Different Armours

Characteristics and application Armor type	Characteristics					Application										
	Resist transverse stress	Resist longitudinal stress	Bury	Cable channel	Tube	Tunnel	Bridge	Aerial	Silo	Under water	Indoor					
Steel tapes wrapped armor	G	P	●	●												
Steel wire winding armor	G	E	●	●	●	●			●				●			●
Steel wire braided armor	P	E - G			●	●			●				●			●
Steel tapes interlocked armor	E	F	●	●												
A1 or A1 alloy tapes interlocked armor	E - G	F	●	●												
A1 tube	E - G	G	●	●												
A1 tube + 2-layer steel tapes wrapped armor	E	F	●	●												
No armor	F - P	F - P			●	●	●						●			●

E - OK G - Good F - Normal P - Badness
● Apply Blank - unapply Spase shall be other comment



Code and Meaning

Item	Meaning
Flame – Retardant characteristic	Non-flame –retardant can be omitted
	Common flame- retardant (commonly means Class C flame –retardant)
	Zero halogen, low smoke flame- Retardant (commonly means - Class C flame-retardant)
	Halogen-free low smoke flame- Retardant (commonly means Class B or upwards flame retardant)
Series code	Computer instrumental cable
Insulation Material	(YJ)PE or flame – retardant PE (YJ-XLPE)
	PP
	Flouro-plastic
	Silicon rubber
	Halogen-free low smoke flame-retardant
Sheathed Material	Climate-corrosion resist ance PE or flame- retardant PE
	PVC, flame-retardant PVC or low halogen, low smoke flame retardant PVC
	Flouro-plastic
	Halogen-free low smoke flame-retardant
	Silicon rubber
Shield Material	Cu wire braid
	Tinned copper braid
	Copper-mylar laminate or Cu tape
	Aluminum –mylar laminate tape
Armour Material	Interlocked steel tapes armour, PVC sheath
	Interlocked steel tapes armour, PE sheath
	2-layer steel tapes wrapped armour, PVC sheath
	2- layer steel tapes wrapped armour, PE sheath
	Steel wire armour, PVC sheath
	Steel wire armour, PE sheath
	Steel wire braid armor, PVC sheath
	Steel wire braid armor, PE sheath
	Interlocked A1 tape or A1 alloy tape armour, PVC sheath



FOR MORE INFORMATION
CONTACT US.

12D, Civic Centre Road, Kano.

+234 704 077 7727. +971 524 923 564

info@tradeandtech.net

www.tradeandtech.net

