



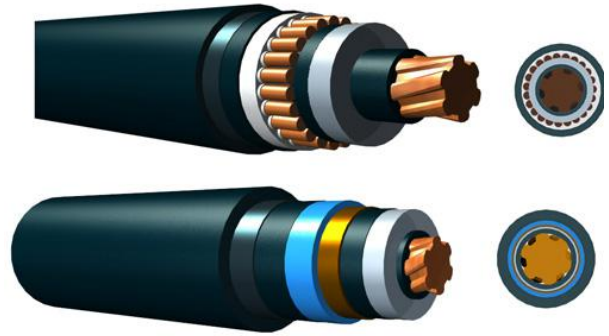
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XLPE Insulated Electrical Cable For Rated Voltage 3.6/6KV~26/35KV

For XLPE insulated power cable, either chemical method or physical method is employed to transform the molecular structure of PE from chain into three-dimensional network, i.e. thermoplastic PE is transformed into thermosetting XLPE. After cross-linking, the thermal and mechanical properties of PE have been greatly improved while its excellent electrical property are still retained.

The maximum permissible operating temperature of the conductor of a XLPE insulated power cable is 90 °C which resistance is higher than that of PVC or PE insulated power cable.

The cable has the advantage of simplicity in construction, lightness in weight, convenience in application besides its excellent electrical, thermal, mechanical and anti-chemical corrosion properties. It can also be laid with no limitation of level difference along the route.



■ Product standard

The product is manufactured according to the standard of IEC60502-2 “Extruded solid dielectric power cables for rated voltages from 1 KV ($U_m=1.2KV$) to 35KV ($U_m=40.5KV$)”, BS, DIN and ICEA upon request.

■ Applications

The product is suitable for use in power transmission and distribution lines with rated power frequency voltage 3.6KV/6KV~26/35KV.

■ Operating characteristics

Rated power-frequency voltage U_0/U : 3.6/6KV~26/35KV.

Max. Permissible continuous operating temperature or conductor: 90°C.

Max. short-circuit temperature of conductor shall not exceed 250°C. (5s maximum duration)

The ambient temperature under installation should not below 0°C.

The bending radius of a single-core cable should not less than 20 times of the cable diameter.

The bending radius of a three-core cable should not less than 15 times of the cable diameter.

■ Voltage designation

The rated voltage of the cable for a given application shall be suitable for the operating conditions in the system in which the cable is used, and is expressed in the form of U_0/U (U_m) KV. Where:

U_0 —The rated power-frequency voltage between conductor and earth or metallic screen, for which the cable designed;

U —The rated power-frequency voltage between conductors, for which the cable designed;

U_m —The maximum value of the “highest system voltage” for which the equipment may be used.

■ The values of U_0 recommended for cables to be used in three-phase systems are listed below.

U KV	U_m KV	U_0 *KV	
		system categories A and B	system categories C
6	7.2	3.6	6
10	12	6	8.7
15	17.5	8.7	12
20	24	12	18
30	36	18	—

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35	40.5	21	26
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System category A—This category comprises those systems in which any phase conductor that comes in contact with earth or an earth conductor, is disconnected from the system within 1 min.

System category B—This category comprises those system which under fault conditions, are operated for a short time with one phase earthed. This period should not exceed 1h. For a longer period, not exceeding 8h on any occasion, can be tolerated. The total duration of earth faults in any year should not exceed 125h.

System category C—This category comprises all systems which do not fall into categories A and B.

■ Type of cable

Type	Designation	Application
YJV	Copper conductor, XLPE insulated and PVC sheathed power cable.	For laying indoors, in tunnel or cable trench, unable to bear external mechanical forces, Single core cable in magnetic duct is not permissible.
YJLV	Aluminum conductor, XLPE insulated and PVC sheathed power cable.	
YJY	Copper conductor, XLPE insulated and PE sheathed power cable.	
YJLY	Aluminum conductor, XLPE insulated and PE sheathed power cable.	
YJV22	Copper conductor, XLPE insulated, steel tape armored and PVC sheathed power cable.	For laying indoors, in tunnel, cable trench, or direct in ground, able to bear external mechanical forces, but unable to bear large pulling force.
YJLV22	Aluminum conductor, XLPE insulated, steel tape armored and PVC sheathed power cable.	
YJV23	Copper conductor, XLPE insulated, steel tape armored and PE sheathed power cable.	For laying indoors, in tunnel, cable trench, or direct in ground, able to bear external mechanical forces, but unable to bear large pulling force
YJLV23	Aluminum conductor, XLPE insulated, steel tape armored and PE sheathed power cable.	
YJV32	Copper conductor, XLPE insulated, steel wire armored and PVC sheathed power cable.	For laying indoors, in tunnel, cable trench, well or direct in ground, able to bear external mechanical forces and certain pulling force.
YJLV32	Aluminum conductor, XLPE insulated, steel wire armored and PVC sheathed power cable.	
YJV33	Copper conductor, XLPE insulated, steel wire armored and PE sheathed power cable.	
YJLV33	Aluminum conductor, XLPE insulated, steel wire armored and PE sheathed power cable.	

■ Production Range of cable

Type	Number of cores	Rated Voltage KV						
		3.6/6	6/6 6/10	8.7/10 8.7/15	12/20	18/20 18/30	21/35	26/35
		Nominal cross-section area of conductor mm ²						
YJV	1	25-800	25-800	25-800	35-800	50-630	50-630	50-630
YJLV	3	25-630	25-630	25-500	35-500	50-400	50-400	50-400
YJY								
YJLY								
YJV22	1	25-800	25-800	25-800	35-800	50-630	50-630	50-630
YJLV22	3	25-630	25-630	25-500	35-500	50-400	50-400	50-400
YJV23								
YJLV23								
YJV32	1	25-800	25-800	25-800	35-800	50-630	50-630	50-630
YJLV32	3	25-630	25-630	25-400	35-400	50-240	50-185	50-150

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YJV33								
YJLV33								

Note: The single-core armored cables are used for d. c. system only, as for a. c. system, non-magnetic armor material should be used or a magnetic isolation should be applied.

■ **Construction of cable**

3.6/6kV~26/35kV, Single-core, XLPE insulated, power cable

1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Copper tape screen
6. Tape
7. Oversheath

3.6/6kV~26/35kV, Single-core, XLPE insulated, steel tape armored power cable

1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Copper tape screen
6. Tape
7. Inner sheath
8. Stainless steel tape armor
9. Oversheath

3.6/6kV~26/35kV, Single-core, XLPE insulated, steel wire armored power cable

1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Copper tape screen
6. Tape
7. Inner sheath
8. Steel wire armor
9. Copper wire
10. Oversheath

3.6/6kV~26/35kV, Three-core, XLPE insulated, power cable

1. Conductor
2. Conductor screen

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3. Insulation
4. Insulation screen
5. Copper tape screen
6. Filler
7. Tape
8. Oversheath

3.6/6kV~26/35kV, Three-core, XLPE insulated, steel tape armored power cable

1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Copper tape screen
6. Filler
7. Tape
8. Inner sheath
9. Steel tape armor
10. Oversheath

3.6/6kV~26/35kV, Three-core, XLPE insulated, steel wire armored power cable

1. Conductor
2. Conductor screen
3. Insulation
4. Insulation screen
5. Copper tape screen
6. Filler
7. Tape
8. Inner sheath
9. Steel wire armor
10. Oversheath

■ **Product data table**

3.6/6KV 1-core, XLPE Insulated PVC/PE Sheathed Power Cable										
Number and Nom. cross-sectional area mm ²	Insulation thickness mm	YJV YJLV YJY YJLY			YJV22 YJLV22 YJV23 YJLV23			YJV32 YJLV32 YJV33 YJLV33		
		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km	
			YJV YJY	YJLV YJLY		YJV22 YJV23	YJLV22 YJLV23		YJV32 YJV33	YJLV32 YJLV33

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1×25	2.5	17.9	560	390	21.7	700	550	24.7	1340	1190
1×35	2.5	18.9	680	480	22.6	820	610	25.8	1490	1290
1×50	2.5	20.3	860	550	24.0	990	690	27.2	1720	1420
1×70	2.5	21.9	1080	650	25.4	1220	790	28.8	2010	1590
1×95	2.5	23.7	1350	760	27.2	1490	920	30.6	2350	1770
1×120	2.5	25.2	1610	870	28.7	1770	1040	32.1	2680	1950
1×150	2.5	27.0	1920	990	31.7	2240	1330	34.9	3070	2160
1×185	2.5	28.6	2290	1140	33.3	2600	1480	36.5	3480	2360
1×240	2.6	31.2	2860	1370	35.9	3180	1730	39.1	4140	2680
1×300	2.8	34.0	3500	1640	38.7	3810	1990	41.9	4840	3020
1×400	3.0	37.6	4610	2140	42.5	4840	2420	45.6	6320	3890
1×500	3.2	41.3	5700	2610	46.3	5860	2830	49.3	7470	4440
1×630	3.2	44.9	6990	3090	50.0	7200	3380	53.1	8940	5120
3×25	2.5	35.8	1750	1280	40.5	2760	2300	42.7	3620	3160
3×35	2.5	38.1	2130	1470	43.0	3210	2550	46.2	4140	3490
3×50	2.5	41.1	2670	1740	46.1	3830	2890	49.3	4860	3940
3×70	2.5	44.5	3390	2090	49.7	4650	3340	52.9	5770	4480
3×95	2.5	48.5	4250	2470	53.8	5630	3850	57.0	6870	5120
3×120	2.5	51.7	5090	2850	57.2	6550	4310	60.4	7870	5650
3×150	2.5	55.4	6120	3310	60.9	7650	4840	64.2	9090	6320
3×185	2.5	58.8	7270	3800	64.5	8890	5430	67.8	10460	7050
3×240	2.6	64.6	9090	4600	70.5	10860	6370	75.1	13380	8940
3×300	2.8	70.6	11120	5510	76.7	13230	7610	81.3	15680	10130
3×400	3.0	78.4	15190	7750	86.2	17830	10440	89.5	19320	11930
3×500	3.2	86.2	17131	8045	94.3	20087	11256	97.6	23060	13820
3×630	3.2	94.0	21037	9749	102.4	23952	13166	105.7	27690	16050

6/6 6/10KV, 1-core, XLPE Insulated PVC/PE Sheathed Power Cable

Number and Nom. cross-sectional area mm ²	Insulation thickness mm	YJV YJLV YJY YJLY				YJV22 YJLV22 YJV23 YJLV23			YJV32 YJLV32 YJV33 YJLV33		
		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km		
			YJV	YJLV		YJV22	YJLV22		YJV32	YJLV32	
			YJY	YJLY		YJV23	YJLV23		YJV33	YJLV33	

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1×25	3.4	19.8	609	458	23.4	919	767	26.6	1643	1384
1×35	3.4	20.8	729	514	24.4	1055	840	27.6	1821	1499
1×50	3.4	22.3	876	585	25.7	1219	929	29.1	2027	1628
1×70	3.4	23.8	1092	681	27.2	1458	1047	30.6	2329	1810
1×95	3.4	25.7	1388	805	29.1	1780	1197	32.5	2689	1999
1×120	3.4	27.1	1651	913	31.9	2312	1575	33.9	3037	2192
1×150	3.4	28.7	1970	1043	33.5	2670	1743	35.7	3419	2384
1×185	3.4	30.4	2271	1165	35.2	3007	1901	38.4	4147	2869
1×240	3.4	32.9	2830	1382	37.7	3621	2173	40.9	4842	3222
1×300	3.4	35.3	3502	1642	39.9	4330	2470	43.3	5637	3606
1×400	3.4	38.5	4406	1991	43.3	5281	2866	46.7	6701	4115
1×500	3.4	42.0	5515	2418	47.0	6442	3345	50.2	7992	4724
1×630	3.4	45.6	6754	2883	50.8	7766	3895	54.0	9457	5414
3×25	3.4	39.8	1927	1451	44.8	2785	2322	48.0	4229	3766
3×35	3.4	42.2	2316	1639	47.4	3224	2569	50.6	4771	4117
3×50	3.4	45.2	2805	1874	50.4	3795	2909	53.6	5456	4571
3×70	3.4	48.6	3497	2193	54.0	4586	3335	57.2	6352	5101
3×95	3.4	52.7	4483	2653	57.9	5631	3857	61.1	7539	5765
3×120	3.4	55.9	5340	3040	61.3	6561	4317	64.5	8578	6334
3×150	3.4	59.6	6398	3503	65.4	7732	4911	68.6	9901	7080
3×185	3.4	63.0	7241	3946	68.8	8828	5460	72.0	11095	7727
3×240	3.4	68.3	9234	4729	74.3	10769	6360	77.5	13254	8844
3×300	3.4	73.3	11337	5586	80.9	13069	7406	84.2	16678	11015
3×400	3.4	80.3	14174	6822	88.1	16832	9480	91.4	20051	12698
3×500	3.4	87.9	17730	8299	95.2	20687	11256	99.2	24211	14780
3×630	3.4	95.8	21736	9949	104.0	24952	13165	107.3	28839	17052

8.7/10 8.7/15KV, 1-core, XLPE Insulated PVC/PE Sheathed Power Cable

Number and Nom. cross-sectional area	Insulation thickness mm	YJV YJLV YJY YJLY		YJV22 YJLV22 YJV23 YJLV23		YJV32 YJLV32 YJV33 YJLV33	
		Approx overall	Cable weight, max kg/km	Approx overall	Cable weight, max kg/km	Approx overall	Cable weight, max kg/km

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mm ²		diameter mm	YJV YJY	YJLV YJLY	diameter mm	YJV22 YJV23	YJLV22 YJLV23	diameter mm	YJV32 YJV33	YJLV32 YJLV33
1×25	4.5	22.0	696	544	25.6	919	767	29.0	1846	1587
1×135	4.5	23.0	819	604	26.6	1055	840	30.0	2026	1704
1×50	4.5	24.5	970	679	27.9	1219	929	31.5	2237	1839
1×70	4.5	26.2	1191	780	30.8	1458	1047	33.0	2520	2002
1×95	4.5	27.9	1493	910	32.7	1780	1197	34.9	2911	2220
1×120	4.5	29.5	1760	1023	34.1	2312	1575	37.5	3690	2770
1×150	4.5	31.1	2085	1158	35.9	2670	1743	39.1	4005	2907
1×185	4.5	32.8	2391	1285	37.6	3007	1901	40.8	4402	3124
1×240	4.5	35.3	2873	1525	39.9	3621	2173	43.1	5104	3485
1×300	4.5	37.7	3657	1798	42.5	4330	2470	45.7	5908	3877
1×400	4.5	40.9	4571	2156	45.7	5281	2866	48.9	6982	4396
1×500	4.5	44.4	5692	2595	49.4	6442	3345	52.6	8287	5018
1×630	4.5	48.0	6945	3074	53.4	7766	3895	56.6	9789	5746
3×25	4.5	45.0	2217	1747	50.2	3201	2739	52.4	4841	4378
3×35	4.5	47.3	2616	1947	52.3	3646	2991	55.7	5394	4740
3×50	4.5	50.3	3144	2223	55.7	4269	3383	58.9	6107	5222
3×70	4.5	53.8	3879	2586	59.4	5082	3831	62.6	7066	5815
3×95	4.5	57.6	4872	3051	63.2	6159	4285	66.4	8276	6501
3×120	4.5	60.9	5753	3458	66.7	7115	4870	69.9	9312	7068
3×150	4.5	64.5	6837	3945	70.5	8296	5475	73.7	10636	7814
3×185	4.5	68.1	7900	4429	74.1	9429	6061	77.3	11879	8510
3×240	4.5	73.3	9719	5230	79.5	11450	7041	84.2	15060	10650
3×300	4.5	78.4	11862	6154	86.2	14508	8845	89.5	17597	11934
3×400	4.5	85.3	14795	7402	93.5	17695	10343	96.8	21109	13756
3×500	4.5	93.0	18381	8950	101.2	21503	12072	104.5	25267	15836
3×630	4.5	100.7	22396	10609	109.3	25869	14082	112.6	29892	18105

12/20KV, 1-core, XLPE Insulated PVC/PE Sheathed Power Cable

Number and Nom. cross-sectional area mm ²	Insulation thickness mm	YJV YJLV YJY YJLY		YJV22 YJLV22 YJV23 YJLV23			YJV32 YJLV32 YJV33 YJLV33			
		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km	
			YJV YJY	YJLV YJLY		YJV22 YJV23	YJLV22 YJLV23		YJV32 YJV33	YJLV32 YJLV33
		1×35	5.5	25.4	930	720	30.1	1410	1200	32.2
1×50	5.5	26.8	1160	850	31.5	1630	1320	33.6	2280	1980
1×70	5.5	28.4	1410	980	33.1	1890	1460	35.2	2580	2150

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1×95	5.5	30.2	1690	1110	34.9	2210	1640	37.0	2950	2370
1×120	5.5	31.7	1980	1240	36.4	2510	1780	38.5	3280	2550
1×150	5.5	33.4	2310	1380	38.1	2880	1970	40.2	3680	2770
1×185	5.5	35.0	2700	1550	39.7	3270	2150	41.8	4110	2990
1×240	5.5	37.4	3290	1800	42.1	3900	2440	45.4	5150	3690
1×300	5.5	39.8	3910	2050	44.7	4590	2770	47.9	5930	4110
1×400	5.5	43.0	5030	2550	48.1	5670	3250	51.3	7130	4690
1×500	5.5	46.2	6120	3030	51.4	6760	3730	54.6	8320	5280
1×630	5.5	49.8	7440	3540	55.2	8150	4320	58.4	9830	6010
3×35	5.5	52.0	3230	2570	57.4	4270	3620	60.7	5970	5330
3×50	5.5	55.0	3840	2900	60.6	4930	4010	63.8	6730	5810
3×70	5.5	58.4	4640	3330	64.1	5830	4540	67.3	7720	6430
3×95	5.5	62.3	5570	3800	68.2	6850	5090	72.8	9640	7890
3×120	5.5	65.6	6480	4240	71.5	7850	5640	76.1	10800	8580
3×150	5.5	69.2	7560	4750	75.3	9040	6260	79.9	12180	9410
3×185	5.5	72.7	8780	5320	78.9	10300	6890	83.5	13600	10180
3×240	5.5	78.0	10680	6180	85.7	13120	8690	89.0	15850	11420
3×300	5.5	83.0	12720	7100	91.0	15350	9810	94.3	18260	12720
3×400	5.5	90.0	16280	8790	98.2	18940	11560	101.5	22100	14710
3×500	5.5	96.8	18820	9580	105.3	22530	13300	108.6	25950	16710
3×630	5.5	104.6	22950	11310	113.4	27000	15370	116.7	30690	19050

18/20KV 18/30KV, 19/33KV 1-core, XLPE Insulated PVC/PE Sheathed Power Cable

Number and Nom. cross-sectional area mm ²	Insulation thickness mm	YJV YJLV YJY YJLY				YJV22 YJLV22 YJV23 YJLV23			YJV32 YJLV32 YJV33 YJLV33		
		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km		
			YJV	YJLV		YJV22	YJLV22		YJV32	YJLV32	
			YJY	YJLY		YJV23	YJLV23		YJV33	YJLV33	
1×35	8.0	31.9	1240	1020	31.8	—	—	—	—	—	
1×50	8.0	33.3	1560	1250	33.4	2060	1760	33.9	2910	2610	
1×70	8.0	34.9	1840	1400	35.3	2340	1910	35.6	3240	2820	
1×95	8.0	36.7	2140	1550	36.9	2680	2100	37.5	3610	3030	
1×120	8.0	38.2	2450	1700	38.6	3020	2290	40.1	4370	3640	
1×150	8.0	39.9	2790	1860	40.3	3400	2490	41.8	4810	3900	
1×185	8.0	41.5	3200	2050	42.9	3810	2690	43.5	5270	4150	
1×240	8.0	44.0	3800	2310	45.3	4490	3030	46.1	6040	4580	

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1×300	8.0	46.3	4460	2600	48.7	5180	3300	48.5	6810	4990
1×400	8.0	49.6	5530	3060	52.0	6310	3880	51.9	8050	5620
1×500	8.0	52.8	6160	3560	55.7	7430	4390	55.2	9280	6250
1×630	8.0	56.4	8020	4120	61.4	8860	5030	58.9	10830	7010
3×50	8.0	55.7	5290	4350	75.1	7200	6250	79.7	9790	8870
3×70	8.0	59.2	6240	4930	78.7	8230	6910	83.3	10900	9610
3×95	8.0	63.1	7360	5580	84.0	9410	7620	87.4	12220	10470
3×120	8.0	66.4	8350	6100	87.5	11120	8870	90.8	13440	11220
3×150	8.0	70.0	9520	6410	91.3	12400	9580	94.6	14880	12100
3×185	8.0	73.5	10830	7370	94.9	13910	10450	98.2	16420	12990
3×240	8.0	78.8	12810	8300	100.3	16080	11590	103.7	18770	14340
3×300	8.0	83.8	14920	9300	105.6	18500	12850	108.9	21250	15710
3×400	8.0	90.7	18110	10620	112.8	21920	14410	116.1	25260	17870
3×500	8.0	97.6	20990	11780	119.3	25970	16330	123.2	29260	20030
3×630	8.0	105.4	25290	13650	128.9	31250	18970	131.3	34170	22530

21/35KV, 1-core, XLPE Insulated PVC/PE Sheathed Power Cable

Number and Nom. cross-sectional area mm ²	Insulation thickness mm	YJV YJLV YJY YJLY		YJV22 YJLV22 YJV23 YJLV23		YJV32 YJLV32 YJV33 YJLV33				
		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km	
			YJV	YJLV		YJV22	YJLV22		YJV32	YJLV32
		YJY	YJLY	YJV23	YJLV23	YJV33	YJLV33			
1×50	9.3	36.1	1590	1290	40.5	2370	2070	43.0	3200	2890
1×70	9.3	37.7	1840	1420	42.2	2670	2250	45.7	3920	3490
1×95	9.3	39.5	2160	1580	44.1	3030	2460	47.6	4340	3760
1×120	9.3	41.0	2450	1720	45.6	3350	2620	49.1	4710	3980
1×150	9.3	42.7	2810	1890	47.4	3750	2840	50.9	5160	4250
1×185	9.3	44.3	3190	2070	49.0	4190	3060	52.6	5660	4530
1×240	9.3	46.7	3810	2350	51.6	4860	3400	55.1	6400	4950
1×300	9.3	49.1	4460	2640	54.1	5590	3770	57.6	7220	5390
1×400	9.3	52.3	5510	3080	57.4	6710	4280	61.0	8440	6020
1×500	9.3	55.5	6570	3540	60.7	7870	4840	64.2	9720	6690
1×630	9.3	59.1	7910	4080	64.4	9290	5470	68.0	11260	7440
3×50	9.3	75.1	5560	4640	82.7	8260	7340	86.0	10890	9960
3×70	9.3	78.6	6450	5160	86.3	9280	7990	89.6	12030	10740
3×95	9.3	82.5	7490	5730	90.4	10500	8740	93.7	13430	11670
3×120	9.3	85.7	8470	6260	93.7	11630	9420	97.0	14630	12420

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3×150	9.3	89.4	9640	6860	97.5	12970	10200	100.8	16100	13330
3×185	9.3	92.8	10920	7500	101.1	14420	11010	104.4	17680	14260
3×240	9.3	98.1	12950	8520	106.6	16690	12260	109.9	20140	15710
3×300	9.3	103.1	15060	9520	111.8	18990	13450	115.1	22610	17070
3×400	9.3	110.1	18520	11120	119.0	22820	15430	122.3	26680	19290
3×500	9.3	116.9	21990	12760	126.1	26630	17390	129.4	30750	21520
3×630	9.3	124.7	26350	14710	134.2	31340	19700	137.5	35730	24090

26/35KV, 1-core, XLPE Insulated PVC/PE Sheathed Power Cable

Number and Nom. cross-sectional area mm ²	Insulation thickness mm	YJV YJLV YJY YJLY			YJV22 YJLV22 YJV23 YJLV23			YJV32 YJLV32 YJV33 YJLV33		
		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km		Approx overall diameter mm	Cable weight, max kg/km	
			YJV	YJLV		YJV22	YJLV22		YJV32	YJLV32
			YJY	YJLY		YJV23	YJLV23		YJV33	YJLV33
1×50	10.5	38.7	1727	1437	43.7	2600	2320	46.9	4030	3490
1×70	10.5	40.2	1980	1570	45.2	2890	2480	48.4	4380	3710
1×95	10.5	42.1	2335	1750	47.1	3270	2690	50.3	4830	3990
1×120	10.5	43.7	2650	1910	48.7	3600	2860	51.9	5250	4260
1×150	10.5	45.3	3016	2090	50.5	4020	3090	53.7	5730	4540
1×185	10.5	47.0	3377	2270	52.0	4410	3305	55.2	6160	4790
1×240	10.5	49.3	3996	2550	54.7	5110	3660	57.9	6940	5230
1×300	10.5	51.7	4733	2870	57.1	5900	4040	60.3	7810	5690
1×400	10.5	54.9	5723	3308	60.5	6340	4520	63.7	8990	6310
1×500	10.5	59.8	7068	3970	65.6	8380	5290	68.8	10500	7140
1×630	10.5	63.6	8418	4550	69.2	9790	5910	72.6	12080	7950
3×50	10.5	80.8	6030	5150	88.6	8700	7820	91.9	12620	11740
3×70	10.5	84.2	6900	5650	92.0	9690	8430	95.5	13820	12560
3×95	10.5	88.1	8060	6282	86.3	11050	9270	99.6	15360	13590
3×120	10.5	91.3	9070	6830	99.7	12210	9970	103.0	16700	14460
3×150	10.5	94.9	10290	7470	103.3	13560	10730	106.6	18280	15460
3×185	10.5	98.4	11490	8120	107.0	14880	11500	110.0	19595	16335
3×240	10.5	103.5	13550	9140	112.5	17210	12800	115.2	22105	17820
3×300	10.5	108.7	15950	10290	117.7	19760	14100	120.8	25360	20280
3×400	10.5	115.5	19180	11830	125.1	23390	16080	127.8	31580	25050

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■ **Main technical data of cable**

D.C. resistance of conductor and Conductor maximum short circuit current				
Nominal cross sectional area of conductor mm ²	Max. D.C. resistance of conductor at 20°C		Conductor maximum short circuit (1s)Ka at 90°C	
	Copper conductor	Aluminum conductor	Copper conductor	Aluminum conductor
25	0.727	1.200	3.69	2.42
35	0.524	0.868	5.15	3.37
50	0.387	0.641	7.31	4.79
70	0.268	0.443	10.2	6.68
95	0.193	0.320	13.8	9.03
120	0.153	0.253	17.4	11.4
150	0.124	0.206	21.7	14.2
185	0.0991	0.164	26.7	17.5
240	0.0754	0.125	34.6	22.6
300	0.0601	0.100	43.1	28.2
400	0.0470	0.0778	57.4	37.6
500	0.0366	0.0605	71.7	47.0
630	0.0283	0.0469	88.8	58.0

Voltage test and Partial discharge test								
NO.	Test items	Rated voltage KV						
		3.6/6	6/6 6/10	8.7/10 8.7/15	12/20	18/20 18/30	21/35	26/35
1	Power frequency A.C. voltage test KV/5min	12.5	21	30.5	42	63	73.5 (53)*	91 (65)*
2	A-C. Voltage test for 4 hours. KV	14.4	24	34.8	48	72	84	104
3	Impulse voltage test KV	60	75	95	125	170	200	200
4	Partial discharge test Maximum discharge at 1.73 U ₀ pC	(≤) 5	(≤) 5	(≤) 5	(≤) 5	(≤) 5	(≤) 5	(≤) 5

The power-frequency Voltage test of cables for rated voltage 21/35KV or 26/35KV shall be done upon request according to 2.5U₀×30min or 3.5U₀×5min.

Capacitance of cable (reference value)							
Nominal cross sectional area of conductor mm ²	Rated Voltage KV						
	3.6/6	6/6 6/10	8.7/10 8.7/15	12/20	18/20 18/30	21/35	26/35

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	Capacitance/phase μ F/km						
25	0.2423	0.1922	0.1576	0.1378	0.1163	0.1064	0.0992
35	0.2684	0.2116	0.1725	0.1502	0.1251	0.1140	0.1061
50	0.3022	0.2367	0.1917	0.1661	0.1363	0.1239	0.1150
70	0.3462	0.2693	0.2167	0.1868	0.1508	0.1365	0.1263
95	0.3875	0.2999	0.2400	0.2060	0.1643	0.1483	0.1368
120	0.4236	0.3266	0.2603	0.2228	0.1760	0.1584	0.1460
150	0.4647	0.3570	0.2834	0.2418	0.1893	0.1700	0.1563
185	0.5059	0.3873	0.3123	0.2656	0.2026	0.1815	0.1665
240	0.5430	0.4290	0.3439	0.2916	0.2207	0.1972	0.1805
300	0.5589	0.4706	0.3755	0.3175	0.2387	0.2128	0.1945
400	0.5940	0.5311	0.4213	0.3551	0.2648	0.2354	0.2146
500	0.6167	0.5839	0.4613	0.3880	0.2876	0.2551	0.2321
630	0.6848	0.6481	0.5099	0.4278	0.3151	0.2789	0.2533

Inductance of single core cable							
Nominal cross sectional area of conductor mm^2	Rated Voltage KV						
	3.6/6	6/6 6/10	8.7/10 8.7/15	12/20	18/20 18/30	21/35	26/35
	Inductance mH/km						
25	0.5954	0.6143	0.6474	—	—	—	—
35	0.5753	0.5932	0.6248	0.6390	—	—	—
50	0.5543	0.5711	0.6011	0.6145	0.6501	0.6675	0.6751
70	0.5357	0.5486	0.5765	0.5919	0.6252	0.6394	0.6467
95	0.5172	0.5318	0.5608	0.5726	0.6043	0.6180	0.6279
120	0.5059	0.5197	0.5473	0.5586	0.5891	0.6051	0.6118
150	0.4949	0.5079	0.5341	0.5449	0.5740	0.5895	0.5959
185	0.4885	0.5006	0.5252	0.5354	0.5640	0.5760	0.5839
240	0.4790	0.4890	0.5143	0.5216	0.5487	0.5615	0.5677
300	0.4749	0.4818	0.5032	0.5102	0.5376	0.5484	0.5540
400	0.4660	0.4702	0.4927	0.4991	0.5219	0.5343	0.5395
500	0.4600	0.4619	0.4848	0.4907	0.5128	0.5224	0.5272
630	0.4547	0.4563	0.4748	0.4827	0.5012	0.5101	0.5161

Inductance of three cores cable							
Nominal cross sectional area of conductor mm^2	Rated Voltage KV						
	3.6/6	6/6 6/10	8.7/10 8.7/15	12/20	18/20 18/30	21/35	26/35

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	Inductance mH/km						
25	0.3552	0.3797	0.4061	0.4274	—	—	—
35	0.3384	0.3613	0.3862	0.4064	—	—	—
50	0.3211	0.3423	0.3655	0.3845	0.4396	0.4537	0.6979
70	0.3040	0.3232	0.3445	0.3620	0.4145	0.4286	0.4427
95	0.2915	0.3092	0.3290	0.3454	0.3956	0.4082	0.4208
120	0.2826	0.2992	0.3178	0.3392	0.3799	0.3909	0.4019
150	0.2742	0.2897	0.3071	0.3217	0.3642	0.3752	0.3862
185	0.2672	0.2817	0.3009	0.3145	0.3485	0.3611	0.3737
240	0.2608	0.2726	0.2904	0.3030	0.3360	0.3486	0.3611
300	0.2576	0.2651	0.2817	0.2935	0.3266	0.3776	0.3485
400	0.2516	0.2564	0.2714	0.2822	0.3014	0.3140	0.3266
500	0.2480	0.2503	0.2641	0.2742	—	—	—
630	0.2421	0.2442	0.2596	0.2661	—	—	—

Short circuit current of mechanic-screen single core							
Nominal cross sectional area of conductor mm ²	Rated Voltage KV						
	3.6/6	6/6 6/10	8.7/10 8.7/15	12/20	18/20 18/30	21/35	26/35
	Short circuit current (A)						
25	1075	1083	1094	—	—	—	—
35	1074	1082	1092	1096	—	—	—
50	1072	1080	1091	1095	1284	1286	1288
70	1070	1079	1090	1091	1281	1285	1286
95	1069	1077	1086	1272	1280	1284	1283
120	1068	1077	1266	1271	1279	1280	1282
150	1067	1076	1265	1270	1278	1279	1282
185	1064	1251	1264	1267	1275	1279	1279
240	1241	1250	1262	1266	1274	1276	1278
300	1239	1246	1261	1265	1271	1275	1277
400	1240	1245	1256	1260	1270	1272	1274
500	1243	1244	1253	1257	1266	1272	1273
630	1236	1238	1252	1253	1265	1270	1270

■ **Current carrying capacity of cable**

3.6/6~12/20KV XLPE insulated power cable						
Conductor	Nominal cross-sectional area of conductor mm ²	In the air		Under the ground		
		Single-core		Three-core	Single-core	
		○	○○○		○	○○○
					Three-core	

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		○ ○			○ ○		
Copper Conductor	25	140	165	120	150	160	125
	35	170	205	140	180	190	155
	50	205	245	165	215	225	180
	70	260	305	210	265	275	220
	95	315	370	255	315	330	265
	120	360	430	290	360	375	300
	150	410	490	330	405	425	340
	185	470	560	375	455	480	380
	240	555	665	435	530	555	435
	300	640	765	495	595	630	485
	400	745	890	565	680	725	520
	500	855	1030	—	765	825	—
630	980	1190	—	860	940	—	
Aluminum Conductor	25	110	130	90	115	120	100
	35	135	155	110	135	145	120
	50	160	190	130	160	175	140
	70	200	235	165	200	215	170
	95	240	290	200	240	255	210
	120	280	335	225	270	290	235
	150	320	380	255	305	330	260
	185	365	435	295	345	370	300
	240	435	515	345	400	435	345
	300	500	595	390	455	490	390
	400	585	695	450	520	565	440
	500	680	810	—	595	650	—
630	790	950	—	680	745	—	

The screen-copper-tape and steel wire (including all copper wire for magnetism separation) of single-core steel wire armored power cable for AC system must be connected to earth well and effectively. The current carrying capacity is calculated by formulas of IEC. It is advised in the new edition of GB/T 12706 that the current carrying capacity of steel wire armored power cable with special structure is lower than that in IEC standard, so the cross-section should be enlarged appropriately.

18/20~26/35KV XLPE insulated power cable							
Conductor	Nominal cross-sectional area of conductor mm ²	In the air			Under the ground		
		Single-core		Three-core	Single-core		Three-core
		○	○○○		○	○○○	
	50	220	245	185	215	225	200
	70	270	305	230	265	275	250
	95	330	370	280	315	330	300

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Copper Conductor	120	375	425	310	360	375	330
	150	425	485	360	400	420	380
	185	485	555	400	455	475	425
	240	560	650	470	525	555	490
	300	650	745	540	595	630	555
	400	760	870	610	680	720	625
	500	875	1000	—	775	825	—
	630	1000	1160	—	875	940	—
Aluminum Conductor	50	170	190	145	165	175	170
	70	210	235	190	200	215	190
	95	255	285	215	240	255	230
	120	290	330	240	270	290	255
	150	330	375	280	305	325	295
	185	380	430	310	345	370	330
	240	435	505	365	400	430	380
	300	510	580	430	455	490	435
	400	595	680	485	525	565	500
	500	690	790	—	600	645	—
630	800	920	—	685	740	—	

The screen-copper-tape and steel wire (including all copper wire for magnetism separation) of single-core steel wire armored power cable for AC system must be connected to earth well and effectively. The current carrying capacity is calculated by formulas of IEC. It is advised in the new edition of GB/T 12706 that the current carrying capacity of steel wire armored power cable with special structure is lower than that in IEC standard, so the cross-section should be enlarged appropriately.

■ Installation

Max. Rated temperature of the Cable Conductor 90°C
 Ambient temperature in Air 40°C
 Ground Temperature 25°C
 Soil thermal resistivity 1.0°C.m/W
 Depth of laid 0.8m
 Single-Circuit only
 A single-core cable is installed in parallel. Adjacent space is equivalent to the diameter of the cable.

Rating factors of current carrying for different soil temperature

Soil temperature °C	15	20	25	30	35	40	45
Rating factor	1.07	1.04	1.0	0.96	0.92	0.87	0.83

Rating factors of current carrying for different thermal resistivity

Rating factors for soil Thermal resistivity 1.0°C.m/W	1.0	1.2	1.5	2.0	2.5	3.0	3.5
Three cores	1.0	0.943	0.877	0.792	0.736	0.675	0.641

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Single core	1.0	0.934	0.850	0.748	0.692	0.635	0.598
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Rating factors of current carrying for different air temperature

Air temperature °C	20	25	30	35	40	45	50
Rating factor	1.18	1.14	1.10	1.05	1.0	0.95	0.89

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