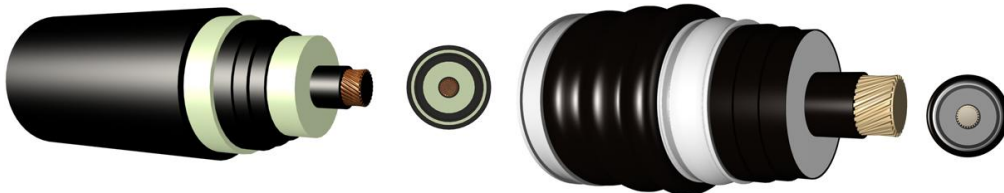




High-voltage 110~220KV XLPE Cable



■ Brief introduction of the 110~220KV XLPE high-voltage cable products

1. The cross-linkage PE insulated and wrinkled aluminum wrapper waterproof PVC sheathed power cable.

Type	YJLW02、YJLLW02
Specification	240mm ² ~3000mm ²
Voltage	110~220KV
Usage	Suitable for damp areas and the places with a lower underground water level and to be used underground, in tunnels or pipes. Such cables bear a bigger pulling force and pressure.

2. The cross-linkage PE insulated and wrinkled aluminum wrapper waterproof PE sheathed power cable.

Type	YJLW03、YJLLW03
Specification	240mm ² ~3000mm ²
Voltage	110~220KV
Usage	Suitable for the places with a higher underground water level and to be used underground, in the tunnels or pipes. Such cables bear a bigger pulling force and pressure.

■ Structure diagram of the 110KV~220KV XLPE high-voltage cable product

1. Circular or sliced conductor
2. Conductor screen
3. Insulator
4. Insulated screen
5. Waterproof buffer layer
6. Metal sheath
7. Outer-sheath & semiconducting layer

■ Specific property for usage of 110KV~220KV XLPE high-voltage cable

1. Cable's conductor highest working temperature is allowed up to 90 °C , and overload when meet an emergency is 130°C ,When short circuit (in ≤5 seconds) the highest temperature is 250°C
2. When installing or laying cable, the ambient temperature should be less than -20°C , and have to give a preheat to cable.
3. The minimum bending diameter:



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Cable type		Metal sheathed
Bending diameter		
After laying		30D ₀
During laying		40D ₀

Note: In form, D₀ is a real test value to cable's outer diameter.

- Allowed biggest axial traction force to outer diameter when laying cable (not consider the radial lateral-pressure at bent section) $T=K \times \text{core NO.} \times \text{section (kg)}$, in formula, the coefficient K value should be: the copper core get 7, the aluminum core get 4.
- Allowed biggest lateral-press P, when cable is being bent
 The single core cable is required $P \leq 500\text{kg/m}$.
 $P=T/R$ (T is indicated axial traction force; R is indicated radius of bent-wheel), Knowing from above formula, as the traction force is made up by length and weight of cable. So it lets P to applying requirement as above. Then the diameter of bent-wheel should be widened.
- Cable laying is not being restricted by drop.

■ **The structure parameter and functions table to 110KV, 220KV XLPE high-voltage cable products**

- Rated voltage 64/110KV XLPE copper core and PE insulated wrinkled aluminum wrapper waterproof layer PE(or PVC) sheathed power cable.

Type: YJLW02 (or YJLW03) Specifications: 1×240mm ² ~1×1200mm ²							
Conductor section mm ²	Conductor diameter mm	Insulator thickness mm	Aluminum wrapper mm	Sheath thickness mm	Cable's outer diameter mm	kg/km Cable's weight	
						PVC sheath	PE sheath
240	18.4	19.0	2.0	4.5	89.9	8348	7708
300	20.6	18.5	2.0	4.5	91.1	8990	8341
400	23.8	17.5	2.0	4.5	92.3	9731	9073
500	26.6	17.0	2.0	4.5	94.5	10882	10208
630	30.0	16.5	2.0	4.5	96.9	12352	11660
800	34.0	16.0	2.0	4.5	99.9	14168	13454
1000	38.2	16.0	2.0	4.5	105.0	16460	15708
1200	42.6	16.0	2.0	4.5	109.4	18685	17900

Conductor section mm ²	(Ω/km) Conductor resistance		Capacitance μ F/km	Carrier current capacity A	Short circuit current	
	20°CDC	90°CAC			Conductor	Metal sheath
240	0.0754	0.0961	0.135	543	20	22
300	0.0601	0.0766	0.146	597	25	22
400	0.0470	0.0599	0.165	657	33	22
500	0.0366	0.0467	0.182	718	41	23

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630	0.0283	0.0361	0.201	779	52	24
800	0.0221	0.0282	0.223	837	66	25
1000	0.0176	0.0224	0.246	914	83	26
1200	0.0151	0.0193	0.266	962	99	27

Note: Current carrier capacity is made up by laying in soil abreast. The axial distances between cables are 200mm. Soil temperature is 25°C. The working temperature of cable is 90°C. The coefficient of soil heat-resistance is 1.2km/W.

2. Rated voltage 127/220KV XLPE copper core and PE insulated wrinkled aluminum wrapper waterproof layer PVC (or PE) sheathed power cable.

Type: YJLW02 (or YJLW03) Specifications: 1×400mm ² ~1×2500mm ²							
Conductor section mm ²	Conductor diameter mm	Insulator thickness mm	Aluminum wrapper mm	Sheath thickness mm	Cable's outer diameter mm	kg/km Cable's weight	
						PVC sheath	PE sheath
400	23.8	27	2.4	5.0	128.7	14348	13369
500	26.6	27	2.4	5.0	131.5	15697	14696
630	30.0	26	2.4	5.0	132.8	17064	16052
800	34.0	25	2.5	5.0	134.9	18913	17885
1000	38.2	24	2.5	5.0	137.7	20966	19918
1200	42.6	24	2.6	5.0	142.3	23459	22372
1400	46.1	24	2.6	5.0	145.8	25712	24598
1600	49.2	24	2.7	5.0	149.1	28039	26899
1800	52.1	24	2.7	5.0	152.0	30214	29050
2000	55.2	24	2.8	5.0	155.3	32548	31359
2200	57.5	24	2.8	5.0	157.6	34643	33436
2500	61.2	24	2.9	5.0	161.5	37958	36719

Conductor section mm ²	(Ω/km)		Capacitance μ F/km	Carrier current capacity A	(KA/3S)	
	Conductor resistance				Short circuit current	
	20°CDC	90°CAC			Conductor	Metal sheath
400	0.0470	0.0613	0.120	689	33	46
500	0.0366	0.0485	0.127	763	41	47
630	0.0283	0.0384	0.139	839	52	48
800	0.0221	0.0311	0.153	918	66	51
1000	0.0176	0.0232	0.173	1014	83	52
1200	0.0151	0.0201	0.182	1082	99	56
1400	0.0129	0.0174	0.191	1136	116	58
1600	0.0113	0.0156	0.200	1192	132	62
1800	0.0101	0.0142	0.208	1232	149	63

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2000	0.0090	0.0128	0.217	1282	165	67
2200	0.0083	0.0121	0.223	1310	182	68
2500	0.0073	0.0110	0.233	1367	206	73

Note: Current carrier capacity is made up by laying in soil abreast. The axial distance between cables are 200mm. Soil temperature is 25°C. The working temperature of cable is 90°C. The coefficient of soil heat-resistance is 1.2km/W.

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