

# 电线电缆类

## 架空绝缘电缆 Overhead Insulation Cable

### 额定电压1kV及以下架空绝缘电缆

Rated voltage 1kV and below overhead insulation cable

### 1 标准及使用范围 Standard and application scope

本产品按GB 12527-90标准进行生产，该标准参照采用 IEC502、IEC227，适用于交流额定电压为0.6/1kV及以下架空电力线路用绝缘架空电缆。

This product is produced in accordance with the GB 12527-90, standard of GB 12527-90 that is made by referring and adapting the standards of IEC502 and IEC227, and it is suitable for aerial insulated cable with A.C. rated voltage 0.6/1kV or lower.

### 2 使用特性 Using feature

2.1 电缆导体的长期允许工作温度：聚氯乙烯、聚乙烯绝缘应不超过70°C；交联聚乙烯绝缘应不超过90°C。

The permitted working temperature of cable, conductor in a long time is : For PVC and PE insulated not be over 70°C; For XLPE insulated should not be over 90°C.

2.2 电缆的敷设温度应不低于0°C。

The laying temperature of the cable should not be below 0°C.

2.3 电缆的允许弯曲半径：电缆外径(D)小于25mm者应不小于4D；电缆外径(D)为25mm及以上者，应不小于6D。

The permitted bend radius of the cable: If the outside diameter of the cable (D) is less than 25mm, it should not be less than 4D; If the outside diameter of the cable (D) is 25mm or more, it should not be less than 6D.

### 3 电缆的型号 Type of the cable

型号 Type	名称 Designation	主要用途 Main Application
JKV 0.6/1	额定电压0.6/1kV 铜芯聚氯乙烯绝缘架空电缆 Cu core PVC aerial insulated cable with rated voltage 0.6/1kV	
JKLV 0.6/1	额定电压0.6/1kV 铝芯聚氯乙烯绝缘架空电缆 Al core PVC aerial insulated cable with rated voltage 0.6/1kV	
JKY 0.6/1	额定电压0.6/1kV 铜芯聚乙烯绝缘架空电缆 Cu core PE aerial insulated cable with rated voltage 0.6/1kV	架空固定敷设、引户线等 Aerial fixed laying and leading wire
JKLY 0.6/1	额定电压0.6/1kV 铝芯聚乙烯绝缘架空电缆 Al core PE aerial insulated cable with rated voltage 0.6/1kV	
JKYJ 0.6/1	额定电压0.6/1kV 铜芯交联聚乙烯绝缘架空电缆 Cu core XLPE aerial insulated cable with rated voltage 0.6/1kV	
JKLYJ 0.6/1	额定电压0.6/1kV 铝芯交联聚乙烯绝缘架空电缆 Al core XLPE aerial insulated cable with rated voltage 0.6/1kV	

### 4 电缆的规格 Specification of the cable

型号 Type	芯数 No. of core	标称截面 Nomial section mm <sup>2</sup>
JKV JKLV JKLY	1	6~240
JKYJ JKLYJ	2 4	6~240
JKLV JKLY JKLYF	3+K <sup>(1)</sup>	6~240

注：(1)K表示带承载的中性导体，根据配电工程要求，任选其中截面与主线芯搭配。

Remarks: 1.K is neutral conductor with supporting. It may be selected in accordance with the requirement of the project in order to match with the main wire.

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## 5 电缆的电气和机械性能

### The electric and the mechanical performance of the cable

表1: 1kV交联聚乙烯绝缘架空电缆的电气和机械性能。

Table1:Electrical and mechanical properties of XLPE aerial insulated cable for rated voltage 0.6/1kV.

标称截面 Normal cross-sectional area mm <sup>2</sup>	20℃时导体直流电阻 不大于 Max.DC resistance of each conductor at 20℃ Ω/km			90℃时最小绝缘电阻 Min.insulation resistance at 90℃ MΩ km	电缆拉断力 不小于 Min.breaking strength of cable N		钢丝抗张强度 不小于 Min.tension strength of steel wire N/mm <sup>2</sup>
	软铜芯 Flexible-copper	铜芯 Cu.	铝芯 Al.		铜芯 Cu.	铝芯 Al.	
10	1.83	—	3.08	0.67	3471	1650	630
16	1.15	1.198	1.91	0.65	5486	2517	630
25	0.727	0.749	1.20	0.54	8465	3762	630
35	0.524	0.540	0.868	0.54	11731	5177	630
50	0.387	0.399	0.641	0.46	16502	7011	630
70	0.268	0.276	0.443	0.40	23461	10354	630
95	0.193	0.199	0.320	0.39	31759	13727	630
120	0.153	0.158	0.253	0.35	39911	17339	630
150	0.124	0.128	0.206	0.35	49505	21033	630
185	0.0991	0.1021	0.164	0.35	61846	26732	630
240	0.0754	0.0777	0.125	0.34	78923	34679	630

### 额定电压10kV、35kV架空绝缘电缆

#### Aerial Insulated Cable With Rated Voltage 10kV or 35 kV

## 1 标准及使用范围 Standard and application scope

本产品按国家标准GB14049—93进行生产，适用于交流额定电压U<sub>0</sub>(Um)为10(12)kV、35(42)kV的架空电力线路用铜芯、铝芯交联聚乙烯或高密度聚乙烯绝缘架空电缆。

This product is produced in accordance with the standard of GB14049-93. The products, Cu core or Al core XLPE or HDPE aerial insulated electric power cables, may be used The fields where the A.C. Rated voltage U<sub>0</sub>(Um) is 10(12)kV 35(42)kV individually.

## 2 使用特性 Using feature

2.1 电缆导体的最高允许工作温度(有承载结构电缆): 交联聚乙烯绝缘90℃;高密度聚乙烯绝缘75℃。

The Max. permitted working temperature of the cable'sconductor (cable having supporting structure) is: XLPE insulated electric power cable 90℃;HDPE insulated electric power cable 75℃.

2.2 短路时(最长持续时间不超过5秒钟)电缆最高温度应不超过: 交联聚乙烯绝缘250℃; 高密度聚乙烯绝缘150℃。

When short circuit(the Max. lasting time is not over 5seconds), the Max. temperature of the cable: XLPE insulated 250℃;HDPE insulated 150℃.

2.3 电缆敷设温度应不低于0℃。

When laying, the temperature should not be lower than 0℃.

2.4 电缆的允许弯曲半径不小于电缆弯曲试验时用圆柱体直径。

The permitted bend radius should not be less than the diameter of cylinder that had been used for the bend testing.

## 3 电缆的型号 Type of the cable

型号 Type	名称 Designation	主要用途 Main Application
JKYJ	铜芯交联聚乙烯绝缘架空电缆 Cu core XLPE aerial insulated cable	架空固定敷设，软铜芯产品用于变压器引线，电缆架设时，应考虑与树木保持一定距离，电缆运行时，允许电缆和树木频繁接触
JKTRYJ	软铜芯交联聚乙烯绝缘架空电缆 Soft Cu core XLPE aerial insulated cable	
JKLYJ	铝芯交联聚乙烯绝缘架空电缆 Al core XLPE aerial insulated cable	Aerial and fixed laying, the product of soft copper is used for leading wire or transformer When laying, a certain distance must be kept between the cable and the tree. When operation, the cable can contact with the tree equently
JKY	铜芯聚乙烯绝缘架空电缆 Cu core PE aerial insulated cable	
JKTRY	软铜芯聚乙烯绝缘架空电缆 Soft Cu core PE aerial insulated cable	
JKLY	铝芯聚乙烯绝缘架空电缆 Al core PE aerial insulated cable	

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型号 Type	名称 Designation	主要用途 Main Application
JKLYJ/B	铝芯本色交联聚乙烯绝缘架空电缆 Al core with essential color XLPE aerial insulated cable	电缆架设时, 应考虑与树木保持一定距离, 运行时只允许电缆与树木作短时接触。
JKLYJ/Q	铝芯轻型交联聚乙烯薄绝缘架空电缆 Al core light XLPE aerial insulated cable	
JKLY/Q	铝芯轻型聚乙烯薄绝缘架空电缆 Al core light PE aerial insulated cable	Aerial and fixed laying. when laying, a certion distance must be kept between the tree. when operaton, the cable can contact with the tree in a short time.
JKLGYJ-10KV	额定电压10kV铝绞线(带钢芯)交联聚乙烯架空电缆 Aluminium conductor (steel-reinforced) XLPE aerial insulated cable with rated voltage 10kV	
JKLGYJ/Q-10KV	额定电压10kV铝绞线(带钢芯)轻型交联聚乙烯架空电缆 Aluminium conductor (steel-reinforced) light XLPE aerial insulated cable with rated voltage 10kV	

## 4 额定电压10kV、35kV架空绝缘电缆

The specification aerial insulated Cable with rated voltage 10kV or 35kV

型号 Type	芯数 Number of core	额定电压 Rated Voltage (kV)	
		10	35
		标称截面 Normal Section Area mm <sup>2</sup>	
JKYJ JKTRYJ JKLYJ	1	10~300	5~300
	3	25~300	/
	3+K (A) Or 3+K (B)	25~300	/
		其中K25~120 In which.Kis25~120	/
JKY JKTRY JKLY	1	10~300	/
JKLYJ/Q JKLY/Q	3	25~300	/
		25~300	/
JKLYJ/B	3+K (A) Or 3+K (B)	其中K25~120 In which.Kis25~120	/

注: (1) 其中K为承载绞线, 按工程设计要求, 可任选上表中规定截面与相应导体截面相配。

Remark: (1) In which,K is a supporting twisted wire,ccording to the requirement of the project,the specified section listed in table may be selected to match with related conctor's section.

(2)其中(A)为钢承载绞线, (B)为铝合金承载绞线。

In which,(A) is a steel supporting twisted wire,and (B) is a Al alloy supporting twisted wire.

## 5 电缆的电气和机械性能 Electrical and mechanical properties

表1: 10kV、35kV交联聚乙烯绝缘架空电缆的电气和机械性能

Table1: Electrical and mechanical properties of XLPE insulated aerial cables for rated voltages up to 10kV、35kV

标称截面 Normal cross-sectional area mm <sup>2</sup>	20°C时导体直流电阻 不大于 Max.DC resistance of each conductor at 20°C Ω/km			电缆拉断力 不小于 Min.breaking strength of cable N		钢丝抗张强度 不小于 Min.tension strength of steel wire N/mm <sup>2</sup>
	软铜芯 Flexible-copper	铜芯 Cu.	铝芯 Al.	铜芯 Cu.	铝芯 Al.	
10	1.83	—	3.08	—	—	—
16	1.15	—	1.91	—	—	—
25	0.727	0.749	1.20	8465	3762	30000
35	0.524	0.540	0.868	11731	5177	42000
50	0.387	0.399	0.641	16502	7011	56550
70	0.268	0.276	0.443	23461	10354	81150
95	0.193	0.199	0.320	31759	13727	110150
120	0.153	0.158	0.253	39911	17339	—
150	—	0.128	0.206	49505	21033	—
185	—	0.1021	0.164	61846	26732	—
240	—	0.0777	0.125	78923	34679	—
300	—	0.0619	0.100	99788	43349	—

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## 6 电缆的结构尺寸及重量(表2、3、4、5) Structure,size and weight (Table2、3、4、5)

表2: (10kV)单芯电缆的结构尺寸及重量(带钢芯的参照以下尺寸)  
Table2: Structure,size and weight of single-core cable

标称截面 Normal cross-sectional area of conductor mm <sup>2</sup>	导体屏蔽厚度 Normal thickness of conductor screen mm	绝缘标称厚度 Normal thickness of insulation mm	电缆近似外径 Approx.overall diameter mm	电缆计算重量 Calculating weight Kg/km	
				JKYJ JKTRYJ	JKLYJ
10	0.5	3.4	12.0	196	121
16	0.5	3.4	13.0	274	153
25	0.5	3.4	14.0	353	178
35	0.5	3.4	15.0	452	237
50	0.5	3.4	16.1	576	284
70	0.5	3.4	17.9	785	364
95	0.6	3.4	19.7	1045	461
120	0.6	3.4	21.1	1283	547
150	0.6	3.4	22.5	1551	643
185	0.6	3.4	24.4	1902	765
240	0.6	3.4	26.6	2446	953
300	0.6	3.4	28.8	3286	1223

表3: (10kV)三芯电缆的结构尺寸及重量  
Table3: Structure,size and weight of three-core cable

标称截面 Normal cross-sectional area of conductor mm <sup>2</sup>	导体屏蔽厚度 Normal thickness of conductor screen mm	绝缘标称厚度 Normal thickness of insulation mm	绝缘屏蔽厚度 Normal thickness of insulation screen mm	电缆近似外径 Approx.overall diameter mm	电缆计算重量 Calculating weight Kg/km	
					JKYJ JKTRYJ	JKLYJ
3 25	0.5	3.4	1.0	34.2	1081	545
3 35	0.5	3.4	1.0	36.3	1384	726
3 50	0.5	3.4	1.0	38.7	1764	870
3 70	0.5	3.4	1.0	42.6	2401	1115
3 95	0.6	3.4	1.0	46.4	3201	1412
3 120	0.6	3.4	1.0	49.4	3930	1675
3 150	0.6	3.4	1.0	52.5	4751	1970
3 185	0.6	3.4	1.0	56.1	5826	2434
3 240	0.6	3.4	1.0	61.3	7492	2919
3 300	0.6	3.4	1.0	66.0	10065	3746

表4: (35kV) 单芯电缆的结构尺寸及重量  
Table 4: (35kV) structure, size and weight of single core cable

标称截面 Normal cross-sectional area of conductor mm <sup>2</sup>	导体屏蔽厚度 Normal thickness of conductor screen mm	绝缘标称厚度 Normal thickness of insulation mm	电缆近似外径 Approx.overall diameter mm	电缆计算重量 Calculating weight kg/km	
				JKYJ JKTRYJ	JKLYJ
1 50	0.8	9.3	27.0	993	680
1 70	0.8	9.3	29.0	1227	789
1 95	0.8	9.3	30.0	1500	905
1 120	0.8	9.3	32.0	1768	1016
1 150	0.8	9.3	33.0	2080	1140
1 185	0.8	9.3	35.0	2446	1287
1 240	0.8	9.3	37.0	3013	1510
1 300	0.8	9.3	39.0	3620	1740

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表5: (3+K) 电缆的结构尺寸及重量  
Table5: Structure, size and weight of (3+K)cable

标称截面 Normal cross-sectional area of conductor mm <sup>2</sup>	导体屏蔽厚度 Normal thickness of conductor screen mm	绝缘标称厚度 Normal thickness of insulation mm	绝缘屏蔽厚度 Normal thickness of insulation screen mm	护套厚度 Normal thickness of sheath mm	绕扎线尺寸 Size of lashing wire mm	电缆外形尺寸 Size of cables mm		电缆计算重量 Calculating weight Kg/km	
								JKTRYJV	JKLYJV
25	0.7	4.5	0.7	1.7	3.0 6.0	52	50	2049	—
35	0.7	4.5	0.7	1.7	3.0 6.0	55	51	2833	2174
50	0.7	4.5	0.7	1.8	3.0 6.0	59	54	3424	2532
70	0.7	4.5	0.7	1.8	3.0 6.0	64	57	4318	3031
95	0.7	4.5	0.7	1.9	3.0 6.0	69	63	5426	3638
120	0.7	4.5	0.7	1.9	3.0 6.0	73	64	6236	3980
150	0.7	4.5	0.7	2.0	3.0 6.0	77	67	7171	4388
185	0.7	4.5	0.7	2.0	3.0 6.0	82	70	8230	4748
240	0.7	4.5	0.7	2.1	3.0 6.0	89	76	10084	5511

注:25~95 mm<sup>2</sup>的电缆、钢承载线的截面相同; 95 mm<sup>2</sup>的电缆钢承载线的截面均为95 mm<sup>2</sup>。

Note:The cross-sectional area of steel messenger wire can be equivalent to the cross-sectional area of the main conductor for 25~95 mm<sup>2</sup> the cross-sectional area of steel wire can be over 95 mm<sup>2</sup> in excess of 95 mm<sup>2</sup>

## 7 电缆的连续载流量 Continuous current-ratings of cable

7.1 电缆的敷设方式: 空气中;  
Cable installing in air

7.2 电缆的敷设环境温度: 40°C;  
Ambient temperature :40°C

7.3 电缆所受的光照强度: 1000w/m<sup>2</sup>;  
Intensity of solar radiation: 1000w/m<sup>2</sup>

7.4 电缆连续载流量的参考值(表6)  
Continuous current ratings of cables(Table6)

表6: 1kV、10kV 交联聚乙烯绝缘架空电缆载流量  
Table 6: Current-ratings of aerial cables with XLPE insulation for rated voltages up to 1kV、10kV.

单位: 安培(A) Unit:(A)

型号 type	JKYJ-0.6/1kV JKTRYJ-0.6/1 kV JKLYJ-0.6/1 kV			JKTRYJV-10 kV JKLYJV-10 kV				
芯数 core No	单芯 single-core			三芯 Three-core			3+K	
标称截面 Normal.Cross-sectional area of conductor mm <sup>2</sup>	铜芯 Cu.	软铜芯 Flexible-copper	铝芯 Al.	铜芯 Cu.	软铜芯 Flexible-copper	铝芯 Al.	软铜芯 Flexible-copper	铝芯 Al.
10	91.2	92.7	71.2	—	—	—	—	—
16	119.8	121.7	94.2	—	—	—	—	—
25	157.1	158.7	123.2	121.1	122.4	95.0	108.9	—
35	191.1	193.1	149.6	147.1	148.6	115.2	132.1	102.3
50	229.6	232.1	179.8	176.2	178.1	138.1	157.2	121.8
70	289.4	292.4	226.8	221.5	223.8	173.7	196.1	152.1
95	353.8	357.7	277.1	270.5	273.5	211.9	238.0	184.5
120	409.0	413.8	321.1	312.2	315.8	245.1	273.8	212.5
150	467.0	427.4	365.9	355.9	360.0	278.9	310.8	240.8
185	539.2	544.8	423.0	410.2	414.4	321.9	351.3	272.9
240	642.6	649.4	504.4	487.6	492.7	383.0	453.2	352.1
300	744.3	750.7	582.9	563.1	568.5	441.7	—	—