



**WIRES & CABLES**

— 东方·电线电缆 —



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# 公司简介

## Company Profile

宁波东方电缆股份有限公司座落于浙江省宁波市，位于中国大陆海岸线中段，经济发达的长江三角洲南翼，毗邻上海、杭州，具有得天独厚深水良港的北仑。下辖子公司：江西东方电缆有限公司、宁波海缆研究院工程有限公司、宁波东方道柯海洋技术有限公司。

公司是国家级高新技术企业、国家创新型企业。我们致力于电力、建筑、通信、石化、轨道交通、风力发电、核能、海洋油气勘探、海洋军事等领域的光、电、复合缆的设计、研发，制造，安装和技术支持。承担了建国以来行业内唯一的国家科技支撑计划项目和国家863计划项目，并牵头起草了海底电缆国家标准，是国内唯一掌握海洋脐带缆的设计分析并能进行自主生产的企业。

公司拥有500kV及以下交流海缆、陆缆，±320kV及以下直流海缆、陆缆的系统研发生产能力，并涉及海底光电复合缆，海底光缆，智能电网用光电复合缆，核电缆，通信电缆，控制电缆，电线，综合布线，架空导线等一系列产品；同时提供海洋工程用线缆的客户定制化服务（如：脐带缆等）；并通过了ISO三大体系认证，拥有挪威船级社DNV认证证书。

公司以“自主创新、精益管理、优化资源、科学发展”为指导思想，依托承担国家科技支撑计划项目“220kV及以下光电复合海底电缆研发”、863计划项目“±320kV柔性直流输电用海缆研发”、“水下生产系统脐带缆关键技术研究”和牵头起草海底电缆国家标准的有力契机，以海缆研究院为龙头，以院士工作站为载体，以标准为策略，逐步建立了竞争情报体系、应用研发体系和动态管理体系，为中国海缆第一品牌的地位不动摇奠定了扎实基础。

展望未来，公司将持之以恒地肩负起“提供畅通的连接”这一伟大使命，积极把握时代发展脉搏，创新发展思维，全力实现“拥有自主知识产权，具备世界先进水平，具有国际核心竞争力的现代企业”的宏伟愿景。

Ningbo Orient Wires & Cables Co., Ltd is located in Ningbo city, Zhejiang province, middle of China coastline and southern of developed Yangtze River delta. She owns the unique deep-water port of Beilun and is very close to Shanghai and Hangzhou. Subsidiaries: Jiangxi Orient Wires & Cables Co., Ltd、Ningbo Submarine Cable Institute Engineering Co., Ltd、Ningbo Orient Downtech Offshore Technology Co.,Ltd..

The company is a state-level high-tech and state innovative enterprise. We are committed to the electricity, construction, communication, petrochemicals, Metro transportation, wind energy, nuclear energy, offshore oil and gas exploration, marine military fields, electricity and composite cable design, research & development, manufacture, installation and technical support. It has undertaken the State Science and Technology Supporting Plan projects and State Project of the 863 plan since the founding of PRC, it also takes the leader in drafting national standards for submarine cable, also is the only domestic self-production enterprise to master the design and analysis of marine umbilical cable.

The company has the research and development capacity of 500 kV and below AC submarine cable, land cable, ± 300 kV and below DC cable, land cable system and involve submarine optical composite cable, submarine

optical cable, cable restoration of intelligent grid, nuclear cable, communication cable, controlling cable, wire, comprehensive wiring, overhead wires and a series of other products. At the same time it can provide Marine Engineering with cable services (such as umbilical cable etc); The company has passed through the ISO three system certification, DNV certificate of Det Norske Veritas

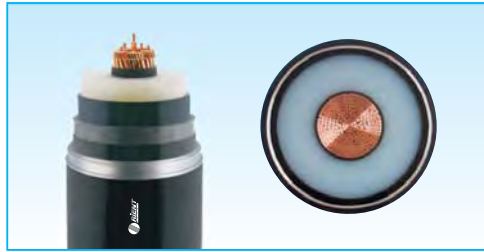
The company adopts the "Independent innovation, Precise Management; Optimize Resources, Scientific Development" as the guiding ideology. We undertake the National Science and Technology Plan projects (220 kV and below photoelectric composite submarine cables development) and the project of the 863 Plan (± 320kV Flexible DC transmission Submarine Cable R&D, key technology research on submarine production system). We are the leader in drafting the National Submarine Power Cable standard. We own the Ningbo Submarine Cable Institute as the academician workstation. We have established a whole competitive intelligent system, R&D system. We are becoming the first class manufacturer in China's Submarine Cable Industry.

The company will continue to persist the great mission of "providing the smooth connection" to the customer world widely.



# 500kV (光电复合)电力电缆

## “500kV Power cable W/T Optic Fiber”



▶ 执行标准:GB/T 22078-2008  
 ▶ Standard:GB/T 22078-2008

### 使用特性:

- 1.额定电压: 290/500kV 最高电压: 550kV.
- 2.导体长期最高工作温度90°C.
- 3.短路时(最长持续时间不超过5S), 电缆导体最高温度不超过250°C.
- 4.电缆敷设环境温度不低於0°C, 最小弯曲半径≥18D (D为电缆外径)。

### Application Performance:

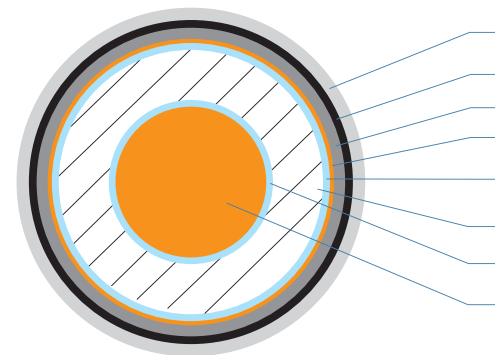
- 1.Rated voltage  $U_0/U$ : 290/500kV Max. voltage  $U_m$ : 550kV .
- 2.Max. long-term operating temperature of conductor 90°C.
- 3.Max. short-circuit temperature of conductor shall not exceed 250°C(5s Max. duration).
4. The ambient temperature under installation should not below 0°C, the min. bending radius  $\geq 18D$ . (D means diameter).

### >>> 技术参数 / Technical Specification

| 导体标称截面<br>Nominal section<br>mm <sup>2</sup> | 电缆近似外径<br>Approximate O. diameter<br>mm | 电缆近似重量<br>Approximate weight<br>kg/km |
|--|---|---------------------------------------|
| 800  | 150                                     | 23666                                 |
| 1000   | 150                                     | 25342                                 |
| 1200   | 154                                     | 27748                                 |
| 1400   | 158                                     | 30102                                 |
| 1600   | 161                                     | 32443                                 |
| 1800   | 164                                     | 34927                                 |
| 2000   | 167                                     | 37176                                 |
| 2500   | 173                                     | 42757                                 |
| 3000   | 179                                     | 48161                                 |



图 57 米KV 生产线



|   |                                    |
|---|------------------------------------|
| 1 | PVC护套<br>PVC sheath                |
| 2 | 皱纹护套<br>Corrugated Aluminum Sheath |
| 3 | 内衬层<br>Inner bedding               |
| 4 | 铜带<br>Copper tape                  |
| 5 | 绝缘屏蔽<br>Insulation Screen          |
| 6 | XLPE绝缘<br>XLPE insulation          |
| 7 | 导体屏蔽<br>Conductor Screen           |
| 8 | 导体<br>Conductor                    |

# 220kV (光电复合)电力电缆

## "220kV Power cable W/T Optic Fiber"



- ▶ 标准: IEC 62067、GB/Z 18890-2002, 另可按用户技术要求制造。
- ▶ Specification: Standard IEC 62067、GB/Z 18890-2002, also manufactured according to clients' technical requirement.

### 使用特性:

1. 额定电压 $U_0/U$ : 127/220kV, 最高电压 $U_m=252kV$ 。
2. 导体长期最高工作温度90°C。
3. 短路时(最长持续时间不超过5S), 电缆导体最高温度不超过250°C。
4. 电缆敷设环境温度不低於0°C, 最小弯曲半径 $\geq 18D$ (D为电缆外径)。

### Application:

1. Rated voltage  $U_0/U$ : 127/220kV, Max. voltage  $U_m=252kV$ 。
2. Max. long-term operating temperature of conductor 90°C。
3. Max. short-circuit temperature of conductor shall not exceed 250°C(5s Max. duration)。
4. The ambient temperature under installation should not below 0°C, the min.bending radius  $\geq 18D$ .(D means diameter)。

### 产品性能:

1. 成盘电缆施加1.5 $U_0$ 电压时, 无可检测出放电; 施加2.5 $U_0$ 电压历时30min, 电缆不击穿。
2. 绝缘偏心度不大于5%, 即 $T_{max}-T_{min}/T_{max} \times 100\% \leq 5\%$ 。
3. 800mm<sup>2</sup>及以上的导体采用分割导体结构。
4. 绝缘中无大于30 $\mu m$ 的微孔及无大于125 $\mu m$ 的不透明杂质和无大于160 $\mu m$ 的半透明深棕色杂质。
5. 半导体层突起不大于80 $\mu m$ , 半导体层与绝缘界面无大于50 $\mu m$ 微孔。

### Product Performance:

1. When the cable imposed 1.5 $U_0$  voltage, it cannot be detected discharge; when 2.5 $U_0$  voltage imposed during 30min, cable cannot be breakdown.
2. Insulated cores not more than 5%,  $T_{max}-T_{min}/T_{max} \times 100\% \leq 5\%$ 。
3. 800mm<sup>2</sup> or above adopt segmentation structure.
4. No 30 $\mu m$  micro-hole on the insulation and no larger than 125 $\mu m$  opaque translucent dark and brown impurities no greater than 160 $\mu m$ 。
5. Semi conducting layer jut is not more than 80 $\mu m$ , no 50 $\mu m$  micro-hole on the semi conducting layer and insulation interface.

### 型号及名称 / Type and Description

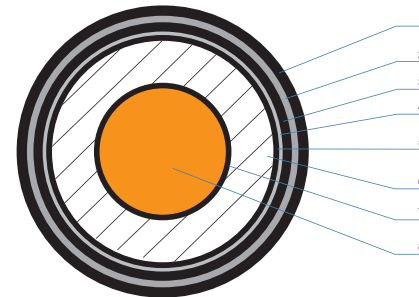
| 型号<br>Type   |                | 名称<br>Description  |
|--------------|----------------|--|
| 铜芯<br>Copper | 铝芯<br>Aluminum |  |
| YJLW02       | YJLLW02        | 交联聚乙烯绝缘皱纹铝护套套聚乙烯护套电力电缆<br>XLPE insulated corrugated aluminum armored PVC Power Cable                           |
| YJLW03       | YJLLW03        | 交联聚乙烯绝缘皱纹铝护套套聚乙烯护套电力电缆<br>XLPE insulated corrugated aluminum armored PE Power Cable                            |
| YJLW02-Z     | YJLLW02-Z      | 交联聚乙烯绝缘皱纹铝护套套聚乙烯护套纵向阻水电力电缆<br>Longitudinal water blocking XLPE insulated corrugated AL armored PVC Power Cable |
| YJLW03-Z     | YJLLW03-Z      | 交联聚乙烯绝缘皱纹铝护套套聚乙烯护套纵向阻水电力电缆<br>Longitudinal water blocking XLPE insulated corrugated AL armored PE Power Cable  |

## YJLW02(03)/YJLW02(03)-Z

| 额定电压<br>Rated voltage kV | 标称截面<br>Nominal section mm <sup>2</sup> | 电缆外径 (标称值)<br>Cable Dia. (Nominal) mm | 电缆重量 (近似值)<br>Cable Weight (Approximate) kg/km |          | 电缆载流量 (单端接地或交叉互联)<br>Current Capacity A (Single grounding or cross-bonding) |                             |                         |                             |
|--------------------------|---|---------------------------------------|--|----------|---|-----------------------------|-------------------------|-----------------------------|
|                          |   |                                       | YJLW02-Z                                       | YJLW03-Z | 直埋土壤中<br>Direct buried in earth   |                             | 空气中<br>In air           |                             |
|                          |   |                                       |  |          | 平行敷设<br>Parallel laying   | 品字形敷设<br>Trapezoidal laying | 平行敷设<br>Parallel laying | 品字形敷设<br>Trapezoidal laying |
| 220 kV                   | 400                                     | 121                                   | 13920  | 13030    | 682   | 610                         | 862                     | 870                         |
|                          | 500                                     | 124                                   | 15520  | 14610    | 774   | 695                         | 1002                    | 1011                        |
|                          | 630                                     | 127                                   | 17160  | 16230    | 875   | 782                         | 1159                    | 1172                        |
|                          | 800                                     | 129                                   | 19320  | 18370    | 1003  | 910                         | 1372                    | 1395                        |
|                          | 1000                                    | 132                                   | 21620  | 20650    | 1110  | 1016                        | 1560                    | 1589                        |
|                          | 1200                                    | 136                                   | 23760  | 22760    | 1181  | 1181                        | 1694                    | 1742                        |
|                          | 1400                                    | 140                                   | 26270  | 25240    | 1252  | 1252                        | 1845                    | 1907                        |
|                          | 1600                                    | 143                                   | 28370  | 27310    | 1310  | 1310                        | 1958                    | 2038                        |
|                          | 1800                                    | 147                                   | 30810  | 29720    | 1355  | 1355                        | 2066                    | 2158                        |
|                          | 2000                                    | 149                                   | 33040  | 31940    | 1392  | 1392                        | 2164                    | 2271                        |
| 2500                     | 157                                     | 38440                                 | 37270  | 1450     | 1450  | 2356                        | 2514                    |                             |

- 注: 1. 导体工作温度为90°C, 环境温度20°C。  
2. 埋地敷设时深度为1m, 环境热阻系数为1.2K·m/W。  
3. 电缆敷设间距为250mm。

- Note: 1. Conductor working temperature 90°C, ambient temperature 20°C.  
2. Installation buried depth 1m, Environmental thermal resistance coefficient 1.2K·m/W.  
3. The distance between cable is 250mm when laying.



|   |                                    |
|---|------------------------------------|
| 1 | 护套<br>Sheath                       |
| 2 | 皱纹护套<br>Corrugated Aluminum Sheath |
| 3 | 阻水层<br>Water-blocking layer        |
| 4 | 缓冲层<br>Cushioning layer            |
| 5 | 绝缘屏蔽<br>Insulation Screen          |
| 6 | XLPE绝缘<br>XLPE Insulation          |
| 7 | 导体屏蔽<br>Conductor Screen           |
| 8 | 导体<br>Conductor                    |

# 110kV (光电复合)电力电缆

## “110kV Power cable W/T Optic Fiber”



▶ 标准：IEC 60840、GB/T 11017-2002，另可按用户技术要求制造。

▶ Standard：IEC 60840、GB/T 11017-2002，also manufactured according to clients' technical requirement.

### 使用特性:

- 1.额定电压 $U_n/U_0$ : 64/110kV, 最高电压 $U_m=126kV$ 。
- 2.导体长期最高工作温度90°C。
- 3.短路时(最长持续时间不超过5S), 电缆导体最高温度不超过250°C。
- 4.电缆敷设环境温度不高于0°C, 最小弯曲半径 $20 \times (d+D)$  (d为导体外径,D为电缆外径)。

### Application:

1. Rated voltage  $U_n/U_0$ : 64/110kV, Max. voltage  $U_m=126kV$ .
2. Max. long-term operating temperature of conductor 90°C.
3. Max. short-circuit temperature of conductor shall not exceed 250°C (5s Max. duration).
4. The ambient temperature under installation should not below 0°C, Min bending radius  $20 \times (d+D)$  (d for conductor diameter, D for cable's outer diameter)

### 产品性能:

- 1.成盘电缆施加1.5 $U_0$ 电压时, 无可检测出放电; 施加2.5 $U_0$ 电压历时30min, 电缆不击穿。
- 2.绝缘偏心度不大于5%, 即 $T_{max}-T_{min}/T_{max} \times 100\% \leq 5\%$ 。
- 3.800mm<sup>2</sup>及以上的导体采用分割导体结构。
- 4.绝缘中无大于76 $\mu m$ 的微孔, 51-76 $\mu m$ 微孔数量小于18个/10m<sup>3</sup>。

### Product Performance:

1. When the cable imposed 1.5 $U_0$  voltage, it cannot be detected discharge; when 2.5 $U_0$  voltage imposed during 30min, cable cannot be breakdown.
2. Insulated cores less than 5%,  $T_{max}-T_{min}/T_{max} \times 100\% \leq 5\%$
3. 800mm<sup>2</sup> or above adopt segmentation structure.
4. No 76 $\mu m$  micro-hole on the insulation and 51-76 $\mu m$  micro-hole less than 18pcs/10m<sup>3</sup>.

### 型号及名称 / Type and Description

| 型号<br>Type   |                | 名称<br>Description  |
|--------------|----------------|--|
| 铜芯<br>Copper | 铝芯<br>Aluminum |  |
| YJLW02       | YJLLW02        | 交联聚乙烯绝缘皱纹铝护套聚氯乙烯护套电力电缆<br>XLPE insulated corrugated aluminum armored PVC Power Cable                           |
| YJLW03       | YJLLW03        | 交联聚乙烯绝缘皱纹铝护套聚乙烯护套电力电缆<br>XLPE insulated corrugated aluminum armored PE Power Cable                             |
| YJLW02-Z     | YJLLW02-Z      | 交联聚乙烯绝缘皱纹铝护套聚氯乙烯护套纵向阻水电力电缆<br>Longitudinal water blocking XLPE insulated corrugated AL armored PVC Power Cable |
| YJLW03-Z     | YJLLW03-Z      | 交联聚乙烯绝缘皱纹铝护套聚乙烯护套纵向阻水电力电缆<br>Longitudinal water blocking XLPE insulated corrugated AL armored PE Power Cable   |

| YJLW02(03)/YJLW02(03)-Z  |   |                                       |  |          |   |                        |                         |                        |
|--------------------------|---|---------------------------------------|--|----------|---|------------------------|-------------------------|------------------------|
| 额定电压<br>Rated voltage kV | 标称截面<br>Nominal section mm <sup>2</sup> | 电缆外径 (标称值)<br>Cable Dia. (Nominal) mm | 电缆重量 (近似值)<br>Cable Weight (Approximate) kg/km |          | 电缆载流量 (单端接地或交叉互联)<br>Current Capacity A (Single grounding or cross-bonding) |                        |                         |                        |
|                          |   |                                       | YJLW02-Z                                       | YJLW03-Z | 直埋土壤中<br>Direct buried in earth   |                        | 空气中<br>In air           |                        |
|                          |   |                                       |  |          | 平行敷设<br>Parallel laying   | 品字形敷设<br>Triple laying | 平行敷设<br>Parallel laying | 品字形敷设<br>Triple laying |
| 110kV                    | 240                                     | 91                                    | 8340   | 7810     | 552   | 500                    | 672                     | 677                    |
|                          | 300                                     | 92                                    | 9020   | 8480     | 625   | 562                    | 772                     | 778                    |
|                          | 400                                     | 93                                    | 9840   | 9300     | 723   | 644                    | 897                     | 903                    |
|                          | 500                                     | 95                                    | 11170  | 10610    | 813   | 732                    | 1042                    | 1044                   |
|                          | 630                                     | 100                                   | 13030  | 12370    | 918   | 742                    | 1408                    | 1089                   |
|                          | 800                                     | 103                                   | 15150  | 14470    | 1060  | 965                    | 1433                    | 1450                   |
|                          | 1000                                    | 107                                   | 17750  | 17040    | 1173  | 1077                   | 1625                    | 1648                   |
|                          | 1200                                    | 112                                   | 20080  | 19260    | 1248  | 1152                   | 1767                    | 1802                   |
|                          | 1400                                    | 117                                   | 22530  | 21670    | 1326  | 1240                   | 1933                    | 1980                   |
|                          | 1600                                    | 119                                   | 24560  | 23690    | 1390  | 1305                   | 2051                    | 2119                   |
|                          | 1800                                    | 122                                   | 26690  | 25790    | 1442  | 1367                   | 2162                    | 2247                   |
|                          | 2000                                    | 124                                   | 28880  | 27970    | 1495  | 1420                   | 2267                    | 2368                   |
| 2500                     | 132                                     | 34010                                 | 33040  | 1562     | 1515  | 2470                   | 2628                    |                        |

- 注: 1.导体工作温度为90°C, 环境温度20°C。  
2.埋地敷设时深度为1m, 环境热阻系数为1.2K·m/W。  
3.电缆敷设间距为250mm。

- Note: 1. Conductor working temperature 90°C, ambient temperature 20°C.  
2. Installation buried depth 1m, Environmental thermal resistance coefficient 1.2K·m/W.  
3. The distance between cable is 250mm when laying.



# 110kV (光电复合)电力电缆

“110kV Power cable W/T Optic Fiber”

## 额定电压110kV交联聚乙烯绝缘阻燃电力电缆 鉴定报告

2012年4月15日,中国电力企业联合会在浙江省宁波市组织召开了宁波东方电缆股份有限公司开发研制的“110kV交联聚乙烯绝缘皱纹铝套聚氯乙烯护套C类阻燃电力电缆(ZC-YJLW02 64/110 1×1200)”产品鉴定会。鉴定委员会听取了研制单位所作的研制总结等报告,审查了鉴定资料,考察了生产现场,并进行了现场检测。经认真讨论,形成鉴定意见如下:

1. 提供的鉴定资料齐全、完整、正确、统一,符合产品鉴定要求,可以指导生产;
2. 产品通过了电力工业电气设备质量检验测试中心的型式试验,各项性能指标均符合GB/T 11017—2002《额定电压110kV交联聚乙烯绝缘电力电缆及其附件》和IEC 60840:2004《额定电压30kV(U<sub>m</sub>=36kV)以上至150kV(U<sub>m</sub>=170kV)挤出绝缘电力电缆及其附件试验方法和要求》标准的要求。产品经现场检测,例行试验项目合格;
3. 公司采用VCV立式交联工艺生产,并配置在线偏心度检测仪,产品绝缘偏心度检测优于国家标准的要求;
4. 公司生产设备先进、齐全,检测手段完备,可以满足批量生产的要求;
5. 公司通过了GB/T 19001—2008 idt ISO 9001:2008质量管理体系认证、GB/T 24001—2004 idt ISO 14001:2004环境管理体系认证和GB/T 28001—2001 (covers OHSAS 18001:1999) 职业健康安全管理体系认证;
6. 产品经用户使用一年以上,运行情况良好。鉴定委员会认为,产品的综合技术性能达到国内先进水平,同意通过产品鉴定,可以批量生产。

## Rated voltage 110 kV XLPE insulated corrugated aluminum armored PVC category A flame-retardant Power Cable Appraisal Report

Apr, 15th.2012, China Federation of electric power enterprises organized and held a product appraisal meeting on rated voltage 110 kV XLPE insulated corrugated aluminum armored PVC Cat. C flame-retardant Power Cable that research and developed by Ningbo Orient Wires & Cables Company Limited in Ningbo city, Zhejiang. The Appraisal Committee listened the company report about the researching conclusion, reviewed the appraisal data, investigated and detected production site. And then reached the appraisal Suggestions are as follows:

1. The company provides complete, integrity, correct, unity identification data, meeting appraisal requirement, the cable can product.
2. The cable passed electric power industry electrical equipment quality inspection center type testing, the performance are all meet GB/T 11017—2002 (power cables with XLPE insulation and their accessories for rated voltage of 110kV) and IEC 60840:2004(Power cables with extruded insulation and their accessories for rated voltages above 30 kV (U<(Index)m> = 36 kV) up to 150 kV (U<(Index)m> = 170 kV) – Test methods and requirements) standard requirement. The cable passed field test and routine test.
3. The company adopts VCV Vertical cross linking production technology, and configured online Eccentricity tester, the cable insulation eccentricity precede national standard.
4. The company has advanced and complete production equipments, complete testing means, can meet mass production requirement.
5. The company passed GB/T 19001—2008 idt ISO 9001:2008 Quality management system certification, GB/T 24001—2004 idt ISO 14001:2004 Environmental management system certification, and GB/T 28001—2001 (covers OHSAS 18001:1999) Occupation health safety management system certification.
6. The cable has been in satisfied operation for more than one year.

The Appraisal Committee concludes: this cable's Comprehensive technical performance reaches domestic advanced level, and the cable agreed to pass appraisal and can be put into mass production.



# 6-35kV电力电缆

## “6-35kV Power Cable”



标准：GB/T 12706-2008 idt IEC 60502-1997, 适用于配电网或工业装置。

Standard: GB/T 12706-2008 idt IEC 60502-1997, Apply to the distribution network or industrial device.

### 使用特性:

1. 电缆的最高长期工作温度90℃。
2. 电缆敷设时环境温度不低於 $\geq 0^{\circ}\text{C}$ 。
3. 短路时，电缆导体最高温度250℃，持续时间不超过5秒。
4. 电缆的允许弯曲半径：单芯电缆：20D, mm 多芯电缆：15D, mm D——电缆的实际外径。

### Application:

1. Max. long-term operating temperature of conductor 90℃.
2. The ambient temperature under installation should not below 0℃.
3. Max. short-circuit temperature of conductor shall not exceed 250℃(5s Max. duration).
4. the Min.bending radius: Single-core: 20D, mm multi-core cable: 15D, mm (D means actual cable diameter) .

### 产品性能:

1. 20℃导体直流电阻符合GB/T 3956-2008的要求。
2. 交流电压试验，额定电压 $U_0$ 为3.6kV 以下电缆施加 $2.5U_0+2\text{kV}$ 电压； $U_0$ 为3.6kV及以上电缆施加 $3.5U_0$ 电压，持续5分钟不击穿。

### Product Performance:

1. DC resistance comply with the GBT 3956-2008 requirements at 20℃ .
2. AC voltage test, rated voltage  $U_0$  imposed 3.6kV on cable  $2.5U_0+2\text{kV}$ ; the  $U_0$  is above 3.6kV and cable  $3.5U_0$  voltage imposed, for 5 minutes without breakdown.

### 型号/ Type

| 型号<br>Type | 名称<br>Description   | 用途<br>Application  |
|------------|---|--|
| YJV        | 交联聚乙烯绝缘聚氯乙烯护套电力电缆<br>XLPE Insulated PVC sheathed Power Cable                        | 可敷设在室内、隧道及管道中<br>Apply to indoor, tunnel, and channel.   |
| YJY        | 交联聚乙烯绝缘聚乙烯护套电力电缆<br>XLPE Insulated PE sheathed Power Cable                          |  |
| YJV22      | 交联聚乙烯绝缘钢带铠装聚氯乙烯护套电力电缆<br>XLPE Insulated steel tape armored PVC sheathed Power Cable | 敷设在室内、电缆沟、管道、直埋等能承受较大机械外力等固定场合。<br>Apply to indoors, trenches, channel and ground, fixed installation be able to withstand large mechanical force. |
| YJV23      | 交联聚乙烯绝缘钢带铠装聚乙烯护套电力电缆<br>XLPE Insulated steel tape armored PE sheathed Power Cable   |  |
| YJV32      | 交联聚乙烯绝缘钢丝铠装聚氯乙烯护套电力电缆<br>XLPE Insulated steel wire armored PVC sheathed Power Cable | 敷设在高落差、竖井、可承受一定的机械拉力等场合。<br>Apply to high drop, well, and other occasions can be withstand certain mechanical tension.                             |
| YJV33      | 交联聚乙烯绝缘钢丝铠装聚乙烯护套电力电缆<br>XLPE Insulated steel wire armored PE sheathed Power Cable   |  |

| YJV   | 6/6kV、6/10kV                          |  | 8.7/10kV、8.7/15kV                     |  | 26/35kV                               |  |
|-------|---------------------------------------|--|---------------------------------------|--|---------------------------------------|--|
|       | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) Kg/km | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) Kg/km | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) Kg/km |
| 1×25  | 20                                    | 571  | 22                                    | 649  | 35                                    | 1279                                       |
| 1×35  | 21                                    | 678  | 23                                    | 770  | 36                                    | 1407                                       |
| 1×50  | 22                                    | 818  | 24                                    | 915  | 37                                    | 1576                                       |
| 1×70  | 24                                    | 1053                                       | 26                                    | 1156                                       | 39                                    | 1855                                       |
| 1×95  | 25                                    | 1325                                       | 28                                    | 1434                                       | 41                                    | 2163                                       |
| 1×120 | 27                                    | 1588                                       | 29                                    | 1703                                       | 42                                    | 2465                                       |
| 1×150 | 29                                    | 1870                                       | 31                                    | 1991                                       | 44                                    | 2782                                       |
| 1×185 | 31                                    | 2266                                       | 33                                    | 2395                                       | 46                                    | 3230                                       |
| 1×240 | 33                                    | 2839                                       | 35                                    | 2977                                       | 48                                    | 3858                                       |
| 1×300 | 35                                    | 3441                                       | 38                                    | 3588                                       | 51                                    | 4514                                       |
| 1×400 | 39                                    | 4293                                       | 41                                    | 4434                                       | 54                                    | 5424                                       |
| 1×500 | 43                                    | 5462                                       | 46                                    | 5638                                       | 61                                    | 7106                                       |
| 1×630 | 47                                    | 6871                                       | 49                                    | 7040                                       | 65                                    | 8728                                       |
| 1×800 | 51                                    | 8580                                       | 53                                    | 8785                                       | 69                                    | 10855                                      |

| YJV   | 6/6kV、6/10kV                          |  | 8.7/10kV、8.7/15kV                     |  | 26/35kV                               |  |
|-------|---------------------------------------|--|---------------------------------------|--|---------------------------------------|--|
|       | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) Kg/km | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) Kg/km | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) Kg/km |
| 3×25  | 39                                    | 1858                                       | 45                                    | 2182                                       | 72                                    | 4511                                       |
| 3×35  | 42                                    | 2220                                       | 47                                    | 2556                                       | 74                                    | 4971                                       |
| 3×50  | 45                                    | 2691                                       | 50                                    | 3047                                       | 77                                    | 5573                                       |
| 3×70  | 48                                    | 3430                                       | 53                                    | 3811                                       | 81                                    | 6466                                       |
| 3×95  | 52                                    | 4313                                       | 57                                    | 4724                                       | 85                                    | 7514                                       |
| 3×120 | 55                                    | 5135                                       | 60                                    | 5568                                       | 88                                    | 8477                                       |
| 3×150 | 59                                    | 6062                                       | 64                                    | 6514                                       | 91                                    | 9548                                       |
| 3×185 | 63                                    | 7308                                       | 68                                    | 7821                                       | 96                                    | 11039                                      |

# 6-35kV电力电缆

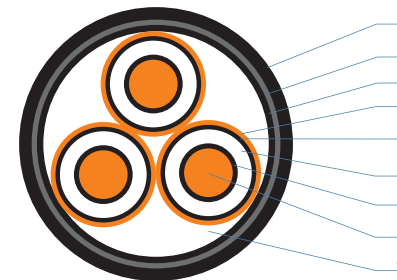
## “6-35kV Power Cable”

| YJV   | 6/6kV、6/10kV                          |  | 8.7/10kV、8.7/15kV                     |  | 26/35kV                               |  |
|-------|---------------------------------------|--|---------------------------------------|--|---------------------------------------|--|
|       | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) kg/km | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) kg/km | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) kg/km |
| 3×240 | 68                                    | 9127                                       | 73                                    | 9649                                       | 101                                   | 13033                                      |
| 3×300 | 73                                    | 11100                                      | 78                                    | 11655                                      | 106                                   | 15246                                      |
| 3×400 | 80                                    | 13772                                      | 85                                    | 14374                                      | 113                                   | 18209                                      |
| 3×500 | 90                                    | 17594                                      | 96                                    | 18350                                      | 130                                   | 23908                                      |
| 3×630 | 98                                    | 21983                                      | 103                                   | 22806                                      | 138                                   | 29189                                      |
| 3×800 | 106                                   | 27425                                      | 112                                   | 28315                                      | 149                                   | 36094                                      |

| YJV22 | 6/6kV、6/10kV                          |  | 8.7/10kV、8.7/15kV                     |  | 26/35kV                               |  |
|-------|---------------------------------------|--|---------------------------------------|--|---------------------------------------|--|
|       | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) kg/km | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) kg/km | 电缆近似外径<br>Cable Dia. (approximate) mm | 电缆近似重量<br>Cable Weight (approximate) kg/km |
| 3×25  | 45                                    | 2825                                       | 50                                    | 3269                                       | 78                                    | 6422                                       |
| 3×35  | 47                                    | 3238                                       | 52                                    | 3668                                       | 82                                    | 7705                                       |
| 3×50  | 50                                    | 3778                                       | 55                                    | 4227                                       | 85                                    | 8412                                       |
| 3×70  | 53                                    | 4604                                       | 59                                    | 5134                                       | 88                                    | 9448                                       |
| 3×95  | 57                                    | 5627                                       | 63                                    | 6162                                       | 92                                    | 10626                                      |
| 3×120 | 61                                    | 6526                                       | 66                                    | 7084                                       | 95                                    | 11701                                      |
| 3×150 | 64                                    | 7538                                       | 69                                    | 8112                                       | 99                                    | 12988                                      |
| 3×185 | 69                                    | 8894                                       | 74                                    | 9498                                       | 104                                   | 14651                                      |
| 3×240 | 74                                    | 10829                                      | 79                                    | 11552                                      | 108                                   | 16816                                      |
| 3×300 | 79                                    | 13008                                      | 86                                    | 14496                                      | 114                                   | 19222                                      |
| 3×400 | 87                                    | 16678                                      | 93                                    | 17455                                      | 121                                   | 22431                                      |
| 3×500 | 98                                    | 20855                                      | 103                                   | 21801                                      | 137                                   | 28545                                      |
| 3×630 | 106                                   | 25655                                      | 111                                   | 26522                                      | 145                                   | 34124                                      |
| 3×800 | 114                                   | 34354                                      | 119                                   | 32329                                      | 156                                   | 41387                                      |



导体盘绞设备  
Conductor drum twister equipment



|   |                                    |
|---|------------------------------------|
| 1 | PVC护套<br>PVC sleeve                |
| 2 | 皱纹铝套<br>Corrugated Aluminum Sheath |
| 3 | 内衬层<br>Inner bedding               |
| 4 | 铜带<br>Copper Tape                  |
| 5 | 绝缘屏蔽<br>Insulation Screen          |
| 6 | XLPE绝缘<br>XLPE Insulation          |
| 7 | 导体屏蔽<br>Conductor Screen           |
| 8 | 导体<br>Conductor                    |
| 9 | 填充<br>Filler                       |



# 额定电压1kV 塑料绝缘电力电缆

## “Rated voltage 1kV Plastic insulated power cable”



- 标准: GB/T12706.1-2008.
- Standard: GB/T12706.1-2008.
- 用途:用于配电网或工业装置中额定电压为0.6/1kV及以下固定安装的铜芯、铝芯电力电缆。
- Application: Apply to the distribution network or industrial device 0.6/1kV and below fixed installation of copper, aluminum power cable.

### 使用要求:

1. PVC绝缘电缆导体允许长期工作温度不超过70°C, XLPE绝缘电缆导体允许长期工作温度不超过90°C.
2. 电缆敷设时的环境温度不宜低于0°C.
3. 电缆敷设时:
  - ①单芯无铠装电缆弯曲半径应不小于电缆外径的20倍.
  - ②单芯铠装电缆弯曲半径应不小于电缆外径的15倍.
  - ③多芯无铠装电缆弯曲半径应不小于电缆外径的15倍.
  - ④多芯铠装电缆弯曲半径应不小于电缆外径的12倍.

### 产品性能:

1. 20°C导体直流电阻符合GB/T3956-2008规定要求.
2. 交流电压试验: 3.5kV电压5分钟不击穿.

### Product Performance:

1. DC resistance comply with the GB/T 3956-2008 requirements at 20 °C.
2. AC voltage test, the  $U_0$  is above 3.5kV for 5 minutes without breakdown.

### Use requirement:

1. PVC power cable max. long-term operating temperature of conductor not exceed 70°C. XLPE power cable max. long-term operating temperature of conductor not exceed 70°C.
2. The ambient temperature under installation should not below 0°C.
3. when cable laying:
  - ①The bending radius of single core non sheathed cable should be not less than 20 times compared the cable diameter under installation.
  - ②The bending radius of single core sheathed cable should be not less than 15 times compared the cable diameter under installation.
  - ③The bending radius of multi core non sheathed cable should be not less than 15 times compared the cable diameter under installation.
  - ④The bending radius of multi core sheathed cable should be not less than 12 times compared the cable diameter under installation.

### 型号 / Type

| 型号<br>Type | 名称<br>Description   | 用途<br>Application  |
|------------|---|--|
| VV         | 聚氯乙烯绝缘聚氯乙烯护套电力电缆<br>PVC insulated PVC sheathed power cable                          | 可敷设在室内、隧道及管道中<br>Apply to indoor, tunnel, and channel  |
| VV22       | 聚氯乙烯绝缘钢带铠装聚氯乙烯护套电力电缆<br>PVC insulated steel tape armored PVC sheathed power cable   | 敷设在室内、电缆沟、管道、直埋等能承受较大机械外力等固定场合<br>Apply to indoors, trenches, channel and ground, fixed installation be able to withstand large mechanical force |
| YJV        | 交联聚乙烯绝缘聚氯乙烯护套电力电缆<br>XLPE insulated PVC sheathed Power Cable                        | 可敷设在室内、隧道及管道中<br>Apply to indoor, tunnel, and channel  |
| YJV22      | 交联聚乙烯绝缘钢带铠装聚氯乙烯护套电力电缆<br>XLPE insulated PVC sheathed steel tape armored power cable | 敷设在室内、电缆沟、管道、直埋等能承受较大机械外力等固定场合<br>Apply to indoors, trenches, channel and ground, fixed installation be able to withstand large mechanical force |
| YJY        | 交联聚乙烯绝缘聚乙烯护套电力电缆<br>XLPE Insulated PE sheathed Power Cable                          | 可敷设在室内、隧道及管道中<br>Apply to indoor, tunnel, and channel  |
| YJV23      | 交联聚乙烯绝缘钢带铠装聚乙烯护套电力电缆<br>XLPE insulated PE sheathed steel tape armored power cable   | 敷设在室内、电缆沟、管道、直埋等能承受较大机械外力等固定场合<br>Apply to indoors, trenches, channel and ground, fixed installation be able to withstand large mechanical force |

### 规格和结构尺寸 / Specification & Dimension

| 规格<br>芯数×截面<br>Spec<br>core×section<br>mm² | 电缆近似外径<br>Cable Dia. (approximate) mm |      |          |       | 电缆近似重量<br>Cable Weight (approximate) kg/km |       |       |       |       |
|--|---------------------------------------|------|----------|-------|--|-------|-------|-------|-------|
|  | VV                                    | VV22 | YJV(YJY) | YJV22 | VV   | VV22  | YJV   | YJY   | YJV22 |
| 1×1.5                                      | 5.8                                   | —    | 5.6      | —     | 44   | —     | 44    | 35    | —     |
| 1×2.5                                      | 6.2                                   | —    | 6.0      | —     | 56   | —     | 56    | 47    | —     |
| 1×4  | 7.1                                   | —    | 6.5      | —     | 73   | —     | 73    | 63    | —     |
| 1×6  | 7.6                                   | —    | 7.0      | —     | 95   | —     | 95    | 83    | —     |
| 1×10                                       | 8.9                                   | —    | 8.3      | —     | 142  | —     | 142   | 128   | —     |
| 1×16                                       | 10.0                                  | —    | 9.3      | —     | 204  | —     | 204   | 187   | —     |
| 1×25                                       | 11.7                                  | —    | 11.1     | —     | 305  | —     | 305   | 285   | —     |
| 1×35                                       | 12.8                                  | —    | 12.2     | —     | 403  | —     | 403   | 380   | —     |
| 1×50                                       | 13.8                                  | —    | 13.0     | —     | 534  | —     | 534   | 510   | —     |
| 1×70                                       | 15.5                                  | —    | 14.9     | —     | 729  | —     | 729   | 700   | —     |
| 1×95                                       | 17.8                                  | —    | 16.8     | —     | 970  | —     | 970   | 935   | —     |
| 1×120                                      | 19.2                                  | —    | 18.4     | —     | 1207                                       | —     | 1207  | 1168  | —     |
| 1×150                                      | 21.4                                  | —    | 20.6     | —     | 1507                                       | —     | 1507  | 1461  | —     |
| 1×185                                      | 23.5                                  | —    | 22.7     | —     | 1853                                       | —     | 1853  | 1802  | —     |
| 1×240                                      | 26.4                                  | —    | 25.4     | —     | 2380                                       | —     | 2380  | 2318  | —     |
| 1×300                                      | 29.0                                  | —    | 27.8     | —     | 2949                                       | —     | 2949  | 2877  | —     |
| 1×400                                      | 32.4                                  | —    | 31.2     | —     | 3892                                       | —     | 3892  | 3807  | —     |
| 1×500                                      | 36.3                                  | —    | 35.1     | —     | 4850                                       | —     | 4850  | 4749  | —     |
| 1×630                                      | 40.1                                  | —    | 39.1     | —     | 6078                                       | —     | 6078  | 5954  | —     |
| 2×1.5                                      | 9.8                                   | —    | 9.4      | —     | 116  | —     | 103   | 82    | —     |
| 2×2.5                                      | 10.6                                  | —    | 10.2     | —     | 146  | —     | 131   | 109   | —     |
| 2×4  | 12.4                                  | 15.2 | 11.1     | 14.3  | 202  | 202   | 170   | 170   | 314   |
| 2×6  | 13.4                                  | 16.2 | 12.2     | 15.4  | 252  | 252   | 221   | 196   | 377   |
| 2×10                                       | 16.6                                  | 19.4 | 15.4     | 18.6  | 374  | 374   | 338   | 310   | 534   |
| 2×16                                       | 18.7                                  | 21.5 | 17.5     | 20.7  | 507  | 507   | 474   | 437   | 696   |
| 2×25                                       | 22.2                                  | 25.0 | 20.9     | 24.2  | 756  | 756   | 703   | 660   | 967   |
| 2×35                                       | 24.4                                  | 27.2 | 23.2     | 26.5  | 964  | 964   | 904   | 852   | 1196  |
| 2×50                                       | 26.3                                  | 29.3 | 24.7     | 27.9  | 1258                                       | 1258  | 1175  | 1116  | 1485  |
| 2×70                                       | 29.9                                  | 32.7 | 28.5     | 31.9  | 1700                                       | 1700  | 1601  | 1538  | 1972  |
| 2×95                                       | 34.4                                  | 37.8 | 32.3     | 35.5  | 2264                                       | 2264  | 2134  | 2057  | 2536  |
| 2×120                                      | 37.4                                  | 42.0 | 35.7     | 40.3  | 2770                                       | 2770  | 2638  | 2541  | 3480  |
| 2×150                                      | 41.6                                  | 46.4 | 39.9     | 44.7  | 3438                                       | 3438  | 3280  | 3153  | 4237  |
| 3×1.5                                      | 10.3                                  | —    | 9.80     | —     | 137  | 137   | 125   | 103   | —     |
| 3×2.5                                      | 11.1                                  | —    | 10.7     | —     | 183  | 183   | 164   | 140   | —     |
| 3×4  | 13.0                                  | 15.8 | 11.7     | 14.9  | 260  | 260   | 218   | 191   | 369   |
| 3×6  | 14.1                                  | 16.9 | 12.8     | 16.0  | 336  | 336   | 289   | 259   | 453   |
| 3×10                                       | 17.5                                  | 20.3 | 16.2     | 19.4  | 513  | 513   | 446   | 407   | 652   |
| 3×16                                       | 19.8                                  | 22.6 | 18.5     | 21.7  | 707  | 707   | 643   | 597   | 877   |
| 3×25                                       | 23.5                                  | 26.3 | 22.2     | 25.4  | 1044                                       | 1044  | 962   | 906   | 1241  |
| 3×35                                       | 25.9                                  | 28.7 | 24.7     | 27.9  | 1371                                       | 1371  | 1262  | 1199  | 1572  |
| 3×50                                       | 28.0                                  | 31.4 | 26.3     | 29.7  | 1802                                       | 1802  | 1661  | 1594  | 2004  |
| 3×70                                       | 31.8                                  | 35.0 | 30.6     | 33.8  | 2417                                       | 2417  | 2289  | 2206  | 2671  |
| 3×95                                       | 36.8                                  | 41.0 | 34.6     | 37.6  | 3242                                       | 3242  | 3029  | 2929  | 3441  |
| 3×120                                      | 40.0                                  | 44.6 | 38.3     | 42.9  | 3958                                       | 3958  | 3772  | 3655  | 4671  |
| 3×150                                      | 44.5                                  | 49.5 | 42.8     | 47.8  | 4938                                       | 4938  | 4706  | 4563  | 5754  |
| 3×185                                      | 49.0                                  | 54.0 | 47.3     | 52.3  | 6042                                       | 6042  | 5770  | 5605  | 6923  |
| 3×240                                      | 55.2                                  | 60.6 | 53.1     | 58.5  | 7734                                       | 7734  | 7430  | 7228  | 8773  |
| 3×300                                      | 60.8                                  | 66.4 | 58.3     | 63.9  | 9616                                       | 9616  | 9176  | 8937  | 10671 |
| 3×400                                      | 68.1                                  | 73.9 | 65.6     | 71.4  | 12620                                      | 12620 | 12070 | 11781 | 13783 |
| 3×2.5+1×1.5                                | 11.8                                  | 14.6 | 11.3     | 14.5  | 214  | 214   | 189   | 163   | 334   |
| 3×4+1×2.5                                  | 13.6                                  | 16.4 | 12.4     | 15.6  | 300  | 300   | 255   | 226   | 414   |
| 3×6+1×4                                    | 15.1                                  | 17.9 | 13.6     | 16.8  | 400  | 400   | 352   | 320   | 515   |

# 额定电压1kV 塑料绝缘电力电缆

## “Rated voltage 1kV Plastic insulated power cable”

### >>> 规格和结构尺寸 / Specification & Dimension

| 规格<br>芯数×截面<br>Spec<br>core × section<br>mm | 电缆近似外径<br>Cable Dia. (approximate) mm |      |          |       | 电缆近似重量<br>Cable Weight (approximate) kg/km |       |       |       |       |
|---|---------------------------------------|------|----------|-------|--|-------|-------|-------|-------|
|   | VV                                    | VV22 | YJV(YJY) | YJV22 | VV   | VV22  | YJV   | YJY   | YJV22 |
| 3×10+1×6                                    | 18.3                                  | 21.1 | 16.9     | 20.1  | 589  | 802   | 518   | 477   | 732   |
| 3×16+1×10                                   | 21.0                                  | 23.8 | 19.5     | 22.7  | 829  | 1072  | 757   | 708   | 1004  |
| 3×25+1×16                                   | 24.8                                  | 27.6 | 23.3     | 26.5  | 1231                                       | 1517  | 1139  | 1080  | 1432  |
| 3×35+1×25                                   | 26.9                                  | 29.7 | 25.4     | 28.6  | 1549                                       | 1858  | 1450  | 1385  | 1769  |
| 3×50+1×35                                   | 29.8                                  | 33.0 | 27.8     | 31.0  | 2091                                       | 2465  | 1946  | 1874  | 2294  |
| 3×70+1×50                                   | 33.8                                  | 37.0 | 32.1     | 35.5  | 2843                                       | 3264  | 2652  | 2564  | 3078  |
| 3×95+1×70                                   | 38.4                                  | 43.2 | 36.0     | 40.6  | 3758                                       | 4678  | 3530  | 3421  | 4379  |
| 3×120+1×95                                  | 42.1                                  | 47.3 | 40.3     | 45.5  | 4699                                       | 5756  | 4479  | 4350  | 5490  |
| 3×150+1×120                                 | 46.2                                  | 51.2 | 44.1     | 49.3  | 5689                                       | 6818  | 5407  | 5260  | 6509  |
| 3×185+1×150                                 | 51.1                                  | 56.3 | 49.0     | 54.2  | 7042                                       | 8312  | 6703  | 6525  | 7919  |
| 3×240+1×185                                 | 57.3                                  | 62.9 | 54.9     | 60.5  | 9016                                       | 10491 | 8583  | 8367  | 9998  |
| 3×300+1×240                                 | 63.2                                  | 69.0 | 60.5     | 66.3  | 11144                                      | 12796 | 10655 | 10407 | 12236 |
| 3×400+1×300                                 | 70.6                                  | 76.0 | 68.1     | 74.1  | 14472                                      | 16243 | 13922 | 13612 | 15728 |
| 4×2.5                                       | 12.0                                  | 14.8 | 11.5     | 14.7  | 226  | 368   | 206   | 180   | 353   |
| 4×4   | 14.1                                  | 16.9 | 12.7     | 15.9  | 324  | 489   | 277   | 247   | 439   |
| 4×6   | 15.4                                  | 18.2 | 13.9     | 17.1  | 415  | 595   | 363   | 330   | 540   |
| 4×10  | 19.1                                  | 21.9 | 17.6     | 20.8  | 637  | 858   | 565   | 522   | 788   |
| 4×16  | 21.7                                  | 24.5 | 20.2     | 23.4  | 892  | 1142  | 817   | 767   | 1072  |
| 4×25  | 25.8                                  | 28.6 | 24.4     | 27.6  | 1334                                       | 1632  | 1240  | 1178  | 1546  |
| 4×35  | 28.6                                  | 31.6 | 27.1     | 30.5  | 1760                                       | 2103  | 1648  | 1578  | 2001  |
| 4×50  | 31.1                                  | 34.5 | 29.1     | 32.3  | 2365                                       | 2769  | 2187  | 198   | 2551  |
| 4×70  | 35.4                                  | 40.2 | 33.9     | 37.1  | 3164                                       | 4020  | 3019  | 2921  | 3441  |
| 4×95  | 40.9                                  | 45.7 | 38.2     | 43.0  | 4228                                       | 5202  | 3976  | 3860  | 4895  |
| 4×120                                       | 44.5                                  | 49.7 | 42.3     | 47.5  | 5221                                       | 6332  | 4957  | 4816  | 6017  |
| 4×150                                       | 49.7                                  | 54.7 | 47.5     | 52.7  | 6517                                       | 7728  | 6219  | 6053  | 7403  |
| 4×185                                       | 54.5                                  | 60.1 | 52.5     | 58.1  | 7953                                       | 9362  | 7622  | 7423  | 8979  |
| 4×240                                       | 61.7                                  | 67.1 | 59.0     | 64.6  | 10302                                      | 11854 | 9815  | 9573  | 11330 |
| 4×300                                       | 67.9                                  | 73.3 | 64.7     | 70.3  | 12721                                      | 14424 | 12134 | 11850 | 13790 |
| 4×400                                       | 75.8                                  | 81.6 | 72.9     | 78.9  | 16663                                      | 18638 | 16000 | 15647 | 17932 |
| 3×2.5+2×1.5                                 | 12.6                                  | 15.4 | 12.0     | 15.2  | 224  | 392   | 218   | 190   | 372   |
| 3×4+2×2.5                                   | 14.4                                  | 17.6 | 13.2     | 16.4  | 339  | 525   | 294   | 263   | 462   |
| 3×6+2×4                                     | 16.2                                  | 19.4 | 14.5     | 17.7  | 452  | 660   | 392   | 359   | 577   |
| 3×10+2×6                                    | 19.5                                  | 22.7 | 17.8     | 21.0  | 676  | 928   | 614   | 570   | 823   |
| 3×16+2×10                                   | 22.6                                  | 25.8 | 20.9     | 24.1  | 967  | 1253  | 870   | 818   | 1145  |
| 3×25+2×16                                   | 26.5                                  | 29.7 | 24.8     | 28.0  | 1441                                       | 1775  | 1318  | 1255  | 1630  |
| 3×35+2×25                                   | 28.4                                  | 31.8 | 26.7     | 30.1  | 1749                                       | 2119  | 1642  | 1574  | 1990  |
| 3×50+2×35                                   | 32.0                                  | 35.4 | 30.0     | 33.2  | 2399                                       | 2814  | 2454  | 2372  | 2634  |
| 3×70+2×50                                   | 36.3                                  | 40.9 | 34.7     | 37.7  | 3236                                       | 4094  | 3082  | 2982  | 3495  |
| 3×95+2×70                                   | 41.0                                  | 46.0 | 38.4     | 43.2  | 4302                                       | 5304  | 4130  | 4013  | 5054  |
| 3×120+2×95                                  | 45.5                                  | 50.5 | 43.3     | 48.5  | 5498                                       | 6610  | 5304  | 5159  | 6386  |
| 3×150+2×120                                 | 49.0                                  | 54.0 | 47.0     | 52.0  | 6467                                       | 7660  | 6236  | 6072  | 7380  |
| 3×185+2×150                                 | 54.7                                  | 59.9 | 52.1     | 57.5  | 8147                                       | 9500  | 7747  | 7549  | 9065  |
| 3×240+1×120                                 | 61.0                                  | 66.4 | 58.5     | 63.9  | 10340                                      | 11876 | 9894  | 9654  | 11365 |
| 4×2.5+1×1.5                                 | 12.8                                  | 15.6 | 12.2     | 15.4  | 254  | 404   | 227   | 199   | 384   |
| 4×4+1×2.5                                   | 14.9                                  | 18.1 | 13.5     | 16.7  | 357  | 549   | 309   | 277   | 480   |
| 4×6+1×4                                     | 16.5                                  | 19.7 | 14.8     | 18.0  | 474  | 685   | 413   | 377   | 602   |
| 4×10+1×6                                    | 20.2                                  | 23.4 | 18.5     | 21.7  | 717  | 975   | 596   | 549   | 881   |
| 4×16+1×10                                   | 23.1                                  | 26.3 | 21.5     | 24.7  | 1042                                       | 1334  | 953   | 899   | 1223  |
| 4×25+1×16                                   | 27.4                                  | 30.6 | 25.8     | 29.0  | 1532                                       | 1877  | 1419  | 1353  | 1743  |
| 4×35+1×25                                   | 29.9                                  | 33.3 | 28.2     | 31.6  | 1939                                       | 2328  | 1823  | 1750  | 2191  |
| 4×50+1×35                                   | 33.3                                  | 36.5 | 31.0     | 34.2  | 2686                                       | 3101  | 2468  | 2383  | 2855  |
| 4×70+1×50                                   | 37.8                                  | 42.4 | 36.4     | 40.7  | 3626                                       | 4517  | 3396  | 3286  | 4247  |

### >>> 规格和结构尺寸 / Specification & Dimension

| 规格<br>芯数×截面<br>Spec<br>core × section<br>mm | 电缆近似外径<br>Cable Dia. (approximate) mm |      |          |       | 电缆近似重量<br>Cable Weight (approximate) kg/km |       |       |       |       |
|---|---------------------------------------|------|----------|-------|--|-------|-------|-------|-------|
|   | VV                                    | VV22 | YJV(YJY) | YJV22 | VV   | VV22  | YJV   | YJY   | YJV22 |
| 4×95+1×50                                   | 43.2                                  | 48.0 | 40.6     | 45.4  | 4852                                       | 5883  | 4628  | 4498  | 5601  |
| 4×120+1×70                                  | 47.6                                  | 52.6 | 45.3     | 50.3  | 6077                                       | 7236  | 5828  | 5670  | 6934  |
| 4×150+1×95                                  | 52.1                                  | 57.3 | 49.8     | 55.2  | 7317                                       | 8611  | 7080  | 6898  | 8343  |
| 4×185+1×120                                 | 57.8                                  | 63.2 | 55.3     | 60.9  | 9097                                       | 10554 | 8784  | 8566  | 10207 |
| 4×240+1×150                                 | 64.8                                  | 70.4 | 62.0     | 67.8  | 11626                                      | 13287 | 11214 | 10951 | 12835 |
| 5×2.5                                       | 13.0                                  | 15.8 | 12.4     | 15.6  | 269  | 422   | 235   | 206   | 398   |
| 5×4   | 15.4                                  | 18.6 | 13.7     | 16.9  | 383  | 582   | 318   | 286   | 502   |
| 5×6   | 16.7                                  | 19.9 | 15.1     | 18.3  | 498  | 713   | 424   | 388   | 632   |
| 5×10  | 20.9                                  | 24.1 | 19.2     | 22.4  | 775  | 1040  | 697   | 649   | 939   |
| 5×16  | 23.7                                  | 26.9 | 22.0     | 25.2  | 1097                                       | 1396  | 1020  | 965   | 1298  |
| 5×25  | 28.4                                  | 31.8 | 26.7     | 29.9  | 1654                                       | 2024  | 1537  | 1469  | 1862  |
| 5×35  | 31.7                                  | 34.9 | 29.8     | 33.0  | 2228                                       | 2623  | 2034  | 1957  | 2407  |
| 5×50  | 34.6                                  | 37.8 | 32.2     | 35.4  | 3028                                       | 3458  | 2758  | 2666  | 3158  |
| 5×70  | 39.4                                  | 44.2 | 37.5     | 42.5  | 4029                                       | 4977  | 3766  | 3652  | 4690  |
| 5×95  | 45.5                                  | 50.5 | 42.5     | 47.5  | 5298                                       | 6404  | 5059  | 4917  | 6101  |
| 5×120                                       | 49.5                                  | 54.5 | 47.1     | 52.3  | 6600                                       | 7805  | 6307  | 6142  | 7479  |
| 5×150                                       | 55.3                                  | 60.5 | 52.9     | 58.3  | 8170                                       | 9540  | 7901  | 7700  | 9238  |
| 5×185                                       | 60.9                                  | 66.3 | 58.5     | 64.1  | 10063                                      | 11595 | 9732  | 9492  | 11234 |
| 5×240                                       | 68.6                                  | 74.6 | 65.6     | 71.6  | 12847                                      | 14670 | 12407 | 12118 | 14155 |



# ±320 kV及以下直流(光电复合)电力电缆

## ±320 kV and below DC power cable Composite with O.F.



- ▶ 标准: CIGRE 496、TICW 7.2-2012。
- ▶ Specification: CIGRE 496、TICW 7.2-2012.

### 使用特性:

1. 额定电压 $U_0$ : ±320kV及以下。
2. 导体长期最高工作温度70°C。
3. 短路时(最长持续时间不超过5S), 电缆导体最高温度不超过160°C。
4. 电缆敷设环境温度不低於0°C, 最小弯曲半径≥18D (D为电缆外径)。

### Application:

1. Rated voltage  $U_0$ : ±320kV and below.
2. Max. long-term operating temperature of conductor 70°C.
3. Max. short-circuit temperature of conductor shall not exceed 160°C(5s Max.duration).
4. The ambient temperature under installation should not below 0°C, the min.bending radius ≥18D.(D means diameter).

### 产品性能:

1. 成盘电缆施加1.85 $U_0$ 电压历时60min, 电缆不击穿。
2. 绝缘偏心度不大于5%, 即 $T_{max}-T_{min}/T_{max} \times 100\% \leq 5\%$ 。
3. 1600mm<sup>2</sup>以上的导体采用分割导体结构。
4. 绝缘中无大于30 $\mu$ m的微孔及无大于125 $\mu$ m的不透明杂质和无大于160 $\mu$ m的半透明深棕色杂质。
5. 半导电层突起不大于80 $\mu$ m, 半导电层与绝缘界面无大于50 $\mu$ m微孔。

### Product Performance:

1. When the cable imposed 1.85 $U_0$  voltage imposed during 60min, cable cannot be breakdown.
2. Insulated cores not more than 5%,  $T_{max}T_{min}/T_{max} \times 100\% \leq 5\%$ 。
3. 1600mm<sup>2</sup> above adopt segmentation structure.
4. No 30 $\mu$ m micro-hole on the insulation and no larger than 125 $\mu$ m opaque translucent dark and brown impurities no greater than 160 $\mu$ m.
5. Semi conducting layer jut is not more than 80 $\mu$ m, no 50 $\mu$ m micro-hole on the semi conducting layer and insulation interface.

### ▶▶▶ 型号及名称 / Type and Description

| 型号<br>Type   |                | 名称<br>Description  |
|--------------|----------------|--|
| 铜芯<br>Copper | 铝芯<br>Aluminum |  |
| DC-YJLW02    | DC-YJLW02      | 交联聚乙烯绝缘皱纹铝套聚氯乙烯护套直陆地电缆<br>XLPE insulated creasing-aluminum sheathed PVC sheathed DC land cable |
| DC-YJLW03    | DC-YJLW03      | 交联聚乙烯绝缘皱纹铝套聚乙烯护套直陆地电缆<br>XLPE insulated creasing-aluminum sheathed PE sheathed DC land cable   |
| DC-YJQ02     | DC-YJQ02       | 交联聚乙烯绝缘铅套聚氯乙烯护套直陆地电缆<br>XLPE insulated lead sheathed PVC sheathed DC land cable                |
| DC-YJQ03     | DC-YJQ03       | 交联聚乙烯绝缘铅套聚乙烯护套直陆地电缆<br>XLPE insulated lead sheathed PE sheathed DC land cable                  |
| DC-YJAY      | DC-YJAY        | 交联聚乙烯绝缘金属箔/带粘胶聚乙烯复合护套直陆地电缆<br>XLPE insulated metal foil / adhesive PE composite DC land cable  |

注: 若含有纵向阻水性能, 在各型号后增加-Z  
Note: If vertical water performance, please add -z.

### 产品描述 / Product Description

柔性直流输电系统又称基于电压源型换流器(VSC)的高压直流输电, 是近年发展起来的一种新型直流输电技术。系统包括直流电缆、换流变压器及相关附件。

DC power transmission system includes the DC power cable, converter transformers and related accessories.

### 产品特点 / Features

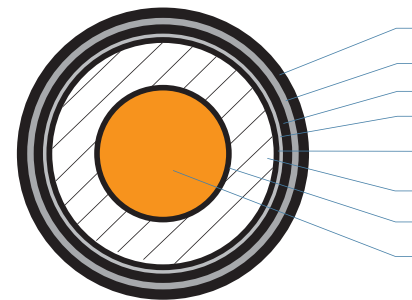
- 输送效率高、线路损耗小, 有利于长距离输电
- 易于调节电流和改变功率传送方向, 稳定性高
- 不产生大的短路和环流电流
- 与交流系统相比具有更长寿命
- 提高配电网电能质量
- Efficient transportation, slighter loss and long - distance transmission
- Easy to adjust and change the current power transmission direction and high stability
- No larger short circuit current and ring circuit current
- Longer life than AC system
- Improving the power quality of distribution

### 适用范围 / Application

电力传输、多个交流电网互联和控制、不同电网并入, 如海岛电网、海上平台、风力发电等、连接分散的小型发电厂、大距离供电、海上供电。

It mainly used in Power transmission, AC power network interconnection and control, different networks, such as Island Power grid, offshore platforms, wind power, connecting power plants, long distance power supply and marine power supply.

### ▶▶▶ 柔性直流输电系统用电力电缆典型结构 / Specification & Dimension



|   |                                    |
|---|------------------------------------|
| 1 | 护套<br>sheath                       |
| 2 | 皱纹护套<br>Corrugated Aluminum Sheath |
| 3 | 阻水层<br>Water-blocking layer        |
| 4 | 缓冲层<br>Cushioning layer            |
| 5 | 绝缘屏蔽<br>Insulation Screen          |
| 6 | XLPE绝缘<br>XLPE Insulation          |
| 7 | 导体屏蔽<br>Conductor Screen           |
| 8 | 导体<br>Conductor                    |

# ±320 kV及以下直流(光电复合)电力电缆

## ±320 kV and below DC power cable Composite with O.F.

### 铜芯XLPE绝缘直流电力电缆主要技术参数

Main technical parameter of Copper conductor XLPE insulated DC power cable

| DC-YJLW02(03) / 皱纹铝套                        |                            |                 |      |      |      |      |      |      |      |      |      |      |      |      |
|---|----------------------------|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| DC-YJLW02(03) / Corrugated Aluminum Armored |                            |                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 截面<br>Section                               | 铜导体<br>Copper<br>Conductor | mm <sup>2</sup> | 185  | 240  | 300  | 400  | 500  | 630  | 800  | 1000 | 1200 | 1600 | 2000 | 2500 |
| 载流量<br>Current A                            | 真埋<br>Buried               | A               | 462  | 539  | 612  | 708  | 817  | 947  | 1087 | 1236 | 1350 | 1592 | 1808 | 2060 |
|   | 空气中<br>In Air              | A               | 546  | 636  | 723  | 842  | 972  | 1127 | 1305 | 1483 | 1620 | 1927 | 2188 | 2513 |
| 80 kV                                       | 外径<br>Outer<br>Diameter    | mm              | 53.8 | 54.5 | 56.3 | 59.8 | 62.8 | 66.4 | 70.7 | 74.3 | 77.7 | 81.5 | —    | —    |
|   | 重量<br>Weight               | kg/m            | 4.3  | 4.9  | 5.4  | 6.6  | 7.7  | 9.2  | 11.0 | 12.9 | 14.9 | 18.9 | —    | —    |
| 150 kV                                      | 外径<br>Outer<br>Diameter    | mm              | 79.3 | 81.7 | 84.0 | 86.3 | 88.3 | 91.9 | 96.2 | 99.9 | 102  | 105  | —    | —    |
|   | 重量<br>Weight               | kg/m            | 6.2  | 6.9  | 7.7  | 8.9  | 9.9  | 11.3 | 13.3 | 15.3 | 17.2 | 21.2 | —    | —    |
| 200 kV                                      | 外径<br>Outer<br>Diameter    | mm              | —    | —    | 86.7 | 88.0 | 91.0 | 93.5 | 97.8 | 102  | 106  | 109  | —    | —    |
|   | 重量<br>Weight               | kg/m            | —    | —    | 8.1  | 9.2  | 10.3 | 11.5 | 13.5 | 15.8 | 17.9 | 22.0 | —    | —    |
| 250 kV                                      | 外径<br>Outer<br>Diameter    | mm              | —    | —    | 106  | 108  | 110  | 111  | 113  | 119  | 120  | 122  | 131  | 138  |
|   | 重量<br>Weight               | kg/m            | —    | —    | 10.7 | 11.8 | 13.1 | 14.2 | 15.9 | 18.3 | 20.1 | 23.8 | 28.5 | 33.8 |
| 320 kV                                      | 外径<br>Outer<br>Diameter    | mm              | —    | —    | —    | —    | —    | 127  | 129  | 134  | 137  | 140  | 147  | 154  |
|   | 重量<br>Weight               | kg/m            | —    | —    | —    | —    | —    | 17.0 | 18.5 | 21.1 | 23.3 | 26.7 | 31.5 | 36.9 |

| DC-YJQ02(03) / 铅套          |                            |                 |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------------|----------------------------|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| DC-YJQ02(03) / Lead Sheath |                            |                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 截面<br>Section              | 铜导体<br>Copper<br>Conductor | mm <sup>2</sup> | 185  | 240  | 300  | 400  | 500  | 630  | 800  | 1000 | 1200 | 1600 | 2000 | 2500 |
| 载流量<br>Current A           | 真埋<br>Buried               | A               | 462  | 539  | 612  | 708  | 817  | 947  | 1087 | 1236 | 1350 | 1592 | 1808 | 2060 |
|                            | 空气中<br>In Air              | A               | 546  | 636  | 723  | 842  | 972  | 1127 | 1305 | 1483 | 1620 | 1927 | 2188 | 2513 |
| 80 kV                      | 外径<br>Outer<br>Diameter    | mm              | 50.1 | 50.6 | 52.9 | 56.5 | 59.7 | 63.5 | 68.1 | 74.2 | 75.7 | 79.5 | —    | —    |
|                            | 重量<br>Weight               | kg/m            | 6.5  | 7.4  | 7.9  | 9.5  | 10.9 | 12.8 | 15.2 | 17.1 | 20.0 | 24.5 | —    | —    |
| 150 kV                     | 外径<br>Outer<br>Diameter    | mm              | 71.5 | 72.0 | 74.2 | 75.6 | 78.7 | 80.3 | 85.0 | 91.0 | 92.3 | 96.3 | —    | —    |
|                            | 重量<br>Weight               | kg/m            | 11   | 11.6 | 12.6 | 13.8 | 15.4 | 16.9 | 19.5 | 22.8 | 24.8 | 29.5 | —    | —    |
| 200 kV                     | 外径<br>Outer<br>Diameter    | mm              | —    | —    | 78.7 | 80.1 | 83.3 | 84.9 | 89.4 | 93.2 | 96.9 | 101  | —    | —    |
|                            | 重量<br>Weight               | kg/m            | —    | —    | 13.8 | 15.1 | 16.7 | 18.1 | 20.9 | 23.9 | 26.2 | 31.0 | —    | —    |
| 250 kV                     | 外径<br>Outer<br>Diameter    | mm              | —    | —    | 93.5 | 94.8 | 98.0 | 98.5 | 103  | 107  | 110  | 114  | 121  | 128  |
|                            | 重量<br>Weight               | kg/m            | —    | —    | 18.1 | 18.4 | 21.2 | 22.3 | 25.2 | 28.0 | 30.9 | 35.8 | 41.3 | 48.2 |
| 320 kV                     | 外径<br>Outer<br>Diameter    | mm              | —    | —    | —    | —    | —    | 115  | 117  | 123  | 125  | 127  | 136  | 143  |
|                            | 重量<br>Weight               | kg/m            | —    | —    | —    | —    | —    | 28.2 | 30.4 | 34.3 | 36.4 | 40.5 | 47.7 | 54.9 |

### 铝芯XLPE绝缘直流电力电缆主要技术参数

Main technical parameter of Aluminium conductor XLPE insulated DC power cable

| DC-YJLW02(03) / 皱纹铝套                        |                            |                 |      |      |      |      |      |      |      |      |      |      |      |      |
|---|----------------------------|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| DC-YJLW02(03) / Corrugated Aluminum Armored |                            |                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 截面<br>Section                               | 铜导体<br>Copper<br>Conductor | mm <sup>2</sup> | 185  | 240  | 300  | 400  | 500  | 630  | 800  | 1000 | 1200 | 1600 | 2000 | 2500 |
| 载流量<br>Current A                            | 真埋<br>Buried               | A               | 282  | 329  | 373  | 432  | 498  | 577  | 663  | 754  | 823  | 971  | 1103 | 1256 |
|   | 空气中<br>In Air              | A               | 333  | 388  | 441  | 514  | 593  | 687  | 796  | 904  | 988  | 1175 | 1334 | 1533 |
| 80 kV                                       | 外径<br>Outer<br>Diameter    | mm              | 53.8 | 54.5 | 56.3 | 59.8 | 62.8 | 66.4 | 70.7 | 74.3 | 77.7 | 81.5 | —    | —    |
|   | 重量<br>Weight               | kg/m            | 3.2  | 3.4  | 3.6  | 4.1  | 4.6  | 5.3  | 6.0  | 6.7  | 7.5  | 8.9  | —    | —    |
| 150 kV                                      | 外径<br>Outer<br>Diameter    | mm              | 79.3 | 81.7 | 84.0 | 86.3 | 88.3 | 91.9 | 96.2 | 99.9 | 102  | 105  | —    | —    |
|   | 重量<br>Weight               | kg/m            | 5.1  | 5.4  | 5.9  | 6.4  | 6.8  | 7.4  | 8.3  | 9.1  | 9.8  | 11.2 | —    | —    |
| 200 kV                                      | 外径<br>Outer<br>Diameter    | mm              | —    | —    | 86.7 | 88.0 | 91.0 | 93.5 | 97.8 | 102  | 106  | 109  | —    | —    |
|   | 重量<br>Weight               | kg/m            | —    | —    | 6.3  | 6.6  | 7.2  | 7.6  | 8.5  | 9.6  | 10.5 | 12.0 | —    | —    |
| 250 kV                                      | 外径<br>Outer<br>Diameter    | mm              | —    | —    | 106  | 108  | 110  | 111  | 113  | 119  | 120  | 122  | 131  | 138  |
|   | 重量<br>Weight               | kg/m            | —    | —    | 8.9  | 9.3  | 10.0 | 10.3 | 10.9 | 12.1 | 12.7 | 13.8 | 16.1 | 18.3 |
| 320 kV                                      | 外径<br>Outer<br>Diameter    | mm              | —    | —    | —    | —    | —    | 127  | 129  | 134  | 137  | 140  | 147  | 154  |
|   | 重量<br>Weight               | kg/m            | —    | —    | —    | —    | —    | 13.1 | 13.5 | 14.9 | 15.9 | 16.7 | 19.1 | 21.4 |

| DC-YJQ02(03) / 铅套          |                            |                 |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------------|----------------------------|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| DC-YJQ02(03) / Lead Sheath |                            |                 |      |      |      |      |      |      |      |      |      |      |      |      |
| 截面<br>Section              | 铜导体<br>Copper<br>Conductor | mm <sup>2</sup> | 185  | 240  | 300  | 400  | 500  | 630  | 800  | 1000 | 1200 | 1600 | 2000 | 2500 |
| 载流量<br>Current A           | 真埋<br>Buried               | A               | 282  | 329  | 373  | 432  | 498  | 577  | 663  | 754  | 823  | 971  | 1103 | 1256 |
|                            | 空气中<br>In Air              | A               | 333  | 388  | 441  | 514  | 593  | 687  | 796  | 904  | 988  | 1175 | 1334 | 1533 |
| 80 kV                      | 外径<br>Outer<br>Diameter    | mm              | 50.1 | 50.6 | 52.9 | 56.5 | 59.7 | 63.5 | 68.1 | 74.2 | 75.7 | 79.5 | —    | —    |
|                            | 重量<br>Weight               | kg/m            | 5.4  | 5.9  | 6.1  | 7.0  | 7.8  | 8.9  | 10.2 | 11.9 | 12.6 | 14.5 | —    | —    |
| 150 kV                     | 外径<br>Outer<br>Diameter    | mm              | 71.5 | 72.0 | 74.2 | 75.6 | 78.7 | 80.3 | 85.0 | 91.0 | 92.3 | 96.3 | —    | —    |
|                            | 重量<br>Weight               | kg/m            | 9.9  | 10.1 | 10.8 | 11.3 | 12.3 | 13.0 | 14.5 | 16.6 | 17.4 | 19.5 | —    | —    |
| 200 kV                     | 外径<br>Outer<br>Diameter    | mm              | —    | —    | 78.7 | 80.1 | 83.3 | 84.9 | 89.4 | 93.2 | 96.9 | 101  | —    | —    |
|                            | 重量<br>Weight               | kg/m            | —    | —    | 12.0 | 12.6 | 13.6 | 14.2 | 15.9 | 17.3 | 18.8 | 21.0 | —    | —    |
| 250 kV                     | 外径<br>Outer<br>Diameter    | mm              | —    | —    | 93.5 | 94.8 | 98.0 | 98.5 | 103  | 107  | 110  | 114  | 121  | 128  |
|                            | 重量<br>Weight               | kg/m            | —    | —    | 16.3 | 16.9 | 18.1 | 18.4 | 20.2 | 21.8 | 23.5 | 25.8 | 28.9 | 32.7 |
| 320 kV                     | 外径<br>Outer<br>Diameter    | mm              | —    | —    | —    | —    | —    | 115  | 117  | 123  | 125  | 127  | 136  | 143  |
|                            | 重量<br>Weight               | kg/m            | —    | —    | —    | —    | —    | 24.3 | 25.4 | 28.1 | 29.0 | 30.5 | 35.3 | 39.4 |

# 塑料绝缘控制电缆

“Plastic insulated control cable”



- ▶ 标准：GB/T9330-2008.
- ▶ Standard: GB/T9330-2008.
- ▶ 用途:用于交流额定电压450/750V及以下成套装置中电器仪表作控制、监控后路、保护和测量等线路场合使用。
- ▶ Application: Used in AC rated voltage 450/750V and below complete equipment for electric equipment controlling , monitoring, protection and measurement routes.

### 使用要求:

- 1.PVC绝缘电缆导体长期允许工作温度不超过70℃，XLPE绝缘电缆导体长期允许工作温度不超过90℃。
- 2.电缆的敷设温度不能低于0℃。
- 3.PVC绝缘控制电缆最小弯曲半径：
  - ①无铠装电缆应不小于电缆外径的6倍。
  - ②有铠装或屏蔽层的电缆应不小于电缆外径的12倍。
  - ③有屏蔽层的软电缆应不小于电缆外径的6倍。
- 4.XLPE绝缘控制电缆最小弯曲半径：
  - ①无铠装电缆应不小于电缆外径的8倍。
  - ②有铠装或屏蔽层的电缆应不小于电缆外径的12倍。

### 产品性能:

- 1.20℃导体直流电阻符合GB/T3956-2008规定要求。
- 2.电缆能经受50Hz、3000V、5分钟耐压试验。

### Product Performance:

1. The conductor DC resistance when 20℃ applied to GBT3956-2008.
2. The cable can pass 50Hz, 3000V, 5 minute voltage withstand test.

### 代号名称 / Code & Description

| 型号<br>Type | 名称<br>Description  | 用途<br>Application   |
|------------|--|---|
| KVV        | 聚氯乙烯绝缘聚氯乙烯护套控制电缆<br>PVC insulated PVC sheathed control cable   | 敷设在室内、电缆沟、管道等固定场合<br>Apply to indoors, trenches, ducts for fixed installation   |
| KVVP       | 聚氯乙烯绝缘聚氯乙烯护套编织屏蔽控制电缆<br>PVC insulated PVC sheathed woven shield control cable                              | 敷设在室内、电缆沟、管道等要求屏蔽的固定场合<br>Apply to indoors, trenches, ducts. The cable should be shielded and for fixed installation                                    |
| KVVP2      | 聚氯乙烯绝缘聚氯乙烯护套铜带屏蔽控制电缆<br>PVC insulated PVC sheathed copper tape shield control cable                        | 敷设在室内、电缆沟、管道等要求屏蔽的固定场合<br>Apply to indoors, trenches, ducts. The cable should be shielded and for fixed installation                                    |
| KVVP3      | 聚氯乙烯绝缘聚氯乙烯护套铝塑复合带屏蔽控制电缆<br>PVC insulated PVC sheathed Aluminum-plastic composite tape shield control cable | 敷设在室内、电缆沟、管道等要求屏蔽的固定场合<br>Apply to indoors, trenches, ducts. The cable should be shielded and for fixed installation                                    |
| KVV22      | 聚氯乙烯绝缘聚氯乙烯护套钢带铠装控制电缆<br>PVC insulated PVC sheathed steel tape armored control cable                        | 敷设在室内、电缆沟、管道、直埋等能承受较大机械外力的固定场合<br>Apply to indoors, trenches, ducts, direct burial be able to withstand large mechanical force. for fixed installation. |
| KVVP2-22   | 聚氯乙烯绝缘聚氯乙烯护套铜带屏蔽钢带铠装控制电缆<br>PVC insulated PVC sheathed copper tape shield steel tape armored control cable | 敷设在室内、电缆沟、管道、直埋等能承受较大机械外力的固定场合<br>Apply to indoors, trenches, ducts, direct burial be able to withstand large mechanical force. for fixed installation. |
| KVVR       | 聚氯乙烯绝缘聚氯乙烯护套控制软电缆<br>PVC insulated PVC sheathed flexible control cable                                     | 敷设在室内移动要求柔软场合<br>Apply to indoor movement occasions should be soft  |

### 代号名称 / Code & Description

| 型号<br>Type | 名称<br>Description  | 用途<br>Application   |
|------------|--|---|
| KVVRP      | 聚氯乙烯绝缘聚氯乙烯护套编织屏蔽控制软电缆<br>PVC insulated PVC sheathed woven shield flexible control cable                        | 敷设在室内移动要求柔软、屏蔽等场合<br>Apply to indoor movement and shield occasions should be soft   |
| KYJV       | 交联聚乙烯绝缘聚氯乙烯护套控制电缆<br>XLPE insulated PVC sheathed control cable   | 敷设在室内、电缆沟、管道等固定场合<br>Apply to indoors, trenches, ducts for fixed installation   |
| KYJVP      | 交联聚乙烯绝缘聚氯乙烯护套编织屏蔽控制电缆<br>XLPE insulated PVC sheathed woven shield control cable                                | 敷设在室内、电缆沟、管道等要求屏蔽的固定场合<br>Apply to indoors, trenches, ducts for fixed installation should be shield occasions.  |
| KYJVP2     | 交联聚乙烯绝缘聚氯乙烯护套铜带屏蔽控制电缆<br>XLPE insulated PVC sheathed copper tape shield control cable                          | 敷设在室内、电缆沟、管道等要求屏蔽的固定场合<br>Apply to indoors, trenches, ducts for fixed installation should be shield occasions.  |
| KYJVP3     | 交联聚乙烯绝缘聚氯乙烯护套铝塑复合带屏蔽控制电缆<br>XLPE insulated PVC sheathed aluminum-plastic composite belt shielded control cable | 敷设在室内、电缆沟、管道等要求屏蔽的固定场合<br>XLPE insulated PVC sheathed aluminum-plastic composite belt shielded control cable  |
| KYJV22     | 交联聚乙烯绝缘聚氯乙烯护套钢带铠装控制电缆<br>XLPE insulated PVC sheathed steel tape armored control cable                          | 敷设在室内、电缆沟、管道、直埋等能承受较大机械外力的固定场合<br>Apply to indoors, trenches, ducts, direct burial be able to withstand large mechanical force and Shield locations for installation  |
| KYJVP2-22  | 交联聚乙烯绝缘聚氯乙烯护套钢带铠装控制电缆<br>XLPE insulated PVC sheathed copper tape shield steel tape armored control cable       | 敷设在室内、电缆沟、管道、直埋等能承受较大机械外力的固定场合<br>Apply to indoors, trenches, ducts, direct burial be able to withstand large mechanical force and Shield locations for installation  |
| KYJY       | 交联聚乙烯绝缘聚乙烯护套控制电缆<br>XLPE insulated PVC sheathed control cable  | 敷设在室内、电缆沟、管道等固定场合<br>Apply to indoors, trenches, ducts for fixed installation   |
| KYJYP      | 交联聚乙烯绝缘聚乙烯护套编织屏蔽控制电缆<br>XLPE insulated PVC sheathed woven shield control cable                                 | 敷设在室内、电缆沟、管道等要求屏蔽的固定场合<br>Apply to indoors, trenches, ducts for fixed installation should be shield occasions.  |
| KYJYP2     | 交联聚乙烯绝缘聚乙烯护套铜带屏蔽控制电缆<br>XLPE insulated PVC sheathed copper tape shield control cable                           | 敷设在室内、电缆沟、管道等要求屏蔽的固定场合<br>Apply to indoors, trenches, ducts for fixed installation should be shield occasions   |
| KYJYP3     | 交联聚乙烯绝缘聚乙烯护套铝塑复合带屏蔽控制电缆<br>XLPE insulated PVC sheathed aluminum-plastic composite belt shielded control cable  | 敷设在室内、电缆沟、管道等要求屏蔽的固定场合<br>Apply to indoors, trenches, ducts for fixed installation should be shield occasions   |
| KYJY23     | 交联聚乙烯绝缘聚乙烯护套钢带铠装控制电缆<br>XLPE insulated PVC sheathed steel tape armored control cable                           | 敷设在室内、电缆沟、管道、直埋等能承受较大机械外力的固定场合<br>Apply to indoors, trenches, ducts, direct burial be able to withstand large mechanical force and Shield locations for installation  |
| KYJYP2-23  | 交联聚乙烯绝缘聚乙烯护套铜带屏蔽钢带铠装控制电缆<br>XLPE insulated PVC sheathed copper tape shield steel tape armored control cable    | 敷设在室内、电缆沟、管道、直埋等能承受较大机械外力的固定场合<br>Apply to indoors, trenches, ducts, direct burial be able to withstand large mechanical force and Shield locations for installation. |
| KYJVR      | 交联聚乙烯绝缘聚氯乙烯护套控制软电缆<br>XLPE insulated PVC sheathed flexible control cable                                       | 敷设在室内移动要求柔软场合<br>Apply to indoor movement occasions should be soft  |
| KYJVRP     | 交联聚乙烯绝缘聚氯乙烯护套编织屏蔽控制软电缆<br>XLPE insulated PVC sheathed woven shield flexible control cable                      | 敷设在室内移动要求柔软、屏蔽等场合<br>Apply to indoor movement and shield occasions should be soft   |

### 型号及名称 / Type and Description

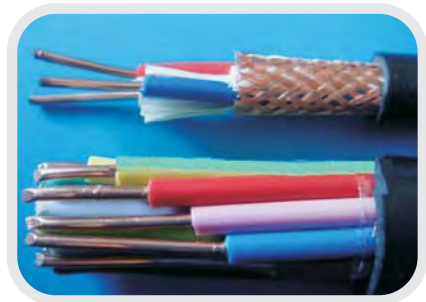
| 型号<br>Type | 导体标称截面 / Conductor nominal section/mm <sup>2</sup> |      |   |     |     |   |   |    |
|------------|--|------|---|-----|-----|---|---|----|
|            | 0.5  | 0.75 | 1 | 1.5 | 2.5 | 4 | 6 | 10 |
| KVV        |  |      |   |     |     |   |   |    |
| KVVP       |  |      |   |     |     |   |   |    |
| KVVP2      |  |      |   |     |     |   |   |    |
| KVVP3      |  |      |   |     |     |   |   |    |
| KVV22      |  |      |   |     |     |   |   |    |
| KVVP2-22   |  |      |   |     |     |   |   |    |
| KVV32      |  |      |   |     |     |   |   |    |
| KVVR       |  |      |   |     |     |   |   |    |
| KVVRP      |  |      |   |     |     |   |   |    |

# 塑料绝缘控制电缆

“Plastic insulated control cable”

## >>> 代号名称 / Code & Description

| 型号<br>Type             | 导体标称截面 / Conductor nominal section/mm <sup>2</sup> |      |       |     |      |      |   |      |
|------------------------|--|------|-------|-----|------|------|---|------|
|                        | 0.5  | 0.75 | 1     | 1.5 | 2.5  | 4    | 6 | 10   |
| 芯数 / No. of Core       |  |      |       |     |      |      |   |      |
| KYJV<br>KYJVP          | -  |      | 2-61  |     |      | 2-14 |   | 2-10 |
| KYJY<br>KYJYP          | -  |      | 2-61  |     |      | 4-14 |   | 4-10 |
| KYJVP2<br>KYJVP3       | -  |      | 4-61  |     |      | 4-14 |   | 4-10 |
| KYJYP2<br>KYJYP3       | -  |      | 4-61  |     |      | 4-14 |   | 4-10 |
| KYJV22<br>KYJV23       | -  |      | 7-61  |     | 4-61 | 4-14 |   | 4-10 |
| KYJVP2-22<br>KYJYP2-22 | -  |      | 7-61  |     | 4-61 | 4-14 |   | 4-10 |
| KYJV32<br>KYJV33       | -  |      | 19-61 |     | 7-61 | 4-14 |   | 4-10 |
| KYJVR                  |  |      | 2-61  |     |      |      |   | -    |
| KYJVVP                 |  | 2-61 |       |     | 2-48 |      |   | -    |



>>> 塑料绝缘控制电缆  
Plastic insulated control cable

<<< 塑料绝缘控制电缆  
Plastic insulated control cable



# 计算机电缆

“Computer Cable”



- 标准: TICW/06-2009.
- Standard: TICW/06-2009.

- 用途: 用于交流额定电压300/500V及以下防干扰性能要求较高的电子计算机系统、自动化系统的信号传输及检测仪器、仪表的连接线。
- Application: Used for Rated voltage 300/500V and below anti-jamming performance computer system, signal transmission and the connection of detection instruments of automated system.

## 使用要求:

- PVC绝缘和PE绝缘电缆的导体长期允许工作温度不超过70℃, XLPE绝缘电缆的导体长期允许工作温度不超过90℃。
- 电缆的敷设温度应不小于0℃。
- 电缆的最小弯曲半径应不小于电缆外径的6倍。

## Operational requirement:

- The long-term working temperature allowed of PVC and PE insulation should not exceed 70℃; The long-term allowable working temperature of XLPE insulated cable should not exceed 90℃.
- The temperature when cable laying should be not less than 0℃.
- The min. bending radius should be not less than 6 times compared the cable diameter.

## 产品性能:

- 20℃导体直流电阻符合GB/T3956-2008规定要求。
- 电缆能经受50Hz、1000V、1分钟耐压试验。

## Product Performance:

- The conductor DC resistance when 20℃ applied to GBT3956-2008.
- The cable can pass 50Hz, 1000V, 1 minute voltage withstand test.

## >>> 代号名称 / Code & Description

| 计算机及仪表用电缆<br>Computer and instrument cable   | DJ      |
|--|---------|
| 铜导体<br>copper conductor  | 省略 omit |
| 聚乙烯绝缘<br>PE insulation   | Y       |
| 聚氯乙烯绝缘<br>PVC insulation   | V       |
| 交联聚乙烯绝缘<br>XLPE insulation   | YJ      |
| 聚乙烯护套<br>PE sheath   | Y       |
| 聚氯乙烯护套<br>PVC sheath   | V       |
| 铜线或镀锡铜线编织屏蔽<br>Copper wire or tinned copper wire braid screen                      | P       |
| 铜带屏蔽(铜/塑复合带)<br>Copper tape screen (Copper or plastic composite tape)              | P2      |
| 铝/塑复合薄膜屏蔽<br>Aluminum or plastic composite coating screen                          | P3      |
| 钢带(钢/塑复合带)<br>Steel tape (steel or plastic composite tape)                         | P4      |
| 铝/塑复合带+铜丝编织总屏蔽<br>Aluminum or plastic composite tape+woven Cu. Wire general shield | P5      |
| 软结构(移动敷设用)<br>Soft structure (Mobile laying)                                       | R       |

# 计算机电缆

## “Computer Cable”

### >>> 型号及名称 / Type and Description

| 型号<br>Type          |                     |                      | 每对芯数<br>No. of cores | 对数<br>Pairs | 标称截面<br>Nominal section |
|---------------------|---------------------|----------------------|----------------------|-------------|-------------------------|
| PVC绝缘<br>Insulation | P E绝缘<br>Insulation | XLPE绝缘<br>Insulation |                      |             |                         |
| DJVPV               | DJYPV               | DJYJPV               | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP2V              | DJYP2V              | DJYJP2V              | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP3V              | DJYP3V              | DJYJP3V              | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVVP               | DJYVP               | DJYJVP               | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVVP2              | DJYVP2              | DJYJVP2              | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVVP3              | DJYVP3              | DJYJVP3              | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVVP4              | DJYVP4              | DJYJVP4              | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVVP5              | DJYVP5              | DJYJVP5              | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVPVP              | DJYPVP              | DJYJPVP              | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP2VP2            | DJYP2VP2            | DJYJP2VP2            | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP3VP3            | DJYP3VP3            | DJYJP3VP3            | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP2VP             | DJYP2VP             | DJYJP2VP             | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP3VP             | DJYP3VP             | DJYJP3VP             | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVPVR              | DJYPVR              | DJYJPVR              | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP2VR             | DJYP2VR             | DJYJP2VR             | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP3VR             | DJYP3VR             | DJYJP3VR             | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVVRP              | DJYVRP              | DJYJVRP              | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVVRP2             | DJYVRP2             | DJYJVRP2             | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVVRP3             | DJYVRP3             | DJYJVRP3             | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVVRP4             | DJYVRP4             | DJYJVRP4             | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVVRP5             | DJYVRP5             | DJYJVRP5             | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVPVRP             | DJYPVRP             | DJYJPVRP             | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP2VRP2           | DJYP2VRP2           | DJYJP2VRP2           | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP3VRP3           | DJYP3VRP3           | DJYJP3VRP3           | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP2VRP            | DJYP2VRP            | DJYJP2VRP            | 2-4                  | 1-24        | 0.5-2.5                 |
| DJVP3VRP            | DJYP3VRP            | DJYJP3VRP            | 2-4                  | 1-24        | 0.5-2.5                 |

# 通信电源用阻燃软电缆

## “Flame retardant flexible cable for communication power supply”



- 标准: YD/T 1173-2010.
- Standard: YD/T 1173-2010.
- 用途: 用于通信局站及高层建筑等电源、配电系统中的通信电源。
- Application: For communications stations and high buildings power supply and power distribution system of communication power supply.

### 使用要求:

1. 电缆的导体长期允许工作温度不超过70℃。
2. 电缆的敷设温度应不小于0℃。
3. 最小弯曲半径: 非铠装电缆为电缆外径的6倍, 铠装电缆为电缆外径的12倍。

### 产品性能:

1. ZA-RV能经受50Hz、2500V、5分钟电压试验。
2. ZA-RVV能经受50Hz、3500V、5分钟电压试验。

### Operational requirement:

1. The long-term working temperature allowed of the conductor should not exceed 70°C.
2. The temperature when cable laying should not less than 0 °C .
3. The min. bending radius: The min. bending radius of unarmored cable should not less than 6 times compared the cable diameter. The min. bending radius of armored cables should be not less than 12 times compared the cable diameter.

### Product Performance:

1. The cable can pass 50Hz, 2500V, 5 minute voltage withstand test.
2. The cable can pass 50Hz, 3500V, 5 minute voltage withstand test.

### >>> 型号及规格 / Type and specification

| 型号<br>Type | 名称<br>Description  | 额定电压<br>Rated Voltage | 芯数<br>No. of cores | 标称截面mm <sup>2</sup><br>Nominal Section mm <sup>2</sup> |
|------------|--|-----------------------|--------------------|--|
| ZA-RV      | 铜芯阻燃聚氯乙烯绝缘控制电缆<br>XLPE insulated PVC sheathed steel tape armored control cable   | 450/750V              | 1                  | 1.5-300  |
| ZA-RVV     | 铜芯阻燃聚氯乙烯绝缘阻燃聚氯乙烯护套软电缆<br>Copper conductor fire retardant PVC insulated fire retardant PVC sheathed flexible cable        | 600/1000V             | 1                  | 1.5-240  |
| ZA-RVV     | 铜芯阻燃聚氯乙烯绝缘阻燃聚氯乙烯护套软电缆<br>Copper conductor fire retardant PVC insulated fire retardant PVC sheathed flexible cable        | 600/1000V             | 2                  | 1.5-240  |
| ZA-RVV     | 铜芯阻燃聚氯乙烯绝缘阻燃聚氯乙烯护套软电缆<br>Copper conductor fire retardant PVC insulated fire retardant PVC sheathed flexible cable        | 600/1000V             | 3                  | 1.5-240  |
| ZA-RVV     | 铜芯阻燃聚氯乙烯绝缘阻燃聚氯乙烯护套软电缆<br>Copper conductor fire retardant PVC insulated fire retardant PVC sheathed flexible cable        | 600/1000V             | 4                  | 1.5-240  |
| ZA-RVV     | 铜芯阻燃聚氯乙烯绝缘阻燃聚氯乙烯护套软电缆<br>Copper conductor fire retardant PVC insulated fire retardant PVC sheathed flexible cable        | 600/1000V             | 3+1                | 2.5-240  |
| ZA-RVV     | 铜芯阻燃聚氯乙烯绝缘阻燃聚氯乙烯护套软电缆<br>Copper conductor fire retardant PVC insulated fire retardant PVC sheathed flexible cable        | 600/1000V             | 3+2                | 2.5-185  |
| ZA-RVV     | 铜芯阻燃聚氯乙烯绝缘阻燃聚氯乙烯护套软电缆<br>Copper conductor fire retardant PVC insulated fire retardant PVC sheathed flexible cable        | 600/1000V             | 4+1                | 2.5-185  |
| ZA-RVV     | 铜芯阻燃聚氯乙烯绝缘铜带铠装阻燃聚氯乙烯护套软电缆<br>Cu conductor fire retardant PVC insulated S.T.A. fire retardant PVC sheathed flexible cable | 600/1000V             | 2                  | 10-240   |
| ZA-RVV22   | 铜芯阻燃聚氯乙烯绝缘铜带铠装阻燃聚氯乙烯护套软电缆<br>Cu conductor fire retardant PVC insulated S.T.A. fire retardant PVC sheathed flexible cable | 600/1000V             | 3                  | 10-240   |
| ZA-RVV22   | 铜芯阻燃聚氯乙烯绝缘铜带铠装阻燃聚氯乙烯护套软电缆<br>Cu conductor fire retardant PVC insulated S.T.A. fire retardant PVC sheathed flexible cable | 600/1000V             | 4                  | 10-240   |
| ZA-RVV22   | 铜芯阻燃聚氯乙烯绝缘铜带铠装阻燃聚氯乙烯护套软电缆<br>Cu conductor fire retardant PVC insulated S.T.A. fire retardant PVC sheathed flexible cable | 600/1000V             | 3+1                | 16-185   |
| ZA-RVV22   | 铜芯阻燃聚氯乙烯绝缘铜带铠装阻燃聚氯乙烯护套软电缆<br>Cu conductor fire retardant PVC insulated S.T.A. fire retardant PVC sheathed flexible cable | 600/1000V             | 3+2                | 16-185   |
| ZA-RVV22   | 铜芯阻燃聚氯乙烯绝缘铜带铠装阻燃聚氯乙烯护套软电缆<br>Cu conductor fire retardant PVC insulated S.T.A. fire retardant PVC sheathed flexible cable | 600/1000V             | 4+1                | 16-185   |

# 光纤复合低压电缆OPLC

## “Optical Fiber Composite Low-Voltage Cable”



- 标准: Q/DFL-033-2010.
- Standard: Q/DFL-033-2010.
- 用途: 光纤复合低压电缆(OPLC)是一种将光单元复合在低压电力电缆内,具有电力传输和光通信传输能力的电缆,适用于额定电压0.6/1kV及以下电压等级。
- Application: Optical Fiber Composite Low-Voltage Cable(OPLC) is a kind of cable that complex the light element within low-voltage power cable and have the capacity of power transmission and optic communication. OPLC is apply to the rated voltage of 0.6/1kV and/or below.

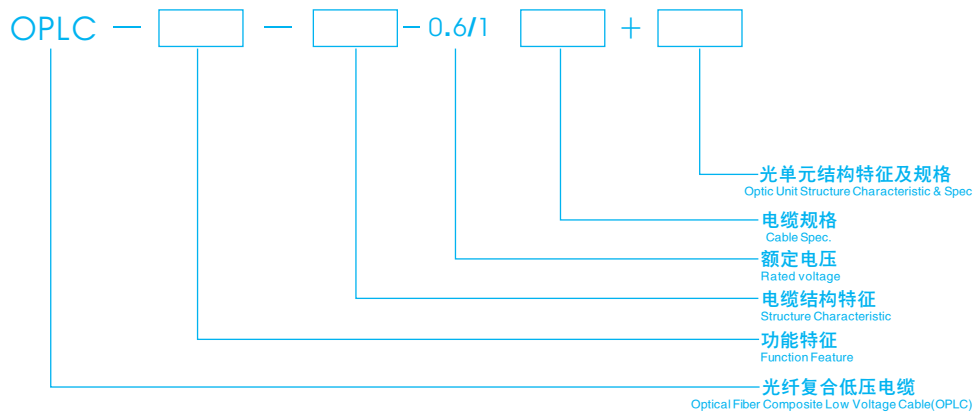
### 产品特点:

光纤复合低压电缆(OPLC)充分挖掘了光信号和电信号互不干扰的特点,使以往错综复杂的线路进一步得到归整,并为“多网合一”提供了有力的基础保障。最终使“光电一体化”付之于实际应用。

### Product Performance:

Optical Fiber Composite Low-Voltage Cable(OPLC) fully aware the characteristics of optical signal and electrical signal non-interference, so that make the complex line in past to be put in order and "multi-nets" provide a strong foundation backing and make "photoelectric integration" in the practical application eventually.

### 产品命名:



### 示例:

包含24芯B1类光纤非金属层绞全干式光单元的铜芯交联聚乙烯绝缘双钢带铠装聚氯乙烯护套光纤复合低压电缆,额定电压为0.6/1kV,3芯,标称截面积95mm<sup>2</sup>,表示为:OPLC-YJV22-0.6/1 3×95+G1-24B1。

### Sample:

Include 24 core category B1 fiber non-metallic layer stranded dry type Optical Element Copper conductor XLPE insulated double steel tape armored PVC sheathed of optical fiber composite low-voltage cable, rated voltage for 0.6/1 kV 3 core, nominal sectional area 9.5 sq.mm.expressed as :OPLC-YJV22-0.6/1 3×95+G1-24B1.

### 典型结构/Typical structure:



注: 光纤复合低压电缆(OPLC)可以根据用户的要求设计调整,比如瓦形、扇形等。  
Note: Optical Fiber Composite Low-Voltage Cable(OPLC) can be adjusted in accordance with user's requirements for the design, just as shape of tile and fan, etc.

### 典型型号 / Typical models

| 型号<br>Type                | 名称<br>Description   |
|---------------------------|---|
| OPLC-VV +G                | 铜芯聚氯乙烯绝缘聚氯乙烯护套光纤复合低压电缆<br>Copper conductor PVC insulated PVC sheathed Optical Fiber Composite Low-Voltage Cable   |
| OPLC-VV22 +G              | 铜芯聚氯乙烯绝缘双钢带铠装聚氯乙烯护套光纤复合低压电缆<br>Copper conductor PVC insulated double steel tape armored PVC sheathed Optical Fiber Composite Low-Voltage Cable  |
| OPLC-YJV +G               | 铜芯交联聚乙烯绝缘聚氯乙烯护套光纤复合低压电缆<br>Copper conductor XLPE insulated PVC sheathed Optical Fiber Composite Low-Voltage Cable   |
| OPLC-YJV22 +G             | 铜芯交联聚乙烯绝缘双钢带铠装聚氯乙烯护套光纤复合低压电缆<br>Copper conductor XLPE insulated double steel tape armored PE sheathed Optical Fiber Composite Low-Voltage Cable   |
| OPLC-WDZA (B·C) -YY +G    | 铜芯聚乙烯绝缘低烟无卤阻燃(A或B或C)聚烯烃护套光纤复合低压电缆<br>Copper conductor PE insulated low smoke non-halogen flame retardant polyolefin sheath Optical Fiber Composite Low-Voltage Cable                                    |
| OPLC-WDZA (B·C) -YY23 +G  | 铜芯聚乙烯绝缘双钢带铠装低烟无卤阻燃(A或B或C)聚烯烃护套光纤复合低压电缆<br>Copper conductor PE insulated double steel tape armored low smoke non-halogen flame retardant polyolefin sheath Optical Fiber Composite Low-Voltage Cable     |
| OPLC-WDZA (B·C) -YJY +G   | 铜芯交联聚乙烯绝缘低烟无卤阻燃(A或B或C)聚烯烃护套光纤复合低压电缆<br>Copper conductor XLPE insulated low smoke non-halogen flame retardant polyolefin sheath Optical Fiber Composite Low-Voltage Cable                                |
| OPLC-WDZA (B·C) -YJY23 +G | 铜芯交联聚乙烯绝缘双钢带铠装低烟无卤阻燃(A或B或C)聚烯烃护套光纤复合低压电缆<br>Copper conductor XLPE insulated double steel tape armored low smoke non-halogen flame retardant polyolefin sheath Optical Fiber Composite Low-Voltage Cable |

注: 如有特殊材料要求如防鼠、防蚁等,可根据客户要求设计。  
Note: For special material requirements such as prevention, anti-termite can be designed in accordance with customer's requirements.

### 光单元结构特征代号 / Code of Optical Unit Structure Feature

| 结构特征代号<br>Code | 代号名称<br>Description  | 适用环境<br>Application        |
|----------------|--|----------------------------|
| G              | 层绞全干式光传输单元<br>Layer stranded fully dry optic transmission unit | 室内或室外<br>indoor or outdoor |
| GT             | 层绞填充式光传输单元<br>Layer stranded filled optic transmission unit    | 室内或室外<br>indoor or outdoor |
| GX             | 中心管全干式光传输单元<br>Central tube fully dry optic transmission unit  | 室内或室外<br>indoor or outdoor |
| GXT            | 中心管填充式光传输单元<br>Central tube filled optic transmission unit     | 室内或室外<br>indoor or outdoor |
| GQ             | 其他类型<br>Other type   | 室内或室外<br>indoor or outdoor |

注: GT1、GT2不推荐应用在垂直敷设或高差较大的场合。  
Note: GT1, GT2 do not recommend application of vertical laying or exit more occasions.



# 光纤复合低压电缆OPLC

## “Optical Fiber Composite Low-Voltage Cable”

### 典型使用特性:

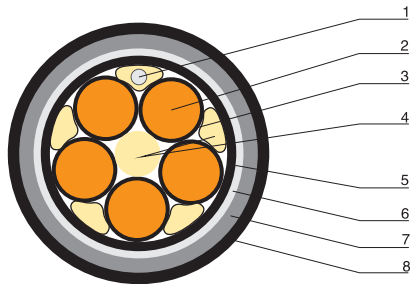
1. 交联聚乙烯绝缘光纤复合低压电缆 (OPLC) 导体长期工作温度应不超过90°C, 聚氯乙烯、聚乙烯绝缘光纤复合低压电缆 (OPLC) 导体长期工作温度应不超过70°C。
2. 具有聚氯乙烯绝缘或聚氯乙烯护套的光纤复合低压电缆 OPLC, 安装时的环境温度不高于0°C。

### Typical Operating Characteristics:

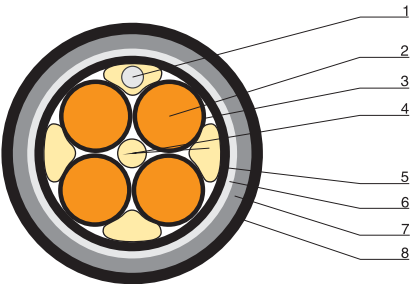
1. The long-term operating temperature of XLPE Insulated Optical Fiber Composite Low-Voltage Cable(OPLC) conductor should not exceed 90 degree; The long-term operating temperature of PVC/PE Insulated Optical Fiber Composite Low-Voltage Cable(OPLC) conductor should not exceed 70 degree.
2. For PVC insulated or PVC sheathed optical fiber composite low-voltage cable (OPLC), the installing environmental temperature should not lower than 0 degrees.

| 项目<br>Item   | 无铠装<br>Non armored | 有铠装<br>Armored |
|--|--------------------|----------------|
| 安装时的OPLC最小弯曲半径<br>The minimum bending radius of OPLC during installation | 15D                | 12D            |

注: D为光纤复合低压电缆OPLC的外径。  
Note: D means O. Dia of OPLC.



|   |                     |
|---|---------------------|
| 1 | 光缆<br>Optical Cable |
| 2 | 导体<br>Conductor     |
| 3 | 绝缘<br>Insulation    |
| 4 | 填充<br>Filler        |
| 5 | 包带<br>Strapping     |
| 6 | 内护套<br>Inner Sheath |
| 7 | 钢带<br>Steel Tape    |
| 8 | 外护套<br>Outer Sheath |



|   |                     |
|---|---------------------|
| 1 | 光缆<br>Optical Cable |
| 2 | 导体<br>Conductor     |
| 3 | 绝缘<br>Insulation    |
| 4 | 填充<br>Filler        |
| 5 | 包带<br>Strapping     |
| 6 | 内护套<br>Inner Sheath |
| 7 | 钢带<br>Steel Tape    |
| 8 | 外护套<br>Outer Sheath |



# OPMC光纤复合中压电缆

## “Optical Fiber Composite Medium Voltage Cable”



- 用途: 光纤复合中压电缆 (OPMC) 是一种将光单元复合在中压电力电缆内, 具有电力传输和光通信传输能力的电缆, 适用于额定电压35kV及以下电压等级。
- Application: Optical Fiber Composite Medium Voltage Cable(OPMC) is a kind of cable that complex the light element within medium voltage power cable and have the capacity of power transmission and optic communication. OPMC is apply to the rated voltage of 35kV and/or below.

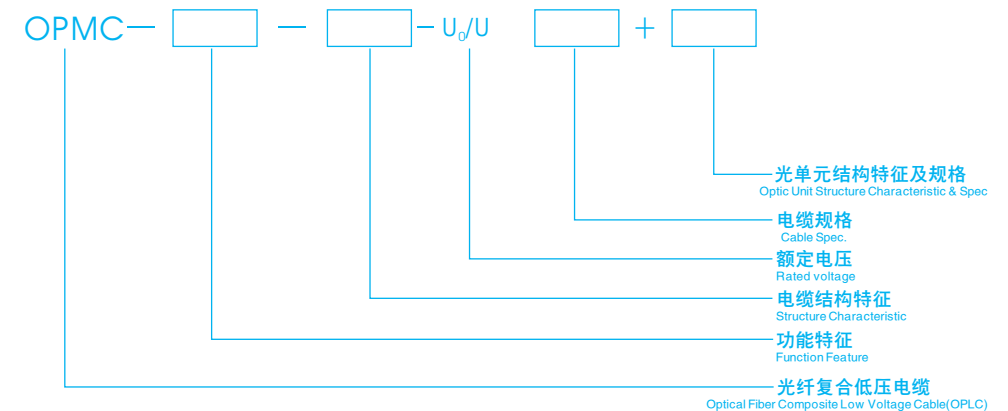
### 产品特点:

光纤复合中压电缆 (OPMC) 充分挖掘了光信号和电信号互不干扰的特点, 使以往错综复杂的线路进一步得到归整, 并为“多网合一”提供了有力的基础保障。

### Operational requirement:

The Optical Fiber Composite Medium Voltage Cable(OPMC) fully exploiting the characteristics of optical signal and electrical signal non-interference to make the complex line in past to be put in order and provide a strong basic guarantee e for “multi-nets”.

### 产品命名/Product Performance :



### 示例:

包含12芯B1类光纤非金属层绞全干式光单元的铜芯交联聚乙烯绝缘双钢带铠装聚氯乙烯护套光纤复合低压电缆, 额定电压为8.7/10kV, 3芯, 标称截面积120mm<sup>2</sup>, 表示为: OPMC-YJV22-8.7/10 3 × 120 + G1-12B1.

### Sample:

Include 12 core category B1 fiber non-metallic layer stranded dry type Optical Element Copper conductor XLPE insulated double steel tape armored PVC sheathed of optical fiber composite low-voltage cable, rated voltage for 8.7/10kV 3 core, nominal sectional area 120mm<sup>2</sup>. expressed as : OPMC-YJV22-8.7/10 3 × 120 + G1-12B1.

# OPMC光纤复合中压电缆

## “Optical Fiber Composite Medium Voltage Cable”

### >>> 典型型号 / Typical models

| 型号<br>Type                | 名称<br>Description  |
|---------------------------|--|
| OPMC-YJV +G               | 铜芯交联聚乙烯绝缘聚氯乙烯护套光纤复合低压电缆<br>Copper conductor PVC insulated PVC sheathed Optical Fiber Composite Low-Voltage Cable   |
| OPMC-YJV22 +G             | 铜芯交联聚乙烯绝缘双钢带铠装聚氯乙烯护套光纤复合低压电缆<br>Copper conductor PVC insulated double steel tape armored PVC sheathed Optical Fiber Composite Low-Voltage Cable                    |
| OPMC-WDZA (B、C) -YJY +G   | 铜芯交联聚乙烯绝缘低烟无卤阻燃 (A或B或C) 聚烯烃护套光纤复合低压电缆<br>Cu conductor PE insulated LSZH flame retardant polyolefin sheath O.F. Composite LV Cable                                  |
| OPMC-WDZA (B、C) -YJY23 +G | 铜芯交联聚乙烯绝缘双钢带铠装低烟无卤阻燃 (A或B或C) 聚烯烃护套光纤复合低压电缆<br>Cu conductor XLPE insulated double steel tape armored LSZH flame retardant polyolefin sheath O.F. Composite LV Cable |

注：如有特殊材料要求如防鼠、防蚁等，可根据客户要求设计。

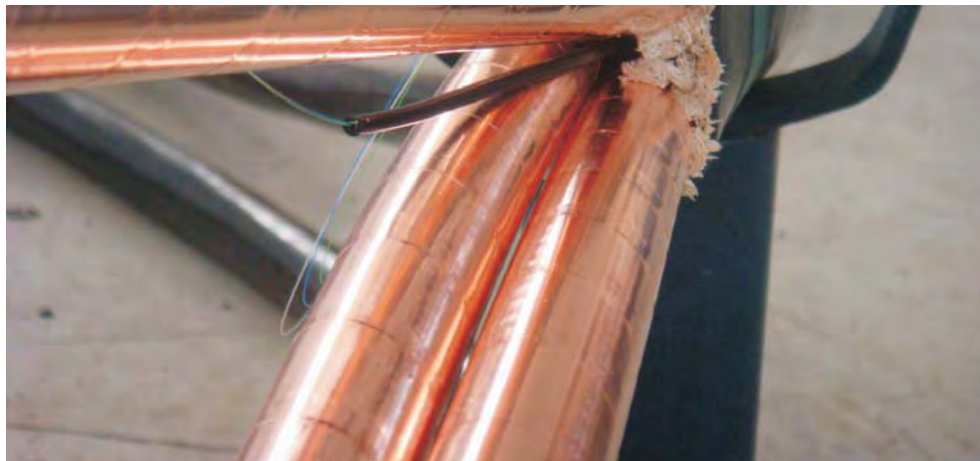
Note: For special material requirements such as prevention, anti-termite can be designed in accordance with customer's requirements.

### >>> 光单元结构特征代号 / Code of Optic Fiber structure

| 结构特征代号<br>Code | 代号名称<br>Description  | 适用环境<br>Application        |
|----------------|--|----------------------------|
| G              | 层绞全干式光传输单元<br>Layer stranded fully dry optic transmission unit | 室内或室外<br>indoor or outdoor |
| GT             | 层绞填充式光传输单元<br>Layer stranded filled optic transmission unit    | 室内或室外<br>indoor or outdoor |
| GX             | 中心管全干式光传输单元<br>Central tube fully dry optic transmission unit  | 室内或室外<br>indoor or outdoor |
| GXT            | 中心管填充式光传输单元<br>Central tube filled optic transmission unit     | 室内或室外<br>indoor or outdoor |
| GQ             | 其他类型<br>Other type   | 室内或室外<br>indoor or outdoor |

注：GT1、GT2不推荐应用在垂直敷设或高差较大的场合。

Note: Not recommended applied in vertical laying or height difference occasions.



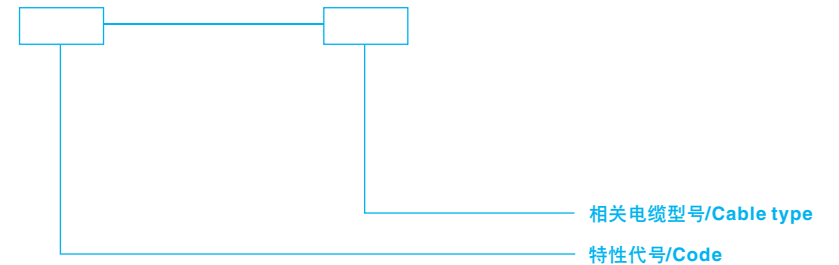
# 防腐电缆

## “Anti-corrosion cable”



用途：用于各种特定的恶劣环境下线路敷设。根据不同环境要求：防腐、防水，防紫外线，防鼠，防白蚁

Application: Apply to variety of specific adverse environment laying. Different environmental requirements Anti-corrosion, waterproof, UV-proof, prevent mice and termite.

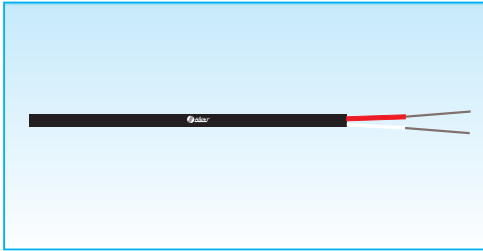


| 耐环境特性<br>Environmental resistance characteristic | 代号<br>Code |
|--|------------|
| 防腐<br>Anti-corrosion                             | FF         |
| 阻水<br>waterproof                                 | ZS         |
| 防紫外线<br>UV-proof                                 | W          |
| 防鼠<br>prevent mice                               | FS         |
| 防蚁<br>prevent termite                            | FY         |
| 防鼠防蚁<br>prevent mice and termite                 | FSY        |



# 热电偶用补偿导线

“Compensation Cable for Thermocouple”



- 标准：GB/T 4989.
- Standard: GB/T 4989.
- 用途:用于连接热电偶和测量装置，以补偿它们与热电偶连接处的温度变化所产生的误差。
- Application: For connecting the measuring devices and thermocouples to compensate changes resulting error occurred by thermocouple junction temperature.

## 产品种类 / Category

| 名称<br>Product   | 型号<br>Type | 配用热电偶<br>Equipped thermocouple   | 热电偶分度号<br>Mark | 线芯截面<br>Core section mm <sup>2</sup> |
|---|------------|--|----------------|--------------------------------------|
| 铜-铜镍0.6补偿型导线<br>Copper - Cu - Ni 0.6 compensation type conductors     | SC或RC      | 铂铑10-铂热电偶<br>Copper - Cu - Ni 0.6 compensation type conductors<br>铂铑13-铂热电偶<br>platinum-rhodium 13-platinum thermocouple | S or R         | 0.2<br>0.5<br>1.0<br>1.5<br>2.5      |
| 铁-铜镍22补偿型导线<br>Iron - Co-Ni 22 compensation conductor                 | KCA        | 镍铬-镍硅热电偶<br>Nickel chromium - nickel Silicon thermocouples   | KCA            |                                      |
| 铜-铜镍40补偿型导线<br>Copper - Cu - Ni 40 compensation type conductors       | KCB        | 镍铬-镍硅热电偶<br>Nickel chromium - nickel Silicon thermocouples   | K              |                                      |
| 镍铬10-镍硅3延长型导线<br>Ni-Chromium - Ni - Silicon 10 - 3 extended conductor | KX         | 镍铬-镍硅热电偶<br>Nickel chromium - nickel Silicon thermocouples   | K              |                                      |
| 铁-铜镍18补偿型导线<br>Iron - Cu-Ni 18 compensation conductor                 | NC         | 镍铬硅-镍硅热电偶<br>Ni chrome silicon-nickel silicon thermocouple   | K              |                                      |
| 镍铬14硅-镍硅延长型导线<br>Ni-Chromium 14 - Ni - Silicon extended conductor     | NX         | 镍铬硅-镍硅热电偶<br>Ni chrome silicon-nickel silicon thermocouple   | N              |                                      |
| 镍铬10-铜镍45延长型导线<br>Ni-Chromium 10 - Cu-Ni extended conductor           | EX         | 镍铬-铜镍热电偶<br>Ni chrome - Cu Ni thermocouple   | E              |                                      |
| 铁-铜镍45延长型导线<br>Iron - Cu-Ni 45 compensation conductor                 | JX         | 铁-铜镍热电偶<br>Iron - Cu Ni thermocouple   | J              |                                      |
| 铜-铜镍45延长型导线<br>Cu - Cu-Ni 22 compensation conductor                   | TX         | 铜-康铜热电偶<br>Cu - constantan Thermocouples   | T              |                                      |

# 核电站用1E级K3类电缆

“1E - class K3 cable for nuclear power plants”



- 标准：企标（符合法国RCC-E和核工业第二研究院编制的技术规格书）
- Standard: Comply with the RCC-E in France and the technical specification produced by the second Institute of nuclear industry
- 用途:适用于核电站核岛厂房的动力配电、控制、检测仪表、补偿、通信的1E级K3类回路。
- Application: The product is applied to the 1E - class catalog K3 circuit for nuclear station, factor such as power distribute, control, inspection instrument, compensate and communication.

## 产品特点:

- 1E级是指完成反应堆紧急停堆，安全壳隔离，堆芯应急冷却，反应堆安全壳的热导出，防止放射性物质向周围环境排放等功能的电气系统设备的安全级。
- K3类电缆是指在安全壳外，在正常情况及地震荷载下能执行其规定功能的电缆。
- 该类电缆设计结构为低烟无卤阻燃型，火灾发生时，烟密度低，有害气体释放量小，对保护电气设备、人员安全转移以及争取灭火时间起到积极作用。

## Operational requirement:

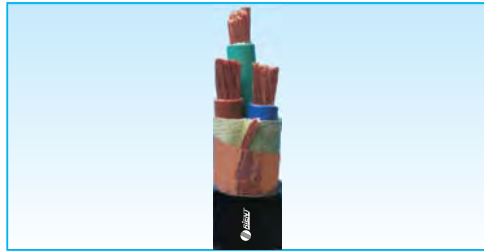
- 1E class is the electric instrument safety grade. It mainly check the feature of reactor emergent stop, safety cover isolate, reactor emergency cool, balance heating of reactor educe, safety cover heating educe, prevent the radiator matter from letting out of surrounding.
- Catalog K3 cable is apply to the rate feature on the case of earthquake and normal situation, which installed out of safety cover.
- The cable design structure is according to low smoke, no halogen and flame retardant. On occasion catch fire, it will produce lower density smoke and emit less harm gas. Protecting the electric equipment and save time to crush out the fire.

## 型号及名称 / Type& Description

| 类型<br>Category                                  | 型号<br>Type          | 额定电压<br>Voltage | 名称<br>Description   |
|---|---------------------|-----------------|---|
| 1E级K3类电力电缆<br>1E - class K3 power cable         | HD-EJE K3           | 6/10kV          | 交联聚烯烃绝缘聚烯烃（交联）护套低烟无卤阻燃核电站用1E级K3类电力电缆<br>Cross-linked polyolefin insulated steel tape armored polyolefin sheathed low smoke no halogen & frame retardant 1E - class K3 power cable   |
| 1E级K3类电力电缆<br>1E - class K3 power cable         | HD-EJEJ K3          | 0.6/1kV         |   |
| 1E级K3类电力电缆<br>1E - class K3 power cable         | HD-EJE22 K3         | 6/10kV          | 交联聚烯烃绝缘铜带铠装聚烯烃（交联）护套低烟无卤阻燃核电站用1E级K3类电力电缆<br>Cross-linked polyolefin insulated steel tape armored polyolefin sheathed low smoke no halogen & frame retardant 1E - class K3 power cable   |
| 1E级K3类电力电缆<br>1E - class K3 power cable         | HD-EJEJ22 K3        | 0.6/1kV         |   |
| 1E级K3类控制电缆<br>1E - class K3 control cable       | HD-KEJE K3          | 450/750V        | 交联聚烯烃绝缘聚烯烃（交联）护套低烟无卤阻燃核电站用1E级K3类控制电缆<br>Cross-linked polyolefin insulated polyolefin sheathed low smoke no halogen & frame retardant nuclear power plant 1E - class K3 control cable  |
| 1E级K3类控制电缆<br>1E - class K3 control cable       | HD-KEJEJ K3         | 450/750V        |   |
| 1E级K3类控制电缆<br>1E - class K3 control cable       | HD-KEJE22 K3        | 450/750V        | 交联聚烯烃绝缘铜带铠装聚烯烃（交联）护套低烟无卤阻燃核电站用1E级K3类控制电缆<br>Cross-linked polyolefin insulated steel tape armored polyolefin sheathed low smoke no halogen & frame retardant nuclear power plant 1E - class K3 control cable   |
| 1E级K3类控制电缆<br>1E - class K3 control cable       | HD-KEJEJ22 K3       | 450/750V        |   |
| 1E级K3类仪表电缆<br>1E - class K3 instrument cable    | HD-PEJE K3          | 300/500V        | 交联聚烯烃绝缘聚烯烃（交联）护套低烟无卤阻燃核电站用1E级K3类通信电缆<br>Cross-linked polyolefin insulated polyolefin sheathed low smoke no halogen & frame retardant nuclear power plant 1E - class K3 power cable  |
| 1E级K3类仪表电缆<br>1E - class K3 instrument cable    | HD-PEJEJ K3         | 300/500V        |   |
| 1E级K3类仪表电缆<br>1E - class K3 instrument cable    | HD-PEJE22 K3        | 300/500V        | 交联聚烯烃绝缘铜带铠装聚烯烃（交联）护套低烟无卤阻燃核电站用1E级K3类通信电缆<br>Cross-linked polyolefin insulated steel tape armored polyolefin sheathed low smoke no halogen & frame retardant nuclear power plant 1E - class K3 power cable   |
| 1E级K3类仪表电缆<br>1E - class K3 instrument cable    | HD-PEJEJ22 K3       | 300/500V        |   |
| 1E级K3类通信电缆<br>1E - class K3 communication cable | HD-HEJA K3          | -               | 交联聚烯烃绝缘铝塑综合护套聚烯烃（交联）护套低烟无卤阻燃核电站用1E级K3类通信电缆<br>XL polyolefin insulated aluminum-plastic sheathed polyolefin sheathed LSZH & frame retardant nuclear power plant 1E-class K3 communication cable  |
| 1E级K3类通信电缆<br>1E - class K3 communication cable | HD-HEJA53 K3        | -               | 交联聚烯烃绝缘铝塑综合护套层轧制铜带铠装聚烯烃（交联）护套低烟无卤阻燃核电站用1E级K3类通信电缆<br>XL polyolefin insulated Al-plastic sheathed corrugating polyolefin sheathed LSZH & frame retardant nuclear power plant 1E-class K3 communication cable   |
| 1E级K3类补偿电缆<br>1E - class K3 compensation cable  | HD-KCBGEJEP3/23. K3 | 300/500V        | 铜芯交联聚烯烃绝缘铝塑复合带屏蔽铜带铠装聚烯烃（交联）护套低烟无卤阻燃铜-铜镍40型核电站用1E级K3类补偿电缆<br>conductor cross-linked polyolefin insulated aluminum - plastic sheathed steel tape armored polyolefin sheathed low smoke no halogen & frame retardant Cu - Cu Ni 40 nuclear power plant 1E - class K3 power cable |
| 1E级K3类补偿电缆<br>1E - class K3 compensation cable  | HD-KCBGEJLP3/23. K3 | 300/500V        |   |

# 变频电缆

“Frequency converter cable”



用途:变频电缆主要用于变频电源和变频电机之间连接用的电缆,以及额定电压1KV及以下的输电线路中,作输送电能用。

Application: Frequency converter cable is apply to connect frequency conversion power and frequency converter motor, also used in the transmission and distribution lines with rated voltage 1KV and below for power transmission.

### 使用要求:

- 1.额定电压0.6/1kV。
- 2.电缆导体长期允许最高温度为90度,短路时最高温度250度。
- 3.安装敷设环境温度不低于0度,固定敷设时环境温度不低于-10度。
- 4.电缆允许最小弯曲半径不小于15D(D=电缆外径,mm)。

### 产品特性:

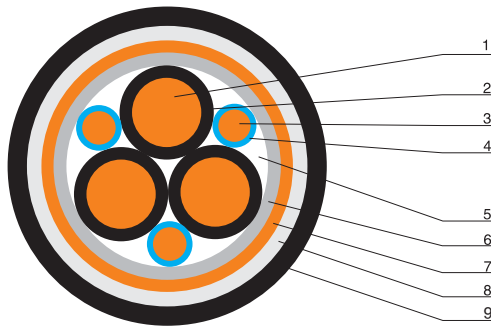
- 1.交联聚乙烯绝缘、耐高温性好。
- 2.低传输阻抗,电磁兼容性好。
- 3.低工作电容。
- 4.良好的抗干扰和低辐射性能。
- 5.对称的三芯电缆结构设计,具有比四芯电缆更好的传输性能。

### operational requirement:

- 1.Rated voltage U0/U: 0.6/1kV.
- 2.Long-term permissible maximum conductor temperature is 90°C. The maximum temperature is 250 under Short circuit.
- 3.The ambient temperature under installation should not below 0°C, The ambient temperature under fixed installation should not below -10°C.
- 4.The min. bending radius allowed  $\geq 15D$ . (D means diameter).

### Product Performance:

- 1.XLPE insulated and good heat resistance.
- 2.Low transfer impedance and good electromagnetic compatibility.
3. Low working capacitance.
- 4.Good interference resistance and low radiation properties.
- 5.Structure design is symmetric three-core cable with better transmission properties than four-core.



|   |                                     |
|---|-------------------------------------|
| 1 | 主线芯导体<br>Cardinal line Conductor    |
| 2 | 主线芯绝缘<br>Cardinal line Insulation   |
| 3 | 副线芯导体<br>Sub-line Conductor         |
| 4 | 副线芯绝缘<br>Sub-line Insulation        |
| 5 | 填充<br>Filled                        |
| 6 | 包带<br>Strapping                     |
| 7 | 金属带屏蔽<br>Metal Tape Shield          |
| 8 | 铜丝编织屏蔽<br>Copper Wire Weaved Shield |
| 9 | 外护套<br>Outer Sheath                 |

# 矿物绝缘电缆

“Mineral insulated cable”



标准: GB/T 13033-2007

Standard: GB/T 13033-2007

用途:广泛应用于高层建筑、石油化工、机场、隧道、船舶、海上石油平台、航空航天、钢铁冶金、购物中心、停车场等场所。

Application: Widely used in high building, petrochemical industry, airports, tunnels, ships, offshore oil platforms, aerospace, steel metallurgy, shopping centers, parking lots, and other occasions.

### 产品特性:

- 1.防火
- 2.防爆
- 3.防水耐腐蚀
- 4.耐辐照

- 5.载流大
- 6.机械强度高
- 7.安全可靠
- 8.寿命长

### Product Performance:

1. Fireproof
2. Explosion-proof
3. Waterproof corrosion
4. Radiation resistant
5. Current-carrying
6. High mechanical strength
7. Safe and reliable
8. Long service life

### >>> 光单元结构特征代号 / Code of Optical Unit Structure Feature

| 名称<br>Description   | 额定电压<br>Rated Voltage | 标称截面<br>Nominal section mm <sup>2</sup> |
|---|-----------------------|---|
| 非金属层绞全干式光单元<br>Non-metallic layer stranded fully dry optic unit | 500V                  | 1-4                                     |
| 重型矿物绝缘电缆<br>Heavy mineral insulated cable                       | 750V                  | 1-400                                   |

### >>> 轻型矿物绝缘电缆 / Light mineral insulated cable

| 标称截面<br>Nominal section mm <sup>2</sup> | 名称<br>Description |                | 铜护套外径<br>Cu sheath diameter mm |          |          |          |          |
|---|-------------------|----------------|--------------------------------|----------|----------|----------|----------|
|   | 1, 2 芯/core       | 3, 4, 7 芯/core | 1 芯/core                       | 2 芯/core | 3 芯/core | 4 芯/core | 5 芯/core |
| 1                                       | 0.65              | 0.75           | 3.1                            | 5.1      | 5.8      | 6.3      | 7.6      |
| 1.5                                     | 0.65              | 0.75           | 3.4                            | 5.7      | 6.4      | 7.0      | 8.4      |
| 2.5                                     | 0.65              | 0.75           | 3.8                            | 6.6      | 7.3      | 8.1      | 9.7      |
| 4                                       | 0.65              | -              | 4.4                            | 7.7      | -        | -        | -        |

### >>> 重型矿物绝缘电缆 / Heavy mineral insulated cable

| 标称截面<br>Nominal section mm <sup>2</sup> | 绝缘厚度<br>Insulation thickness mm | 铜护套外径<br>Cu sheath diameter mm |          |          |          |          |          |          |
|---|---------------------------------|--------------------------------|----------|----------|----------|----------|----------|----------|
|   |                                 | 1 芯/core                       | 2 芯/core | 3 芯/core | 4 芯/core | 5 芯/core | 6 芯/core | 7 芯/core |
| 1                                       | 1.3                             | 4.6                            | 7.3      | 7.7      | 8.4      | 9.9      | 13.0     | 15.2     |
| 1.5                                     | 1.3                             | 4.9                            | 4.9      | 8.3      | 9.1      | 10.8     | 14.1     | 16.6     |
| 2.5                                     | 1.3                             | 5.3                            | 5.3      | 9.3      | 10.1     | 12.1     | 15.6     | -        |

# 矿物绝缘电缆

## “Mineral insulated cable”

### >>> 重型矿物绝缘电缆 / Heavy mineral insulated cable

| 标称截面<br>Nominal section<br>mm <sup>2</sup> | 绝缘厚度<br>Insulation thickness<br>mm | 铜护套外径<br>Cu sheath diameter mm |          |          |          |          |          |          |
|--|------------------------------------|--------------------------------|----------|----------|----------|----------|----------|----------|
|  |                                    | 1 芯/core                       | 2 芯/core | 3 芯/core | 4 芯/core | 5 芯/core | 6 芯/core | 7 芯/core |
| 4  | 1.3                                | 5.9                            | 9.8      | 10.4     | 11.4     | 13.6     | -        | -        |
| 6  | 1.3                                | 6.4                            | 10.9     | 11.5     | 12.7     | -        | -        | -        |
| 10   | 1.3                                | 7.3                            | 12.7     | 13.6     | 14.8     | -        | -        | -        |
| 16   | 1.3                                | 8.3                            | 14.7     | 15.6     | 17.3     | -        | -        | -        |
| 25   | 1.3                                | 9.6                            | 17.1     | 18.2     | 20.1     | -        | -        | -        |
| 35   | 1.3                                | 5.3                            | -        | -        | -        | -        | -        | -        |
| 50   | 1.3                                | 4.9                            | -        | -        | -        | -        | -        | -        |
| 70   | 1.3                                | 5.3                            | -        | -        | -        | -        | -        | -        |
| 95   | 1.3                                | 15.4                           | -        | -        | -        | -        | -        | -        |
| 120  | 1.3                                | 16.8                           | -        | -        | -        | -        | -        | -        |



# 本质安全型电缆

## “Intrinsic safety cable”



- > 标准: GB/T3836.4-2010.
- > Standard: GB/T3836.4-2010.
- > 用途: 用于各种对安全性能要求较高的场合, 如煤矿井, 油田等易燃易爆场合。
- > Application: Used for various occasions requiring high performance on safety: If the mine, oil field, flammable and explosive occasion.

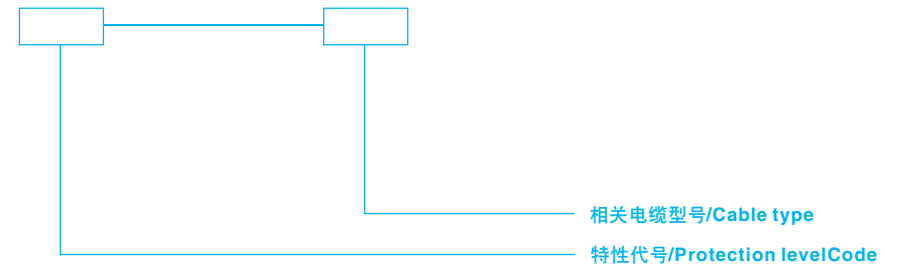
### 产品特性:

低电容、不易贮存电荷, 有良好的屏蔽性能以及抗静电性能。在规定条件下, 包括正常工作和规定的故障条件, 产生的任何电火花或任何热效应均不会点燃规定的爆炸性气体环境。

### Product Performance:

Low capacitance and difficult to store charge, has a good shielding and antistatic properties. Under the prescribed conditions, including normal working and under fault conditions, any sparks or any heat generated will not ignite explosive gas environment provided.

### >>> 特性代号/Protection level Code:



### >>> 保护等级代号/Protection Level Code:

| 保护等级<br>Protection level      | 代号<br>Code |
|-------------------------------|------------|
| “ia” 保护等级<br>Protection level | IA         |
| “ib” 保护等级<br>Protection level | IB         |
| “ic” 保护等级<br>Protection level | IC         |

# 架空平行集束绝缘导线

“Parallel cluster overhead insulated conductors”



- 标准: Q/DFL032-2010.
- Standard: Q/DFL032-2010.
- 用途: 广泛用于农村低压电力配电系统的新建和改造。具有耐气候老化、线损小、施工简单、工期短的特点、可有效防止窃电、漏电等现象, 并具有较好的安全性。
- Application: Widely used in new rural low voltage power distribution system and transformation. With characteristics of resistance to weathering, small line losses, simple construction, short duration. Also can prevent electric power stealing, leakage effectively as well as better security.

## 使用要求:

1. 电缆导体允许的长期工作温度: 聚氯乙烯绝缘、聚乙烯绝缘电缆70°C, 交联聚乙烯绝缘电缆90°C。
2. 电缆敷设时环境温度不小于0°C。

## operational requirement:

1. Max. long-term operating temperature of conductor PVC& PE Insulated Cable 70°C; PE Insulated Cable 90°C.
2. The ambient temperature under installation should not below 0°C.

## 型号及名称/ Type & Description

| 型号<br>Type          | 名称<br>Description  | 额定电压<br>Rated voltage | 芯数<br>No. of core | 标称截面<br>Nominal section<br>mm <sup>2</sup> |
|---------------------|--|-----------------------|-------------------|--|
| BS-JKLV<br>BS-JKV   | 聚氯乙烯绝缘架空平行集束导线<br>PVC insulated aerial cluster parallel conductors   | 0.6/1kV               | 2                 | 4-120                                      |
|                     |  |                       | 3                 | 16-70                                      |
|                     |  |                       | 4                 | 10-120                                     |
|                     |  |                       | 2+1               | 16-70                                      |
|                     |  |                       | 3+1               | 10-120                                     |
| BS-JKLY<br>BS-JKY   | 聚乙烯绝缘架空平行集束导线<br>PE insulated aerial cluster parallel conductors     | 0.6/1kV               | 2                 | 4-120                                      |
|                     |  |                       | 3                 | 16-70                                      |
|                     |  |                       | 4                 | 10-120                                     |
|                     |  |                       | 2+1               | 16-70                                      |
|                     |  |                       | 3+1               | 10-120                                     |
| BS-JKLYJ<br>BS-JKYJ | 交联聚乙烯绝缘架空平行集束导线<br>XLPE insulated aerial cluster parallel conductors | 0.6/1kV               | 2                 | 4-120                                      |
|                     |  |                       | 3                 | 16-70                                      |
|                     |  |                       | 4                 | 10-120                                     |
|                     |  |                       | 2+1               | 16-70                                      |
|                     |  |                       | 3+1               | 10-120                                     |

# 架空导线

“Aerial conductor”



- 标准: GB/T1179-2008、BS7884-1997.
- Standard: GB/T1179-2008、BS7884-1997.
- 用途: 用于架空电力线路。
- Application: For overhead power lines.

## 产品特性:

架空导线的材料有铜、铝、钢、铝合金等。其中铜的导电率高、机械强度高, 抗氧化抗腐蚀能力强, 是比较理想的导线材料, 但由于铜的蕴藏量相对较少, 且用途广泛, 价格昂贵, 故一般不采用铜导线。铝的导电率次于铜, 密度小, 也有一定的抗氧化抗腐蚀能力, 且价格比较低, 故广泛应用于架空线路中。但由于铝的机械强度低, 不适应大跨度架设, 因此采用钢芯铝绞线或钢芯铝合金绞线, 可以提高导线的机械强度。

## Product Performance:

Overhead wire materials are , aluminum, steel, aluminum, etc. Copper's high conductivity, mechanical strength, resistance to oxidative corrosion resistance strong, the conductor material is ideal, but since there are relatively few reserves of copper, and a wide range of uses, is expensive, so generally do not use copper wire. Conductivity of aluminum to copper, density, there is a certain resistance to oxidative corrosion resistance, and the price is lower, it is widely used in the overhead line. But due to low mechanical strength of aluminum, not adapted to the erection of – span, so using steel – cored aluminum strand wire or steel – cored aluminum strand wire, can increase the mechanical strength of the wire.

## 型号及名称/ Type & Description

| 型号<br>Type                             | 名称<br>Description            | 规格<br>Spec. mm2 |
|--|------------------------------|-----------------|
| TJ                                     | 铜绞线<br>Cu stranded conductor | 16-400          |
| JL                                     | 铝绞线<br>Al stranded conductor | 10-800          |
| JL/G1A、JL/G1B、<br>JL/G2A、JL/G2B、JL/G3A | 钢芯铝绞线<br>ACSR                | 10/2-800/100    |
| JL/G1AF、JL/G2AF、<br>JL/G3AF            | 防腐性钢芯铝绞线<br>Antiseptic ACSR  | 10/2-800/100    |

## 型号及名称/ Type & Description

| 标称截面<br>Nominal section<br>mm <sup>2</sup> | TJ           |                | JL           |                |
|--|--------------|----------------|--------------|----------------|
|  | 外径/O. Dia mm | 载流量/ Current A | 外径/O. Dia mm | 载流量/ Current A |
| 10   | -            | -              | 4.1          | -              |
| 16   | 5.0          | 130            | 5.1          | 105            |
| 25   | 6.3          | 180            | 6.4          | 135            |
| 35   | 7.5          | 220            | 7.5          | 170            |
| 50   | 8.9          | 270            | 9.0          | 215            |
| 70   | 10.7         | 340            | 10.7         | 265            |

# 架空导线

## “Aerial conductor”

### 型号及名称 / Type & Description

| 标称截面<br>Nominal section<br>mm <sup>2</sup> | TJ           |                | JL           |                |
|--|--------------|----------------|--------------|----------------|
|  | 外径/O. Dia mm | 载流量/ Current A | 外径/O. Dia mm | 载流量/ Current A |
| 95   | 12.5         | 415            | 12.5         | 325            |
| 120  | 14.0         | 485            | 14.3         | 375            |
| 150  | 15.8         | 570            | 15.8         | 440            |
| 185  | 17.4         | 645            | 17.5         | 500            |
| 240  | 19.9         | 770            | 20.0         | 610            |
| 300  | 22.2         | 890            | 22.4         | 680            |
| 400  | 25.6         | 1085           | 25.8         | 830            |
| 500  | -            | -              | 29.1         | 980            |
| 630  | -            | -              | 32.6         | 1140           |

### 型号及名称 / Type & Description

| 标称截面<br>铝/钢<br>Nominal section<br>AL/ST<br>mm <sup>2</sup> | JL/G1A、JL/G1B、JL/G2A、JL/G2B、JL/G3A |                | 标称截面<br>铝/钢<br>Nominal section<br>AL/ST<br>mm <sup>2</sup> | JL/G1A、JL/G1B、JL/G2A、JL/G2B、JL/G3A |                |
|--|------------------------------------|----------------|--|------------------------------------|----------------|
|  | 外径/O. Dia mm                       | 载流量/ Current A |  | 外径/O. Dia mm                       | 载流量/ Current A |
| 10/2   | 4.5                                | 87             | 120/7  | 14.5                               | 380            |
| 16/3   | 5.6                                | 110            | 120/20   | 15.1                               | 390            |
| 25/4   | 7.0                                | 125            | 120/25   | 15.7                               | 400            |
| 35/6   | 8.2                                | 145            | 120/70   | 18.0                               | 470            |
| 50/8   | 9.6                                | 212            | 150/8  | 16.0                               | 442            |
| 50/30  | 11.6                               | 250            | 150/20   | 16.7                               | 450            |
| 70/10  | 11.4                               | 255            | 150/25   | 17.1                               | 470            |
| 70/40  | 13.6                               | 340            | 150/35   | 17.5                               | 500            |
| 95/15  | 13.6                               | 350            | 185/10   | 18.0                               | 497            |
| 95/20  | 13.9                               | 360            | 185/20   | 18.9                               | 525            |
| 95/55  | 16.0                               | 420            | 185/35   | 18.9                               | 525            |
| 185/45   | 19.6                               | 532            | 240/50   | 22.4                               | 640            |
| 210/10   | 19.0                               | 523            | 300/15   | 23.0                               | 650            |
| 210/25   | 20.0                               | 560            | 300/20   | 23.4                               | 655            |
| 210/35   | 20.4                               | 590            | 300/25   | 27.8                               | 690            |
| 210/50   | 20.9                               | 600            | 300/40   | 23.9                               | 705            |
| 240/30   | 21.6                               | 610            | 300/50   | 24.3                               | 725            |
| 240/40   | 21.7                               | 612            | 300/70   | 25.2                               | 740            |

# 额定电压1kV及以下架空绝缘电缆

## “Rated voltage 1kV and below aerial insulated cable”



- 标准: GB/T12527-2008.
- Standard: GB/T12527-2008.
- 用途:用于交流额定电压1kV及以下架空电力线路。
- Application: Apply to AC rated voltage 1kV and below aerial power lines.

### 使用要求:

1. 电缆导体的长期允许工作温度:  
① 聚氯乙烯绝缘、聚乙烯绝缘应不超过70℃。  
② 交联聚乙烯绝缘应不超过90℃。
2. 电缆的敷设温度应不低于-20℃。
3. 电缆外径小于25mm的电缆, 弯曲半径不小于4倍电缆外径, 电缆外径25mm及以上的电缆, 弯曲半径不小于6倍电缆外径。
4. 当电缆使用直流系统时, 系统的额定电压应不大于电缆额定值的1.5倍, 系统的工作电压应不大于系统额定电压的1.1倍。
5. 电缆能承受3.5kV、1分钟电压试验。

### operational requirement:

1. Max. long-term operating temperature of PVC& PE Insulated Cable should not exceed 70℃; PE Insulated Cable should not exceed 90℃.
2. The ambient temperature under installation should not below -20℃.
3. The min. bending radius allowed: The min. bending radius should not less than 4 times compared the cable diameter within 25mm. The min. bending radius should not less than 6 times compared the cable diameter above 25mm.
4. When using the DC system, the system shall not exceed the rated voltage cable 1.5 times of rated value, system working voltage should be less than the system rated voltage 1.1 times.
5. The cable can pass 3.5kV, 1 minute voltage withstand test.

### 型号及名称 / Type & Description

| 型号<br>Type | 名称<br>Description  | 芯数<br>No. of core | 标称截面<br>Nominal Section mm <sup>2</sup> |
|------------|--|-------------------|---|
| JKV        | 额定电压1kV铜芯聚氯乙烯绝缘架空电缆<br>Rated voltage 1kV Cu conductor PVC insulated aerial cable   | 1                 | 10-240                                  |
| JKY        | 额定电压1kV铜芯聚乙烯绝缘架空电缆<br>Rated voltage 1kV Cu conductor PE insulated aerial cable     | 1                 | 10-240                                  |
| JKYJ       | 额定电压1kV铜芯交联聚乙烯绝缘架空电缆<br>Rated voltage 1kV Cu conductor XLPE insulated aerial cable | 1                 | 10-240                                  |
| JKLV       | 额定电压1kV铝芯聚氯乙烯绝缘架空电缆<br>Rated voltage 1kV Al conductor PVC insulated aerial cable   | 1                 | 10-300                                  |
| JKLY       | 额定电压1kV铝芯聚乙烯绝缘架空电缆<br>Rated voltage 1kV Al conductor PE insulated aerial cable     | 1                 | 10-300                                  |
| JKLYJ      | 额定电压1kV铝芯交联聚乙烯绝缘架空电缆<br>Rated voltage 1kV Al conductor XLPE insulated aerial cable | 1                 | 10-300                                  |

# 额定电压1kV及以下架空绝缘电缆

## “Rated voltage 1kV and below aerial insulated cable”

### >>> 型号及名称 / Type & Description

| 规格<br>Spec | 参考重量<br>Reference weight kg/km |      |      |      |      |       | 参考外径<br>reference O. dia mm |
|------------|--------------------------------|------|------|------|------|-------|-----------------------------|
|            | JKV                            | JKY  | JKYJ | JKLV | JKLY | JKLYJ |                             |
| 1×10       | 107                            | 100  | 100  | 48   | 41   | 41    | 5.8                         |
| 1×16       | 161                            | 150  | 150  | 75   | 64   | 64    | 7.2                         |
| 1×25       | 241                            | 228  | 228  | 106  | 93   | 93    | 8.4                         |
| 1×35       | 333                            | 315  | 315  | 143  | 125  | 125   | 9.7                         |
| 1×50       | 440                            | 420  | 420  | 187  | 166  | 166   | 11.0                        |
| 1×70       | 618                            | 593  | 593  | 250  | 225  | 225   | 12.6                        |
| 1×95       | 854                            | 821  | 821  | 340  | 308  | 308   | 14.6                        |
| 1×120      | 1062                           | 1027 | 1027 | 415  | 379  | 379   | 16.0                        |
| 1×150      | 1312                           | 1268 | 1268 | 517  | 472  | 472   | 17.9                        |
| 1×185      | 1643                           | 1587 | 1587 | 648  | 592  | 592   | 20.1                        |
| 1×240      | 2147                           | 2077 | 2077 | 832  | 762  | 762   | 22.6                        |
| 1×300      | -                              | -    | -    | 1010 | 933  | 933   | 24.9                        |



# 额定电压10kV架空绝缘电缆

## “Rated voltage 10kV aerial insulated cable”



- > 标准: GB/T14049-2008
- > Standard: GB/T14049-2008
- > 用途: 用于交流额定电压10kV及以下架空电力线路。
- > Application: Apply to AC rated voltage 10kV and below aerial power lines.

### 使用要求:

1. 电缆导体的长期允许工作温度:
  - ① 交联聚乙烯绝缘电缆不超过90°C。
  - ② 高密度聚乙烯绝缘电缆不超过75°C。
2. 电缆敷设温度应不低于-20°C。
3. 短路时(最长持续时间不超过5s)电缆的最高温度:
  - ① 交联聚乙烯绝缘不超过250°C。
  - ② 高密度聚乙烯绝缘不超过150°C。

### operational requirement:

1. Max. long-term operating temperature of PVC& PE Insulated Cable should not exceed 90°C; PE Insulated Cable should not exceed 75°C.
2. The ambient temperature under installation should not below -20°C.
3. Max. short-circuit temperature of XLPE cable shall not exceed 250°C(5s Max. duration) and HDPE cable not exceed 150°C.

### >>> 型号及名称 / Type & Description

| 型号<br>Type | 名称<br>Description  | 芯数<br>No. of core | 标称截面<br>Nominal Section mm <sup>2</sup> |
|------------|--|-------------------|---|
| JKYJ       | 铜芯交联聚乙烯绝缘架空电缆<br>Cu conductor XLPE insulated aerial cable                      | 1                 | 25-300                                  |
|            |  | 3                 | 25-300                                  |
| JKTRYJ     | 软铜芯交联聚乙烯绝缘架空电缆<br>Flexible Cu conductor XLPE insulated aerial cable            | 1                 | 10-120                                  |
|            |  | 3                 | 25-120                                  |
| JKLYJ      | 铝芯交联聚乙烯绝缘架空电缆<br>Al conductor XLPE insulated aerial cable                      | 1                 | 10-300                                  |
|            |  | 3                 | 25-300                                  |
| JKY        | 铜芯聚乙烯绝缘架空电缆<br>Cu conductor PE insulated aerial cable                          | 1                 | 25-300                                  |
| JKTRY      | 软铜芯聚乙烯绝缘架空电缆<br>Flexible Cu conductor PE insulated aerial cable                | 1                 | 10-120                                  |
| JKLY       | 铝芯聚乙烯绝缘架空电缆<br>Al conductor PE insulated aerial cable                          | 1                 | 10-300                                  |
| JKLYJ/Q    | 铝芯轻型交联聚乙烯薄绝缘架空电缆<br>Al conductor light type XLPE thin insulated aerial cable   | 1                 | 10-300                                  |
| JKLY/Q     | 铝芯轻型聚乙烯薄绝缘架空电缆<br>Al conductor light type PE thin insulated aerial cable       | 1                 | 10-300                                  |
| JKLYJ/B    | 铝芯本色交联聚乙烯薄绝缘架空电缆<br>Al conductor natural colour PE thin insulated aerial cable | 3                 | 25-300                                  |



# 额定电压10kV架空绝缘电缆

“Rated voltage 10kV aerial insulated cable”

## >>> 技术参数 / Specifications

| JKLYJ-10   |                            |                                |
|------------|----------------------------|--------------------------------|
| 规格<br>Spec | 参考外径<br>Reference O.dia mm | 参考重量<br>Reference weight kg/km |
| 1×10       | 11.8                       | 120                            |
| 1×16       | 12.8                       | 148                            |
| 1×25       | 14.0                       | 222                            |
| 1×35       | 15.0                       | 174                            |
| 1×50       | 16.3                       | 274                            |
| 1×70       | 18.0                       | 347                            |
| 1×95       | 19.8                       | 441                            |
| 1×120      | 21.2                       | 523                            |
| 1×150      | 22.8                       | 618                            |
| 1×185      | 24.4                       | 736                            |
| 1×240      | 26.6                       | 908                            |
| 1×300      | 28.8                       | 1091                           |



# 额定电压20kV架空绝缘电缆

“Rated voltage 20kV aerial insulated cable”



- > 标准：Q/DFL030-2009.
- > Standard: Q/DFL030-2009.
- > 用途:用于交流额定电压20KV及以下架空电力线路。
- > Application: Apply to AC rated voltage 20KV and below aerial power lines.

## 使用要求:

- 1.电缆导体的长期允许工作温度:
  - ①交联聚乙烯绝缘电缆不超过90°C。
  - ②高密度聚乙烯绝缘电缆不超过75°C。
- 2.电缆敷设温度应不低于-20°C。
- 3.短路时(最长持续时间不超过5s)电缆的最高温度:
  - ①交联聚乙烯绝缘不超过250°C。
  - ②高密度聚乙烯绝缘不超过150°C。

## operational requirement:

- 1.Max. long-term operating temperature of PVC& PE Insulated Cable should not exceed 90°C; PE Insulated Cable should not exceed 75°C.
- 2.The ambient temperature under installation should not below -20°C.
- 3.Max. short-circuit temperature of XLPE cable shall not exceed 250°C(5s Max. duration) and HDPE cable not exceed 150°C.

## >>> 型号及名称 / Type & Description

| 型号<br>Type | 名称<br>Description  | 芯数<br>No. of core | 标称截面<br>Nominal Section mm <sup>2</sup> |
|------------|--|-------------------|---|
| JKYJ       | 铜芯交联聚乙烯绝缘架空电缆<br>Cu conductor XLPE insulated aerial cable  | 1                 | 25-300                                  |
| JKLYJ      | 铝芯交联聚乙烯绝缘架空电缆<br>Al conductor XLPE insulated aerial cables | 1                 | 10-300                                  |

## >>> 技术参数 / Specifications

| JKLYJ-20   |                            |                                |
|------------|----------------------------|--------------------------------|
| 规格<br>Spec | 参考外径<br>Reference O.dia mm | 参考重量<br>Reference weight kg/km |
| 1×10       | 16.0                       | 205                            |
| 1×16       | 17.0                       | 239                            |
| 1×25       | 18.2                       | 286                            |
| 1×35       | 19.2                       | 327                            |
| 1×50       | 20.5                       | 387                            |
| 1×70       | 22.2                       | 471                            |
| 1×95       | 24.0                       | 575                            |
| 1×120      | 25.4                       | 666                            |
| 1×150      | 27.0                       | 771                            |
| 1×185      | 28.6                       | 898                            |
| 1×240      | 30.8                       | 1084                           |
| 1×300      | 33.0                       | 1280                           |

# 布电线

“Electric Wires”

额定电压450/750V及以下聚氯乙烯绝缘电缆  
Rated Voltage 50/750V nominal PVC insulated cable



- ▶ 标准: GB/T5023-2008 JB8734-1998.
- ▶ Standard: GB/T5023-2008 JB8734-1998.
- ▶ 用途: 用于交流额定电压450/750V及以下的家用电器、小型电动工具、仪器仪表及动力照明装置电源连接。
- ▶ Application: Used for rated voltage AC 450/750V and below household appliances, small electric tools, dynamic lighting instrument and power supply connection.

### 使用要求:

1. 电缆导体长期允许工作温度不超过90℃, 其余不超过70℃; 60227IEC(07)、60227IEC(08)、60227IEC(56)、60227IEC(57)。
2. 电缆的敷设温度应不低于0℃。
3. 电缆允许最小弯曲半径: 电缆外径小于25mm者应不小于4倍电缆外径, 电缆外径为25mm及以上者应不小于6倍电缆外径。

### Operational requirement:

1. The long-term working temperature allowed of the conductor should not exceed 90℃, others not exceed 70℃; 60227IEC(07)、60227IEC(08)、60227IEC(56)、60227IEC(57)。
2. The temperature when cable laying should be not less than 0℃
3. The min. bending radius allowed: The min. bending radius should be not less than 4 times compared the cable diameter within 25mm. The min. bending radius should be not less than 6 times compared the cable diameter above 25mm.

### 产品性能:

1. 20℃导体直流电阻符合GB/T3956-2008规定要求。

### Product Performance:

1. The conductor DC resistance when 20℃ applied to GBT3956-2008.

### 型号及名称 / Code & Description

① GB/T5023-2008

| 型号<br>Type         | 名称<br>Description   | 额定电压<br>Rated Voltage | 芯数<br>No. of Core | 标称截面<br>Nominal Section mm <sup>2</sup> |
|--------------------|---|-----------------------|-------------------|---|
| 60227IEC01(BV)     | 一般用途单芯硬导体无护套电缆<br>General single core copper conductor PVC insulation rigid cable                     | 450/750V              | 1                 | 1.5-400                                 |
| 60227IEC02(RV)     | 一般用途单芯软导体无护套电缆<br>General single core copper conductor PVC insulation flexible cable                  | 450/750V              | 1                 | 1.5-240                                 |
| 60227IEC05(BV)     | 内部布线用导体温度为70℃的单芯实心导体无护套电缆<br>Solid copper conductor single core PVC insulation cable for inner wiring | 300/500V              | 1                 | 0.5-1                                   |
| 60227IEC06(RV)     | 内部布线用导体温度为70℃的单芯软导体无护套电缆<br>Solid copper conductor single core PVC insulation cable for inner wiring  | 300/500V              | 1                 | 0.5-1                                   |
| 60227IEC07(BV-90)  | 内部布线用导体温度为90℃的单芯实心导体无护套电缆<br>Solid copper conductor single core PVC insulation cable for inner wiring | 300/500V              | 1                 | 0.5-2.5                                 |
| 60227IEC08(RV-90)  | 内部布线用导体温度为90℃的单芯软导体无护套电缆<br>Solid copper conductor single core PVC insulation cable for inner wiring  | 300/500V              | 1                 | 0.5-2.5                                 |
| 60227IEC10(BVV)    | 轻型聚氯乙烯护套套线<br>Light PVC sheathed cable  | 300/500V              | 2-5               | 1.5-3.5                                 |
| 60227IEC52(RVV)    | 轻型聚氯乙烯护套套线<br>Light PVC sheathed flexible cable   | 300/500V              | 2-3               | 0.5-0.75                                |
| 60227IEC53(RVV)    | 普通聚氯乙烯护套套线<br>Ordinary PVC sheathed flexible cable  | 300/500V              | 2-5               | 0.75-2.5                                |
| 60227IEC56(RVV-90) | 导体温度为90℃的耐热轻型聚氯乙烯护套套线<br>Conductor temperature 90℃ heat resistant light PVC sheathed flexible wire    | 300/500V              | 2-3               | 0.5-0.75                                |
| 60227IEC57(RVV-90) | 导体温度为90℃的耐热普通聚氯乙烯护套套线<br>Conductor temperature 90℃ heat resistant ordinary PVC sheathed flexible wire | 300/500V              | 2-5               | 0.75-2.5                                |

### ② JB8734-1998

| 型号<br>Type | 名称<br>Description  | 额定电压<br>Rated Voltage | 芯数<br>No. of Core | 标称截面<br>Nominal Section mm <sup>2</sup> |
|------------|--|-----------------------|-------------------|---|
| BV         | 铜芯聚氯乙烯绝缘电线<br>Copper conductor PVC insulated cable   | 300/500V              | 1                 | 0.75-1                                  |
| BLV        | 铝芯聚氯乙烯绝缘电线<br>Aluminum conductor PVC insulated cable   | 450/750V              | 1                 | 2.5-185                                 |
| BVR        | 铜芯聚氯乙烯绝缘软电线<br>Copper conductor PVC insulated flexible cable                                 | 450/750V              | 1                 | 2.5-70                                  |
| BVV        | 铜芯聚氯乙烯绝缘聚氯乙烯护套圆形电缆<br>Copper conductor PVC insulated & sheathed round cable                  | 300/500V              | 1                 | 0.75-10                                 |
| BLVV       | 铝芯聚氯乙烯绝缘聚氯乙烯护套圆形电缆<br>Aluminum conductor PVC insulated & sheathed round cable                | 300/500V              | 1                 | 2.5-10                                  |
| BVVV       | 铜芯聚氯乙烯绝缘聚氯乙烯护套扁型电缆<br>Copper conductor PVC insulated & sheathed flat cable                   | 300/500V              | 2-3               | 0.75-10                                 |
| BLVVV      | 铝芯聚氯乙烯绝缘聚氯乙烯护套扁型电缆<br>Aluminum conductor PVC insulated & sheathed flat cable                 | 300/500V              | 2-3               | 2.5-10                                  |
| RVS        | 铜芯聚氯乙烯绝缘绞型连接用软电线<br>Copper conductor PVC insulated stranded connected flexible cable         | 300/300V              | 2                 | 0.5-2.5                                 |
| AV         | 铜芯聚氯乙烯绝缘安装用软电线<br>Copper conductor PVC insulated installation cable                          | 300/300V              | 1                 | 0.12-0.4                                |
| AV-90      | 铜芯耐热90℃聚氯乙烯绝缘安装用软电线<br>Copper conductor heat resistance 90℃ PVC insulated installation cable | 300/300V              | 1                 | 0.12-0.4                                |
| AVR        | 铜芯聚氯乙烯绝缘安装用软电线<br>Copper conductor PVC insulated installation cable                          | 300/300V              | 1                 | 0.12-0.4                                |
| AVR-90     | 铜芯耐热90℃聚氯乙烯绝缘安装用软电线<br>Copper conductor heat resistance 90℃ PVC insulated installation cable | 300/300V              | 1                 | 0.12-0.4                                |
| AVVR       | 铜芯聚氯乙烯绝缘聚氯乙烯护套安装用软电线<br>Copper conductor PVC insulated & sheathed installation cable         | 300/300V              | 2-24              | 0.12-0.4                                |
| RVVP       | 铜芯聚氯乙烯绝缘屏蔽聚氯乙烯护套软电线<br>Copper conductor PVC insulated shielded & sheathed flexible cable     | 300/300V              | 1-24              | 0.12-2.5                                |



# 布电线

“Electric Wires”

额定电压450/750V及以下聚氯乙烯绝缘电缆  
Rated voltage 50/750V nominal voltage PVC insulated cable

## 技术参数

① 60227IEC01 (BV)

| 规格<br>Spec | 绝缘标称厚度<br>Nominal insulation thickness mm | 近似外径<br>Approximate outer diameter mm | 近似重量<br>Approximate weight kg/km |
|------------|---|---------------------------------------|----------------------------------|
| 1.5        | 0.7                                       | 2.8                                   | 20                               |
| 2.5        | 0.8                                       | 3.4                                   | 31                               |
| 4          | 0.8                                       | 3.9                                   | 46                               |
| 6          | 0.8                                       | 4.4                                   | 66                               |
| 10         | 1.0                                       | 6.0                                   | 112                              |
| 16         | 1.0                                       | 7.1                                   | 169                              |
| 25         | 1.2                                       | 8.8                                   | 268                              |
| 35         | 1.2                                       | 9.8                                   | 363                              |
| 50         | 1.4                                       | 11.0                                  | 469                              |
| 70         | 1.4                                       | 12.6                                  | 661                              |
| 95         | 1.6                                       | 14.6                                  | 913                              |
| 120        | 1.6                                       | 16.0                                  | 1137                             |
| 150        | 1.8                                       | 17.9                                  | 1405                             |
| 185        | 2.0                                       | 20.1                                  | 1758                             |
| 240        | 2.2                                       | 22.8                                  | 2299                             |
| 300        | 2.4                                       | 25.3                                  | 2876                             |
| 400        | 2.6                                       | 28.7                                  | 3666                             |

② 60227IEC01 (BV)

| 规格<br>Spec | 绝缘标称厚度<br>Nominal insulation thickness mm | 近似外径<br>Approximate outer diameter mm | 近似重量<br>Approximate weight kg/km |
|------------|---|---------------------------------------|----------------------------------|
| 1.5        | 0.7                                       | 3.0                                   | 20                               |
| 2.5        | 0.8                                       | 3.7                                   | 31                               |
| 4          | 0.8                                       | 4.2                                   | 46                               |
| 6          | 0.8                                       | 4.8                                   | 63                               |
| 10         | 1.0                                       | 6.9                                   | 112                              |
| 16         | 1.0                                       | 7.8                                   | 165                              |
| 25         | 1.2                                       | 9.6                                   | 253                              |
| 35         | 1.2                                       | 10.6                                  | 343                              |
| 50         | 1.4                                       | 13.0                                  | 491                              |
| 70         | 1.4                                       | 15.1                                  | 679                              |
| 95         | 1.6                                       | 17.0                                  | 894                              |
| 120        | 1.6                                       | 19.9                                  | 1132                             |
| 150        | 1.8                                       | 21.5                                  | 1409                             |
| 185        | 2.0                                       | 23.3                                  | 1712                             |
| 240        | 2.2                                       | 21.5                                  | 2259                             |

③ 60227IEC01 (BV)

| 规格<br>Spec | 绝缘标称厚度<br>Nominal insulation thickness mm | 近似外径<br>Approximate outer diameter mm | 近似重量<br>Approximate weight kg/km |
|------------|---|---------------------------------------|----------------------------------|
| 2.5        | 0.8                                       | 3.7                                   | 33                               |
| 4          | 0.8                                       | 4.2                                   | 48                               |
| 6          | 0.8                                       | 4.9                                   | 68                               |
| 10         | 1.0                                       | 6.7                                   | 119                              |
| 16         | 1.0                                       | 7.9                                   | 166                              |
| 25         | 1.2                                       | 9.9                                   | 255                              |
| 35         | 1.2                                       | 11.6                                  | 348                              |
| 50         | 1.4                                       | 13.0                                  | 491                              |
| 70         | 1.4                                       | 15.3                                  | 680                              |

# 通信电缆

“Communication Cable”

HYA实心绝缘非填充市话通信电缆  
Solid non-filled insulated telephone cable



标准: YD/T322-1996.

Standard: YD/T322-1996.

用途: HYA实心绝缘非填充型电缆是电话交换区和中继干线设计的电话电缆, 主要用于管道敷设。

Application: Non-filled cable with solid insulation is the telephone exchange area and relay route design tele cable, mainly used for pipe laying.

## 产品电气特性 / Electric characteristics (20°C)

| 项目<br>Item   | 单位<br>Unit | 指标<br>Index  |   |      |      |      |               |
|--|------------|--|---|------|------|------|---------------|
| 单根导线直流电阻<br>Single conductor DC resistance +20°C<br>线对直流电阻不平衡<br>DC resistance unbalance +20°C   | Ω/km<br>%  | 单丝直径 / Single dia. mm  | 0.32  | 0.40 | 0.50 | 0.60 | 0.80          |
|  |            | 最大值 / Max. value   | 236   | 148  | 95   | 65.8 | 36.6          |
|  |            | 平均值 / Average value ≤  | 2.5   | 1.5  | 1.5  | 1.5  | 1.5           |
| 每根绝缘导线与其余接地及屏蔽的绝缘电阻的绝缘电阻+20°C DCP100-500V<br>The insulation resistance of each insulated conductor between grounding and shielding +20°C DCP100-500V | MΩ/km      | 最小值<br>Min. value  | 10 × 10 <sup>3</sup>  |      |      |      |               |
| 绝缘电气强度<br>Insulation electric strength DC  | kV         | 3s   | 芯线之间 2.0, 芯线与屏蔽之间 6.0<br>Between the cores 2.0, Between the core and shield 6.0 |      |      |      |               |
|  |            | 1mm  | 芯线之间 1.0, 芯线与屏蔽之间 3.0<br>Between the cores 1.0, Between the core and shield 3.0 |      |      |      |               |
| 工作电容<br>Capacitance  | nF/km      | 电缆线对数<br>Pairs of cable  | 10  |      |      |      | >10           |
|  |            | 最大值<br>Max. value  | 58.0  |      |      |      | 57.0          |
|  |            | 平均值不大于<br>value less than  | ≤52.0 ± 4.0   |      |      |      | ≤52.0 ± 2.0   |
| 电容不平衡<br>Capacitance Unbalance<br>线对与线对之间电容不平衡<br>Capacitance Unbalance between pairs<br>线对与地之间电容不平衡<br>Capacitance Unbalance between pair & ground  | pF/km      | 电缆线对数<br>Pairs of cable  | 10  |      |      |      | >10           |
|  |            | 最大值<br>Max. value  | 250(200)  |      |      |      | 250(200)      |
|  |            | 最大值 / 平均值<br>Max. value / Average value ≤  | 2630/570(250)   |      |      |      | 2630/570(250) |
| 固有衰减<br>Inherent attenuation<br>10对以上电缆<br>cable more than 10pairs<br>150kHz<br>1024kHz  | dB/km      | 单丝直径<br>Single dia. mm   | 0.32  | 0.40 | 0.50 | 0.60 | 0.80          |
|  |            | 平均值<br>Average value ≤   | 16.8  | 12.1 | 9.0  | 7.2  | 5.7           |
|  |            | 平均值<br>Average value ≤   | 33.5  | 27.3 | 22.5 | 18.5 | 13.7          |
| 近端串音衰减<br>1024kHz<br>长度 ≥ 0.3km<br>Proximal end crosstalk attenuation<br>1024kHz<br>Length ≥ 0.3km   | dB         | 10对电缆内线对间的全部组合<br>All combination of 10pairs extension cable   |   |      |      |      | 不小于53         |
|  |            | 12对、13对子单位内线对间的全部组合<br>All combination of 12/13pairs extension units   |   |      |      |      | 不小于54         |
|  |            | 20对、30对电缆或基本单位内线对间的全部组合<br>All combination of 20/30pairs extension units & cables  |   |      |      |      | 不小于58         |
|  |            | 相邻12对、13对子单位间线对的全部组合<br>All combination of adjacent 12/13pairs extension units   |   |      |      |      | 不小于63         |
|  |            | 相邻基本单位间线对的全部组合<br>All pairs combination of adjacent pairs on the base unit   |   |      |      |      | 不小于64         |
|  |            | 超单位内两个相对基本单位和子单位或子单位间线对的全部组合<br>All pairs combinations of two opposing base units in the extra unit & subunits or between subunits |   |      |      |      | 不小于70         |
|  |            | 不同超单位内基本单位或子单位间线对的全部组合<br>All pairs combinations of basic units or subunits in different extra units                               |   |      |      |      | 不小于79         |
| 近端串音防卫度<br>150kHz<br>Proximal end crosstalk protection ratio<br>150kHz   | dB/km      | 不同超单位内基本单位或子单位间线对的全部组合<br>Min. value of any combination of pairs 58  |   |      |      |      |               |
|  |            | 功率平均值不小于   |   |      |      |      | 功率平均值不小于 69   |

# 物理发泡聚乙烯绝缘同轴电缆

## “Physically foamed PE insulation coaxial cable”



- 标准: SJ/T11138-1997.
- Standard: SJ/T11138-1997.
- 用途:用于1GHz以下闭路电视系统、共用天线电视系统、有线电视系统主干线、分支线及其它电子装置。
- Application: The product is mainly applicable to 1GHz and below closed-circuit TV system, a common antenna TV system, CATV systems trunk line, branch line and other electronic devices.

### 使用要求:

- 环境温度: -25°C ~ 70°C (PVC护套), -40°C ~ 70°C (PE护套)。
- 相对湿度: 当温度为40 ± 2°C时, 为90% ~ 95%。

### Operational requirement:

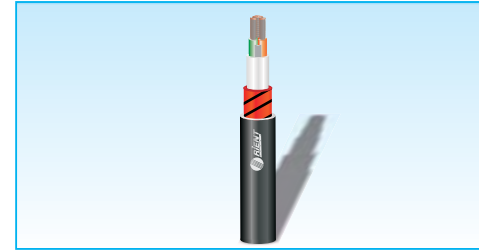
- Ambient temperature: -25°C ~ 70°C (PVC sheath), -40°C ~ 70°C (PE sheath).
- Relative humidity: When the temperature is 40 ± 2°C, the Rh is 90% ~ 95%.

### >>> 型号及名称 / Code & Description

| 型号<br>Type  | 名称<br>Description  |
|-------------|--|
| SYWV-75-5   | 电缆分配系统用物理发泡聚乙烯绝缘聚氯乙烯护套同轴电缆<br>Physical foamed PE insulated PVC sheathed coaxial cable used in cable distribution system                                    |
| SYWV-75-7   | 电缆分配系统用物理发泡聚乙烯绝缘聚氯乙烯护套同轴电缆<br>Physical foamed PE insulated PVC sheathed coaxial cable used in cable distribution system                                    |
| SYWY-75-7   | 电缆分配系统用物理发泡聚乙烯绝缘聚乙烯护套同轴电缆<br>Physical foamed PE insulated & sheathed coaxial cable used in cable distribution system                                       |
| SYWV-75-9   | 电缆分配系统用物理发泡聚乙烯绝缘聚氯乙烯护套同轴电缆<br>Physical foamed PE insulated PVC sheathed coaxial cable used in cable distribution system                                    |
| SYWY-75-9   | 电缆分配系统用物理发泡聚乙烯绝缘聚乙烯护套同轴电缆<br>Physical foamed PE insulated & sheathed coaxial cable used in cable distribution system                                       |
| SYWLY-75-9  | 电缆分配系统用物理发泡聚乙烯绝缘、铝管外导体聚乙烯护套同轴电缆<br>Physical foamed PE insulated, aluminum tube outer conductor PE sheathed coaxial cable used in cable distribution system |
| SYWLY-75-12 | 电缆分配系统用物理发泡聚乙烯绝缘铝管外导体、聚乙烯护套同轴电缆<br>Physical foamed PE insulated, aluminum tube outer conductor PE sheathed coaxial cable used in cable distribution system |

# 阻燃和耐火 (无卤低烟) 电线电缆

## “Flame retardant & fire resistant (Low-smoke non-halogen) wires and cables”



- 标准: GB/T19666-2005
- Standard: GB/T19666-2005
- 用途:阻燃电线电缆是为了防止电线电缆着火延燃而研制的, 具有阻止或延缓火焰发生或蔓延的特点。主要用于有较高阻燃要求的场合, 如高层建筑、医院、地铁核电站等。
- Application: Flame retardant cable is developed to prevent the extension of wire and cable fire burning, it has the characteristics of block or delay the occurrence or spread of flame. It is mainly used in occasions with high flame retardant requirement, such as high-rise buildings, hospitals, underground nuclear power plants ect.

### 耐火电线电缆:

耐火电线电缆是为了在火源燃烧下能持续的在指定状态下运行的能力, 能保持线路的完整性。主要用于应急电源至用户消防设备、火灾报警设备、通风排烟设备、导行灯、紧急电源插座、紧急用电梯等。

### Fire resistant cable :

Fire resistant cable is developed to keep the ability of sustained running under the fire burning in the specified state and to preserve the integrity of the route. It is mainly used in emergency power to users' fire-fighting equipment, fire alarm equipment, ventilation equipment, navigation lights, emergency power outlets, emergency elevator etc.

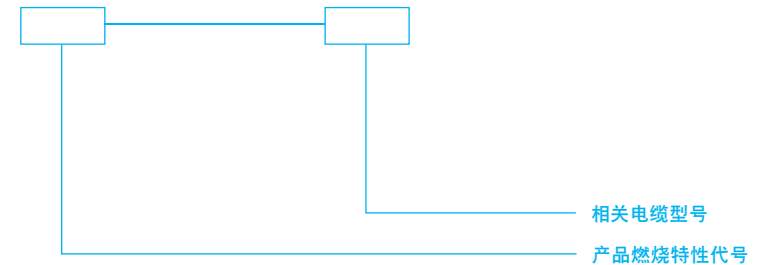
### 无卤低烟电缆:

无卤低烟电缆具有不产生有毒气体、烟释放量小等特点。适用于具有较高环保要求的场合。

### Low-smoke non-halogen cable :

Low-smoke non-halogen cable has the characteristics of no toxic gas and little smoke emission. It is applicable to situations with high environmental requirements.

### >>> 特性代号/Protection level Code:



Note: ①相关电线电缆型号 /Related wires & cables typ  
②产品燃烧特性代号/Combustion Characteristics Codes

# 阻燃和耐火（无卤低烟）电线电缆

“Flame retardant & fire resistant  
(Low-smoke non-halogen) wires and cables”

## 型号及名称 / Code & Description

| 型号 Type                        | 代号 Code       | 名称 Description                                   | 相关产品种类 Related product category  |
|--------------------------------|---------------|--|--|
| 阻燃系列<br>Flame retardant series | 有卤<br>Halogen | ZA<br>阻燃A类<br>Flame Retardant Class A            | 35kV及以下电力电缆<br>35kV and below power cable ( GB/T12706-2008 )<br>控制电缆Control cable<br>( GB/T9330-2008 )<br>电线wires<br>( GB/T5023-2008 ) |
|                                |               | ZB<br>阻燃B类<br>Flame Retardant Class B            |  |
|                                |               | ZC<br>阻燃C类<br>Flame Retardant Class C            |  |
|                                |               | ZD<br>阻燃D类<br>Flame Retardant Class D            |  |
|                                | 无卤低烟<br>LSOH  | WDZ<br>无卤低烟阻燃<br>LSOH Flame Retardant            |  |
|                                |               | WDZA<br>无卤低烟阻燃A类<br>LSOH Flame Retardant Class A |  |
|                                |               | WDZB<br>无卤低烟阻燃B类<br>LSOH Flame Retardant Class B |  |
|                                |               | WDZC<br>无卤低烟阻燃C类<br>LSOH Flame Retardant Class C |  |
|                                |               | WDZD<br>无卤低烟阻燃D类<br>LSOH Flame Retardant Class D |  |



- |   |  |
|---|--|
| 1 | 导体<br>Conductor                          |
| 2 | 阻燃PVC绝缘<br>Flame Retardant PVC Insulated |
| 3 | 填充<br>Filler                             |
| 4 | 内衬<br>Inner Lining                       |
| 5 | 钢带铠装<br>Steel Tape Armored               |
| 6 | 阻燃PVC护套<br>Flame Retardant PVC Sheath    |

## 型号及名称 / Code & Description

| 型号 Type                       | 代号 Code  | 名称 Description  | 相关产品种类 Related product category   |  |
|-------------------------------|--|---|---|--|
| 耐火系列<br>Fire-resistant series | 有卤<br>Halogen  | N<br>耐火<br>Fire-resistant                               | 0.6/1kV及以下电力电缆<br>0.6/1kV and below power cable<br>( GB/T12706.1-2008 )<br>控制电缆Control cable<br>( GB/T9330-2008 )<br>电线wires<br>( GB/T5023-2008 ) |  |
|                               |  | ZAN<br>阻燃A类耐火<br>Flame Retardant Class A Fire-resistant |   |  |
|                               |  | ZBN<br>阻燃B类耐火<br>Flame Retardant Class B Fire-resistant |   |  |
|                               |  | ZCN<br>阻燃C类耐火<br>Flame Retardant Class C Fire-resistant |   |  |
|                               |  | ZDN<br>阻燃D类耐火<br>Flame Retardant Class D Fire-resistant |   |  |
|                               |  | 无卤低烟<br>LSOH  |   | WDZN<br>无卤低烟阻燃耐火<br>LSOH Flame Retardant Fire-resistant            |
|                               |  |   |   | WDZAN<br>无卤低烟阻燃A类耐火<br>LSOH Flame Retardant Class A Fire-resistant |
|                               |  |   |   | WDZBN<br>无卤低烟阻燃B类耐火<br>LSOH Flame Retardant Class B Fire-resistant |
|                               | WDZCN<br>无卤低烟阻燃C类耐火<br>LSOH Flame Retardant Class C Fire-resistant |   |   |  |
|                               | WDZDN<br>无卤低烟阻燃D类耐火<br>LSOH Flame Retardant Class D Fire-resistant |   |   |  |



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|---|--|
| 1 | 导体<br>Conductor                          |
| 2 | 云母带<br>Mica-Tape                         |
| 3 | 阻燃PVC绝缘<br>Flame Retardant PVC Insulated |
| 4 | 阻燃填充<br>Flame Retardant Filler           |
| 5 | 玻璃纤维带<br>Fiberglass Tape                 |
| 6 | 阻燃PVC护套<br>Flame Retardant PVC Sheath    |