

## Submersible Pump Cable

ESP cable is applicable to ESP, of which rated voltage is 6KV and less than it. The product includes submersible series pump cable □flat cable□round cable; heat resistant level ranges from 70□ to 204□ to meet the different needs, providing favorable conductions for exploitation pump well.

High-heat and high-pressure ESP cable with special structure and process, widely used in high-pressure, high-gas wells, applies in particular to the marine oil field.

Round and flat integration cable with special structure and process, widely used in transition position of round and flat ESP cable□can be avoided fleeing liquids and gases into cable.

Guard against knocking and bumping cable with special structure and process, widely used in inclined well □ horizontal well and dog leg , be able to improve success rates of descent well only one time.

Capillary cable with special structure and process□combination ESP cable with one or more metal tube□chemical agent injected into gas well through metal tube.

ESP and MLE cable integration with special structure and process□can be avoid artificial joints too big□this cable widely used in Jidong oil field.



High-heat and high-pressure ESP cable



Round and flat cable Integration



Guard against knocking and bumping



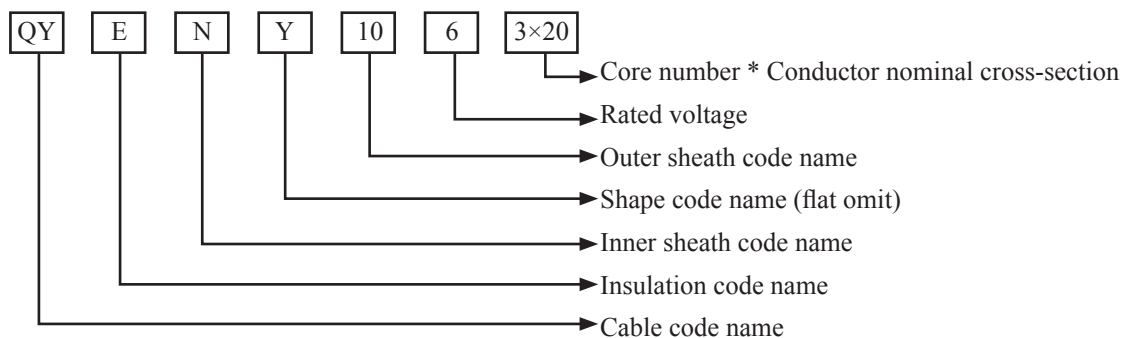
Capillary cable



ESP and MLE cable integration

### Product Features:

- 1 Rated voltage U (Line voltage) is 3kv and 6kv .
  - 2 Please refer to table 2 about maximum conductor operating temperature.
  - 3 Flat cable is suiting for oil tube and small space tube□Round cable is suiting for oil tube and tube with enough space.
  - 4 When laying down the bending radius doesn't lower than 500mm .
  - 5 When laying down the polypropylene insulation cable, environmental temperature of doesn't lower than -20□.
- Product type, rated voltage, product specification, please refer to this picture(take QYENY10 6kV 3×20 for example)□



**Table 1 The typical model of cable and technological parameter:**

| Type  | level of voltage withstanding kV | Number of cores | Maximum conductor operating temperature ≤°C | Minimum resistance of insulation at 20 RMΩ·km   | direct-current withstand voltage test (kV) and Leakage current (μA/km)   | Unbalance of D.C. resistance of conductor % | Nominal area of conductor mm <sup>2</sup> /AWG | Maximum resistance of conductor at 20 ≤Ω/km |                   |
|---|----------------------------------|-----------------|---|---|--|---|--|---|-------------------|
|   |                                  |                 |   |   |  |   |  | Plain wires                                 | Tin-coating wires |
| QYYH10 QYYA10   | 3                                | 3               | 70  | R=Klg(D/d)<br>(K: resistance constant of insulation material, PP:15240, EPDM:6096, D: insulation dia., d: conductor dia.) | 1、rating 3kV:test voltage 27kV, rating 6kV: test voltage 35kV, ; 5min<br>2、Leakage current ≤U/R ( U : test voltage ; R: minimum insulation resistance. ) | ≤2  | 10/7   | 1.83  | 1.84              |
| QYPN10 QYPF10<br>QYPA10 QYYJN10<br>QYEH10 QYPNY10   |                                  |                 | 90  |   |  |   |  |   |                   |
| QYEN10 QYYJQ10<br>QYEE10 QYFYJQ10<br>QYEQ10 QYYEQ10<br>QYEEY10 QYENY10<br>QYEQNY10<br>QYJYEQ10 QYJYEN10 |                                  |                 | 120   |   |  |   |  |   |                   |
| QYFEQ10 QYEQ10<br>QYYEQ10   |                                  |                 | 135   |   |  |   |  |   |                   |
| QYFSQ10 QYYEQ10<br>QYF46Q10 QYF40EQ10<br>QYJYFQ10 QYEQ10<br>QYEQNY10 QYEEY10<br>QYJYEQ10 QYYEQEY10      |                                  |                 | 150   |   |  |   |  |   |                   |
| QYYF40Q10 QYSQ10<br>QYYSQ10 QYYEQ10<br>QYYEEY10 QYYEQEY10<br>QYYEQNY10 QYEQ10                           |                                  |                 | 180   |   |  |   |  |   |                   |
| QYYF46Q10 QYYEQ10   |                                  |                 | 204   |   |  |   |  |   |                   |

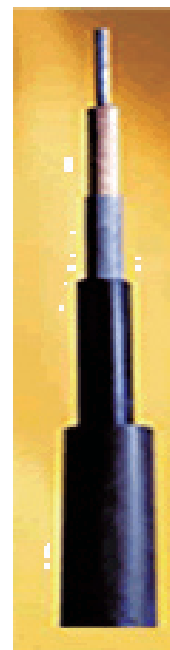
**The size of cable structure**

| Nominal area of conductor mm <sup>2</sup> | Number of wires/ nominal diameter of single wire mm | Cable type | Rated voltage kV | Insulation thickness mm | Inner sheath nominal thickness mm | Armor nominal thickness ≥mm | Overall dimensions |                    |                    |                    |                    |                    |                    |
|---|---|------------|------------------|-------------------------|-----------------------------------|-----------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|   |   |            |                  |                         |                                   |                             | 10 mm <sup>2</sup> | 13 mm <sup>2</sup> | 16 mm <sup>2</sup> | 20 mm <sup>2</sup> | 33 mm <sup>2</sup> | 42 mm <sup>2</sup> | 53 mm <sup>2</sup> |
| 10  | 1/3.57  | 引接电缆       | 3                | 1.0                     | 0.8                               | 0.3                         | 11.5×28.5          | 11.5×29.5          | 13×31.5            | 14×33              | --                 | --                 | --                 |
| 13  | 1/4.12  |            | 6                | 1.5                     | 0.8                               | 0.4                         | 12.532             | 13×34              | 13×35              | 15×37              | --                 | --                 | --                 |
| 16  | 1/4.62  |            | 扁形电缆             | 3                       | 1.9                               | 1.3                         | 0.5                | 14×35              | 14.5×37.5          | 15×39              | 16×40              | 18×46              | 19×49              |
| 20  | 1/5.19  | 6          |                  | 2.3                     | 2.0                               | 0.5                         | --                 | --                 | 35                 | 36                 | 40                 | 42                 | 44                 |
| 33  | 1/6.54 (7/2.50)                                     | 圆形电缆       | 3                | 1.9                     | 2.0                               | 0.5                         | --                 | --                 | 33                 | 34                 | 38                 | 40                 | 42                 |
| 42  | 1/7.35 (7/2.85)                                     |            | 6                | 2.3                     | 2.0                               | 0.5                         | --                 | --                 | 35                 | 36                 | 40                 | 42                 | 44                 |
| 53  | 1/8.25 (7/3.16)                                     | 圆形电缆       | 3                | 1.9                     | 2.0                               | 0.5                         | --                 | --                 | 33                 | 34                 | 38                 | 40                 | 42                 |
|   |   |            | 6                | 2.3                     | 2.0                               | 0.5                         | --                 | --                 | 35                 | 36                 | 40                 | 42                 | 44                 |

Nominal insulation thickness of FEP is 1.0mm.  
Nominal jacket thickness of lead is 1.0mm

## Electric pole cable

WRCF□WRCEF3, this two kinds of structure electric pole cables acquired national patent. The product can be used in different environments wells, the temperature rating including 90 □, 120 □, 150 □, 200 □ and so on, mainly applied to rated voltage and below 0.6/1kV of high-wax oil wells and high-thick wells in thermal recovery operations. The product has characteristics such as stretch resistant, abrasion resistance, high thermal efficiency. This effectively resolves technical challenges in high viscous oil mining as candle, stay at squash, block up well and other technical problems.



### Product Features:

Rated voltage U0/U is 1kV.

When laying down the bending radius doesn't lower than 350mm.

When vertically laying down the tension force doesn't higher than 15KV.

| Type         | Description  | Rated temperature<br>°C |
|--------------|--|-------------------------|
| WRCEN3       | EPDM insulated and nitrile jacket electric pole cable                                  | 90□                     |
| WRCEF3       | EPDM insulated and PVC jacket electric pole cable                                      | 90□                     |
| WRCEH3       | EPDM insulated and Chlorosulfonated polyethylene jacket electric pole cable            | 90□                     |
| WRCFYJFYJ3   | Irradiation XLPE insulated irradiated XLPE jacket electric pole cable                  | 90□                     |
| WRCFYJF3     | Irradiation XLPE insulated and PVC jacket electric pole cable                          | 90□                     |
| WRCYJYJ3     | XLPE insulated and XLPE jacket electric pole cable                                     | 120□                    |
| WRCYJF3      | XLPE insulated and PVC jacket electric pole cable                                      | 120□                    |
| WRCEE3       | EPDM insulated and EPDM jacket electric pole cable                                     | 150□                    |
| WRCF40F403   | Ethene□Fluorine ethane insulated and Ethene□Fluorine ethane jacket electric pole cable | 150□                    |
| WRCF46F463   | FEP insulated and FEP jacket electric pole cable                                       | 180□                    |
| WRCYFF46F463 | Polyimide resin -F46 pole insulated and FEP jacket electric pole cable                 | 200□                    |

### Product Specifications:

| Rated voltage<br>V | Nominal area of conductor<br>mm <sup>2</sup> | Number of steel wires/<br>diameter mm | Number of wires/<br>diameter mm | Insulation thickness<br>mm | jacket thickness<br>mm | Maximum resistance of conductor at<br>20 °C ≤ Ω/km | Overall imensions<br>≤mm |
|--------------------|--|---------------------------------------|---------------------------------|----------------------------|------------------------|--|--------------------------|
| 1                  | 25   | 7/1.00                                | 30/1.03                         | 1.2                        | 1.5                    | 0.67   | φ 16                     |
|                    | 30   | 7/1.10                                | 30/1.13                         |                            | 1.0                    | 0.56   | φ 17                     |
|                    | 35   | 7/1.25                                | 30/1.25                         | 1.0                        | 1.0                    | 0.46   | φ 18                     |
|                    | 40   | 7/1.30                                | 30/1.30                         |                            | 1.0                    | 0.43   | φ 19                     |



## PVC insulated power cable

PVC insulated power cable, people refer it to the plastic power cable, which has a simple structure and characteristics of easy installation, maintenance and laying gaps unrestricted etc., the cable is widely used in the field of transmission and distribution with rated voltage of 0.6/1kV, 1.8/3kV and below.

### Product Features:

- 1 The high rated temperature of conductor is 70°C, when short circuit (the last time must below 5 seconds) the high temperature of conductor not more than 160°C.
- 2 When laying down cable the environment temperature of cable doesn't low about 0°C .
- 3 The minimum bending radius of cable is as follow ("D" is cable diameter)

| Item   | single-core |       | Multicore |            |
|--|-------------|-------|-----------|------------|
|  | No-armor    | armor | No-armor  | armorarmor |
| Minimum bending radius during installation       | 20D         | 15D   | 15D       | 12D        |
| Near to the connection box or cable terminations | 15D         | 12D   | 12D       | 10D        |

| Type        |               | Description   |
|-------------|---------------|---|
| Copper core | Aluminum Core |   |
| VV          | VLV           | PVC insulated and PVC jacket power cable                        |
| VY          | VLY           | PVC insulated and polyethylene jacket power cable               |
| VV22        | VLV22         | PVC insulated and Steel armored PVC jacket power cable          |
| VV23        | VLV23         | PVC insulated and steel armored polyethylene jacket power cable |

| Type      |             | Number of cores      | Nominal cross-sectional area of conductor mm <sup>2</sup> |
|-----------|-------------|----------------------|---|
| VV VY     | VLV VLY     | 1                    | 1.5 ~ 300   |
| VV22 VY23 | VLV22 VLY23 |                      |   |
| VV VY     | VLV VLY     | 2                    | 1.5 ~ 150   |
| VV22 VY23 | VLV22 VLY23 |                      |   |
| VV VY     | VLV VLY     | 3、4、3+1<br>5、4+1、3+2 | 1.5 ~ 300   |
| VV22 VY23 | VLV22 VLY23 |                      |   |

## Product Specifications:

### D.C. resistance of conductor

| Nominal cross-sectional area of conductor mm <sup>2</sup> | D.C. resistance at 20°C ≤ Ω/km |       | Nominal cross-sectional area of conductor mm <sup>2</sup> | D.C. resistance at 20°C ≤ Ω/km |       |
|---|--------------------------------|-------|---|--------------------------------|-------|
|   | Cu                             | Al    |   | Cu                             | Al    |
| 1.5   | 12.1                           | 18.1  | 50  | 0.387                          | 0.641 |
| 2.5   | 7.41                           | 12.1  | 70  | 0.268                          | 0.443 |
| 4   | 4.61                           | 7.41  | 95  | 0.193                          | 0.320 |
| 6   | 3.08                           | 4.61  | 120   | 0.153                          | 0.253 |
| 10  | 1.83                           | 3.08  | 150   | 0.124                          | 0.206 |
| 16  | 1.15                           | 1.91  | 185   | 0.0991                         | 0.164 |
| 25  | 0.727                          | 1.20  | 240   | 0.0754                         | 0.125 |
| 35  | 0.524                          | 0.868 | 300   | 0.0601                         | 0.100 |

### A.C voltage test

| Rated voltage U <sub>0</sub> /U | Test voltage kV | Testing time min |
|---------------------------------|-----------------|------------------|
| 0.6/1                           | 3.5             | 5                |
| 1.8/3                           | 6.5             | 5                |



## XLPE insulated power cable

XLPE insulated power cables are generally referred to as cross-linked cable, which has characteristics of high working temperature, transmission capacity, fine electrical performance, unrestricted laying down and convenient installation and maintenance, it is development of directionality of the power cable products, widely used in the field of electricity transmission and distribution with rated voltage of 0.6/1kV, 1.8/3kV and below

### Product Features:

- 1 The high rated temperature of conductor is 90℃, when short circuit (the last time must below 5 seconds) the high temperature of conductor not more than 250℃, overload temperature not more than 130℃
- 2 When laying down cable the environment temperature of cable doesn't low about 0℃ .
- 3 The minimum bending radius of cable is as follows ("D" is cable diameter)

| Item   | single-core |       | Multicore |       |
|--|-------------|-------|-----------|-------|
|  | No-armor    | armor | No-armor  | armor |
| Minimum bending radius during installation       | 20D         | 15D   | 15D       | 12D   |
| Near to the connection box or cable terminations | 15D         | 12D   | 12D       | 10D   |

### The product type、 name and production range

**Table 1 Product type and name**

| Type        |               | Description  |
|-------------|---------------|--|
| Copper core | Aluminum Core |  |
| YJV         | YJLV          | XLPE insulated and PVC jacket power cable                        |
| YJY         | YJLY          | XLPE insulated and polyethylene jacket power cable               |
| YJV22       | YJLV22        | XLPE insulated and steel armored PVC jacket power cable          |
| YJV23       | YJLV23        | XLPE insulated and steel armored polyethylene jacket power cable |

**Table 2 Production range**

| Type                 | Number of cores | Nominal cross-sectional area of conductor mm <sup>2</sup> |
|----------------------|-----------------|---|
| YJV YJY    YJLV YJLY | 1               | 1.5 ~ 240   |
| YJV YJY    YJLV YJLY | 2               | 2.5 ~ 150   |



|             |                  |                      |           |
|-------------|------------------|----------------------|-----------|
| YJV22 YJY23 | YJLV22<br>YJLY23 | 3、4、3+1<br>5、4+1、3+2 | 1.5 ~ 240 |
| YJV YJY     | YJLV YJLY        |                      |           |
| YJV22 YJY23 | YJLV22<br>YJLY23 |                      |           |

## Product Specifications:

### 1) D.C. resistance of conductor

| Nominal cross-sectional area of conductor<br>mm <sup>2</sup> | D.C. resistance at 20°C ≤ Ω/km |       | Nominal cross-sectional area of conductor<br>mm <sup>2</sup> | D.C. resistance at 20°C ≤ Ω/km |       |
|--|--------------------------------|-------|--|--------------------------------|-------|
|  | Cu                             | Al    |  | Cu                             | Al    |
| 1.5  | 12.1                           | 18.1  | 50   | 0.387                          | 0.641 |
| 2.5  | 7.41                           | 12.1  | 70   | 0.268                          | 0.443 |
| 4  | 4.61                           | 7.41  | 95   | 0.193                          | 0.320 |
| 6  | 3.08                           | 4.61  | 120  | 0.153                          | 0.253 |
| 10   | 1.83                           | 3.08  | 150  | 0.124                          | 0.206 |
| 16   | 1.15                           | 1.91  | 185  | 0.0991                         | 0.164 |
| 25   | 0.727                          | 1.20  | 240  | 0.0754                         | 0.125 |
| 35   | 0.524                          | 0.868 | 300  | 0.0601                         | 0.100 |

### 2) A.C voltage test

| Rated voltage U <sub>0</sub> /U | Test voltage kV | Testing time min |
|---------------------------------|-----------------|------------------|
| 0.6/1                           | 3.5             | 5                |
| 1.8/3                           | 6.5             | 5                |



## Rated voltage 1kV and below aerial insulated cables

This product is weather-type polyvinyl chloride (PVC), polyethylene (PE) and cross-linked polyethylene (XLPE) insulated aerial cable with Copper and Aluminum Core, which is used in overhead power lines with 1kV rated voltage and lower. Its structure is simple, safe and reliable, not only has excellent conductive properties of power cables overhead cables but also has a strong physical and mechanical properties. As a result of adopting weathering-type insulating material, which compared with the bare cable product has excellent resistance to atmospheric aging properties, this product has characteristics of small laying gap, high reliability and especially used for high-rise buildings, the jungle regions and climatic areas.

### Product Features:

- 1 Rated voltage which is 0.6/1KV .
- 2 The maximum long-term operating temperature of cable:  
PVC polypropylene insulated not more than 70 °C, XLPE insulated not more than 90 °C.
- 3 Laying temperature of cable doesn't lower than -20°C .
- 4 Bending radius of cable: If cable's outside diameter(D) is lower than 25mm, should not lower than 4D. If cable's outside diameter(D) is lower than 25mm, should not lower than 6D.



### Product type、 name and production range

| Type        | Description   | Nominal cross-sectional area of conductor (mm <sup>2</sup> ) |
|-------------|---|--|
| JKV-0.6/1   | Rated voltage 0.6/1kv copper core PVC insulated aerial cable      | 16 ~ 240   |
| JKLV-0.6/1  | Rated voltage 0.6/1kv AL- core PVC insulated aerial cable         |  |
| JKYJ-0.6/1  | Rated voltage 0.6/1kv copper core XLPE insulated aerial cable     |  |
| JKLYJ-0.6/1 | Rated voltage 0.6/1kv AL-core PVC insulated aerial cable          |  |
| JKY-0.6/1   | Rated voltage 0.6/1kv soft copper core PVC insulated aerial cable |  |
| JKLY-0.6/1  | Rated voltage 0.6/1kv AL-core polyethylene insulated aerial cable |  |



## Product Specifications:

| Nominal cross-sectional area of conductor (mm <sup>2</sup> ) | appr. OD mm | appr. weight kg/km |               | D.C. resistance at 20°C (Ω/km) ≤ |                  |               | Rated strength (N) ≤ |               |
|--|-------------|--------------------|---------------|----------------------------------|------------------|---------------|----------------------|---------------|
|  |             | Copper core        | Aluminum Core | Hard Copper core                 | Soft Copper core | Aluminum Core | Hard Copper core     | Aluminum Core |
| 16   | 7.6         | 167.6              | 69.3          | 1.198                            | 1.150            | 1.910         | 5486                 | 2517          |
| 25   | 8.8         | 258.7              | 98.0          | 0.749                            | 0.727            | 1.200         | 8465                 | 3762          |
| 35   | 10.1        | 341.9              | 129.3         | 0.540                            | 0.524            | 0.868         | 11731                | 5177          |
| 50   | 11.3        | 461.7              | 168.8         | 0.399                            | 0.387            | 0.641         | 16502                | 7011          |
| 70   | 13.0        | 662.9              | 234.1         | 0.276                            | 0.268            | 0.443         | 23461                | 10354         |
| 95   | 15.0        | 894.3              | 314.2         | 0.199                            | 0.193            | 0.320         | 31759                | 13727         |
| 120  | 16.4        | 1116.8             | 385.4         | 0.158                            | 0.153            | 0.253         | 39911                | 17339         |
| 150  | 18.3        | 1393.3             | 480.4         | 0.128                            | /                | 0.206         | 49505                | 21033         |
| 185  | 20.5        | 1763.1             | 605.9         | 0.1021                           | /                | 0.164         | 61846                | 26732         |
| 240  | 22.9        | 2223.4             | 760.9         | 0.0777                           | /                | 0.125         | 79823                | 34679         |

## Rated voltage 10kV overhead insulated cable

This product is weather-type polyethylene (PE) and cross-linked polyethylene (XLPE) insulated aerial cable with Copper and Aluminum Core, which is used in overhead power lines with 10kV rated voltage and lower.

Its structure is simple, safe and reliable, not only has excellent conductive properties of power cables overhead cables but also has a strong physical and mechanical properties. As a result of adopting the weathering-type insulating material, compared with the bare cable product has excellent resistance to atmospheric aging properties, as, this product has characteristics of small laying gap, high reliability and especially used for high-rise buildings, the jungle regions and climatic areas.



## Product Features:

- 1 Rated voltage is 10KV .
- 2 Laying temperature of cable doesn't lower than -20□
- 3 The highest temperature of cable when short circuit (the longest duration should not exceed 5 seconds): XLPE insulated withstand temperature is 250□; HDPE insulated withstand temperature is 150□.

4 The maximum long-term operating temperature of cable: XLPE insulated withstand is 90□; HDPE insulated withstand temperature is 75□.

5 Bending radius of cable doesn't lower than cylinder diameter in cable bending testing.

### The product type 、 name and production range

| Type    | Description  | Nominal cross-sectional area of conductor (mm <sup>2</sup> ) |
|---------|--|--|
| JKYJ    | Copper core XLPE insulated aerial cable                | 16 ~ 240   |
| JKTRYJ  | Soft copper core XLPE insulated aerial cable           |  |
| JKLYJ   | AL- core XLPE insulated aerial cable                   |  |
| JKY     | Copper core XLPE insulated aerial cable                |  |
| JKTRY   | Soft copper core polyethylene insulated aerial cable   |  |
| JKLY    | AL- core polyethylene insulated aerial cable           |  |
| JKLYJ/Q | AL-core light type XLPE insulated aerial cable         | 16 ~ 240   |
| JKLY/Q  | AL-core light type polyethylene insulated aerial cable |  |

### Product Specifications:

| Nominal cross-sectional area of conductor (mm <sup>2</sup> ) | appr. OD mm | appr. weight kg/km |       | D.C. resistance at 20°C (Ω/km) ≤ |         |       | Rated strength (N) ≤ |       |
|--|-------------|--------------------|-------|----------------------------------|---------|-------|----------------------|-------|
|  |             | Cu                 | Al    | Hard Cu                          | Soft Cu | Al    | Hard Cu              | Al    |
| 10   | 12.3        | 185.3              | 123.4 | /                                | 1.830   | 3.080 | 3471                 | 1650  |
| 16   | 13.2        | 249.8              | 151.5 | /                                | 1.150   | 1.910 | 5486                 | 2512  |
| 25   | 14.4        | 352.4              | 190.7 | 0.749                            | 0.727   | 1.200 | 8465                 | 3762  |
| 35   | 15.3        | 436.2              | 223.6 | 0.540                            | 0.524   | 0.868 | 11731                | 5177  |
| 50   | 16.5        | 565.3              | 272.4 | 0.399                            | 0.387   | 0.641 | 16502                | 7011  |
| 70   | 18.2        | 779.4              | 350.7 | 0.276                            | 0.268   | 0.443 | 23461                | 10354 |
| 95   | 19.8        | 1021.2             | 441.0 | 0.199                            | 0.193   | 0.320 | 31759                | 13727 |
| 120  | 21.2        | 1254.0             | 522.6 | 0.158                            | 0.153   | 0.253 | 39911                | 17339 |
| 150  | 22.7        | 1531.2             | 618.3 | 0.128                            | /       | 0.206 | 49505                | 21033 |
| 185  | 24.9        | 1901.5             | 744.3 | 0.1021                           | /       | 0.164 | 61846                | 26732 |
| 240  | 26.9        | 2361.2             | 898.7 | 0.0777                           | /       | 0.125 | 79823                | 34679 |

## Aluminum stranded conductor and Aluminum

Stranded aluminum and ACSR have a simple structure, easy setting up and maintenance, low construction cost, large transmission capacity, but also conducive to cross rivers and valleys and other features of the laying of the special geographical conditions, so the products are widely used in various voltage levels overhead transmission and distribution lines.



### Product Features:

| Type                               | Description            | Code number (mm <sup>2</sup> ) |
|------------------------------------|------------------------|--------------------------------|
| JL                                 | Aluminum stranded      | 10 ~ 500                       |
| JL/G1A、JL/G1B、JL/G2A、JL/G2B、JL/G3A | Conductor and aluminum | 16 ~ 315                       |

### Product Specifications:

#### The type of JL Stranded aluminum

| Code number mm | Number of wires/diameter mm | Area mm | Cond. diameter mm | Linear mass (kg/km) | Rated strength (kN) | D.C. resistance at 20°C (Ω/km) ≤ |
|----------------|-----------------------------|---------|-------------------|---------------------|---------------------|----------------------------------|
| 10             | 7/1.35                      | 10      | 4.05              | 27.4                | 1.95                | 2.8633                           |
| 16             | 7/1.71                      | 16      | 5.12              | 43.8                | 3.04                | 1.7896                           |
| 25             | 7/2.13                      | 25      | 6.40              | 68.4                | 4.50                | 1.1453                           |
| 40             | 7/2.70                      | 40      | 8.09              | 109.4               | 6.80                | 0.7158                           |
| 63             | 7/3.39                      | 63      | 10.2              | 172.3               | 10.39               | 0.4545                           |
| 100            | 19/2.59                     | 100     | 12.9              | 274.8               | 17.00               | 0.2877                           |
| 125            | 19/2.89                     | 125     | 14.5              | 343.6               | 21.25               | 0.2302                           |
| 160            | 19/3.27                     | 160     | 16.4              | 439.8               | 26.4                | 0.1798                           |
| 200            | 19/3.66                     | 200     | 18.3              | 549.7               | 32.00               | 0.1439                           |
| 250            | 19/4.09                     | 250     | 20.5              | 687.1               | 40.00               | 0.1151                           |
| 315            | 37/3.26                     | 315     | 23.0              | 867.9               | 51.97               | 0.0916                           |
| 400            | 37/3.71                     | 400     | 26.0              | 1102.0              | 64.00               | 0.0721                           |
| 450            | 37/3.94                     | 450     | 27.5              | 1239.8              | 72.00               | 0.0641                           |
| 500            | 37/4.15                     | 500     | 29.0              | 1377.6              | 80.00               | 0.0577                           |

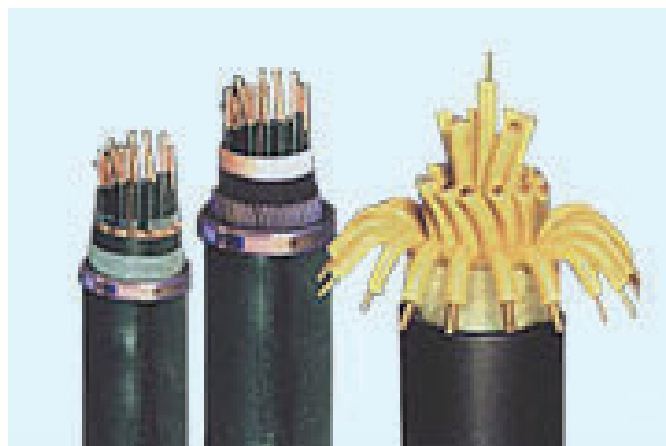


**JL/G1A, JL/G1B, JL/G2A, JL/G2B, JL/G3A ACSR type**

| Code number | steel ratio % | Area |      |       | Number of wires |    | Wire diameter |      | diameter |      | Linear mass kg/km | Rated strength |        |        |        |        | 20°C Ω/km D.C. resistance |
|-------------|---------------|------|------|-------|-----------------|----|---------------|------|----------|------|-------------------|----------------|--------|--------|--------|--------|---------------------------|
|             |               | Al   | St   | Total | Al              | St | Core          | Cond | mm       | mm   |                   | JL G1A         | JL G2A | JL G2B | JL G3A | kN     |                           |
|             |               |      |      |       |                 |    |               |      |          |      |                   |                |        |        |        |        |                           |
| 16/3        | 17            | 16   | 2.67 | 18.7  | 6               | 1  | 1.84          | 1.84 | 1.84     | 5.53 | 64.6              | 6.08           | 5.89   | 6.45   | 6.27   | 6.83   | 1.793 4                   |
| 25/4        | 17            | 25   | 4.17 | 29.2  | 6               | 1  | 2.30          | 2.30 | 2.30     | 6.91 | 100.9             | 9.13           | 8.83   | 9.71   | 9.42   | 10.25  | 1.147 8                   |
| 40/6        | 17            | 40   | 6.67 | 46.7  | 6               | 1  | 2.91          | 2.91 | 2.91     | 8.74 | 161.5             | 14.40          | 13.93  | 15.33  | 14.87  | 16.20  | 0.717 4                   |
| 65/10       | 17            | 63   | 10.5 | 73.5  | 6               | 1  | 3.66          | 3.66 | 3.66     | 11.0 | 254.4             | 21.63          | 20.58  | 22.37  | 21.63  | 24.15  | 0.455 5                   |
| 100/17      | 17            | 100  | 16.7 | 117   | 6               | 1  | 4.61          | 4.61 | 4.61     | 13.8 | 403.8             | 34.33          | 32.67  | 35.50  | 34.33  | 38.33  | 0.286 9                   |
| 125/17      | 6             | 125  | 6.94 | 132   | 18              | 1  | 2.97          | 2.97 | 2.97     | 14.9 | 397.9             | 29.17          | 28.68  | 30.14  | 29.65  | 31.04  | 0.230 4                   |
| 125/20      | 16            | 125  | 20.4 | 145   | 26              | 7  | 2.47          | 1.92 | 5.77     | 15.7 | 503.9             | 45.69          | 44.27  | 48.54  | 47.12  | 51.39  | 0.231 0                   |
| 160/9       | 6             | 160  | 8.89 | 169   | 18              | 1  | 3.66          | 3.36 | 3.36     | 16.8 | 509.3             | 36.18          | 35.29  | 37.42  | 26.80  | 38.67  | 0.180 0                   |
| 160/26      | 16            | 160  | 26.1 | 186   | 26              | 7  | 2.80          | 2.18 | 6.53     | 17.7 | 644.9             | 57.69          | 55.86  | 61.34  | 59.51  | 64.99  | 0.180 5                   |
| 200/11      | 6             | 200  | 11.1 | 211   | 18              | 1  | 3.76          | 3.76 | 3.76     | 18.8 | 636.7             | 44.22          | 43.11  | 45.00  | 44.22  | 46.89  | 0.144 0                   |
| 200/32      | 16            | 200  | 32.6 | 233   | 26              | 7  | 3.13          | 2.43 | 7.30     | 19.8 | 806.2             | 70.13          | 67.85  | 74.69  | 72.41  | 78.93  | 0.144 4                   |
| 250/25      | 10            | 250  | 24.6 | 275   | 22              | 7  | 3.80          | 2.11 | 6.34     | 21.6 | 880.6             | 68.72          | 67.01  | 72.16  | 70.44  | 75.60  | 0.115 4                   |
| 250/40      | 16            | 250  | 40.7 | 291   | 26              | 7  | 3.50          | 2.72 | 8.16     | 22.2 | 1 007.7           | 87.67          | 84.82  | 93.37  | 90.52  | 98.66  | 0.115 5                   |
| 315/22      | 7             | 315  | 21.8 | 337   | 45              | 7  | 2.99          | 1.99 | 5.97     | 23.9 | 1 039.6           | 79.03          | 77.51  | 82.08  | 80.55  | 85.13  | 0.091 7                   |
| 315/50      | 16            | 315  | 51.3 | 366   | 26              | 7  | 3.93          | 3.05 | 9.16     | 24.9 | 1 269.7           | 106.83         | 101.70 | 114.02 | 110.43 | 121.20 | 0.091 7                   |

## Plastic Insulated Control Cable

This product is applicable to AC rated voltage 450/750V and below control, monitoring and protection circuit lines, etc. to control the use of cables occasions.



### Product Features:

|   |                | PVC   | XLPE  |
|---|----------------|---|---|
| Uo/U rated voltage                                    |                | 450/750V                                    | 450/750V                                    |
| The lay down temperature of cable conductor operation |                | 70℃   | 90℃   |
| The lay down temperature of cable                     |                | Not below 0℃                                | Not below 0℃                                |
| The lay wind diameter                                 | No-armor cable | Not less than 6 external diameter of cable  | Not less than 10 external diameter of cable |
|   | Armor cable    | Not less than 12 external diameter of cable | Not less than 12 external diameter of cable |

### The type product、 name

| Type   | Description   |
|--------|---|
| KVV    | Copper core PVC insulated and PVC jacket control cable                |
| KYJV   | Copper core XLPE insulated and PVC jacket control cable               |
| KVV22  | Copper core PVC insulated and PVC jacket steel armored control cable  |
| KYJV22 | Copper core XLPE insulated and PVC jacket steel armored control cable |

### Product Specifications:

| Type         | Rated voltage<br>V | Nominal cross-sectional area of conductor<br>mm <sup>2</sup> |        |     |        |        |   |        |
|--------------|--------------------|--|--------|-----|--------|--------|---|--------|
|              |                    | 0.75   | 1.0    | 1.5 | 2.5    | 4      | 6 | 10     |
|              |                    | Number of cores  |        |     |        |        |   |        |
| KVV、KYJV     | 450/750            | --   | 2 ~ 37 |     |        | 2 ~ 14 |   | 2 ~ 10 |
| KVV22、KYJV22 |                    | --   | 7 ~ 37 |     | 4 ~ 37 | 4 ~ 14 |   | 4 ~ 10 |

### Production Range

| Nominal cross-sectional<br>area of conductor<br>mm <sup>2</sup> | Construction |                                | Maximum resistance of<br>conductor at 20°C |                    |
|---|--------------|--------------------------------|--|--------------------|
|   | Class        | Number of wires/diameter<br>mm | Plain wires                                | Metal-coated wires |
| 0.75  | 1            | 1/0.97                         | 24.5                                       | 24.8               |
|   | 2            | 7/0.37                         | 24.5                                       | 24.8               |
|   | 3            | 24/0.20                        | 26.0                                       | 26.7               |
| 1.0   | 1            | 1/1.13                         | 18.1                                       | 18.2               |
|   | 2            | 7/0.43                         | 18.1                                       | 18.2               |
|   | 3            | 32/0.20                        | 19.5                                       | 20.0               |
| 1.5   | 1            | 1/1.38                         | 12.1                                       | 12.2               |
|   | 2            | 7/0.52                         | 12.1                                       | 12.2               |
|   | 3            | 30/0.25                        | 13.3                                       | 13.7               |
| 2.5   | 1            | 1/1.78                         | 7.41                                       | 7.56               |
|   | 2            | 7/0.68                         | 7.41                                       | 7.56               |
|   | 3            | 50/0.25                        | 7.98                                       | 8.21               |
| 4   | 1            | 1/2.25                         | 4.61                                       | 4.70               |
|   | 2            | 7/0.85                         | 4.61                                       | 4.70               |
| 6   | 1            | 1/2.76                         | 3.08                                       | 3.11               |
|   | 2            | 7/1.04                         | 3.08                                       | 3.11               |
| 10  | 2            | 7/1.35                         | 1.83                                       | 1.84               |



## Rated voltage 450/750V and below PVC insulated cable (wire)

This product is applicable to the electrical equipment with  $U_0 / U$  is 450/750V and lower, power and other devices for power supply arrangements for connection with the laying of lines for household electrical appliances, small electric tools, instrumentation and lighting and so on occasions.



### Product Features:

- 1 Rated voltage which is 450/750V □ 300/500V and 300/300V.
- 2 The conductor of cable operation temperature: BV-90 no more than 90□, other type no more than 70□.
- 3 For fixation lay down cable, temperature not below 0□. If external diameter no more than 25mm, the bending diameter not less than 4 external diameter of cable; If external diameter not below 25mm, the bending diameter not less than 4 external diameter of cable.

### The product type、 name

| Type                | Description  | Standard       |
|---------------------|--|----------------|
| 60227 IEC 01(BV)    | General-purpose single-core hard conductor cable without sheath                    | GB/T 5023—2008 |
| 60227 IEC 02(RV)    | General-purpose single-core soft conductor cable without sheath                    |                |
| 60227 IEC 05(BV)    | Single-core solid conductor with 70℃ cable without sheath using in internal wiring |                |
| 60227 IEC 06(RV)    | Single-core soft conductor with 70℃ cable without sheath using in internal wiring  |                |
| 60227 IEC 07(BV-90) | Single-core solid conductor with 90℃ cable without sheath using in internal wiring |                |
| 60227 IEC 08(RV-90) | Single-core soft conductor with 90℃ cable without sheath using in internal wiring  |                |
| 60227 IEC 10(BVV)   | Light-type PVC jacket cable  |                |
| 60227 IEC 42(RVB)   | Flat non-jacket soft wire  |                |
| 60227 IEC 52(RVV)   | Light-type PVC jacket soft wire  |                |
| 60227 IEC 53(RVV)   | Normal PVC jacket soft wire  |                |

|        |  |              |
|--------|--|--------------|
| BV     | Copper core PVC insulated wire                             | JB 8734—1998 |
| BLV    | Al-core PVC insulated wire                                 |              |
| BVR    | Copper core PVC insulated soft wire                        |              |
| BVV    | Copper core PVC insulated and PVC jacket round cable       |              |
| BLVV   | AL-core PVC insulated and PVC jacket round cable           |              |
| BVVB   | Copper core PVC insulated and PVC jacket flat cable        |              |
| BLVVB  | AL-core PVC insulated and PVC jacket flat cable            |              |
| RVS    | Copper core PVC insulated twist-type connections soft wire |              |
| RVP    | Copper core PVC insulated Shield soft wire                 |              |
| RVP-90 | Copper core with 90°C PVC insulated shield soft wire       |              |
| RVVP   | Copper core PVC insulated shield PVC jacket soft cable     |              |

### Product Specifications:

| Type                   | Rated voltage<br>V | Number of<br>cores | Nominal cross-sectional<br>area of conductor | Standard      |
|------------------------|--------------------|--------------------|--|---------------|
| 60227 IEC 01(BV)       | 450/750            | 1                  | 1.5 ~ 240                                    | GB/T 5023—008 |
| 60227 IEC 02(RV)       | 450/750            | 1                  | 1.5 ~ 240                                    |               |
| 60227 IEC 05(BV)       | 300/500            | 1                  | 0.5 ~ 1                                      |               |
| 60227 IEC 06(RV)       | 300/500            | 1                  | 0.5 ~ 1                                      |               |
| 60227 IEC<br>07(BV-90) | 300/500            | 1                  | 0.5 ~ 2.5                                    |               |
| 60227 IEC<br>08(RV-90) | 300/500            | 1                  | 0.5 ~ 2.5                                    |               |
| 60227 IEC 10(BVV)      | 300/500            | 2,3,4,5            | 1.5 ~ 35                                     |               |
| 60227 IEC 42(RVB)      | 300/300            | 2                  | 0.5 ~ 0.75                                   |               |
| 60227 IEC 52(RVV)      | 300/300            | 2,3                | 0.5 ~ 0.75                                   |               |
| 60227 IEC 53(RVV)      | 300/500            | 2,3,4,5            | 0.75 ~ 6                                     |               |
| BV                     | 300/500            | 1                  | 0.75 ~ 1                                     | JB 8734—1998  |
| BLV                    | 450/750            | 1                  | 2.5 ~ 240                                    |               |
| BVR                    | 450/750            | 1                  | 2.5 ~ 70                                     |               |
| BVV                    | 300/500            | 1                  | 0.75 ~ 10                                    |               |
| BLVV                   | 300/500            | 1                  | 2.5 ~ 10                                     |               |
| BVVB                   | 300/500            | 2,3                | 0.75 ~ 10                                    |               |
| BLVVB                  | 300/500            | 2,3                | 2.5 ~ 10                                     |               |
| RVS                    | 300/300            | 2                  | 0.5 ~ 0.75                                   |               |
| RVP、RVP—90             | 300/300            | 1,2                | 0.08 ~ 2.5                                   |               |
| RVVP                   | 300/300            | 1,2 ~ 24*          | 0.3 ~ 2.5                                    |               |

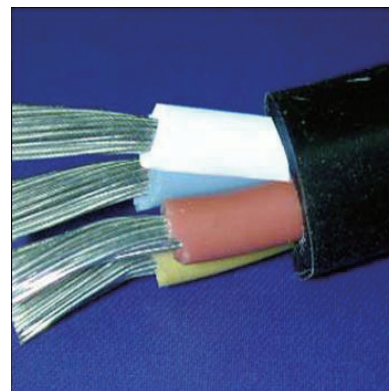
Core number:4、5、6、7、10、12、14、16、19 and 24.

## Rubber insulated flexible cable of rated voltage up to and including 450/750V (Universal rubber-sheathed flexible cable)

This product is for AC rated voltage (U<sub>0</sub> / U) 450/750V and below power, home appliances and portable electrical equipment and tools for cable.

### Product Features:

- 1 The environment temperature of cable doesn't more than about 65℃ .
- 2 "W"-type derived from cable has a certain climate and certain oil-resistant capacity, suitable for outdoor or direct contact with oil occasions.



### Product Specifications:

| Type               | Description  | Rated voltage | Number of cores                | Nominal cross-sectional area of conductor mm <sup>2</sup> |
|--------------------|--|---------------|--------------------------------|---|
| 60245 IEC 53 (YZ)  | Normal Strength rubber-sheathed flexible cable   | 300/500       | 2, 3, 4, 5                     | 0.75~2.5  |
| 60245 IEC 57 (YZW) | common neoprene or other equivalent synthetic elastomer insulated flexible cable           | 300/500       | 2, 3, 4, 5                     | 0.75~2.5  |
| 60245 IEC 66 (YCW) | Heavy-duty neoprene or other equivalent synthetic elastomer rubber-sheathed flexible cable | 450/750       | 1<br>2<br>3<br>4<br>5          | 1.5~400<br>1~25<br>1~95<br>1~150<br>1~25                  |
| YZ、YZW             | Medium rubber-sheathed flexible cable  | 300/500       | 2, 3, 4, 5<br>4(三大一小)<br>6     | 4~6<br>1.5~6<br>0.75~6                                    |
| YC                 | Heavy rubber-sheathed flexible cable   | 450/750       | 1<br>2<br>3, 4<br>5<br>4(三大一小) | 1.5~400<br>1.5~95<br>1.5~150<br>1.5~25<br>2.5~150         |
| YCW                | Heavy rubber-sheathed flexible cable   | 450/750       | 2<br>3<br>4(三大一小)              | 35~95<br>120~150<br>2.5~150                               |
| YH                 | Rubber welding cable   | 200/400       | 1                              | 10~185  |
| YHF                | Neoprene or other equivalent synthetic elastomer rubber welding cable                      | 200/400       | 1                              | 10~185  |