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PRODUCT CATALOG

RUIYANG GROUP NORTHEAST CABLE CO. , LTD.

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RUIYANG GROUP NORTHEAST CABLE CO. , LTD.

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RUIYANG GROUP

锐洋集团
RUIYANG GROUP

Create first-class enterprise
Establish a century-old brand

CONTENTS

01 ABOUT US

Rui Yang Group Northeast Cable Co., LTD., founded in 2010, is currently one of the top 100 cable research and development and manufacturing enterprises in China. The company is located in Shenfu Demonstration Zone of Liaoning Province in northeast China. The factory covers an area of more than 40,000 square meters. More than 100 senior professionals. The main products are all power cables, control cables, fireproof cables, 220k V and below cable accessories and other power products.

Holding enterprise

Ruiyang Group Northeast Cable Co., Ltd. has four professional subsidiaries:

Ruiyang Group Northwest Cable Co., LTD., Liaoning Shenpeng Electric Power Technology Co., LTD., Northeast Plastic Power Cable Co., LTD., Liaoning Ruihong Electrical Materials Co., LTD

Main product

High voltage, medium voltage, low voltage crosslinked polyethylene (polyvinyl chloride) insulated power cable, halogen-free low smoke flame retardant cable, fire resistant cable, rubber sheath cable, overhead insulated cable, control cable, silicone rubber, flat cable, high and low temperature corrosion resistance, mineral insulation and other special wire and cable, cable terminal, intermediate connector, insulated cross arm, cable protection pipe.

Product market

Since 2014, the company has established long-term cooperative relations with a number of central enterprises such as the State Grid of China, China Power Investment Group, China Railway, and China General Nuclear Power, involving energy, transportation, engineering and other fields. The company's products are exported to Malaysia, Bangladesh, Congo (Democratic Republic of Congo), Turkey, North Korea and other countries and regions.

Technical and research

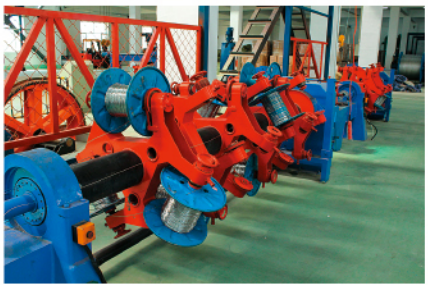
The company has been devoted to the production and research and development of high-quality cables. In 2020, it was awarded the " National high-tech Enterprise", and in 2022, it was awarded the " Provincial specialized and special new

small giant enterprise", "Provincial enterprise Technology Center" and " China's Top 100 cable Enterprises". The company annually invested more than 5 million yuan in scientific research funds, obtained 62 patents, has more than 20 innovative technologies into production, quality control efficiency has been greatly improved.

02 PRODUCTION CAPACITY





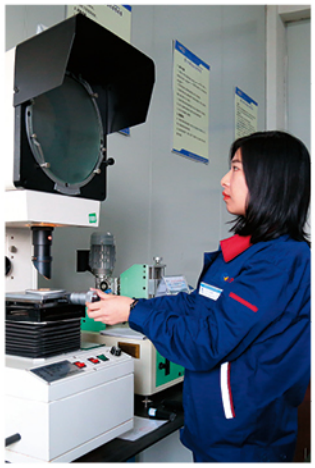






- Mineral insulation production line
- 35KV three-layer dry crosslinking production line 100,000 super
- purification chamber
- Pipe strander
- Frame strander
- High speed braiding machine
- High speed stranding machine Plastic extruder
- Double paper machine
- 13 die copper large wire drawing machine
- 11 die copper wire drawing machine
- 7 die copper wire drawing machine
- 13 mold aluminum large wire drawing machine
- Cable armoring machine
- Cage strander
- Copper tape winding machine
- BV automatic coiler

03 DETECTION CAPABILITY



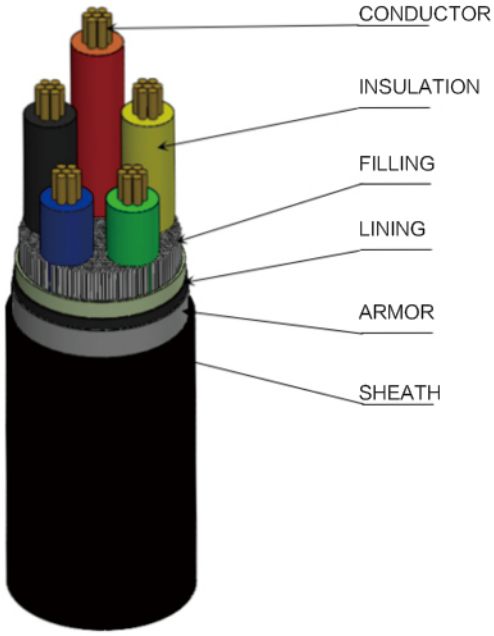



- Liquid crystal digital
- Explici ttensile tes tmachine (metal) Wire winding,torsion test machine
- Digital electric bridge
- Butterfly extension instrument Local shielding laboratory
- Projector
- Thermostatic waters
- Ageingoven
- AC pressure-resistant
- Departure platform Economic tensiontest machine (non-metal)natural
- Ventilation aging testbox
- Thermal extension testd evice Rubber and plasticlong-head
- Thickness meter
- Spark test machine
- JDL series digital display machine
- WSK-49B type plasticity testing machine
- ZC-90 type insulation resistance tester
- WMZK01 temperature indicator controller



04 PRODUCT DISPLAY

1.Rated voltage 0.6 / 1kV, 1.8 / 3kV, extruded insulated power cable



Cable name, model, specification and voltage level

1）Name and NO.

Table 1 Cable model and name

model		name
Copper core	Aluminum core	
YJV	YJLV	Copper core or aluminum core XLPE insulated PVC sheathed power cable
YJY	YJLY	Copper core or aluminum core XLPE insulated polyolefin sheathed power cables
YJV22	YJLV22	Copper core or aluminum core XLPE insulated steel strip armored PVC sheathed power cable
YJV23	YJLV23	Copper core or aluminum core XLPE insulated steel strip armored polyolefin sheathed power cable
YJV32	YJLV32	Copper core or aluminum core XLPE insulated fine steel wire armored with PVC sheathed power cable
YJV42	YJLV42	Copper core or aluminum core XLPE insulated Coarse steel wire armored with PVC sheathed power cable
YJV62	YJLV62	Copper core or aluminum core XLPE insulated non-magnetic metal tape armored PVC sheathed power cable

YJV72	YJLV72	Copper core or aluminum core XLPE insulated non-magnetic wire armored PVC sheathed power cable

Note: The characteristic prefix codes of halogen-free low smoke, flame retardant and refractory series products are WD, ZA, ZB, ZC and N respectively.

For example:if the sheath material is polyethylene, the lining layer is indicated by Y, and the sheath is represented by 3.

2）specifications

Table 2 for the cable specifications.

3）rated voltage

The rated voltage of the cable is 0.6 / 1 (1.2) kV 、 1.8 / 3 (3.6) kV

Table 2. Cable Specifications

the classification of voltage /kV	Core number / core	Nominal section of conductive wire core / mm^2
0.6/1（1.2）	1、2、3、4、5 3+1、3+2、4+1	1.5 ~ 1000
1.8/3（3.6）	1、2、3、4、5 3+1、3+2、4+1	10 ~ 1000

Implementation standards

GB/T 12706.1-2020 rated voltage 1kV(Um1.2kV) to 35kV(Um40.5kV) extruded insulated power cables and accessories Part 1 rated voltage 1kV(Um1.2kV) and 3kV(Um3.6kV) cables.

IEC 60502-1:2004 rated voltage 1-30 kV extruded insulated power cables and accessories-Part 1: rated voltage 1kV(Um1.2kV) and 3kV(Um3.6kV) cables.

Material description

Conductor materials: copper, aluminum, aluminum alloy;

Insulation materials: XLPE insulation, PVC insulation, ethylene propylene rubber insulation;

Filling materials: PP rope, glass fiber rope;

Shield layer: soft copper strip;

Lining layer: PPD embossing belt, PP belt, non-woven fabric, glass fiber band;

Isolation sleeve: PVC, polyethylene, polyolefin;

Metal armor: galvanized steel strip, non-magnetic metal tape, galvanized steel wire, non-magnetic metal wire;

Sheath: ST2 PVC sheath, ST7 polyethylene sheath, ST8 polyolefin sheath.

Technical parameter

① Conductor temperature during short circuit: allowable maximum temperature (maximum time 5S): propylene rubber, XLPE insulated cable 250℃ , PVC insulated cable 160℃ ;

② Conductor working temperature: ethylene propylene rubber, XLPE insulated cable 90 ℃ , PVC insulated cable 70℃ ;

③ Minimum bending radius:

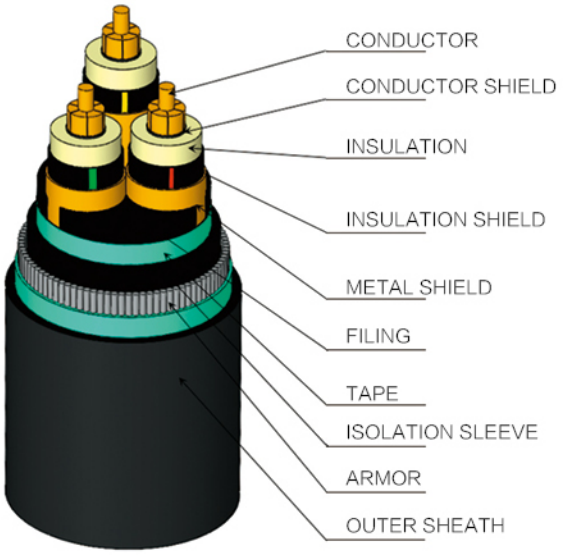
Single core: unarmored cable 20D, armored cable 15D;

Multi-core: unarmored cable 15D, armored cable 12D;

(D is the outer diameter of the cable);

④ Power frequency withstand voltage time and voltage: the power frequency voltage test is 2.5 Uo + 2kV, and the time is 5min.

2.Rated voltage of 6kV-35kV extruded insulated power cable



Cable name, model, specification and voltage level

1）Name and NO.

Table 3 Cable model and name

model		name
Copper core	Aluminum core	
YJV	YJLV	Copper core or aluminum core XLPE insulated PVC sheathed power cable
YJY	YJLY	Copper core or aluminum core XLPE insulated polyolefin sheathed power cables
YJV22	YJLV22	Copper core or aluminum core XLPE insulated steel strip armored PVC sheathed power cable
YJV23	YJLV23	Copper core or aluminum core XLPE insulated steel strip armored polyolefin sheathed power cable
YJV32	YJLV32	Copper core or aluminum core XLPE insulated fine steel wire armored with PVC sheathed power cable
YJV42	YJLV42	Copper core or aluminum core XLPE insulated Coarse steel wire armored with PVC sheathed power cable
YJV62	YJLV62	Copper core or aluminum core XLPE insulated non-magnetic metal tape armored PVC sheathed power cable
YJV72	YJLV72	Copper core or aluminum core XLPE insulated non-magnetic wire armored PVC sheathed power cable

Note: The characteristic prefix codes of halogen-free low smoke, flame retardant and refractory series products

are WD, ZA, ZB, ZC and N respectively.

For example:if the sheath material is polyethylene, the lining layer is indicated by Y, and the sheath is represented by 3.

2）Specifications

Table 4

3）Rated voltage

The rated voltages of the cable are 3.6/6(7.2)kV, 6/6(7.2)kV, 6/10(12)kV, 8.7/10(12)kV, 8.7/15 (17.5) kV, 12 / 20 (24) kV, 18 / 20 (24) kV, 18 / 30 (36) kV, 21 / 35 (40.5) kV, and 26 / 35 (40.5) kV.

Table 4. Cable specifications

Voltage Level /kV	Core number / core	Nominal section of conductive wire core / mm^2
3.6/6（7.2）	1 或 3	10 ~ 1600
6/6（7.2）、6/10（12）	1 或 3	16 ~ 1600
8.7/10（12）、8.7/15(17.5)	1 或 3	25 ~ 1600
12/20(24)	1 或 3	35 ~ 1600
18/20(24)、18/30(36)	1 或 3	50 ~ 1600
21/35（40.5）、26/35（40.5）	1 或 3	50 ~ 1600

Execution standards

GB/T 12706.2-2020 rated voltage 1kV(Um1.2kV) to 35kV(Um40.5kV) extruded insulated power cables and accessories Part 2 rated voltage 6kV(Um7.2kV) to 30kV (Um36kV) cable;

GB/T 12706.3-2020 rated voltage 1kV(Um1.2kV) to 35kV(Um40.5kV) extruded insulated power cable and accessories part 3 rated voltage 35kV(Um=40.5kV) cable;

IEC60502-2-2014 Part 2 Rated voltage 6kV(Um=7.2kV) to 30kV (Um = 36kV) cable;

Material description

Conductor materials: copper, aluminum, aluminum alloy;

Conductor shield: a peroxide cross-linked semi-conductive shield PYJD

Insulation materials: peroxide XLPE insulation YJ-10, peroxide XLPE insulation YJ-35;

Insulation shield: insulation with peroxide crosslinking type can peel off the semi-conductive shield material PYJBJ;

Metal shield: soft copper strip, soft copper wire

Filling materials: PP rope, glass fiber rope;

Package belt: PP belt, non-woven fabric, glass fiber belt;

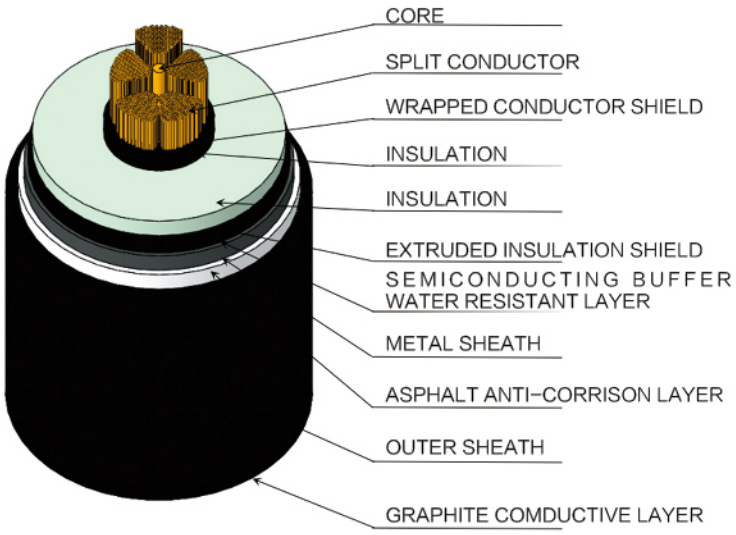
Isolation sleeve: PVC, polyethylene, polyolefin;

Metal armor: galvanized steel strip, non-magnetic metal tape, galvanized steel wire, non-magnetic metal wire; sheath: ST2 PVC sheath, ST7 polyethylene sheath, ST8 polyolefin sheath.

Technical parameter

① conductor temperature during short circuit: 250℃ / 5S;
② Conductor operating temperature: 90℃ ;
③ Minimum bending radius:
single core: unarmored cable 20D, armored cable 15D;
Multi-core: unarmored cable 15D, armored cable 12D;
(D is the outer diameter of the cable);
④ Power frequency withstand voltage time and voltage: the power frequency voltage test is 3.5Uo, Time of 5min.
⑤ At 1.73U0, there were no detectable discharges from the test cable that exceeded the stated test sensitivity

3.Rated voltage 48 / 66,64 / 110kV extruded insulated power cable



Cable name, model, specification and voltage level

1）Name and NO.

Table 5

Table 5 Cable model and name

model		Cable name
Copper	Aluminum	
YJLW02	YJLLW02	XLPE insulated corrugated aluminum sheathed or welded corrugated aluminum sheathed polyvinyl chloride sheathed power cable
YJLW03	YJLLW03	XLPE insulated corrugated aluminum sheathed or welded corrugated aluminum sheathed polyethylene sheath power cable
YJLW02 – Z	YJLLW02 – Z	XLPE insulated corrugated aluminum sheathed or welded corrugated aluminum sheathed PVC sheath longitudinal water resistant power cable
YJLW03 – Z	YJLLW03 – Z	XLPE insulated corrugated aluminum sheathed or welded corrugated aluminum sheathed polyethylene sheath longitudinal water resistant power cable
YJQ02	YJLQ02	XLPE insulated lead sleeve PVC sheathed power cable
YJQ03	YJLQ03	XLPE insulated lead sleeve polyethylene sheathed power cable
YJQ02 – Z	YJLQ02 – Z	XLPE insulated lead sleeve PVC sheathed longitudinal water resistance power cable

model		Cable name
Copper	Aluminum	
YJQ03 - Z	YJLQ03 - Z	XLPE insulated lead sleeve polyethylene sheath longitudinal water resistance power cable
YJA03	YJLA03	XLPE insulated metal composite polyethylene-sheathed power cable
YJA03 - Z	YJLA03 - Z	XLPE insulated metal composite polyethylene sheathed longitudinal water resistance power cable

2) Specifications

Table 6

3) Rated voltage

The rated voltage of the cable is 48 / 66 (72.5) kV and 64 / 110 (126) kV.

Table 6. Cable Specifications

Voltage level /kV	Core number / core	Nominal section of conductive wire core /mm^2
48/66 (72.5)	1	150 ~ 1600
64/110 (126)	1	240 ~ 1600

Execution standards

GB/T 11017.1-2014 rated voltage: 110kV (Um = 126 kV) XLPE insulated power cable and its accessories-Part 1: Test methods and requirements;
GB/T 11017.2-2014 rated voltage: 110kV (Um = 126 kV) XLPE insulated power cable and its accessories-Part 2: Cable;
IEC 60840-2011 Test extruded insulated power cables with rated voltage above 30 kV (um = 36 kV) to below 150 kV (um = 170 kV): Test method and requirements.
Q / GDW 13240-2018 66kV cable procurement standard;
Q / RYDL 009-2020 rated voltage 66kV XLPE insulated power cable.

Material description

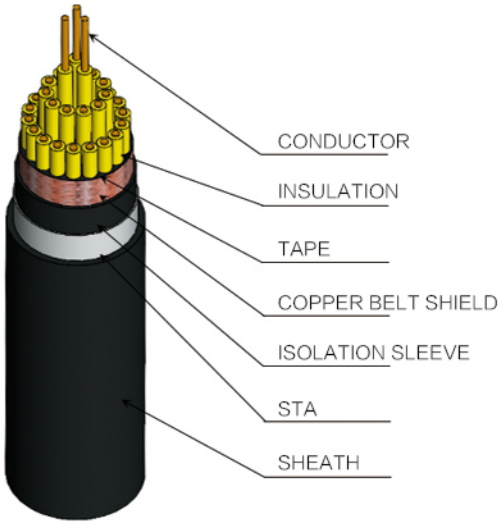
Conductor materials: copper, aluminum;
Conductor shield (Wrapped): semi-conductive nylon band;
Conductor shielding (extruded): super-smooth cross-linked semi-conductive shielding plastic;
Insulation materials: ultra-clean XLPE insulation material;
Insulation shield: ultra-smooth crosslinked semi-conductive shield plastic;
Buffer layer: semi-conductive buffer water resistance zone;
Metal sleeve: aluminum strip, lead sleeve;
Corrosion protection layer: asphalt;
sheath: ST2 insulation level PVC sheath material, ST7 insulation level polyethylene sheath material;

Conductive layer: graphite, semi-conductive plastic layer.

Technical parameter

① conductor temperature during short circuit: 250℃ / 5S;
② Conductor operating temperature: 90℃ ;
③ Minimum bending radius: corrugated aluminum sheathed cable 20D, (D is the outer diameter of the cable);
④ Power frequency withstand voltage time and voltage: the power frequency voltage test is 2.5Uo, Time of 30min.
⑤ At 1.5U0, there were no detectable discharges from the test cable that exceeded the stated test sensitivity

4.Rated voltage of 450 / 750V extruded insulated control cable



Cable name, model, specification and voltage level

1）Name and NO.

Table 7

Table 7. NO. and name of the cable

model	name
KVV	PVC insulated gas-ethylene sheath control cable
KVVP	PVC-insulated PVC-sheathed braided shielded control cable
KVVP2	PVC insulated PVC sheath copper strip shielded control cable
KVVP3	PVC insulated and PVC sheathed aluminum / plastic composite strip shielded control cable
KVVP4	PVC insulated PVC sheath copper / plastic composite strip shielded control cable
KVV22	PVC-insulated and PVC-sheathed steel strip armored control cable
KVVP2 - 22	PVC insulated PVC sheath copper strip shielded steel strip armored control cable
KVV32	PVC-insulated and PVC-sheathed steel wire armored control cable
KVVR	PVC insulated PVC sheath control flexible cable
KVVRP	PVC-insulated PVC-sheathed braided shielding control flexible cable
KYJV	XLPE insulated PVC-sheathed control cable
KYJVP	XLPE insulated PVC sheathed braided shielded control cable

model	name
KYJVP2	XLPE insulated PVC sheath copper strip shielded control cable
KYJVP3	XLPE insulated PVC sheathed aluminum / plastic composite strip shielded control cable
KYJVP4	XLPE insulated PVC sheath copper / plastic composite strip shielded control cable
KYJV22	XLPE insulated PVC sheath steel strip armored control cable
KYJVP2 - 22	XLPE insulated PVC sheathed copper strip shield steel strip armored control cable
KYJV32	XLPE insulated PVC sheathed steel wire armored control cable
KYJY	XLPE insulated polyethylene sheathed control cable
KYJYP	XLPE insulated polyethylene sheathed braided shielded control cable
KYJYP2	Crolinked polyethylene insulated polyethylene sheath copper strip shielded control cable
KYJYP3	XLPE insulated polyethylene sheath aluminum / plastic composite strip shielded control cable
KYJYP4	XLPE insulated polyethylene sheath copper / plastic composite strip shielded control cable
KYJY23	XLPE insulated PE sheathed steel strip armored control cable
KYJYP2-23	XLPE insulated polyethylene sheathed copper strip shield steel strip armored control cable
KYJY33	Crolinked polyethylene insulated polyethylene sheathed steel wire armored control cable
A: The names and models of flame retardant cables, halogen-free low-smoke flame retardant cables, refractory cables and their combined cables shall be prepared on the basis of the above models according to the provisions of GB / T 19666. B: halogen-free low smoke flame retardant cable and halogen-free low smoke flame retardant cable sheath code Y or 3 means halogen-free polyene wick sheath.	

2）Specifications

See Table 8 for the cable specifications.

3）Rated voltage

The rated voltage of the cable is 450 / 750V.

Table 8. Cable Specifications

model	Nominal cross-sectional area of the conductor mm^2					
	0.5	0.75 1.0	1.5 2.5	4	6	10
	Core number					
KVV、KVVP、KYJV、KYJVP、KYJY、KYJYP	—	2～61		2～19		2～10
KVVP2、KVVP3、KVVP4、KYJVP2、KYJVP3、KYJVP4、KYJYP2、KYJYP3、KYJYP4	—	4～61		4～19		4～10
KVV22、KYJV22、KYJY23	—	7～61	4～61	4～19		4～10
KVVP2 - 22、KYJVP2 - 22、KYJYP2 - 23	—	7～61	4～61	4～19		4～10
KVV32、KYJV32、KYJY33	—	19～61	7～61	4～19		4～10
KVVR	2～61			—	—	—
KVVRP	2～61		2～48	—	—	—

A: The specification range of flame retardant cable, halogen-free low-smoke flame retardant cable, refractory cable and its combined cables is the same as that of the corresponding models mentioned above.
B: The recommended core series are 2,3,4,5,7,8,10,12,14,16,19,24,27,30,37,44,48,52 and 61 cores.

Execution standards

GB/T 9330-2020 Plastic-insulated control cable

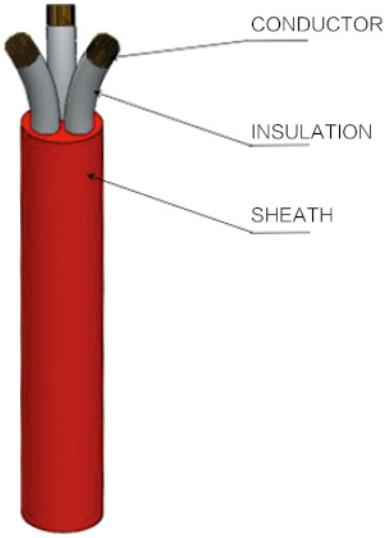
Material description

Conductor material: copper, tin-plated copper wire;
Insulation materials: PVC insulation, XLPE insulation;
Tap: polyester belt, non-woven fabric, PP belt, glass fiber band;
Metal shield: soft copper wire, soft copper belt;
Isolation sleeve: PVC, polyethylene, polyolefin;
Metal armor: galvanized steel strip, galvanized steel wire;
sheath: ST2 PVC sheath, ST7 polyethylene sheath, ST8 polyolefin sheath.

Technical parameter

① Conductor temperature during short circuit: allowable maximum temperature during cable short circuit (maximum time 5S): XLPE insulated cable 250℃ , PVC insulated cable 160℃ ;
② Conductor working temperature: XLPE insulated cable 90℃ , polyethylene, PVC insulated cable 70℃ ;
③ Min bending radius: soft structure cable 6D;
PVC insulated unarmored cable 6D;
XLPE insulated unarmored cable 8D;
Armored cable and metal strip shielded cable 12D;
(D is the cable outer diameter).
④ Power frequency withstand voltage time and voltage: power frequency voltage test is 3000V, time 5min.

5.Rated voltage of 0.6 / 1kV extruded insulated silicone rubber cable



name, model, specification and voltage level

1）Name and NO.

Table 15.

Table 15 Model and name of the cable

model	name
GG	Copper core silicone rubber insulated silicone rubber sheathed power cable
GG2G	Copper core silicone rubber insulated steel strip armored silicone rubber sheath power cable
GG3G	Copper core silicone rubber insulated fine steel wire armored silicone rubber sheath power cable

2）Specifications

Table 16

3）Rated voltage

The rated voltage of the cable is 0.6 / 1kV

Table16 Cable Specification

Core number	The range of conductor cross-section mm^2	Core number	The range of Conductor cross-section mm^2
1	0.75 ~ 300	4	1 ~ 240
2	0.75 ~ 300	3+1,3+2,4+1	2.5 ~ 240
3	0.75 ~ 300	5	1 ~ 240

Execution standards

TICW / 04- -2009 rated voltage 0.6 / 1kV silicone rubber insulated silicone rubber sheathed power cable
IEC 60502-1:2004 1-30 kV extruded insulated power cables and accessories-Part 1: rated voltage 1kV(Um1.2kV) and 3kV(Um3.6kV) cables.
IEC 60245-3:2003 Rubber insulated cables with rated voltage 450 / 750V and below-Part 3: Heat-resistant silicone rubber insulated cables

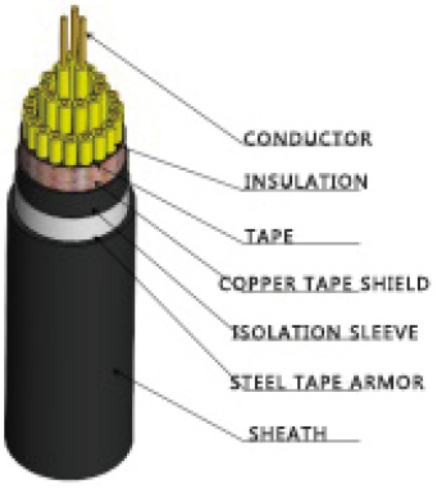
Material description

Conductor material: copper (tin-plated copper);
Insulation material: silicone rubber mixture;
Tap material: polyester film, glass fiber band;
Filling material: PP rope (use glass fiber rope for flame retardant cable);
Lining layer material: silicone rubber mixture;
Metal armor: galvanized steel wire, copper wire, tin-plated copper wire, aluminum wire, aluminum alloy wire;
Sheath: silicone rubber mixture.

Technical parameter

① Cable short circuit allowable maximum temperature (maximum time 5S): 350℃
② Maximum temperature during normal conductor: 180℃
③ Minimum bending radius of cable: the minimum bending radius of armless layer cable is 6D;
The allowable minimum bending radius of the armoured cable is 12D;
(D is the outer diameter of the cable);
④ Cable power frequency withstand voltage experiment: power frequency voltage test is 3500V, time 5min.

6.Rated voltage of 0.6 / 1kV extruded insulated fluorinated plastic cable



Cable name, model, specification and voltage level

1）Name and NO.

Table 17.

Table 17 Model and name of the cable

model	name
FF	Fluorinated plastic insulated, fluorinated plastic sheathed power cable
FF9F	Fluorinated plastic insulated steel wire braided armored fluorinated plastic sheathed power cable
Note: Single core armor must be made with non-magnetic wire	

2）Rated voltage

Table 18 for the cable specifications.

3）Rated voltage

The rated voltage of the cable is 0.6 / 1kV

Table 18. Cable Specifications

Core number	The range of conductor cross-section mm^2	Core number	The range of conductor cross-section mm^2
1	0.75 ~ 120	4	1 ~ 10
2	0.75 ~ 16	3+1、3+2、4+1	2.5 ~ 10
3	0.75 ~ 16	5	1 ~ 10

Execution standards

TICW / 02-2009 rated voltage 0.6 / 1kV fluorinated plastic sheathed power cable
IEC 60502-1:2004 1-30 kV extruded insulated power cables and accessories-Part 1: rated voltage 1kV(Um1.2kV) and 3kV(Um3.6kV) cables.

Material description

Conductor material: copper (tin-plated copper);
Insulation materials: polyperfluoroethylene or PFE;
Filling material: PP rope (glass fiber rope for flame retardant cable);
Metal armor: copper, copper alloy, aluminum alloy, galvanized steel wire;
Sheacket: polyperfluoroethylene or PFE;

Technical parameters

① Max temperature of conductor working: 200℃ ;
② Cable power frequency withstand voltage test: power frequency voltage test is 3500V, time up to 5min;
③ Min bending radius of cable: 15D (D is outer diameter of cable).

7.Rated voltage of 300 / 500V extruded insulated computer cable

Cable name, model, specification and voltage level

1）Name and NO.

Table 9 for name and models.

Table 9 Cable model and name

model	name
DJVPV	Copper core PVC insulated copper wire braided shielding PVC sheath computer and instrument shielding cable
DJVVP	Copper core PVC insulated copper wire braided total shielding PVC sheath computer and instrument shielding cable
DJVPVP	Copper core PVC insulated copper wire braided component shielding and total shielding PVC sheath computer and instrument shielding cable
DJVPV22	Copper core PVC insulated copper wire braided by shielding steel strip armored PVC sheathed computer and instrument shielding cable
DJVVP22	Copper core PVC insulated copper wire braided total shielded steel strip armored PVC sheath computer and instrument shielded cable
DJVP2VP2-22	Copper core PVC insulated copper strip division shielding and total shielding steel strip armored PVC sheath computer and instrument shielding cable
DJVVP32	Copper core PVC insulated copper wire braided total shield fine steel wire armored PVC sheath computer and instrument shielding cable
DJYPV	Copper core polyethylene insulated copper wire braided shielding PVC sheath computer and instrument shielding cable

model	name
DJYVP	Copper core polyethylene insulated copper wire braided total shielding PVC sheath computer and instrument shielding cable
DJYPVP	Copper core polyethylene insulated copper wire braided component shielding and total shielding PVC sheath computer and instrument shielding cable
DJYPV22	Copper core polyethylene insulated copper wire braided shielded steel strip armored PVC sheathed computer and instrument shielding cable
DJYVP22	Copper core polyethylene insulated copper wire braided total shielded steel strip armored PVC sheath computer and instrument shielded cable
DJYP2VP2 - 22	Copper core polyethylene insulated copper strip shielding and total shielding steel strip armored PVC sheath computer and instrument shielding cable
DJYVP32	Copper core polyethylene insulated copper wire braided total shield fine steel wire armored PVC sheath computer and instrument shielding cable
DJYJPV	Copper core crosslinked PVC insulated copper wire braided shielding PVC sheath computer and instrument shielding cable
DJYJVP	Copper core crosslinked PVC insulated copper wire braided total shielding PVC sheath computer and instrument shielding cable
DJYJPVP	Copper core crosslinked PVC insulated copper wire braided component shielding and total shielding PVC sheath computer and instrument shielding cable
DJYJPV22	Copper core crosslinked PVC insulated copper wire braided split shielding steel strip armored PVC sheathed computer and instrument shielding cable
DJYJVP22	Copper core crosslinked PVC insulated copper wire braided total shielding steel strip armored PVC sheathed computer and instrument shielding cable
DJYJP2VP2-22	Copper core crosslinked PVC insulated copper strip separate shielding and total shielding steel strip armored PVC sheathed computer and instrument shielding cable
DJYJVP32	Copper core crosslinked PVC insulated copper wire braided total wire armored PVC sheathed computer and instrument shielding cable

2）Specifications

Table 10 for the cable specifications.

3）Rated voltage

The rated voltage of the cable is 300 / 500V.

Table 10. Cable Specifications

model	Nominal intercept area mm^2	Cable element structure	
		twin	Three line group
		Cable logarithm	
DJVPV DJVVP DJVPVP DJVPV22 DJVVP22 DJVP2VP2-22 DJVVP32 DJYPV DJYVP DJYPVP DJYPV22 DJYVP22 DJYP2VP2-22 DJYVP32 DJYJPV DJYJVP DJYJPVP DJYJPV22 DJYJVP22 DJYJP2VP-22 DJYJVP32	0.5、0.75、1.0、1.5、2.5	1 ～ 37	1 ～ 24

Execution standards

JB / T 13486-2018, computer and instrument shielding cable

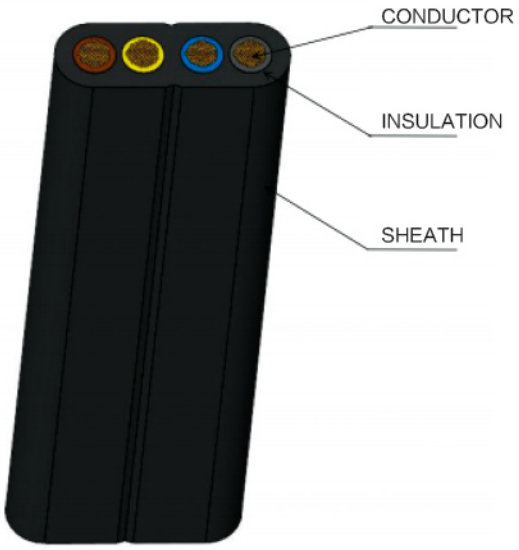
Material description

Conductor material: copper, tin-plated copper wire;
Insulation materials: PVC insulation, XLPE insulation, polyethylene insulation;
Tap: polyester belt, non-woven fabric, PP belt, glass fiber band;
Metal shield: soft copper wire, soft copper belt;
Isolation sleeve: PVC, polyethylene, polyolefin;
Metal armor: galvanized steel strip, galvanized steel wire;
Sheath: ST1 PVC sheath material (70℃); ST2 PVC sheath material (90℃), ST8 sheath material

technical parameter

① Conductor temperature during short circuit: cable short circuit allowable max temperature (max time 5S): XLPE insulated cable 250℃ , polyethylene, PVC insulated cable 160℃ ;
② Conductor working temperature: XLPE insulated cable 9,0℃ , polyethylene, PVC insulated cable 70℃ ;
③ Min bending radius: 8D unarmored cable, 12D armored cable (D is the outer diameter of the cable);
④ Power frequency withstand voltage time and voltage: power frequency voltage test is 1500V, time 5min.

8.Squded insulated flat cables



Cable name, model, specification and voltage level

1）Name and NO.

Names and models are shown in Table 19.

Table 19 Model and name of the cable

model	name
BVVB	Copper core PVC insulated PVC sheath flat cable
BLVVB	Aluminum core PVC insulated PVC sheath flat cable

2）Specifications

Table20 for cable specification

3）Rated voltage

The rated voltage of the cable is 300 / 500V

Table 20. Cable Specifications

Core number	Conductor cross-section range ofmm^2	Core number	Conductor cross-section range ofmm^2
2	0.75 ~ 10	4	1 ~ 10
3	0.75 ~ 10	3+1、3+2、4+1	2.5 ~ 10

Execution standards

JB / T 8734.2-2016 PVC insulated cable with rated voltage of 450 / 750V and below Part 2: Cable and wire for fixed wiring

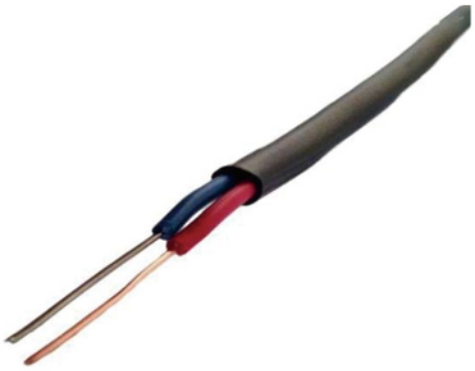
Material description

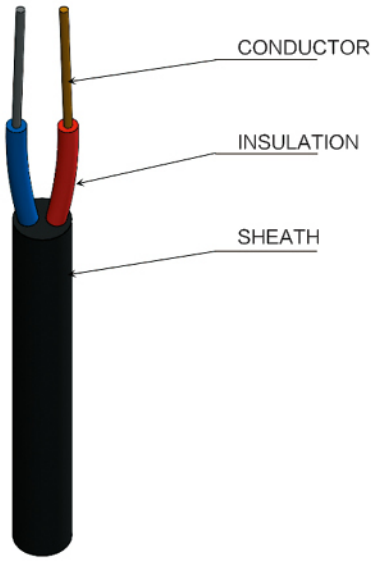
Conductor: copper, aluminum;
Insulation: PVC insulation;
sheath: PVC sheath.

Technical parameters

① Max temperature (max constant time 5S): 160℃ ;
② The max temperature of conductor: 70℃ ;
③ Min bending radius of cable:
Outer diameter less than 25mm is 4D;
Outer diameter of 25mm and above cable min bending radius is 6D;
(D is the outer diameter of the cable);
④ Cable power frequency withstand voltage experiment: power frequency voltage test is 2000V, time up to 5min.

9.Compensation conductor is used for the thermocouple





Cable name, model, specification, and voltage grade

1）Name and NO.

Names and models are shown in Table 25.

Table 25 Type and name of the cable

product name	model	With thermocouple	Thermoelectric parity
Copper-copper nickel compensation conductor	SC or RC	Platinum-rhodium 10-platinum thermocouple Platinum-rhodium 13-platinum thermocouple	S or R
Iron-copper nickel 22 compensation wire Copper-copper-nickel 40 compensation wire Nickel Ming 10-Ni-silicon 3 extension conductor	KCA KCB KX	Nickel-chrome-nickel-silicon thermocouple	K
Iron-copper nickel 18 compensation conductor Nickel-chromium 14	NC NX	Nickel-chromium Si-Ni Si-magnesium thermocouple	N
Nickel chrome 10-copper	EX	Nickel	E
Iron-copper nickel 45 extension conductor	JX	Iron-copper-nickel thermocouple	J
Copper-copper-nickel 45 extension conductor	TX	Copper-Kang copper thermocouple	T

2）Specifications

Table 25 for the cable specifications.

3）rated voltage

none

Table18. Cable Specifications

Wire core type	Nominal cross-sectional area of the wire core mm^2	Number of wire cores	Single-line diameter (mm)
Single wire core	0.2	1	0.52
	0.5	1	0.80
	1.0	1	1.13
	1.5	1	1.37
	2.5	1	1.76
Multistock core (soft wire)	0.2	7	0.20
	0.5	7	0.30
	1.0	7	0.43
	1.5	7	0.52
		19	0.41

Execution standards

GB / T 4989-2013 thermocouple compensation wire

Material description

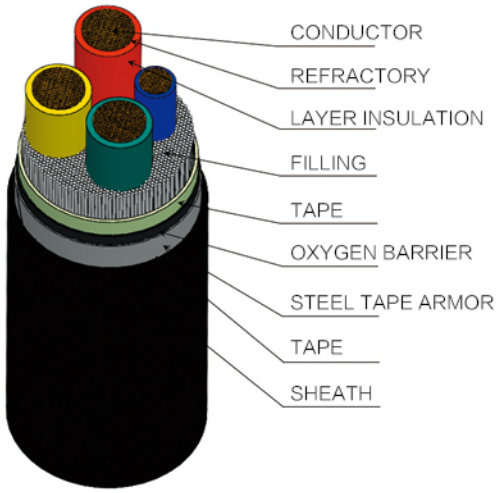
Conductor: copper wire, nickel-chromium alloy, iron;
Insulation: PVC, PTFE;
Metal shield: tin-plated copper wire, silver-plated copper wire, galvanized steel wire, stainless steel wire, aluminum-plastic composite belt, copper-plastic composite belt;
Sheath: PVC, PTFE.

Technical parameters

① Heat resistance: After 220 ± 5℃ and 24h heat resistance test, the sample shall be bent for 180° on a cylinder of five times the diameter. The following conditions shall be met: a.no crack on the surface;b. the insulation resistance value between the compensating wire, the core of the wire and the shielding layer shall not be less than 25M Ω · m.

② Low-temperature bending performance test: the compensation wire shall be tested after the low-temperature performance test of-20℃ , and the insulation layer of the sample wound on the test rod shall be observed without any cracks.

10.Flame-retardant and refractory flexible cable is used for communication power supply



Cable name, model, specification, and voltage grade

1）Name and NO.

Names and models are shown in Table 21.

Table 21 NO. and name of the cable

model	name
ZA-RV	PVC insulated and flame retardant class A flexible cable
ZA-RVV	PVC insulated PVC sheath flame retardant class A flexible cable
ZA-RVVV	PVC insulated double-layer PVC sheath flame retardant class A flexible cable
ZA-RVV22	PVC insulated double steel strip armored PVC sheath flame retardant class A flexible cable
WDZ-RY	Polyolefin insulated halogen-free low-smoke single flame retardant soft cable
WDZ-RYJ-90	90 degrees crosslinked polyolefin insulated halogen-free low-smoke single flame retardant soft cable
WDZC-RYY	Polyolefin insulated polyolefin sheathed halogen-free low smoke flame retardant class C flexible cable
WDZC-RYJY-90	90 Crosslinked polyolefin insulated polyolefin sheath halogen-free low-smoke flame retardant class C flexible cable
WDZC-RYY23	Polyolefin insulation double steel strip armored polyolefin sheathed halogen free low smoke flame retardant class C flexible cable
WDZC-RYJY23-90	90 degree crosslinked polyolefin insulated double steel strip armored polyolefin sheathed halogen-free low-smoke flame retardant class C flexible cable
WDZN-RY	Polyolefin insulated halogen-free low smoke single flame-resistant soft cable
WDZN-RYJ-90	90 degrees crosslinked polyolefin insulated halogen-free low smoke single flame resistant soft cable

model	name
WDZCN－RYY	Polyolefin insulation polyolefin sheathed halogen-free low smoke flame retardant C class refractory soft cable
WDZCN－RYJY-90	90 degree crosslinked polyolefin insulated polyolefin sheathed halogen free low smoke flame retardant class C refractory soft cable
WDZCN－RYY23	Polyolefin insulation double steel strip armored polyolefin sheath halogen free low smoke flame retardant C class C refractory soft cable
WDZCN-RYJY23-90	90 degree crosslinked polyolefin insulated double steel strip armored polyolefin sheathed halogen-free low smoke flame retardant C class C refractory soft cable

2）specifications

Table 22 for cable specifications and rated voltage class.

Table 22 Cable specifications and rated voltage

Type code name	Core number	Nominal（mm²）	Rated voltage
ZA－RV、WDZ－RY、WDZ－RYJ－90	1	1.5～500	450/750V
WDZN－RY、WDZN－RYJ－90		4～500	
ZA－RVV、WDZC－RYY、WDZC－RYJY－90		1.5～500	0.6/1kV
WDZCN－RYY、WDZCN－RYJY－90		4～500	
ZA－RVVV	2、3、4	2.5～35	300/500V
ZA－RVV、WDZC－RYY、WDZC－RYJY－90	2、3、3+1、4 4+1、3+2、5	2.5～300	0.6/1kV
ZA－RVV22、WDZC－RYY23、WDZC－RYJY23－90			
WDZCN－RYY、WDZCN－RYJY－90		10～300	
WDZCN－RYY23、WDZCN－RYJY23－90			

Execution standards

YD / T 1173-2016 Flame retardant flexible cable for communication power supply

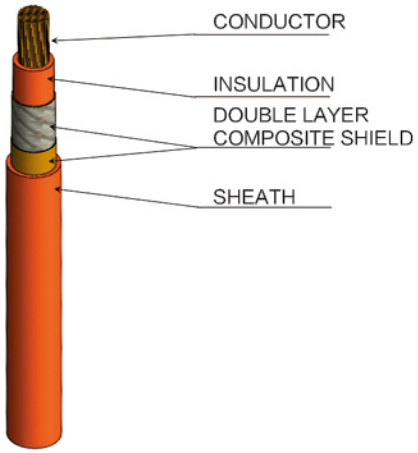
Material description

Conductor: copper, tinned copper;
Fireresistance layer: synthetic mica belt;
Insulation: polyvinyl chloride, polyolefin, XLPE;
Filler: glass fiber rope;
Package belt: flame retardant glass fiber belt;
Metal armor: galvanized steel strip;
Sheath: PVC, polyolefin.

Technical parameters

① Cable short circuit allowable max temperature (max time 5S): 160℃
② Maxmaximum temperature of conductor: 70℃
③ Minimum bending radius of cable: the minimum bending radius of unarmored cable is 15D, and the minimum bending radius of armored cable is 20D (D is the outer diameter of the cable)
④ Cable power frequency withstand voltage experiment:
rated voltage is 300 / 500V, experimental voltage is 2kV, the time up to 5min;
rated voltage was 450 / 750V, and the experimental voltage was 2.5kV ,the time up to 5min;
rated voltage was 0.6 / 1kV and the experimental voltage was 3.5kV, the time up to 5min;

11.Wire and cables for charging of electric vehicles



Cable name, model, specification, and voltage grade

1）Name and NO.

Names and models are shown in Table 23.

Table 23 Model and name of the cable

Model	name
SS	Thermoplastic elastomer insulation thermoplastic elastomer sheath charging cable for electric vehicles
SSPS	Thermoplastic elastomer insulated copper wire braided shield thermoplastic elastomer inner sheath and sheathed charging cables for electric vehicles
SF	Thermoplastic elastomer insulation thermoset elastomer sheath charging cable for electric vehicles
SSPF	Thermoplastic elastomer insulated copper wire braided shielding thermoplastic elastomer inner guard thermosetting elastomer sheath cable cable for electric vehicle charging
S90S90	Thermoplastic elastomer insulation thermoplastic elastomer sheath charging cable for electric vehicles
S90S90PS90	Thermoplastic elastomer insulated copper wire braided shield thermoplastic elastomer inner sheath and sheathed charging cables for electric vehicles
S90F	Thermoplastic elastomer insulation thermoset elastomer sheath charging cable for electric vehicles
S9OS9OPF	Thermoplastic elastomer insulation thermoplastic elastomer inner sheath thermosetting elastomer sheath charging cable for electric vehicles

Model	name
S90U	Thermoplastic elastomer insulated polyurethane elastomer sheath for electric vehicle charging cable
S90S90PU	Thermoplastic elastomer insulated copper wire braided shielding thermoplastic elastomer inner sheath polyurethane elastomer sheath cable for electric vehicle charging
S90UPU	Thermoplastic elastomer insulated copper wire braided shielding polyurethane elastomer inner sheath and sheath for electric vehicle charging cables
EU	Antipropylene rubber or similar synthetic rubber insulated polyurethane elastomer sheath for electric vehicle charging cable
EUPU	Antipropylene rubber or similar synthetic rubber insulated copper wire braided shielding polyurethane elastomer inner sheath and sheath for electric vehicle charging cable
EF	Ethc rubber or similar synthetic rubber insulated thermosetting elastomer sheath charging cables for electric vehicles
EFPF	Ethc rubber or similar synthetic rubber insulated copper wire braided shield thermosetting elastomer inner sheath and sheath for electric vehicles charging cables
EYU	Hard ethylene propylene rubber or similar synthetic materials insulated polyurethane elastomer sheath for electric vehicle charging cable
EYUPU	Hard ethylene propylene rubber or similar synthetic materials insulated copper wire braided shielding polyurethane elastomer inner sheath and sheath for electric vehicle charging cable
EYYJ	Hard ethylene propylene rubber or similar synthetic materials insulated cross-linked polyolefin inner sheath electric vehicle charging cable
EYYJPYJ	Hard ethylene propylene rubber or similar synthetic materials insulated copper wire braided shield cross-linked polyolefin inner sheath and sheath for electric vehicle charging cable
[a]When the cable conductor is the sixth conductor, mark "R" on the left of the model.	

2）specifications

Table 24 for the cable specifications.

3）rated voltage

AC: 450 / 750V and below; DC: 1.0kV and below

Table 24. Cable Specifications

Type	Wire core	Nominal cross-sectional area mm^2
The AC charging cable	Main insulation wire core	1.0 ~ 70
	Signal or control wire core	0.5 ~ 1.5
Cable used for DC charging	Main insulation wire core	10 ~ 240
	Ground wire core	6 ~ 120
	Auxiliary power cord core	4、6
	Signal or control wire core	0.75 ~ 2.5

Execution standards

GB / T 33594-2017 Charging cable for electric vehicles

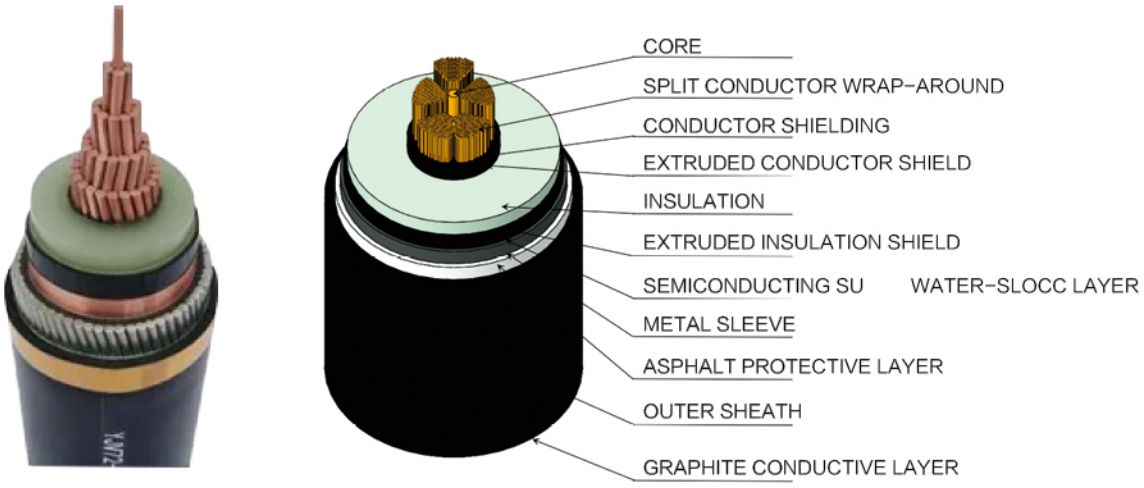
Material description

Conductor: copper wire, tin-plated copper wire;
Insulation: 70 ℃ thermoplastic elastomer, 90 ℃ thermoplastic elastomer, 90 ℃ ethylene propylene rubber or synthetic rubber, rigid ethylene propylene rubber or halogen-free synthetic materials;
Filler: glass fiber rope;
Package tape: flame retardant glass fiber belt;
Inner lining layer: 70℃ thermoplastic elastomer, 90℃ thermoplastic elastomer, thermosetting elastic synthetic material, polyurethane elastomer, halogen-free crosslinked polyolefin;
Metal shield: copper wire, tin-plated copper wire, aluminum-plastic composite strip + bare copper wire;
Sheath: 70℃ thermoplastic elastomer, 90℃ thermoplastic elastomer, thermosetting elastic synthetic material, polyurethane elastomer, halogen-free crosslinked polyolefin.

Technical parameters

① The max temperature of conductor operation: 70℃ ;
② Curve wrap test: after 30,000 times of reciprocating motion, no current short circuit and meet short circuit, after the test of the insulation wire core to do withstand voltage test, the insulation should not be broken down;
③ Cable power frequency and voltage withstand experiment:
Cable for AC charging pile: 3.5kV / 15min for main line, 1.5kV / 15min for control line;
Cable for DC charging pile: 8.4kV / 15min for main line and 3.6kV / 15min for control line.

12.Extruded insulated Ultra DC cable for rated voltage 500kV DC transmission



Cable name, model, specification and voltage level

1）Name and NO.

Names and models are shown in Tables 12,13.

Table 12 Model and name (70℃)

model		name
Copper core	Aluminum core	
DC-YJLW02	DC-YJLLW02	Copper core (or aluminum core) XLPE insulated wrinkle aluminum sleeve PVC external sheath DC power cable
DC-YJLW03	DC-YJLLW03	Copper core (or aluminum core) XLPE insulated wrinkle aluminum sleeve polyethylene outer sheath DC power cable
DC-YJQ02	DC-YJLQ02	Copper core (or aluminum core) XLPE insulated lead sleeve PVC external sheath DC power cable
DC-YJQO3	DC-YJLQO3	Copper core (or aluminum core) XLPE insulated lead sheath polyethylene outer sheath DC power cable
DC-YJL02	DC-YJLL02	Copper core (or aluminum core) XLPE insulated flat aluminum cover PVC outer sheathed DC power cable
DC-YJL03	DC-YJLL03	Copper core (or aluminum core) XLPE insulated flat aluminum sleeve polyethylene outer sheathed DC power cable
DC-YJA03	DC-YJLA03	Copper core (or aluminum core) XLPE insulated metal plastic composite polyethylene outer sheathed DC power cable

1. Corrugated aluminum sheath should be indicated in the product name.
2. If it contains the longitudinal water resistance performance, -Z should be added after the model.
3. If it contains flame retardant performance, the flame retardant code should be added before the model according to GB / T 19666 requirements.

Table 13 Cable Model and name (90℃)

model		name
Copper core	Aluminum core	
DC-YJ90LW02	DC-YJ9OLLWO2	Copper core (or aluminum core) XLPE insulated wrinkle aluminum sleeve PVC external sheath DC power cable
DC-YJ90LW03	DC-YJ9OLLWO3	Copper core (or aluminum core) XLPE insulated wrinkle aluminum sleeve polyethylene outer sheath DC power cable
DC-YJ9OQO2	DC-YJ9OLQO2	Copper core (or aluminum core) XLPE insulated lead sleeve PVC external sheath DC power cable
DC-YJ9OQO3	DC-YJ9OLQO3	Copper core (or aluminum core) XLPE insulated lead sheath polyethylene outer sheath DC power cable
DC-YJ90L02	DC-YJ90LL02	Copper core (or aluminum core) XLPE insulated flat aluminum cover PVC outer sheathed DC power cable
DC-YJ90L03	DC-YJ90LL03	Copper core (or aluminum core) XLPE insulated flat aluminum sleeve polyethylene outer sheathed DC power cable
DC-YJ90A03	DC-YJ90LA03	Copper core (or aluminum core) XLPE insulated metal plastic composite polyethylene outer sheathed DC power cable

1. welding wrinkle aluminum cover should be indicated in the product name.
2. If it contains the longitudinal water resistance performance, -Z should be added after the model.
3. If it contains flame retardant performance, the flame retardant code should be added before the model according to GB / T 19666 requirements.

Note: The max cross-sectional area of the aluminum conductor ismm^2

2) Specifications

Table 14 for the cable specifications.

3) Rated voltage

The rated voltage of the cable is 100kV, 160kV, 200kV, 250kV, 320kV, 400kV and 500kV;

It can be adjusted according to the project requirements, and the adjustment range is generally not more than 10%, for example, be adjusted from 500kV to 525kV.

Table 14. Cable Specifications

Voltage level	Core number	Nominal section of conductive wire core /mm^2
100kV	1core	95 ~ 1600
160kV	1core	240 ~ 1600
200kV	1core	400 ~ 2000
250kV	1core	400 ~ 2500
320kV	1core	80 ~ 3500
400kV	1core	1000 ~ 3500
500kV	1core	1000 ~ 3500

Execution standards

GB / T 31489.1−2015 extruded insulated power cable system for DC transmission with rated voltage of 500kV and below−Part 1: Test methods and requirements;
GB / T 31489.2−2020 extruded insulated power cable system for DC transmission with rated voltage of 500kV and below−Part 2: DC earth cable;
IEC 60840:2020 rated voltage 30 kV (Um = 36 kV) to 150 kV (Um = 170 kV) extruded insulated power cable and its accessories. Test method and requirements.

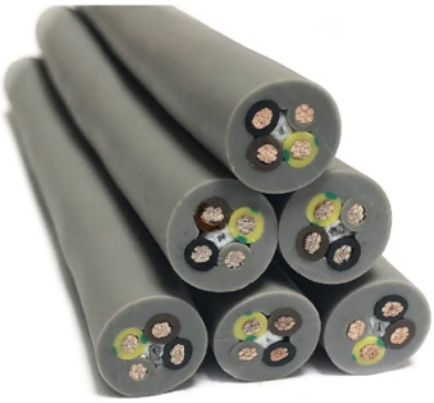
Material description

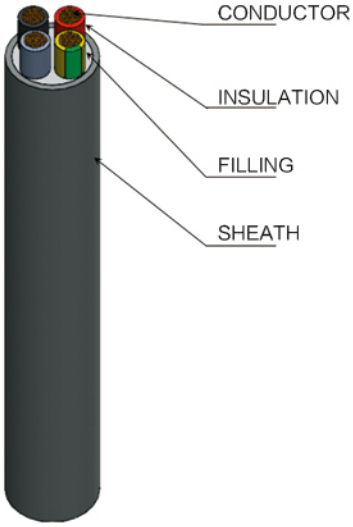
Conductor materials: copper, aluminum;
Conductor shield (winding): semi−conductive nylon band;
Conductor shielding (extruded): super−smooth cross−linked semi−conductive shielding plastic;
Insulation materials: XLPE DC−70, XLPE DC−90;
Insulation shield: ultra−smooth crosslinked semi−conductive shield plastic;
Buffer layer: semi−conductive buffer water resistance zone;
Metal layer: soft copper wire, lead cover, wrinkled aluminum cover;
Corrosion protection layer: asphalt, lead cover;
sheath: ST2 insulation level PVC sheath material, ST7 insulation level polyethylene sheath material;
Conductive layer: graphite, semi−conductive plastic layer.

technical parameter

① Conductor temperature during short circuit: XLPE DC−70,180℃ / 5S;
XLPE DC−90,250℃ / 5S;
② conductor operating temperature: XLPE (DC−70) 70℃ ; XLPE (DC−90) 90℃
③ Min bending radius: 20D when cable laying, 15D when cable operation (D is the outer diameter of cable);
④ DC voltage test time and voltage: 1.85U0/2h。

13.Extruded insulated robot cable with rated voltage of 0.6 / 1kV and below





Cable name, model, specification and voltage level

1) Name and NO.

① Turn-resistant cable in the robotic arm: a cable that is laid along the body of the robot or robotic arm and provides power or transmit signals.

② Drag the chain wiring cable: used for dragging the chain track, long-term drag chain repeated movement, and provide power or transmission signal for the equipment.

Model: For example: TRVVS, TRVVPS, TRVVSPJ, etc

2) Specifications

Table 11 for the cable specifications.

Table 11. Cable Specifications

nominal cross(mm^2)	The conductor has the largest single-line diameter (mm)	Max. conductor resistance at 20 ℃ (Ω /km)	
		Do not gilt	plating
0.14	0.11	135.4	139.7
0.2	0.11	92.3	95.0
0.25	0.11	73.8	76.0
0.3	0.11	69.2	71.2
0.34	0.11	61.1	62.8

3）Rated voltage

The rated voltage of the cable is: 0.6 / 1kV, 450 / 750V (including the power line core of the servo cable);
Control cable: 300 / 500 and below (including servo cable control wire core);
Signal cable 30V (encoder cable).

Execution standards

TICW 21-2019 Flexible cable for industrial robots

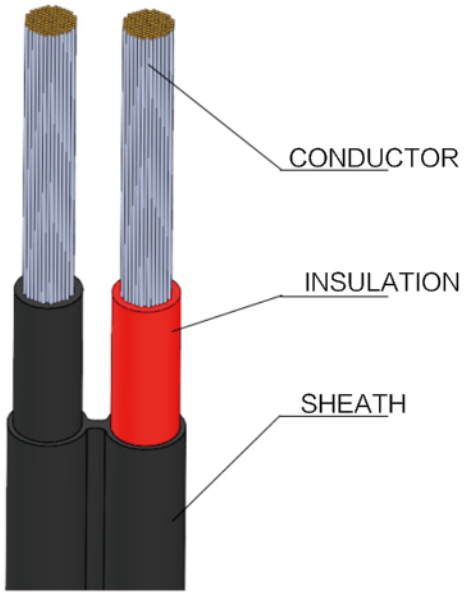
Material description

Conductor material: soft copper wire, tin-plated copper wire;
Insulation materials: PVC insulation, thermoplastic elastomer, polyethylene insulation, polypropylene insulation, ethylene-tetrapropyl ethylene copolymer materials;
Tap: polyester belt, non-woven fabric, PP belt, glass fiber band;
Metal shield: soft copper wire, tinned copper wire;
Isolation sheath: PVC sheath (70 ℃); PVC sheath (90 ℃), thermoplastic elastomer (70 ℃), thermoplastic elastomer (90℃); polyurethane elastomer;
Cover: PVC (70℃); PVC (90℃), thermoplastic elastomer (70℃), thermoplastic elastomer (90℃); polyurethane elastomer.

technical parameter

① Conductor temperature during short circuit: 160℃ ;
② Conductor operating temperature: PVC insulated cable (70 / 90℃), thermoplastic elastomer insulated cable (70 / 90 ℃), polyethylene insulated cable 70 ℃ ; polypropylene insulated cable 90 ℃ ,ethylene-tetraethylene copymeric insulated cable 130℃
③ Power frequency withstand voltage time and voltage: 0.6 / 1kV power frequency voltage test is 3.5kV, the time is 5min;The 450 / 750V power frequency voltage test was 2.5kV with a time of 5min.

14.photovoltaic insulated cable



Cable name, model, specification, voltage level

1）Name and NO.

Table 27 NO. and name of the cable

Model	Rated voltage/V		Name
PV1-F	AC 600/1000	DC 1800	Insulated cable for photovoltaic system
H1Z2Z2-K	AC 1000/1000		Insulated cable for photovoltaic system

Model and name of the cable

Model	Rated volatage /V	Name
GF-WDZX(N)EE(R)	AC 600/1000	Irradiated cross-linked polyolefin insulated and sheathed halogen-free low-smoke flame-retardant Class X (fire-resistant) AC (soft) power cables for photovoltaic systems
GF-WDZX(N)EE(R)P1	AC 600/1000	Photovoltaic system with irradiation crosslinked polyolefin insulation and sheathed copper wire winding shield halogen-free low smoke flame retardant X class (fire) AC (soft) power cable
GF-WDZX(N)EE(R)P2	AC 600/1000	Photovoltaic system with irradiated cross-linked polyolefin insulation and sheathed copper tape shielding halogen-free low-smoke flame retardant X class (fire resistant) AC (soft) power cable
GF-WDZX(N)EE23	AC 600/1000	Irradiation crosslinked polyolefin insulated and sheathed steel tape armouring halogen-free low smoke flame retardant Class X (fire resistant) AC power cables for photovoltaic systems

Model	Rated volatage /V	Name
GF-WDZX(N)EE33	AC 600/1000	Irradiated crosslinked polyolefin insulation and sheath steel wire armored halogen-free low-smoke flame retardant class X (fire-resistant) AC power cables for photovoltaic systems
GF-WDZX(N)EE63	AC 600/1000	Photovoltaic system with irradiation cross-linked polyolefin insulation and sheath non-magnetic metal tape, halogen-free low smoke flame retardant class X (fire resistant) AC power cable
GF-WDZX(N)EE73	AC 600/1000	The photovoltaic system is made of irradiation cross-linked polyolefin insulation and sheath non-magnetic wire, halogen-free low smoke flame retardant class X (fire resistant) AC power cable
GF-WDZXEER	DC 1800	The photovoltaic system uses irradiated cross-linked polyolefin insulation and sheath non-magnetic metal tape, halogen-free low-smoke flame retardant class X DC soft power cable
GF-WDZXEESR	DC 1800	The photovoltaic system uses irradiation cross-linked polyolefin insulation and sheath non-magnetic metal tape, halogen-free low smoke flame retardant two-core separable DC soft power cable
GF-WDZX(N)KEE(R)	450/750	Irradiated cross-linked polyolefin insulation and sheath halogen-free low-smoke flame retardant class X (fire-resistant) control (soft) cable for photovoltaic system
GF-WDZX(N)EE(R)P	450/750	Control (soft) cable of irradiation-crosslinked polyolefin insulation and sheath copper wire braided shielding halogen-free low-smoke flame retardant class X (fire resistant)
GF-WDZX(N)KEE(R)P2	450/750	Class X (refractory) control (soft) cable for irradiation cross-linked polyolefin insulation and sheath copper strip shielding
GF-WDZX(N)KEE(R)P3	450/750	Control (soft) cables for irradiated crosslinked polyolefin insulation and sheath aluminum strip shielding halogen low-free flame retardant X (fire resistant)
GF-WDZX(N)KEE23	450/750	Halogen-free low-smoke flame retardant Class X (fire-resistant) control cable
GF-WDZX(N)KEE33	450/750	Irradiated crosslinked polyolefin insulation and sheath steel wire armored with halogen-free low smoke flame retardant class X (fire resistant) control cable
GF-WDZX(N)KEE63	450/750	Halogen-free low smoke flame retardant Class X (fire-resistant) control cables
GF-WDZX(N)KEE73	450/750	Irradiated cross-linked polyolefin insulation and sheath non-magnetic wire armor for photovoltaic system is equipped with halogen-free low-smoke flame retardant class X (fire-resistant) control cable
GF-WDZX(N)KEEP2-23	450/750	The photovoltaic system is equipped with irradiation cross-linked polyolefin insulation and sheath copper strip shielding, and the steel strip armor is equipped with halogen-free low-smoke flame retardant class X (fire-resistant) control cable
GF-WDZX(N)DEE(R)P	300/500	Photovoltaic system with irradiation cross-linked polyolefin insulation and sheath copper wire braided total shielding halogen-free low smoke flame retardant class X (fire resistant) computer and instrument (soft) cable
GF-WDZX(N)DEE(R)P2	300/500	Photovoltaic system with irradiation cross-linked polyolefin insulation and sheath copper belt total shielding halogen-free low smoke flame retardant class X (fire resistant) computer and instrument (soft) cable
GF-WDZX(N)DEE(R)P3	300/500	Photovoltaic system with irradiation cross-linked polyolefin insulation and sheath aluminum strip total shielding halogen-free low-smoke flame retardant class X (fire resistant) computer and instrument (soft) cable

Model	Rated volatage /V	Name
GF-WDZX(N)DEPE(R)P	300/500	The photovoltaic system is made of irradiation cross-linked polyolefin insulation and sheath circular copper wire braided shielding and total shielding halogen-free low-smoke flame retardant class X (fire resistant) computer and instrument (soft) cable
GF-WDZX(N)DEP2E(R)P2	300/500	Photovoltaic system with irradiation cross-linked polyolefin insulation and sheath copper strip shielding and total shielding halogen-free low smoke flame retardant class X (fire resistant) computer and instrument (soft) cable
GF-WDZX(N)DEP3E(R)P3	300/500	Photovoltaic system with irradiation cross-linked polyolefin insulation and sheath aluminum strip split screen and total screen halogen-free low-smoke flame retardant class X (fire resistant) computer and instrument (soft) cable
GF-WDZX(N)DEEP23	300/500	The photovoltaic system is made of irradiation cross-linked polyolefin insulation and sheath circular copper wire woven total shielding steel strip armored with halogen-free low-smoke flame retardant class X (fire resistant) computer and instrument (soft) cable

2）specifications

See Table 28,29,30 and 31 for cable specifications

Table 28. Cable Specifications

Model	Number of piles	Specifications /mm²
PV1-F	1	1.5 ~ 35
H1Z2Z2-K	1	1.5 ~ 240

Table 29. Cable Specifications

Model	Rated voltage/V	Nominal conductor section / mm²								
		1.5	2.5	4	6	10	16、35	50、70	95、120	150 ~ 240
		Core number								
GF-WDZXEER	DC 1800	1								
GF-WDZXEESR		2					–			
GF-WDZX(N)EE(R)	AC 600/1000	–	1 ~ 5					4	3	2
GF-WDZX(N)EE(R)P1										
GF-WDZX(N)EE(R)P2										
GF-WDZX(N)EE23										
GF-WDZX(N)EE33										
GF-WDZX(N)EE63										
GF-WDZX(N)EE73										
Note: The cable specifications listed in this table can be settled by both parties through negotiation.										

Table 30. Cable Specifications

model	Nominal conductor section /mm²						
	0.75	1.0	1.5	2.5	4	6	10
	Core number						
GF-WDZX(N)KEE(R)	2 ~ 61				2 ~ 14		2 ~ 10
GF-WDZX(N)KEE(R)							
GF-WDZX(N)KEE(R)P2	4 ~ 61				4 ~ 14		4 ~ 10
GF-WDZX(N)KEE(R)P3							
GF-WDZX(N)KEE23	7 ~ 61			4 ~ 61	4 ~ 61		4 ~ 10
GF-WDZX(N)KEEP2-23	7 ~ 61			4 ~ 61	4 ~ 61		4 ~ 10
GF-WDZX(N)KEE33	19 ~ 61		7 ~ 61		4 ~ 14		4 ~ 10
Note: The cable specifications listed in this table can be settled by both parties through negotiation.							

Table 31. Cable Specifications

Nominal conductor section /mm²	Cable original structure		
	twin	Three line group	quad
0.75、1.0、1.5、2.5	1 ~ 37	1 ~ 24	1 ~ 10
Note: The cable specifications listed in this table can be settled by both parties through negotiation.			

3）Rated voltage

See Table 26 and 27

Executive standard

CEEIA B218- -2012, cable for photovoltaic power generation system
EN 50618-2014 Cables for photovoltaic system (European standard)
2 PfG 1169 / 08.2007 Cables for photovoltaic system (European standard)

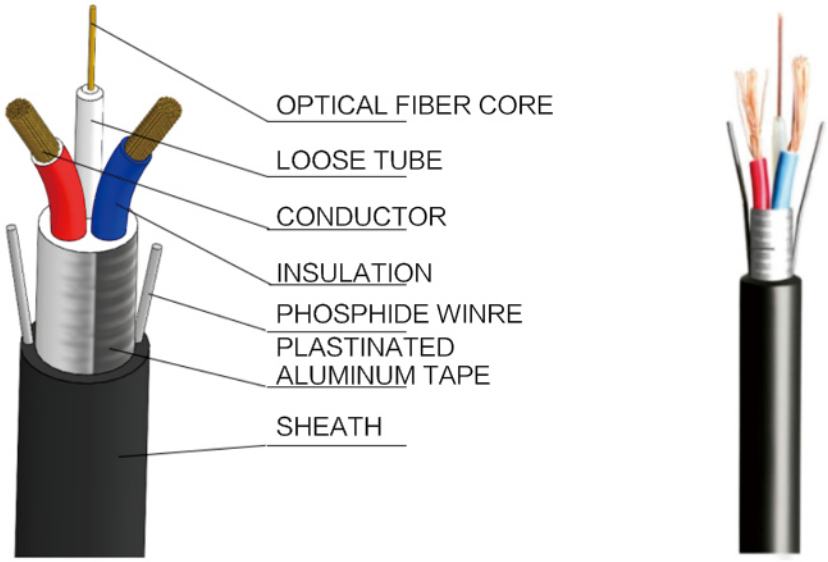
Material description

Conductor material: soft copper wire, tin-plated copper wire;
Insulation materials: irradiation-crosslinked halogen-free low-smoke flame-retardant polyolefin insulation material;
Package belt: polyester belt, non-woven fabric, PP belt, glass fiber band;
Metal shield: soft copper wire, soft copper belt;
Isolation sleeve: irradiated cross-linked halogen-free low-smoke flame-retardant polyolefin sheath material;
Armmored: wire, steel tape, non-magnetic wire, non-magnetic metal tape;
Sheath: irradiated crosslinked halogen low smoke flame retardant polyolefin sheath.

Technical parameter

① Conductor temperature during short circuit: 160℃ ;
② Operating temperature of conductor: 90℃ , 105℃ and 125℃
③ Power frequency withstand voltage time and voltage: PV1-F AC6.5kV/5min; DC15kV / 5min;
H1Z2Z2-K AC6.5kV/5min；DC15kV/5min；
300 / 500V unshielded and armored 1.5kV / 1min;
300 / 500V with shielding and armored 1.0kV / min;
450/750V 3kV/min；
600/1000V 3.5kV/min。

15.Photoelectric composite cable



Cable name, model, specification, and voltage grade

1）Name and model number

Names and models are shown in Table31.

Table 31 Model number and name of the cable

Model		Name
Copper core	Aluminum core	
OPLC-YJV	OPLC-YJLV	Copper core or aluminum core cross-linked polyethylene insulated PVC sheathed optical fiber composite low-voltage cable
OPLC-YJY	OPLC-YJLY	Copper core or aluminum core cross-linked polyethylene insulated polyolefin sheathed optical fiber composite low-voltage cable
OPLC-YJV22	OPLC-YJLV22	Copper core or aluminum core cross-linked polyethylene insulated steel strip armored PVC sheath optical fiber composite low-voltage cable
OPLC-YJV23	OPLC-YJLV23	Copper core or aluminum core cross-linked polyethylene insulated steel strip armored polyolefin sheathed optical fiber composite low-voltage cable
OPLC-YJV32	OPLC-YJLV32	Copper or aluminum core xLPE insulated fine steel wire armored PVC sheath fiber composite low voltage cable
OPLC-YJV42	OPLC-YJLV42	Copper core or aluminum core cross-linked polyethylene insulated thick steel wire armored PVC sheathed optical fiber composite low-voltage cable
OPLC-YJV62	OPLC-YJLV62	Copper or aluminum core cross-linked polyethylene insulated nonmagnetic metal strip armored PVC sheathed fiber composite low voltage cable

2) specifications

See Table 32 for the cable specifications.

3) rated voltage

The rated voltage of the cable is 0.6 / 1 (1.2) kV

Table 32. Cable Specifications

Level of voltage /kV	Core number / core	Nominal section of conductive wire core / mm^2
0.6/1 (1.2)	1、2、3、4、5 3+1、3+2、4+1	1.5 ~ 1000

Execution standard

GB / T 29839-2013 rated voltage 1kV(Um1.2kV) and below optical fiber composite low voltage cable

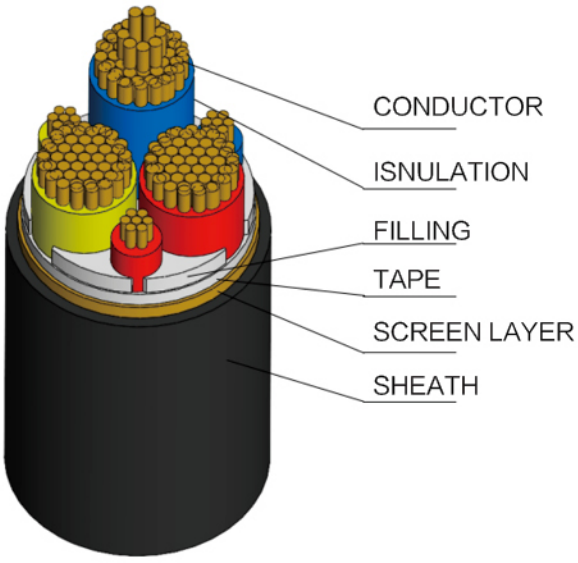
Material description

Conductor material: soft copper wire, copper wire.aluminium wire;
Insulation material: crosslinked polyethylene insulation material; PVC insulation material
Package belt: optical fiber belt, glass fiber belt;
Filling: water-blocking yarn;
Armored : steel strip, steel wire;
Isolation sleeve: PVC, polyethylene, halogen-free low smoke polyolefin;
sheath: PVC sheath material, polyethylene sheath material, halogen free low smoke polyolefin sheath material.

Technical parameters

① Conductor temperature at short-circuit: 160 ℃ (polyethylene insulation); 250 ℃ (cross-linked polyethylene insulation)
② Conductor operating temperature: 80℃ , 90℃ ;
③ Minimum bending radius: unarmored OPLC bending radius is not greater than 12D;
Armored type OPLC bending radius is not greater than 10D.
④ Power frequency withstand voltage time and voltage: 0.6 / 1 3.5kV / 5min.

16.Frequency converter able



Cable name, model, specification, and voltage grade

1）Name and model number

Names and models are shown in Table Table 33.

Table 33 Model and name of the cable

Model	Name
BPYJVP	Crolinked polyethylene insulated copper wire braided shielding PVC sheathed inverter power cable
BPYJVP1	Crolinked polyethylene insulated tin-plated copper wire braided shielding PVC sheath inverter power cable
BPYJV(P2)	Crolinked polyethylene insulated copper strip shielding PVC sheathed inverter power cable
BPYJVP22	Crolinked polyethylene insulated copper wire braided shielding steel strip armoured PVC sheathed inverter power cable
BPYJYP	Crolinked polyethylene insulated copper wire braided shielding polyethylene (polyolefin) sheath inverter power cable
BPYJYP1	Crolinked polyethylene insulated tin copper wire braided shielding polyethylene (polyolefin) sheath inverter power cable
BPYJY(P2)	Crosslinked polyethylene insulated copper strip shielding polyethylene (polyolefin) sheath inverter power cable
BPYJYP23	Crolinked polyethylene insulated copper wire braided shielding steel strip armored polyethylene (polyolefin) sheathed inverter power cable
BPGGP	Silicon rubber insulated copper wire shielding silicone rubber sheath frequency converter power cable

Model	Name
BPGGP1	Silicon rubber insulation tin-plated copper wire shielding silicone rubber sheath frequency converter power cable
BPGG(P2)	Silica rubber insulation copper strip shield silicone rubber sheath frequency converter power cable

2) specifications

See Table 34 for the cable specifications.

3) rated voltage

The rated voltage of the cable is 0.6 / 1 (1.2) kV and 1.8 / 3 (3.6) kV

Table 34. Cable Specifications

Level of voltage /kV	Core number / core	Nominal section of conductive wire core /mm^2
0.6/1 (1.2)	1、2、3、4、5、3+1、3+2、4+1	1.5 ~ 1000
1.8/3 (3.6)	1、2、3、4、5、3+1、3+2、4+1	10 ~ 1000

Executive standard

Q / RYDL 011-2020 Power cable for rated voltage from 1kV to 3kV

Material description

Conductor material: copper wire, copper wire;

Insulation materials: cross-linked polyethylene insulation, polyvinyl chloride insulation, ethylene propylene rubber / elastomer insulation, silicone rubber, polyethylene insulation, polyolefin insulation;

Filling materials: PP rope, glass fiber rope;

Shield layer: soft copper strip;

Lining layer: PPD embossing belt, PP belt, non-woven fabric, glass fiber band;

Isolation sleeve: polyvinyl chloride, polyethylene, polyolefin, silicone rubber, ethylene propylene rubber / elastomer;

Metal armor: galvanized steel strip, non-magnetic metal tape, galvanized steel wire, non-magnetic wire;

Sheath: polyvinyl chloride, polyethylene, polyolefin, silicone rubber, ethylene propylene rubber / elastomer.

technical parameter

① Conductor temperature during short circuit: cable short circuit allowable maximum temperature (maximum time 5S): silicone rubber cable 350 ℃ , ethylene propylene rubber, crosslinked polyethylene insulated cable 250℃ , PVC insulated cable 160℃ ;

② Conductor working temperature: silicone rubber 180℃ , ethylene propylene rubber, cross-linked polyethylene insulated cable 90℃ , PVC insulated cable 70℃ ;

③ Minimum bending radius:

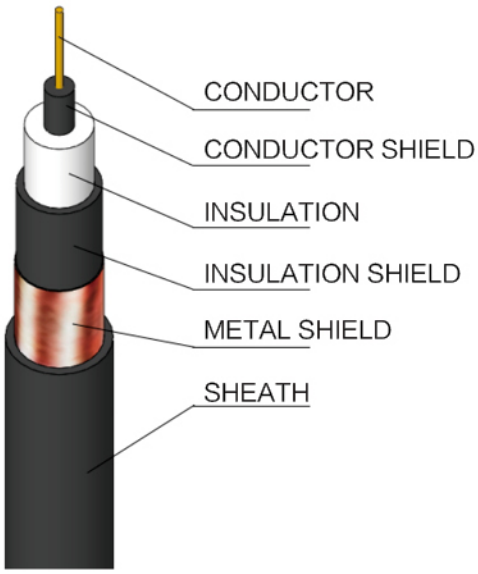
Single core: unarmored cable 20D, armored cable 15D;

Multi-core: unarmored cable 15D, armored cable 12D;

(D is the outer diameter of the cable);

④ Power frequency withstand voltage time and voltage: the power frequency voltage test is 0.6 / 1kV 3.5kV5 / min;1.8/3kV 6.5kV/5min

17.Special cable at the airport



Cable name, model, specification, and voltage grade

1）Name and model number

See Table 34 for the name and model specifications.

Table 34 Cable name, model and specification

Model	Voltage	Name	Specifications
DYJY	5kV	5kV copper core crosslinked polyethylene insulated polyethylene sheath for navigation light main loop buried cable	1*6mm²
DYJV		5kV copper core crosslinked polyethylene insulated PVC sheath for navigation light main circuit buried cable	
DEF		Buried cable for main circuit of 5kV copper core propylene insulated chloroprene or similar mixture	
DJ-YDKR	0.6/1kV 450/750V	Buried cables for airport navigation light loop are suitable for buried cables for main circuit of airport navigation light circuit and signal light system	1*2.5、2*2.5 1*4、2*4
DJ-FYNR		Buried cables for airport navigation light loop are suitable for buried cables for main circuit of airport navigation light circuit and signal light system	
DJ-YJDR		Buried cables for airport navigation light loop are suitable for buried cables for main circuit of airport navigation light circuit and signal light system	

2）Rated voltage

The rated voltage of the cable is 450/750V,0.6/1 (1.2) kV and 5kV

Executive standard

MH / T 6049-2020 Buried cables for airport navigation light loop
Q / RYDL 014-2020 extruded insulated airport navigation aid light secondary cable with rated voltage of 0.6 / 1kV and below

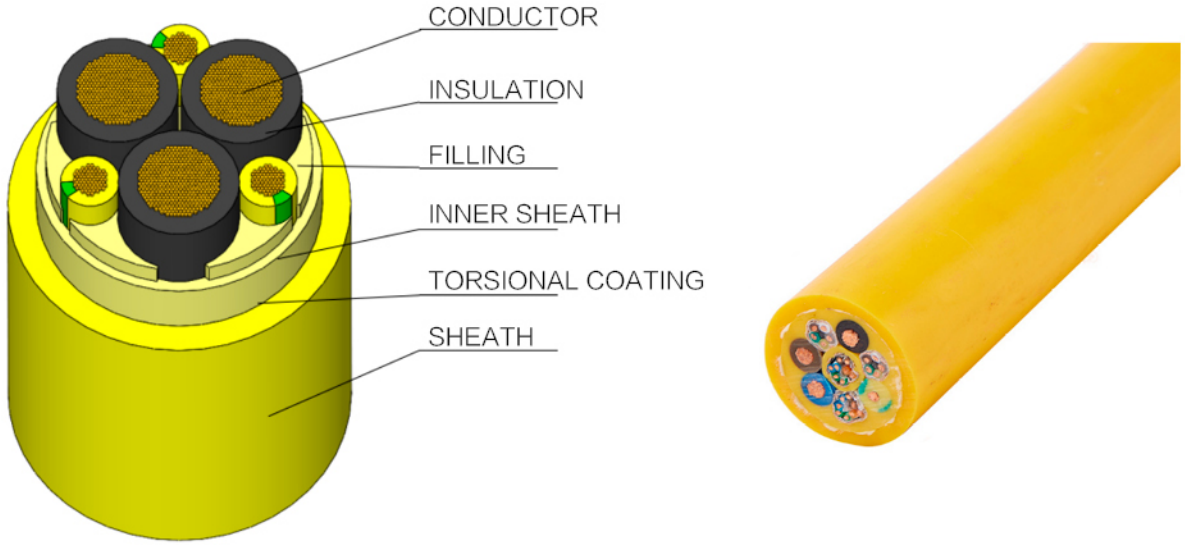
Material description

Conductor material: copper;
Conductor shielding: conductor with peroxide cross-linked semi-conductive shielding material PYJD;
Insulation materials: crosslinked polyethylene insulation, ethylene propylene rubber insulation mixture, crosslinked polyolefin insulation;
Insulation shield: insulation with peroxide crosslinking type can peel off the semi-conductive shield material PYJBJ;
Metal shielding layer: soft copper strip;
Lining layer: PPD embossing belt, PP belt, non-woven fabric, glass fiber band;
Isolation sleeve: polyvinyl chloride, polyethylene, polyolefin, silicone rubber, ethylene propylene rubber / elastomer;
Sheath: PVC, polyethylene, chloroprene or similar mixture sheath.

Technical parameter

① Conductor temperature during short circuit: cable short circuit allowable maximum temperature (maximum time 5S): ethylene propylene rubber, crosslinked polyethylene insulated cable 250℃ ,;
② Conductor operating temperature: ethylene propylene rubber, cross-linked polyethylene insulated cable 90℃ ;
③ Power frequency withstand voltage time and voltage: the power frequency voltage test is: 450 / 750 3kV / 5min
0.6/1kV 3.5kV/5min；
5kV 18kV/5min

18.Reel cable



Cable name, model, specification and voltage level

1）Name and model number

Names and models are shown in Table 37.

Table 37 Model number name

Model	Name
JTEH-25	Copper core propylene rubber insulated chlorinated polyethylene rubber sheath-25℃ simple cable
JTEH-40	Copper core propylene rubber insulation chlorinated polyethylene rubber sheath cold resistant-40℃ coil electric knitting
JTEF-25	Copper core propylene rubber insulation chloroprene rubber sheath cold resistant 25℃ drum cable
JTEF-40	Copper core propylene rubber insulated chloroprene rubber sheath cold resistant-40℃ drum cable
JTES-25	Copper core propylene rubber insulated thermoplastic elastomer sheath cold resistant 25℃ drum cable
JTES-40	Copper core propylene rubber insulated thermoplastic elastomer sheath cold resistant-40℃ drum cable
JTEU-40	Copper core propylene rubber insulated polyurethane elastomer sheath cold resistant-40℃ drum cable
JTEG-40	Copper core propylene rubber insulated silicone rubber sheath for cold resistance-40℃ drum cable

Model	Name
JTGG-40	Copper core silicone rubber insulation silicone rubber sheath for cold resistance-40 drum cable
JTGU-40	Copper core silicone rubber insulated polyurethane sheath cold resistant-40℃ drum cable
Note: Add "ZC-" before the model.	

2) specifications

See Table 38 for the cable specifications.

Table 38. Cable Specifications

Rated voltage	Core number	Nominal cross-section / mm²
0.6/1 kV	3	1.5 ~ 150
	3+1	4 ~ 150
	4	1.5 ~ 150
	5	1.5 ~ 25
	6 ~ 18	1.5 ~ 4
	24 ~ 36	1.5 ~ 2.5

3) rated voltage

The rated voltage of the cable is 0.6 / 1 (1.2) kV.

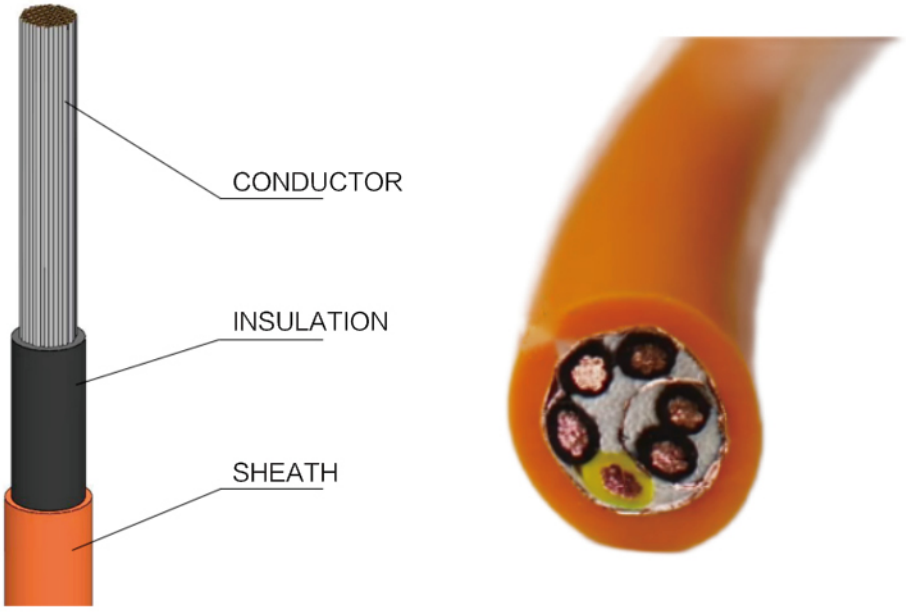
Material description

Conductor material: copper;
Insulation materials: ethylene propylene rubber or synthetic elastomer insulation; silicone rubber mixture or synthetic elastomer insulation;
Filling; fill rope
Sheath: polyurethane elastomer sheath; chlorinated polyethylene rubber mixture or synthetic elastomer sheath;Neoprene rubber mixture or synthetic elastomer sheath; silicone rubber mixture or synthetic elastomer sheath; other thermoplastic elastomer sheath.

Technical parameter

① Conductor temperature during short circuit: allowable maximum temperature (maximum time 5S): 250℃ for EPrubber; 350℃ for silicone rubber mixture or synthetic elastomer
② Conductor operating temperature: EPDM insulation: 90℃ ; 180℃ insulation for silastic mixture or synthetic elastomer
③ Power frequency withstand voltage time and voltage: the power frequency voltage test is: 0.6 / 1kV 3.5kV / 5min;

19.Drag chain cable



Cable name, model, specification and voltage level

1）Name and model number

Names and models are shown in Table 39.

Table 39: Model number and name

Model	Name
TRVV	Copper core PVC insulated PVC sheath cable cable
TRVVP	Copper core PVC insulated tin plated copper wire braided shield PVC sheath cable cable
TRVVSP	Copper core Ding Qing PVC insulation to twisted total shielding Ding Qing PVC sheath cable cable
RVVYP	Copper core Ding Qing PVC insulated oil resistant total shield Ding Qing mixture sheath cable cable

2）specifications

See Table 40 for the cable specifications.

Table 10. Cable Specifications

Model	Core number	Nominal cross /mm²
TRVV	1 ~ 32	0.08 ~ 16

Model	Core number	Nominal cross /mm²
TRVVP	1 ~ 38	0.08 ~ 16
TRVVSP	2 ~ 32	0.1 ~ 1.0
RVVYP	1 ~ 38	0.5 ~ 6

Material description

Conductor material: copper;
Insulation material: Ding Qing PVC mixture insulation;
Shield; tin-plated copper wire
Sheath: mixed with special PVC sheath material.