

Technical Specification Documents for Fire Resistant Cable



铝护套 (柔性) 隔离型防火电缆
Aluminum sheathed (flexible) fireproof cable of isolated type

1kv NG-A Mineral Insulated Cable Technical Description

A、Standard: **BS6387:2013**

B、Conditions of Use

1、Operational Conditions

U₀/U 0.6/1kV Nominal System Voltage

U_m 1.2kV System Maximum Operating Voltage

System Frequency 50Hz

2、Operational Requirements

Rated Operating Temperature of Conductor 90℃

The Maximum Temperature When Short Circuit 250℃

No more than 5s of Short Circuit Time

3、Operational Environment Conditions

Height Above Sea Level ≤1000m

Environment Temperature -15℃ ~ +50℃

Relative Humidity ≤90%

4、Laying Conditions

Laying environment should meet the straight buried, grooves, bridge, shaft, cable trench and other variety of laying ways.

C、Technical Requirements



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1、 Conductor

1.1 Conductor should use the high quality oxygen-free round copper wire by twisting and pressing production. Its performance and appearance comply with GB/T3956.

1.2 Conductor surface should be smooth, no oil, no damage to insulation burr and sharp edges, no projections or broken single lines.

2、 Mineral Insulation

Insulations use the single-side gold mica. Mica tape thicknesses should be consistent with National Standard. Overlap rate and material mica tape around the package to ensure the fire resistance performance meet the relevant requirements.

3、 Metal Tube

Metal tubes use the continuous extrusion seamless tubes. They have waterproof and ground-line and other functions. Conductor resistance of them is superior to National Standard ground line resistance requirements.

4、 Isolated Sheath

Isolated sheathes use 90°C XLPE material. Have waterproof, phase and other functions.

5、 Cable Stranding

Multi-wires need change into the cable required. Cabling direction is right direction. Stranding pitch should meet GB/T12706-2008 requirements.

6、 Oxygen Barrier

Oxygen Barriers use inorganic mineral material. When fire, they could suppress the cable cores temperature increasing rapidly.

7、 Fire Resistant Layer

Fire resistant layers use inorganic mineral material. On fire conditions, they have insulation functions.

8、 Outer Sheath

8.1 Outer sheathes use 90°C halogen-free low smoke jacket material. Surface need be smooth, roundness. Nominal thickness and performance comply with IEC60502,GB/T12706.3, GB/T12666. The minimum thickness at any point is not less than nominal value 85% minus 0.2mm.

8.2 Outer sheath surface should be tightly close. Cross sections have no visible trachoma, bubbles, impurities, non-plasticized completely, scorch and other phenomenon.

9、 Cable Marking

Insulated core identification mark should comply with GB/T6995.



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D、Cable Performance Summary

Cable should meet BS6387 flaming 950°C continuous power 180min without breakdown (C); after 650°C 15min flaming 15min water spray without breakdown (W); 950°C flaming 15min vibration without breakdown (Z) and low smoke (more than 70% light transmission rate), halogen-free, super A Class flame retardant and other performance requirements.

E、Tests

1、The buyers have the right of supervision and witness when cable manufactured, processed, tested, and inspected process.

2、Factory Test

Before shipping out of the factory, each batch of cables need make test according to the technical specifications. In addition to the factory test report need to be attached to the cable tray, three original test reports also need to be sent to the buyer.

3、Direct-current Resistance Tests of Conductors

Direct-current resistance tests are done in all the conductors of each cable; it can meet the provision of GB / T3956.

4、AC voltage test

According to the relevant provisions of GB / T12706.1, conduct frequency voltage 3.5kV, for 5 minutes, the breakdown does not occur.

5、Flame Retardant Test

Cable retardant performance test is conducted by the device regulated in GB/T 18380.31 and method regulated in GB/T 18380.33, its performance is determined to satisfy the following super A class flame retardant requirements:

Non-metallic cable capacity is 14 L / m;

For the fire time is 80 min;

Number of burner is 2;

Charring height is no higher than 1.5 m.

6、Fire Resistance Test

According to the relevant provisions of BS6387: 1994, it passed the fire resistance test.

7、Smoke Density Test

Smoke density test is done according to the regulation of GB / T17661.2, its light transmittance is not less than 70%.



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8、 Halogen Content Test

According to GB / T17660.2 predetermined, combustion gas corrosion test is done. Its PH value is not less than 4.3, and electrical conductivity is not greater than 10 μ S / mm.

9、 Waterproof Test

Cable has a waterproof, moisture-proof performance, and it absolutely comply with the relevant national standards.

F、 Delivery

1、 In the range of the maximum cable length of delivery, according to the owners' any length of cable tray to delivery.

2、 Length measurement error should not be exceeding $\pm 0.5\%$.

3、 Before delivery, a bending radius, conductor DC resistance and other electrical performance parameters are submitted.

4、 The length of cable delivery is not less than 1000mm.

5、 It is allowed to complete delivery according to the length in both parties' agreements.

G、 Packaging and Storing

1、 Products can only depart factory after passing inspection; there are product quality certification, factory warranty book, product test reports and installation instructions in each package.

2、 Cable package is in line with the provisions of GB4005 cable tray delivery, all cable tray can withstand all external force it may suffer in transportation, site handling. Cable tray can withstand external forces it may suffer during installation and will not damage the cable and the disk itself. Cable end is kind of reliable seal.

3、 Each delivery plate will be marked: factory name or trademark, cable specification and size, length, gross weight, correct

We provide samples and examples' photos (samples and examples attached)



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