无机矿物绝缘电加热带（MI型电热带）

Inorganic mineral insulated electricheating tape (MI typeelectric heating tape)

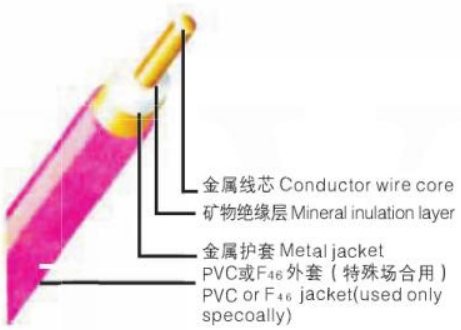
无机矿物绝缘电热带

该电热带由连续、无缝的金属护套，单根或多根电阻发热芯和紧密压实的氧化镁绝缘层构成。在强腐蚀场所使用，可外加F_{46}氟塑料，或PVC外护套。

Inorganic mineral insulating electric heating tape

The electric heating tape is consist of successive, seamless metal sheath,one or several resistance heating core and compacted magnesia insulation. F46 fluoroplastic or PVC sheath canbe added under the circumstance of strong corrosion.

产品结构示意图 Structure diagram



无机矿物绝缘加热元件

矿物绝缘加热元件由中间段的加热电缆、两端冷端电缆、连接器及终端组成，可方便地接入电源。此个根据使用需要可将加热元件制成各种形状，加热电缆和冷端电缆通过连接器焊接而成。

Inorganic mineral insulation heating element

The component of the inorganic mineral insulating heatconsists the middle part,heating cable,and the twoends,cold cable,and the coupler,and terminal,and can beconnected with the electricity power easily.The heatingcomponents can be made in various shapes in accordancewith the using requirement,while the heating and coldcables can be connected by the coupler.

1.终端 Terminal　2.冷端 The cold end　3.连接器 The connector　4.加热元件 the heating component

型号说明 Type explanation

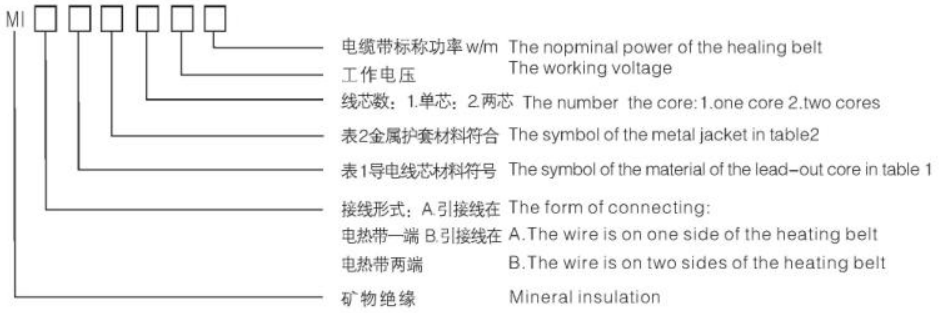


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表1芯线材料表Table 1：the material of wire core

芯线材料 The material of the core	代码 Code	20℃时电阻率 Resistivity	使用温度限值 Operating temperature limit
铜 Copper	T	1.72	250℃
铜锰合金 Copper manganese alloy	M	41	350℃
康铜 Constantan	K	48	500℃
镍铬合金 Nichrome alloy	N	113	1000℃

表2金属护套材料表 Table 2：the material of metal sheath

护套材料 Sheath material	代码 Code	最高使用温度 Maximum operating temperature
铜 Copper	T	250℃
铜锰合金 Copper manganese alloy	B	350℃
不锈钢 stainless steel	K	600℃
因科镍 600 Inconel 600	Y	600℃
因科镍 800 Inconel 800	R	800℃

产品特点

选用便利

结构尺寸，系统可以用于任何特殊地表，如泵体、混凝土、凝土路面、沥青路面、石子路面。

节能

电缆的容抗和感抗很低，因此具有较高的功率特性，比空气调节器节能30%。在800℃以下的温度范围内均可使用，温控精度可达到±5℃。

寿命长

由于构成电缆的材料所固有的特性，可保证电缆具有稳定性、长寿命，正常情况下，该电缆可使用40年以上，免维护，节约维护人工。

机械强度高

该电缆坚固耐用，可经受激烈的机械破坏而不损伤其电性能，在电缆外径变形到三分之一的情况下仍可正常工作。

Characteristics

Convenient use:

Thanks to the various sizes,the system can apply to any special field,such as pump,concrete roads, asphalt roads cobblestone road.

Saving energy

Cable capacitive reactance and inductive reactance is quite low, thus it has comparatively high power, which saves 30% more energy than air conditioning instrument. It can be used under the temperature of 800℃, and its temperature-control precision can reach ±5℃.

Longevity

The cable materials intrinsic attributes guarantee the stability and longevity of the cable, it can be used over 40years under the normal circumstance, which saves up maintaince and human resource of repairing.

High mechanical strength

The cable is sturdy and durable, it can undergo violently mechanical damage without injuring the electrical function, it can normally work even 1/3 of outer diameterhas distorted.

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不可燃

由于组成电缆的材料都是无机物，决定了电缆不可能燃烧或者助燃，在火灾条件下仍可继续运行，而且不会产生任何有害气体。

高不渗透

连续的无缝金属护套，紧密压实的氧化镁绝缘材料和加热导体组成紧实的实心结构，可经受巨大的外界冲击力。

安全可靠

电缆的高绝缘、高不渗透性及系统全面保护措施，使整个系统的运行更加安全可靠。

产品执行标准

加热最高温度低于250℃的加热电缆执行IEC 60800-2009《额定300/500V生活设施加热和防结冰用加热电缆》，超过250℃的加热电缆执行企业标准。

产品检验参数

长度：±10%

电气性能

电阻值公差：±10%

介电性能

一加热电缆测试：1500VAC/1 min

一加热元件耐压：1200VAC/1 min

绝缘电阻：

一成品测试：100MW/500VDC

护套连续性：

整根电缆（包括接头）浸没在水中12小时后测试绝缘电阻，其值至少必需为100MΩ/500VDC。

为正确选择符合使用要求的加热电缆元件，必须验证负荷，选择合适的线芯材料。计算芯线电阻。考虑电阻值随温度的变化情况确定护套材料。

用户所需提供的数据

加热介质

介质温度限值，加热温度及介质初始温度。

环境条件

1. 最冷日平均温度，
2. 使用条件

Inflammability

The cable is made from inorganic material,which makessure that inflammability or aid of flame,thus it can keep being used in the fire without making any toxic gas.

High and tightness

The cable can completely immerse in the water due to the successively seamless metal jacket or used in vacuum, pressure places.It solves the problem of crossing-wall at the same time.

Safty and reliability

The system can be more safe and reliable by cable high insulation, high impermeability and comprehensive protection.

Executive standard

Heating cable which maximum heating temperature under 250℃ implements the standard IEC60800-2009. The heating cable which temperature over 250℃ implements enterprise standard.

Product inspection parameter

Length: ± 10%

Electrical performance

Tolerance of resistance: ± 10%

Dielectric property:

- Heating cable test: 1500VAC 1 min
- Voltage withstand of heating component: 1200VAC/1 min

Insulation resistance:

- Finished product inspection: 100MW/500VDC

Contiuity of sheath:

Immerse the completed cable (including connection) in water for 12 hours, and then measure the insulation resistance, the value should be not less than 100MΩ/500VDC。

In order to correctly choose the heating cable and its component meeting the requirement, we must verify the load and choose suitable wire core material. Calculate wire core resistance, determine thematerial of jacket considering the variation of resistance with temperature.

The data offered by customer:

Heating medium

Medium temperature limit, the heating temperature and the initia temperature of medium

Ambient condition

1. Average temperature of the coldest day;
2. Service condition.

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