

# 电线电缆类

## 控制电缆 Control Cable



### 1 执行标准 Executive Standards

本产品按照GB9330—88标准制造。

低烟低卤、无卤低烟阻燃控制电缆阻燃特性符合GB/T19666-2005规定要求。

It is manufactured according to GB9330-88 standards

The low-smoking low-halogen, low-smoking halogen-free flame-retardant cable, it complies with GB/T19666-2005 standards.

### 2 用途 Application

本产品使用于冶金、电力、石油化工等工矿企业中交流额定电压(U<sub>0</sub>/U)450/750V及以下的电器仪表、配电装置的信号传输、控制和测量系统。

It is used for the signal transmission controlling and measuring system of the electric apparatus and the power distribute apparatus in the field of metallurgy, power and petrochemistry. Its rated voltage (U<sub>0</sub>/U) is up to including 450/750V.

### 3 型号及名称 Type and Designation

型号 Model	名称 Designation
KVV	聚氯乙烯绝缘聚氯乙烯护套控制电缆 PVC insulated PVC sheathed control cable
KYY	聚乙烯绝缘聚乙烯护套控制电缆 PE insulated PE sheathed control cable
KYV	聚乙烯绝缘聚氯乙烯护套控制电缆 PE insulated PVC sheathed control cable
KYJV	交联聚乙烯绝缘聚氯乙烯护套控制电缆 XLPE insulated PVC sheathed control cable
KVVP	聚氯乙烯绝缘聚氯乙烯护套编织屏蔽控制电缆 PVC insulated PVC sheathed copper wire braided screen control cable
KYYP	聚乙烯绝缘聚乙烯护套编织屏蔽控制电缆 PE insulated PE sheathed copper wire braided screen control cable
KYVP	聚乙烯绝缘聚氯乙烯护套编织屏蔽控制电缆 PE insulated PVC sheathed copper wire braided screen control cable
KYJVP	交联聚乙烯绝缘聚氯乙烯护套编织屏蔽控制电缆 XLPE insulated PVC sheathed copper wire braided screen control cable
KVVP2	聚氯乙烯绝缘聚氯乙烯护套铜带绕包屏蔽控制电缆 PVC insulated PVC sheathed copper tape wrapped screen control cable
KYYP2	聚乙烯绝缘聚乙烯护套铜带绕包屏蔽控制电缆 PE insulated PE sheathed copper tape wrapped screen control cable
KYVP2	聚乙烯绝缘聚氯乙烯护套铜带绕包屏蔽控制电缆 PE insulated PVC sheathed copper tape wrapped screen control cable
KYJVP2	交联聚乙烯绝缘聚氯乙烯护套铜带绕包屏蔽控制电缆 XLPE insulated PVC sheathed copper tape wrapped screen control cable
KVVP3	聚氯乙烯绝缘聚氯乙烯护套铝塑复合带绕包屏蔽控制电缆 PVC insulated PVC sheathed Al/plastic wrapped screen control cable
KYYP3	聚乙烯绝缘聚乙烯护套铝塑复合带绕包屏蔽控制电缆 PE insulated PE sheathed Al/plastic wrapped screen control cable
KYVP3	聚乙烯绝缘聚氯乙烯护套铝塑复合带绕包屏蔽控制电缆 PE insulated PVC sheathed Al/plastic wrapped screen control cable
KYJVP3	交联聚乙烯绝缘聚氯乙烯护套铝塑复合带绕包屏蔽控制电缆 XLPE insulated PVC sheathed Al/plastic wrapped screen control cable
KVV22	聚氯乙烯绝缘聚氯乙烯护套双钢带铠装控制电缆 PVC insulated PVC sheathed double steel tape armoured control cable

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型号 Model	名称 Designation
KYV23	聚乙烯绝缘聚乙烯护套双钢带铠装控制电缆 PE insulated PE sheathed double steel tape armoured control cable
KYV22	聚乙烯绝缘聚氯乙烯护套双钢带铠装控制电缆 PE insulated PVC sheathed double steel tape armoured control cable
KYJV22	交联聚乙烯绝缘聚氯乙烯护套双钢带铠装控制电缆 XLPE insulated PVC sheathed double steel tape armoured control cable
KVVR	聚氯乙烯绝缘 聚氯乙烯护套控制软电缆 PVC insulated PVC sheathed flexible control cable
KYYR	聚乙烯绝缘 聚乙烯护套控制软电缆 PE insulated PE sheathed flexible control cable
KYVR	聚乙烯绝缘 聚氯乙烯护套控制软电缆 PE insulated PVC sheathed flexible control cable
KYJVR	交联聚乙烯绝缘聚氯乙烯护套控制软电缆 XLPE insulated PVC sheathed flexible control cable
KVVRP	聚氯乙烯绝缘聚氯乙烯护套编织屏蔽控制软电缆 PVC insulated PVC sheathed copper wire braided screen flexible control cable
KYYRP	聚乙烯绝缘聚乙烯护套编织屏蔽控制软电缆 PE insulated PE sheathed copper wire braided screen flexible control cable
KYVRP	聚乙烯绝缘聚氯乙烯护套编织屏蔽控制软电缆 PE insulated PVC sheathed copper wire braided screen flexible control cable
KYJVRP	交联聚乙烯绝缘聚氯乙烯护套编织屏蔽控制软电缆 XLPE insulated PVC sheathed copper wire braided screen flexible control cable
Z-KVV	聚氯乙烯绝缘聚氯乙烯护套阻燃控制电缆 PVC insulated PVC sheathed control cable flame retardant
Z-KYY	聚乙烯绝缘聚乙烯护套阻燃控制电缆 PE insulated PE sheathed control cable flame retardant
Z-KYJV	交联聚乙烯绝缘聚氯乙烯护套阻燃控制电缆 XLPE insulated PVC sheathed control cable flame retardant
Z-KVVP	聚氯乙烯绝缘聚氯乙烯护套编织屏蔽阻燃控制电缆 PVC insulated PVC sheathed copper wire braided screen control cable flame retardant
Z-KYVP	聚乙烯绝缘聚氯乙烯护套编织屏蔽阻燃控制电缆 PE insulated PVC sheathed copper wire braided screen control cable flame retardant
Z-KYJVP	交联聚乙烯绝缘聚氯乙烯护套编织屏蔽阻燃控制电缆 XLPE insulated PVC sheathed copper wire braided screen control cable flame retardant
Z-KVVP2	聚氯乙烯绝缘聚氯乙烯护套铜带绕包屏蔽阻燃控制电缆 PVC insulated PVC sheathed, copper tape wrapped screen control cable flame retardant
Z-KYVP2	聚乙烯绝缘聚氯乙烯护套铜带绕包屏蔽阻燃控制电缆 PE insulated PVC sheathed copper tape wrapped screen control cable flame retardant
Z-KYJVP2	交联聚乙烯绝缘聚氯乙烯护套铜带绕包屏蔽阻燃控制电缆 XLPE insulated PVC sheathed copper tape wrapped screen control cable flame retardant
Z-KVVP3	聚氯乙烯绝缘聚氯乙烯护套铝塑复合带绕包屏蔽阻燃控制电缆 PVC insulated PVC sheathed Al/plastic wrapped screen control cable flame retardant
Z-KYVP3	聚乙烯绝缘聚氯乙烯护套铝塑复合带绕包屏蔽阻燃控制电缆 PE insulated PVC sheathed Al/plastic wrapped screen control cable flame retardant
Z-KYJVP3	交联聚乙烯绝缘聚氯乙烯护套铝塑复合带绕包屏蔽阻燃控制电缆 XLPE insulated PVC sheathed Al/plastic wrapped screen control cable flame retardant
Z-KVV22	聚氯乙烯绝缘聚氯乙烯护套双钢带铠装阻燃控制电缆 PVC insulated PVC sheathed double steel tape armoured control cable flame retardant
Z-KYV22	聚乙烯绝缘聚氯乙烯护套双钢带铠装阻燃控制电缆 PE insulated PVC sheathed double steel tape armoured control cable flame retardant
Z-KYJV22	交联聚乙烯绝缘聚氯乙烯护套双钢带铠装阻燃控制电缆 XLPE insulated PVC sheathed double steel tape armoured control cable flame retardant

# 电线电缆类

型号 Model	名称 Designation
Z-KVVR	聚氯乙烯绝缘聚氯乙烯护套阻燃控制软电缆 PVC insulated PVC sheathed flexible control cable flame retardant
Z-KYVR	聚乙烯绝缘聚氯乙烯护套阻燃控制软电缆 PE insulated PVC sheathed flexible control cable flame retardant
Z-KYJVR	交联聚乙烯绝缘聚氯乙烯护套阻燃控制软电缆 XLPE insulated PVC sheathed flexible control cable flame retardant
Z-KVVVP	聚氯乙烯绝缘聚氯乙烯护套编织屏蔽阻燃控制软电缆 PVC insulated PVC sheathed copper wire braided screen flexible control cable flame retardant
Z-KYVVP	聚乙烯绝缘聚氯乙烯护套编织屏蔽阻燃控制软电缆 PE insulated PVC sheathed copper wire braided screen flexible control cable flame retardant
Z-KYJVVP	交联聚乙烯绝缘聚氯乙烯护套编织屏蔽阻燃控制软电缆 XLPE insulated PVC sheathed copper wire braided screen flexible control cable flame retardant
DDZ-KVV	聚氯乙烯绝缘聚氯乙烯护套低烟低卤阻燃控制电缆 PVC insulated PVC sheathed control cable low-smoking low-halogen flame retardant
DDZ-KYV	聚乙烯绝缘聚氯乙烯护套低烟低卤阻燃控制电缆 PE insulated PVC sheathed control cable low-smoking low-halogen flame retardant
DDZ-KYJV	交联聚乙烯绝缘聚氯乙烯护套低烟低卤阻燃控制电缆 XLPE insulated PVC sheathed control cable low-smoking low-halogen flame retardant
DDZ-KVVP	聚氯乙烯绝缘聚氯乙烯护套编织屏蔽低烟低卤阻燃控制电缆 PVC insulated PVC sheathed control wire braided common shield control cable low-smoking low-halogen flame retardant
DDZ-KYVP	聚乙烯绝缘聚氯乙烯护套编织屏蔽低烟低卤阻燃控制电缆 PE insulated PVC sheathed control wire braided common shield control cable low-smoking low-halogen flame retardant
DDZ-KYJVP	交联聚乙烯绝缘聚氯乙烯护套编织屏蔽低烟低卤阻燃控制电缆 XLPE insulated PVC sheathed control wire braided common shield control cable low-smoking low-halogen flame retardant
DDZ-KVVP2	聚氯乙烯绝缘聚氯乙烯护套铜带绕包屏蔽低烟低卤阻燃控制电缆 PVC insulated.PVC.sheathed copper tape wrapped common shield control cable low-smoking low-halogen flame retardant
DDZ-KYVP2	聚乙烯绝缘聚氯乙烯护套铜带绕包屏蔽低烟低卤阻燃控制电缆 PE insulated PVC sheathed copper tape wrapped common shield control cable low-smoking low-halogen flame retardant
DDZ-KYJVP2	交联聚乙烯绝缘聚氯乙烯护套铜带绕包屏蔽低烟低卤阻燃控制电缆 XLPE insulated PVC sheathed copper tape wrapped common shield control cable low-smoking low-halogen flame retardant
DDZ-KVVP3	聚氯乙烯绝缘聚氯乙烯护套铝塑复合带绕包屏蔽低烟低卤阻燃控制电缆 PVC insulated PVC sheathed Al/plastic wrapped common shield control low-smoking low-halogen flame retardant
DDZ-KYVP3	聚乙烯绝缘聚氯乙烯护套铝塑复合带绕包屏蔽低烟低卤阻燃控制电缆 PE insulated PVC sheathed Al/plastic wrapped common shield control low-smoking low-halogen flame retardant
DDZ-KYJVP3	交联聚乙烯绝缘聚氯乙烯护套铝塑复合带绕包屏蔽低烟低卤阻燃控制电缆 XLPE insulated PVC sheathed Al/plastic wrapped common shield control low-smoking low-halogen flame retardant
DDZ-KVVP22	聚氯乙烯绝缘聚氯乙烯护套双钢带铠装低烟低卤阻燃控制电缆 PVC insulated PVC sheathed double steel tape armoured control cable low-smoking low-halogen flame retardant
DDZ-KYVP22	聚乙烯绝缘聚氯乙烯护套双钢带铠装低烟低卤阻燃控制电缆 PE insulated PVC sheathed double steel tape armoured control cable low-smoking low-halogen flame retardant
DDZ-KYJVP22	交联聚乙烯绝缘聚氯乙烯护套双钢带铠装低烟低卤阻燃控制电缆 XLPE insulated PVC sheathed double steel tape armoured control cable low-smoking low-halogen flame retardant
DDZ-KVVR	聚氯乙烯绝缘聚氯乙烯护套低烟低卤阻燃控制软电缆 PVC insulated PVC sheathed flexible control cable low-smoking low-halogen flame retardant
DDZ-KYVR	聚乙烯绝缘聚氯乙烯护套低烟低卤阻燃控制软电缆 PE insulated PVC sheathed flexible control cable low-smoking low-halogen flame retardant
DDZ-KYJVR	交联聚乙烯绝缘聚氯乙烯护套低烟低卤阻燃控制软电缆 XLPE insulated PVC sheathed flexible control cable low-smoking low-halogen flame retardant
DDZ-KVVVP	聚氯乙烯绝缘聚氯乙烯护套编织屏蔽低烟低卤阻燃控制软电缆 PVC insulated PVC sheathed copper wire braided common shield flexible control cable low-smoking low-halogen flame retardant
DDZ-KYVVP	聚乙烯绝缘聚氯乙烯护套编织屏蔽低烟低卤阻燃控制软电缆 PE insulated PVC sheathed copper wire braided common shield flexible control cable low-smoking low-halogen flame retardant

# ELECTRIC WIRES & CABLE

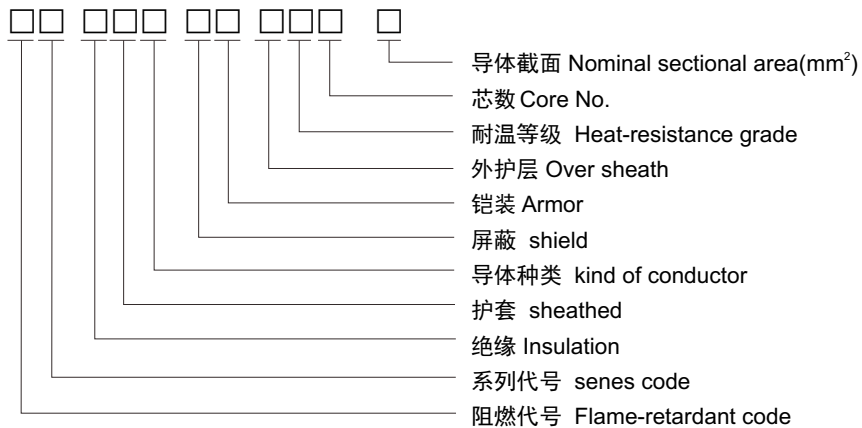
型号 Model	名称 Designation
DDZ-KYJVRP	交联聚乙烯绝缘聚氯乙烯护套编织屏蔽低烟低卤阻燃控制软电缆 XLPE insulated PVC sheathed copper wire braided common shield flexible control cable low-smoking low-halogen flame retardant
WDZ-KYJY	交联聚乙烯绝缘聚烯烃护套无卤低烟阻燃控制电缆 XLPE insulated PO sheathed control cable low-smoking halogen-free flame retardant
WDZ-KYY	聚烯烃绝缘聚烯烃护套无卤低烟阻燃控制电缆 PO insulated PO sheathed control cable low-smoking halogen-free flame retardant
WDZ-KYJYP	交联聚乙烯绝缘聚烯烃护套编织屏蔽无卤低烟阻燃控制电缆 XLPE insulated PO sheathed copper wire braided common shield control cable low-smoking halogen-free flame retardant
WDZ-KYYP	聚烯烃绝缘聚烯烃护套编织屏蔽无卤低烟阻燃控制电缆 PO insulated PO sheathed copper wire braided common shield control cable low-smoking halogen-free flame retardant
WDZ-KYJYP2	交联聚乙烯绝缘聚烯烃护套铜带绕包屏蔽无卤低烟阻燃控制电缆 XLPE insulated PO sheathed copper tape wrapped common shield control cable low-smoking halogen-free flame retardant
WDZ-KYYP2	聚烯烃绝缘聚烯烃护套铜带绕包屏蔽无卤低烟阻燃控制电缆 PO insulated PO sheathed copper tape wrapped common shield control cable low-smoking halogen-free flame retardant
WDZ-KYJYP3	交联聚乙烯绝缘聚烯烃护套铝塑复合带绕包屏蔽无卤低烟阻燃控制电缆 XLPE insulated PO sheathed Al/plastic wrapped common shield control cable low-smoking halogen-free flame retardant
WDZ-KYYP3	聚烯烃绝缘聚烯烃护套铝塑复合带绕包屏蔽无卤低烟阻燃控制电缆 PO insulated PO sheathed Al/plastic wrapped common shield control cable low-smoking halogen-free flame retardant
WDZ-KYJY23	交联聚乙烯绝缘聚烯烃护套双钢带铠装无卤低烟阻燃控制电缆 XLPE insulated PO sheathed double steel tape armoured control cable low-smoking halogen-free flame retardant
WDZ-KYY23	聚烯烃绝缘聚烯烃护套双钢带铠装无卤低烟阻燃控制电缆 PO insulated PO sheathed double steel tape armoured control cable low-smoking halogenfree flame retardant
WDZ-KYJYR	交联聚乙烯绝缘、聚烯烃护套、无卤低烟阻燃控制软电缆 XLPE insulated, PO sheathed flexible control cable, low-smoking halogen-free flame retardant
WDZ-KYYR	聚烯烃绝缘、聚烯烃护套、无卤低烟阻燃控制软电缆 PO insulated, PO sheathed flexible control cable, low-smoking halogen-free flame retardant
WDZ-KYJYRP	交联聚乙烯绝缘、聚烯烃护套、编织屏蔽无卤低烟阻燃控制软电缆 XLPE insulated, PO sheathed, copper wire braided common shield flexible control cable, low-smoking halogen-free flame retardant
WDZ-KYYRP	聚烯烃绝缘聚烯烃护套编织屏蔽无卤低烟阻燃控制软电缆 PO insulated, PO sheathed, copper wire braided common shield flexible control cable, low-smoking halogen-free flame retardant

# 电线电缆类

## 4 型号中各代号表示说明 Explanation of the code in the type

项目 Items	代号 Code	名称 Designation
绝缘 Insulation	K	控制电缆 control cable
	Y	聚乙烯 PE
	V	聚氯乙烯 PVC
	YJ	交联聚乙烯 XLPE
	Y	聚烯烃 PO
护套 sheathed	Y	聚乙烯或聚烯烃 PE/PO
	V	聚氯乙烯 PVC
导体种类 class of conductor	R	多股软导体 Multi-strands flexible conductor
屏蔽 shield	省略(Omitted)	无屏蔽 No shield
	P	铜丝编织 copper wire braided
	P2	铜带绕包 copper tape wrapped
	P3	铝塑复合带绕包 Al/plastic wrapped
铠装 Armor	省略(Omitted)	无铠装 No armour
	2	双钢带铠装 double steel tape armour
外护套 Over sheathed	2	聚氯乙烯 PVC
	3	聚乙烯 PE
耐温等级 Heat-resistance grade	/	对于聚乙烯,70°C级聚氯乙烯或低烟无卤阻燃聚烯烃绝缘电缆指70°C级;对于交联聚乙烯绝缘电缆指90°C级。 70°C for PE, 70°C PVC Or HFPO insulation cable, 90°C for XLPE insulation cable
	90	导体最高允许长期工作温度为90°C The max. long-term operating temperature of conductor is 90°C
阻燃特性 Flame-retardant characteristics	省略(Omitted)	无要求 No requirement
	Z	成束阻燃 Bundle Flame-retardant
	DDZ	低烟低卤阻燃 low-smoking&low-halogen flame retardant
	WDZ	无卤低烟阻燃 low-smoking&Halogen-free flame retardant

## 5 型号说明 Model Explanation



注: ( ) 表示导体截面积在10mm<sup>2</sup>以下时非软结构电缆的导体种类,A表示单根导体,可省略,B-绞合导体。  
Remarks: ( ) means the class conductor when its nominal area is less than 10mm<sup>2</sup>,A means solid conductor, Can be omitted,B means it is stranded conductor.

# ELECTRIC WIRES & CABLE

## 6 表示方法举例 Indication Examples

塑料绝缘控制电缆由型号，芯数及导体的标称截面表示。同一品种采用规定的不同导体结构时，较软导体(B)表示，在规格后标明。举例如下：

The indication of plastic insulated control cable consists of type,number of cores,nominal sectional area of conductor,When the same type product is made of different class of conductor, the more flexible one is indicated with (B) following the specification.For examples :

6.1 聚氯乙烯绝缘聚氯乙烯护套控制电缆，16芯，导体标称截面，2.5mm<sup>2</sup>，表示为：  
较硬导体结构:KVV 16 2.5 较软导体结构:KVV 16 2.5(B)

PVC insulated PVC sheathed control cable, 16 cores, nominal sectional area is 2.5mm<sup>2</sup> is indicated with: The harder one: KVV 16 2.5 The more flexible one: KVV 16 2.5(B)

6.2 交联聚乙烯绝缘聚氯乙烯护套双钢带铠装阻燃控制电缆，12芯，导体标称截面为4mm<sup>2</sup>，表示为：

Z-KYJV22 12 4

XLPE insulated PVC sheathed double steel tape armoured control cable, flame retardant, 12cores, nominal sectional area is 4mm<sup>2</sup>, is indicated with:

Z-KYJV22 12 4

## 7 使用特性及主要性能

### Using feature & Main Technical Performances

7.1 额定电压(U<sub>0</sub>/U):450/750V Rated voltage(U<sub>0</sub>/U): 450/750V;

7.2 电缆导体的最高长期允许工作温度：

聚乙烯绝缘电缆为：70℃ 交联聚乙烯绝缘电缆为：90℃

The Max. long-term operating temperature of conductor:

PE insulated cable:70℃ XLPE insulated cable: 90℃

聚氯乙烯绝缘电缆为:70℃、90℃(根据型号的耐温等级而定);

PVC insulated cable: 70℃、90℃(according to the grade of heat proof after the type)

无卤低烟阻燃聚烯烃绝缘电缆为: 70℃,90℃(根据型号后的耐温等级而定);

low-smoking halogen-free flame retardant PO insulated cable: 70℃、90℃(according to the grade of heat proof after the type)

7.3 电缆的最低允许敷设温度聚乙烯护套电缆：-20℃：

聚氯乙烯护套电缆及无卤低烟阻燃聚烯烃护套电缆:0℃(低于最低允许敷设温度时应预先加热)。

The Min.laying temperature is: -20℃ for PE sheathed cable; 0℃ for PVC or HFPO sheathed cable . (It should be preheated if it is below the Min.laying temperature).

7.4 电缆推荐允许弯曲半径:

有铠装或铜带绕包屏蔽结构的电缆应不低于电缆外径的12倍；其余结构电缆应不低于电缆外径的6倍。

The permitted bending radius:

No less than 12 times of the overall diameter of the cable for which has armor or copper tape wrapped shield.No less than 6 times of the overall diameter of the cable for the others.

7.5 电缆的燃烧特性 Flame characteristics

电缆阻燃、低烟低卤阻燃、低烟无卤阻燃特性应符合 GB/T 19666-2005标准相关规定。

The cable flame-retardant, low-smoking low halogen flame retardant, low-smoking halogen-free flame retardant should be adopted with GB/T19666-2005.

# 电线电缆类

7.6 电缆的导体直流电阻见表3；绝缘电阻见表4。

The D.C resistance of conductor is show in table 3 and the insulation resistance is show in table 4.

表3 table 3

导体截面积 Nominal section area mm <sup>2</sup>	20°C时的导体直流电阻 D.C. resistance of conductor at 20°C ≤Ω/km					
	不镀锡 Untinned			镀锡 Tinned		
	A类 Kind A	B类 Kind B	软结构 Flexible	A类 Kind A	B类 Kind B	软结构 Flexible
0.5	36.0	36.0	39.0	36.7	36.7	40.1
0.75	24.5	24.5	26.0	24.8	24.8	26.7
1.0	18.1	18.1	19.5	18.2	18.2	20.0
1.5	12.1	12.1	13.3	12.2	12.2	13.7
2.5	7.41	7.41	7.98	7.56	7.56	8.21
4	4.61	4.61	—	4.70	4.70	—
6	3.08	3.08	—	3.11	3.11	—
10	—	1.83	—	—	1.84	—

表4 table 4

导体截面积 Nominal section area mm <sup>2</sup>	70°C或90°C绝缘电阻 Insulation resistance at 70°C or 90°C ≥MΩ km					
	聚乙烯或交联聚乙烯绝缘 PEor XLPE insulated			聚氯乙烯或低烟无卤阻燃聚烯烃绝缘 PVCorHFPO insulated		
	A类 Kind A	B类 Kind B	软结构 Flexible	A类 Kind A	B类 Kind B	软结构 Flexible
0.5	0.1400	0.1300	0.1300	0.014	0.014	0.013
0.75	0.1200	0.1100	0.1100	0.012	0.014	0.011
1.0	0.1100	0.1000	0.1000	0.011	0.013	0.010
1.5	0.1100	0.1000	0.1000	0.011	0.010	0.010
2.5	0.1000	0.0900	0.0900	0.010	0.009	0.009
4	0.0850	0.0700	—	0.0085	0.0077	—
6	0.0700	0.0650	—	0.0070	0.0065	—
10	—	0.0650	—	—	0.0065	—

## 8 电缆生产范围 Manufacturing scope

型号 Type	导体标称截面mm <sup>2</sup> Conductor nominal cross-section area mm <sup>2</sup>							
	0.5	0.75	1.0	1.5	2.5	4	6	10
KVV, KYY, KYJV, KYV, Z-KVV, Z-KYV, Z-KYJV, DDZ-KVV, DDZ-KYV, DDZ-KYJV, WDZ-KYY, WDZ-KYJY, KYYP, KVVP, KYJVP, KYVP, Z-KVVP, Z-KYJVP, Z-KYVP, DDZ-KVVP, Z-KYVP, Z-KYJVP, WDZ-KYYP, WDZ-KYJYP	—	—	—	—	—	2~61	2~14	2~10
KVVP2, KVVP3, KYYP2, KYYP3, KYVP2, KYVP3, KYJVP2, KYJVP3, Z-KVVP2, Z-KVVP3, Z-KYVP2, Z-KYVP3, Z-KYJVP2, Z-KYJVP3, DDZ-KVVP2, DDZ-KVVP3, DDZ-KYVP2, DDZ-KYVP3, DDZ-KYJVP2, DDZ-KYJVP3, WDZ-KYYP3, WDZ-KYYP2, WDZ-KYJYP2, WDZ-KYJYP3	—	—	—	—	—	4~61	4~14	4~10
KVV22, KVV23, KYV23, KYJV22, KYJV23Z-KVV2, Z-KVV23Z-KYV22, Z-KYJV23, WDZ-KYY23, WDZ-KYJY23	—	—	—	—	—	4~61	4~14	4~10
KVVR, KYVR, KYJVR, KYVR, Z-KVVR, Z-KYJVR, WDZ-KYVR, WDZ-KYYR, WDZ-KYJYR	—	—	—	—	—	—	—	—
KVVRP, KYVRP, KYJVRP, KYVRP, Z-KVVRP, Z-KYVRP, Z-KYJVRP, Z-KVVRP, DDZ-KYVRP, DDZ-KYJVRP, WDZ-KYVRP, WDZ-KYJYRP	—	—	—	—	—	4~61	4~48	—