

控制电缆 Control Cable

适用于冶金、电力、石油化工等工矿企业中交流额定电压 (U_0/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。
The products could be applied to signal transmission, control and measure systems of electrical appliances and instruments and power distribution devices at rated voltage up to and including (U_0/U)450/750V in some mining enterprises as metallurgy, electricity and petroleum and chemistry.

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控制电缆 Control Cable

塑料绝缘和护套控制电缆 Plastic Insulated and Sheathed Control Cable

标准 Standard

本产品按照GB/T 9330-2008、GB/T 19666-2005标准制造。

The product is manufactured as per GB/T 9330-2008、GB/T 19666-2005 standards.

阻燃试验要求符合GB/T 18380-2008(IEC60332)的规定。

Flame-retardant test requirement is in accordance with GB/T 18380-2008(IEC60332) standard.

适用范围 Applicable Scope

本产品适用于交流额定电压 (U_0/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。可广泛应用于冶金、电力、石油、化工等各种领域。

The product is applied to the signal transmission, control and measuring system of electrical instruments and power distribution devices at rated voltage up to and including (U_0/U) 450/750 and can expansively applied to metallurgy, power, petroleum and chemistry industries.

使用特性 Operating Features

1、电缆额定电压Rated voltage： U_0/U ：450/750V

U_0 —电缆设计用的导体对地或金属屏蔽之间的额定工频电压；

Rated power frequency voltage from conductor to ground or between metal shielding layers

U —电缆设计用的导体间的额定工频电压；

Rated power frequency voltage between conductors

2、电缆正常运行时导体最高工作温度：交联聚乙烯绝缘为90℃；聚氯乙烯绝缘电缆为70℃。

Max. operating temp of conductor at normal operation: 90℃ for XLPE insulation, 70℃ for PVC insulation

3、电缆短路时导体最高温度：交联聚乙烯绝缘为250℃；聚乙烯和聚氯乙烯绝缘为160℃。(短路最长持续时间为5秒)。

Max temp of conductor at short circuit: 250℃ for XLPE insulation, 160℃ for PE or PVC insulation (max duration at short circuit is 5s).

4、电缆安装时的最小弯曲半径：Min. bending radius of cable installation:

有铠装或绕包屏蔽结构的电缆应不小于电缆外径的12倍；

It is not 12 times less than cable O.D for armored or wrapped and shielded cable

其余结构电缆应不小于电缆外径的6倍。

It shall not be 6 times less than cable O.D for other structural cable

5、电缆的最低允许敷设温度：Min. permissible installation temp of cable:

敷设时电缆温度不低于0℃，环境温度低于0℃时，应对电缆进行预热。

The ambient temp of cable installation shall not be less than 0℃, the cable shall be preheated if the temp. is less than 0℃.

电缆的型号、名称和使用环境 Type, Description and Service Environment

型号 Type	名称 Description	使用环境 Applicable Scopes
KVV	聚氯乙烯绝缘、聚氯乙烯护套控制电缆 PVC insulated and sheathed, control cable	敷设在室内，电缆沟、管道等固定场合。 For fixed occasions as indoor, cable conduit, tube
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, braided and shielded, PVC sheathed, 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, braided and shielded, PVC sheathed, control cable	
KVVP2	聚氯乙烯绝缘、聚氯乙烯护套、铜塑复合带绕包屏蔽控制电缆 PVC insulated, copper laminated tape wrapped and shielded, PVC sheathed, control cable	敷设在室内，有强电磁干扰的固定场合。 For indoor and fixed occasion with stronger electromagnetic interference
KYJVP2	交联聚乙烯绝缘、聚氯乙烯护套、铜塑复合带绕包屏蔽控制电缆 XLPE insulated, copper laminated tape wrapped and shielded, PVC sheathed, 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, Al-laminated tape wrapped and shielded, PVC sheathed, 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, Al-laminated tape wrapped and shielded, PVC sheathed, 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, double steel tape armored, PVC sheathed, control cable	敷设在室内，电缆沟、管道、直埋等固定场合，能承受较大机械外力。 For fixed occasions as indoor, cable conduit, tube, direct bury, cable could bear larger mechanical external forces
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, double steel tape armored, PVC sheathed, control cable	
KVVP22	聚氯乙烯绝缘、聚氯乙烯护套、编织屏蔽、双钢带铠装控制电缆 PVC insulated, braided and shielded, double steel tape armored, PVC sheathed, control cable	
KYJVP22	交联聚乙烯绝缘、聚氯乙烯护套、编织屏蔽、双钢带铠装控制电缆 XLPE insulated, braided and shielded, double steel tape armored, PVC sheathed, control cable	
KVVR22	聚氯乙烯绝缘、聚氯乙烯护套、双钢带铠装控制软电缆 PVC insulated, double steel tape armored, PVC sheathed, flexible control cable	敷设在室内，电缆沟、管道等有强电磁干扰的有移动要求场合，能承受较大机械外力。 For portable occasions fixed occasions as indoor, cable conduit, tube, direct bury with stronger electromagnetic interference, cable could bear larger mechanical external forces
KYJVR22	交联聚乙烯绝缘、聚氯乙烯护套、双钢带铠装控制软电缆 XLPE insulated, double steel tape armored, PVC sheathed, flexible control cable	
KVVRP22	聚氯乙烯绝缘、聚氯乙烯护套、编织屏蔽、双钢带铠装控制软电缆 PVC insulated, braided and shielded, double steel tape armored, PVC sheathed, flexible control cable	
KYJVRP22	交联聚乙烯绝缘、聚氯乙烯护套、编织屏蔽、双钢带铠装控制软电缆 XLPE insulated, braided and shielded, double steel tape armored, PVC sheathed, flexible control cable	
KVVR	聚氯乙烯绝缘、聚氯乙烯护套控制软电缆 PVC insulated and sheathed, flexible control cable	敷设在室内，电缆沟、管道等有移动要求场合。 For portable occasions as indoor, cable conduit, tube
KYJVR	交联聚乙烯绝缘、聚氯乙烯护套控制软电缆 XLPE insulated and sheathed, flexible control cable	

控制电缆 Control Cable

型号 Type	名称 Description	使用环境 Applicable Scopes
KVVRP	聚氯乙烯绝缘、聚氯乙烯护套、编织屏蔽控制软电缆 PVC insulated, braided and shielded, PVC sheathed, flexible control cable	敷设在室内、电缆沟、管道等有强电磁干扰的有移动要求场合。 For indoor and portable occasion with stronger electromagnetic interference
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, braided and shielded, PVC sheathed, flexible control cable	
KVVRP2	聚氯乙烯绝缘、聚氯乙烯护套、铜塑复合带绕包屏蔽控制软电缆 PVC insulated, copper laminated tape wrapped and shielded, PVC sheathed, flexible control cable	
KYJVRP2	交联聚乙烯绝缘、聚氯乙烯护套、铜塑复合带绕包屏蔽控制软电缆 XLPE insulated, copper laminated tape wrapped and shielded, PVC sheathed, control cable	
KVVRP2	聚氯乙烯绝缘、聚氯乙烯护套、铝塑复合带绕包屏蔽控制软电缆 PVC insulated, Al-laminated tape wrapped and shielded, PVC sheathed, flexible control cable	
KYJVRP2	交联聚乙烯绝缘、聚氯乙烯护套、铝塑复合带绕包屏蔽控制软电缆 XLPE insulated, Al-laminated tape wrapped and shielded, PVC sheathed, flexible control cable	

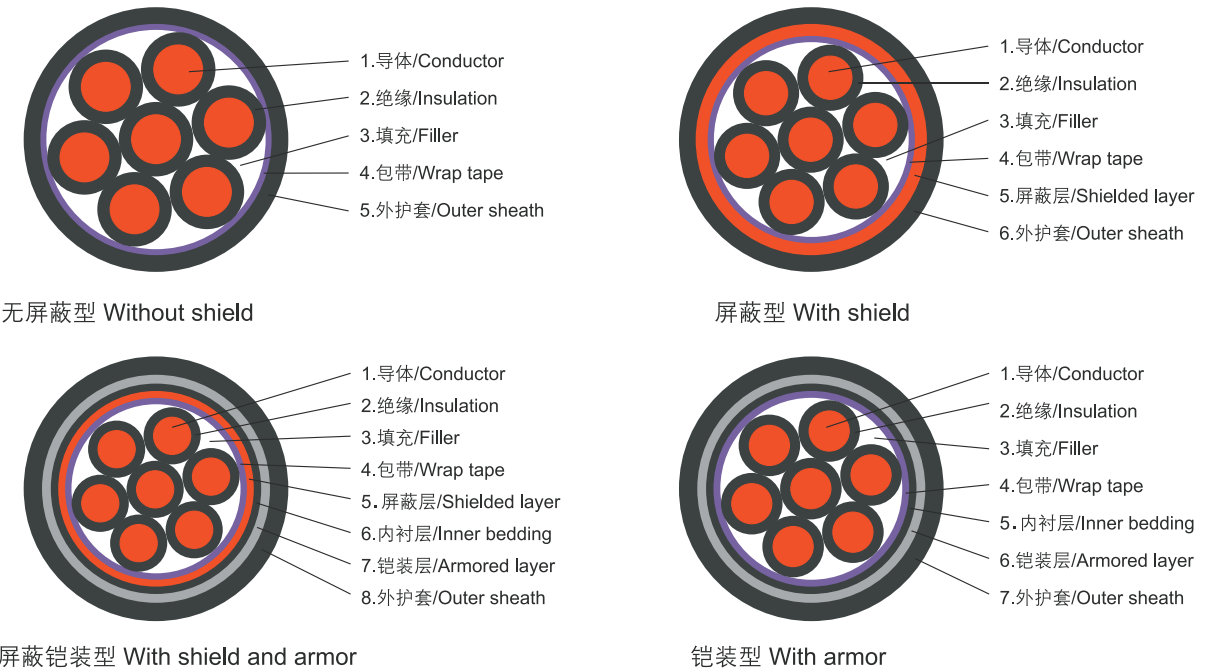
备注：耐火型电缆在型号前加“NH-”表示，阻燃型电缆在型号前加“Z (A、B、C) -”表示，低烟无卤阻燃型电缆在型号前加“WDZ (A、B、C) -”表示。

Note: “NH -” is added in front of fire-resistant cable, “Z (A、B、C) -” is added in front of flame-retardant cable, WDZ (A、B、C) - is added in front of LSOH flame-retardant cable.

生产范围 Production Scope

型号 Type	导体标称截面 mm ² Nom. cross section of conductor						
	0.5	0.75	1.0	1.5	2.5	4	6
芯数 No. of cores							
KVV、KYJV	2-61						
KVVP、KYJVP、KVVP2、YJVP2、KVVP3、KYJVP3							
KVV22、KYJV22、KVVP22、KYJVP22、KVVR22、KYJVR22、KVVRP22、KYJVRP22							
KVVR、KYJVR、KVVRP、KYJVRP、KVVRP2、KYJVRP2、KVVRP3、KYJVRP3							

电缆的结构图 Cable Drawings



主要试验项目及指标 Main Test Items and Index

1、20℃时导电线芯最大直流电阻 Max. D.C Resistance of Conductor at 20℃

规格 / mm ² Specification	20℃时铜导体最大直流电阻 / Ω/km Max. D.C resistance of conductor at 20℃	
	第一种实心导体 Category 1 solid conductor	第五种软铜导体 Category 5 soft copper conductor
0.5	36.0	39.0
0.75	24.5	26.0
1.0	18.1	19.5
1.5	12.1	13.3
2.5	7.41	7.98
4	4.61	4.95
6	3.08	3.30

2、交流电压试验: A.C voltage test

额定电压450/750V成品电缆应能经受工频交流3000V电压试验5min不击穿。

Completed cable at rated voltage of 450/750V shall be capable of withstanding 3000V power frequency A.C voltage test in 5 min without breakdown.

3、绝缘电阻常数: Insulation resistance constant

环境温度为20℃时: 聚氯乙烯绝缘为36.7 MΩ·km, 交联聚乙烯绝缘为3670 MΩ·km。

When ambient is at 20℃: 36.7 MΩ·km for PVC insulation, 3670 MΩ·km for XLPE insulation

正常运行时导体最高温度时: 聚氯乙烯绝缘为0.037 MΩ·km, 交联聚乙烯绝缘为3.67 MΩ·km。

Max. temp of conductor at normal operation: 0.037 MΩ·km for PVC insulation, 3.67 MΩ·km for XLPE insulation

控制电缆 Control Cable

塑料绝缘和护套耐火控制电缆

Plastic Insulated and Sheathed Fire-resistant Control Cable

标准 Standard

本产品按照GB/T 9330-2008、GB/T 19666-2005标准制造。

The product is manufactured as per GB/T 9330-2008、GB/T 19666-2005 standards.

耐火试验要求符合GB/T 19216(IEC60331)的规定。

Flame-retardant test requirement is in accordance with GB/T 18380-2008(IEC60332) standard.

适用范围 Applicable scope

本产品适用于额定电压 (U₀/U) 450/750V及以下的各种火灾危险较大, 消防安全要求较高的场所控制、监控回路及保护线路。

The product is applied to control, monitoring circuit and protective lines for some occasions with large dangerous of fire and higher requirements of fire-fighting at rated voltage (U₀/U) up to and including 450/750V.

使用特性 Operating Features

1、额定电压Rated voltage (U₀/U) : 450/750V

U₀—电缆设计用的导体对地或金属屏蔽之间的额定工频电压;

Rated power frequency voltage from conductor to ground or between metal shielding layers

U—电缆设计用的导体间的额定工频电压;

Rated power frequency voltage between conductors

2、电缆正常运行时导体最高工作温度: 交联聚乙烯绝缘为90℃; 聚氯乙烯绝缘电缆为70℃。

Max. operating temp of conductor at normal operation: 90℃ for XLPE insulation, 70℃ for PVC insulation

3、电缆短路时导体最高温度: 交联聚乙烯绝缘为250℃; 聚氯乙烯绝缘为160℃。(短路最长持续时间为5秒)。

Max temp. of conductor at short circuit: 250℃ for XLPE insulation, 160℃ for PVC insulation (max duration at short circuit is 5s).

4、电缆安装时的最小弯曲半径: Min. bending radius of cable installation:

有铠装或绕包屏蔽结构的电缆应不小于电缆外径的12倍;

It is not 12 times less than cable O.D for armored or wrapped and shielded cable

其余结构电缆应不小于电缆外径的6倍。

It shall not be 6 times less than cable O.D for other structural cable

5、电缆的最低允许敷设温度:

Min. permissible installation temp of cable:

敷设时电缆温度不低于0℃, 环境温度低于0℃时, 应对电缆进行预热。

The ambient temp of cable installation shall not be less than 0℃, the cable shall be preheated if the temp. is less than 0℃.

6、电缆的耐火特性: Combustion features of cable

电缆的耐火的试验方法符合GB/T 19666规定的耐火性能, 其要求下表。

Fire-resistant test method is in accordance with specified fire-resistant performance in GB/T 19666 standard and it is as following:

代号 Code	供火时间+冷却时间/min Fire-supply time + cooling time	供火温度/℃ Fire-supply temp	试验电压/V Test voltage	合格指标 Qualification index	试验方法 Standard
N	90+15	750~800	额定值 Rating	1)2A熔断器不断 No broken of 2A fuse 2)指示灯不熄 No extinguish of indicator	GB/T 19216.21 (IEC 60331-21)

电缆的型号、名称和使用环境 Type, Description and Service Environment

型号 Type	名称 Description	使用环境 Service Environment
NH-KVV	聚氯乙烯绝缘、聚氯乙烯护套耐火控制电缆 PVC insulated and sheathed, fire-resistant, control cable	敷设在室内, 电缆沟、管道等固定场合。 For fixed occasions as indoor, cable conduit, tube
NH-KYJV	交联聚乙烯绝缘、聚氯乙烯护套耐火控制电缆 XLPE insulated and sheathed, fire-resistant, control cable	
NH-KVVP	聚氯乙烯绝缘、聚氯乙烯护套、铜丝编织总屏蔽耐火控制电缆 PVC insulated, copper wire collective braided and shielded, PVC sheathed, fire-resistant, control cable	敷设在室内, 有强电磁干扰的固定场合。 For fixed occasions as indoor, cable conduit, tube
NH-KVVP2	聚氯乙烯绝缘、聚氯乙烯护套、铜塑复合带绕包屏蔽耐火控制电缆 PVC insulated, copper laminated tape wrapped and shielded, PVC sheathed, fire-resistant, control cable	
NH-KVVP3	聚氯乙烯绝缘、聚氯乙烯护套、铝塑复合带绕包屏蔽耐火控制电缆 PVC insulated, Al laminated tape wrapped and shielded, PVC sheathed, fire-resistant, control cable	敷设在室内, 有强电磁干扰的固定场合。 For fixed occasions as indoor, cable conduit, tube
NH-KYJVP	交联聚乙烯绝缘、聚氯乙烯护套、铜丝编织总屏蔽耐火控制电缆 XLPE insulated, copper wire collective braided and shielded, PVC sheathed, fire-resistant, control cable	
NH-KYJVP2	交联聚乙烯绝缘、聚氯乙烯护套、铜塑复合带绕包屏蔽耐火控制电缆 XLPE insulated, copper laminated tape wrapped and shielded, PVC sheathed, fire-resistant, control cable	
NH-KYJVP3	交联聚乙烯绝缘、聚氯乙烯护套、铝塑复合带绕包屏蔽耐火控制电缆 XLPE insulated, Al laminated tape wrapped and shielded, PVC sheathed, fire-resistant, control cable	敷设在室内, 电缆沟、管道、直埋等固定场合, 能承受较大机械外力。 For fixed occasions as indoor, cable conduit, tube, direct bury, cable could bear larger mechanical external forces
NH-KVV22	聚氯乙烯绝缘、聚氯乙烯护套、双钢带铠装耐火控制电缆 PVC insulated, double steel tape armored, PVC sheathed, fire-resistant, control cable	
NH-KYJV22	交联聚乙烯绝缘、聚氯乙烯护套、双钢带铠装耐火控制电缆 XLPE insulated, double steel tape armored, PVC sheathed, fire-resistant, control cable	

备注: 阻燃型电缆在型号前加“Z (A、B、C) -”表示; 电缆低烟无卤阻燃型电缆在型号前加“WDZ (A、B、C) -”表示 (针对交联聚乙烯绝缘的电缆)。

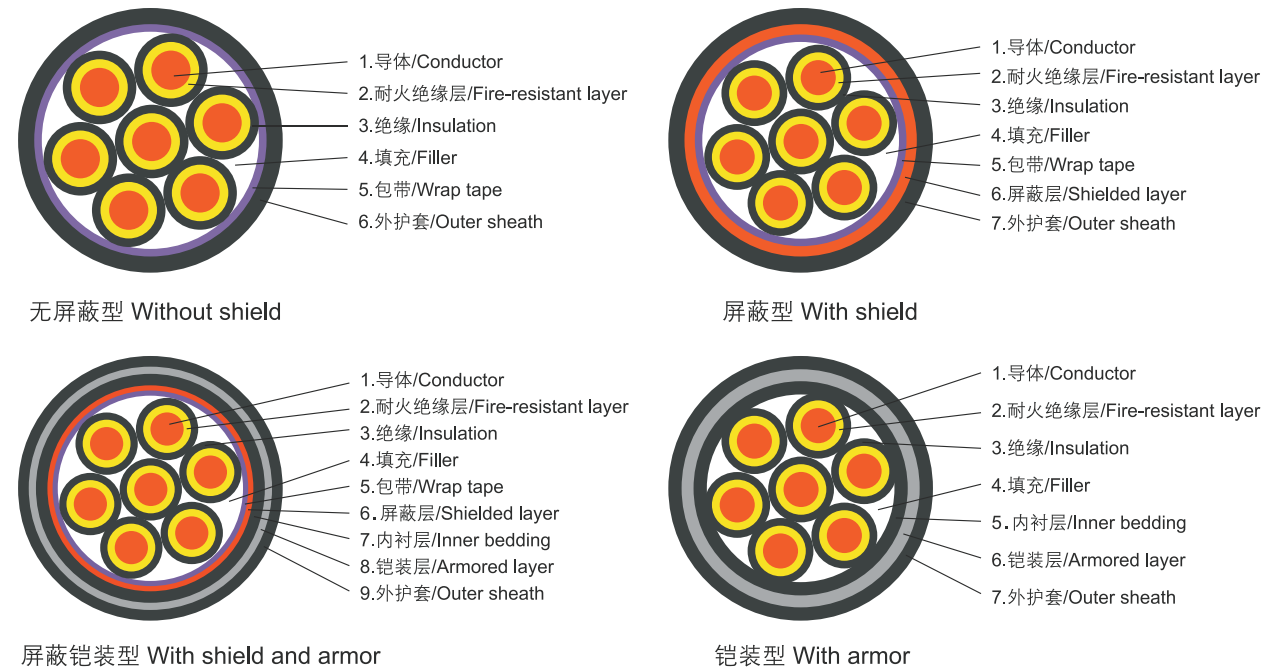
Note: “Z (A、B、C) -” is added in front of flame-retardant cable, and “WDZ (A、B、C) -” is added in front of LSOH flame-retardant cable (only for XLPE insulated cable).

生产范围 Production Scope

型号 Type	导体标称截面 Nom. cross section of conductor mm ²						
	0.5	0.75	1.0	1.5	2.5	4	6
NH-KVV、NH-KYJV	芯数 No. of cores 2-61						
NH-KVVP、NH-KYJVP、NH-KVVP2、NH-KYJVP2、NH-KVVP3、NH-KYJVP3							
NH-KVV22、NH-KYJV22							

控制电缆 Control Cable

电缆的结构图 Cable Drawings



主要试验项目及指标 Main Test Items and Index

1、20℃时导电线芯最大直流电阻 Max. D.C Resistance of Conductor at 20℃

规格 / mm ² Specification	20℃时铜导体最大直流电阻 / Ω/km Max. D.C resistance of conductor at 20℃	
	第一种实心导体 Category 1 solid conductor	第五种软铜导体 Category 5 soft copper conductor
0.5	36.0	39.0
0.75	24.5	26.0
1.0	18.1	19.5
1.5	12.1	13.3
2.5	7.41	7.98
4	4.61	4.95
6	3.08	3.30

2、交流电压试验: A.C voltage test

额定电压450/750V成品电缆应能经受工频交流3000V电压试验5min不击穿。

Completed cable at rated voltage of 450/750V shall be capable of withstanding 3000V power frequency A.C voltage test in 5 min without breakdown.

3、绝缘电阻常数: Insulation resistance constant

环境温度为20℃时: 聚氯乙烯绝缘为36.7 MΩ·km, 交联聚乙烯绝缘为3670 MΩ·km。

When ambient is at 20℃: 36.7 MΩ·km for PVC insulation, 3670 MΩ·km for XLPE insulation

正常运行时导体最高温度时: 聚氯乙烯绝缘为0.037 MΩ·km, 交联聚乙烯绝缘为3.67 MΩ·km。

Max. temp of conductor at normal operation: 0.037 MΩ·km for PVC insulation, 3.67 MΩ·km for XLPE insulation

氟聚合物绝缘和护套控制电缆 Fluorine Polymer Insulated and Sheathed Control Cable

执行标准 Executive Standard

本产品按照Q/75230256-2.5、GB/T 19666-2005标准制造。

The product is manufactured as per Q/75230256-2.5、GB/T 19666-2005 standards.

阻燃试验要求符合GB/T 18380-2008(IEC60332)的规定。

Flame-retardant test requirement is in accordance with GB/T 18380-2008(IEC60332) standard.

适用范围 Applicable Scope

本产品选用氟聚合物材料, 采用专用的氟聚合物挤出设备生产, 产品具有优良的电气性能, 且具有耐高温、耐酸碱、防腐、耐老化、等优异性能。广泛应用于电力、冶金、石油、化工等领域及高温环境中的仪表连接和自动控制系统的信号传输。

Fluorine polymer material and special extruding machine is used to manufacture the product. The product has better electrical performances and other superior performances as high-temp resistant, acid and alkali-resistant, corrosion resistant and ageing resistant etc and they are expansively applied to instrument connection and signal transmission of automatic control system in hi-temp environment of some industries as electricity, metallurgy, petroleum and chemistry.

使用特性 Operating Features

1、电缆额定电压Rated voltage : U_0/U : 450/750V

U_0 —电缆设计用的导体对地或金属屏蔽之间的额定工频电压;

Rated power frequency voltage from conductor to ground or between metal shielding layers

U —电缆设计用的导体间的额定工频电压;

Rated power frequency voltage between conductors

2、电缆正常运行时导体最高工作温度: F46绝缘为200℃, 电缆允许在-60℃~200℃环境中使用; F40绝缘时为180℃, 电缆允许在-60℃~180℃环境中使用。

Max. operating temp of conductor at normal operation: 200℃ for F46 insulation, cable could be operated in the environment with temp of -60℃~200℃, 180℃ for F40 insulation, cable could be operated in the environment with temp of -60℃~180℃.

3、电缆短路时导体最高温度: 氟聚合物绝缘为260℃ (短路最长持续时间为5秒)。

Max temp of conductor at short circuit: 260℃ for fluorine polymer insulation (max duration at short circuit is 5s).

4、电缆推荐允许弯曲半径: Recommended permissible bending radius

非铠装型或金属丝编织屏蔽电缆应不小于电缆外径的8倍;

It is not 8 times less than cable O.D for non-armored or metal wire braided and shielded cable

铠装型或金属带屏蔽电缆应不小于电缆外径的12倍。

It is not 12 times less than cable O.D for non-armored or metal wire braided and shielded cable

5、电缆敷设 Cable Installation

电缆敷设时电缆温度不低于-20℃, 环境温度低于-20℃时, 应对电缆进行预热。

The ambient temp of cable installation shall not be less than -20℃, the cable shall be preheated if the temp. is less than -20℃.

控制电缆 Control Cable

电缆的型号、名称和使用环境 Type, Description and Service Environment

型号 Type	名称 Description	使用环境 Service Environment
KFF	氟聚合物绝缘、氟聚合物护套控制电缆 Fluorine polymer insulated and sheathed, control cable	敷设在室内，电缆沟、管道等固定场合。 For fixed occasions as indoor, cable conduit, tube
KFFP	氟聚合物绝缘、氟聚合物护套铜丝编织总屏蔽控制电缆 Fluorine polymer insulated, copper wire collective braided and shielded, fluorine polymer sheathed, control cable	敷设在室内，有强电磁干扰的固定场合。 For indoor and fixed occasion with stronger electromagnetic interference
KFFR	氟聚合物绝缘、氟聚合物护套控制软电缆 Fluorine polymer insulated and sheathed, flexible control cable	敷设在室内，电缆沟、管道等有移动要求场合。 For portable occasions as indoor, cable conduit, tube
KFFRP	氟聚合物绝缘、氟聚合物护套铜丝编织总屏蔽控制软电缆 Fluorine polymer insulated, copper wire collective braided and shielded, fluorine polymer sheathed, flexible control cable	敷设在室内，有强电磁干扰的有移动要求场合。 For indoor and portable occasion with stronger electromagnetic interference

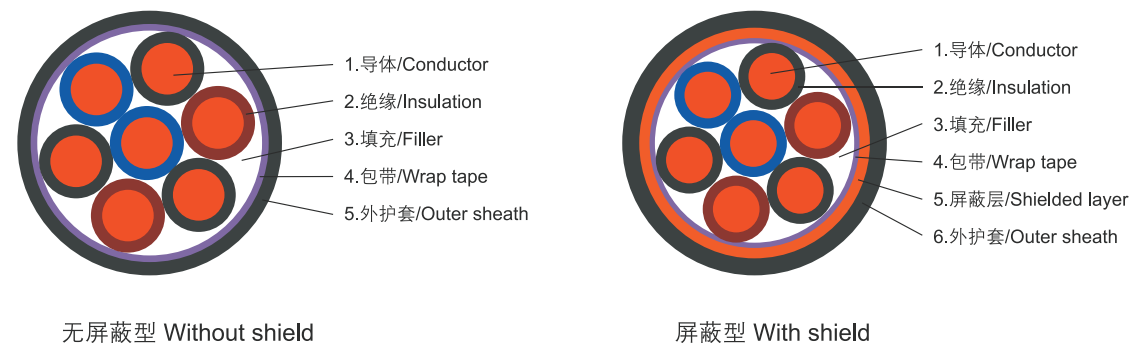
备注：耐火型电缆在型号前加“NH-”表示，阻燃型电缆在型号前加“Z(A、B、C)-”表示

Note: "NH-" is added in front of fire-resistant cable, and "Z(A、B、C)-" is added in front of flame-retardant cable.

生产范围 Production Scope

型号 Type	导体标称截面 Nom. cross section of conductor mm ²						
	0.5	0.75	1.0	1.5	2.5	4	6
KFF、KFFR	芯数 No. of cores 2-61						
KFFP、KFFRP							

电缆结构图 Cable Drawings



主要试验项目及指标 Main Test Items and Index

1、20℃时导电线芯最大直流电阻

Max. D.C Resistance of Conductor at 20℃

规格 / mm ² Specification	20℃时铜导体最大直流电阻 / Ω/km Max. D.C resistance of conductor at 20℃	
	第一种实心导体 Category 1 solid conductor	第五种软铜导体 Category 5 soft copper conductor
0.5	36.0	39.0
0.75	24.5	26.0
1.0	18.1	19.5
1.5	12.1	13.3
2.5	7.41	7.98
4	4.61	4.95
6	3.08	3.30

2、交流电压试验: A.C voltage test

额定电压450/750V成品电缆应能经受工频交流3000V电压试验5min不击穿。

Completed cable at rated voltage of 450/750V shall be capable of withstanding 3000V power frequency A.C voltage test in 5 min without breakdown.

3、绝缘电阻常数: Insulation resistance constant

成品电缆的绝缘电阻常数20℃时应不小于3000 MΩ·km。

Insulation resistance constant of completed cable at 20℃ shall not be less than 3000 MΩ·km.

正常温度下的绝缘电阻常数应不小于3 MΩ·km。

Insulation resistance constant at normal temp shall not be less than 3 MΩ·km.

控制电缆 Control Cable

氟聚合物绝缘聚氯乙烯护套控制电缆 Fluorine Polymer Insulated PVC Sheathed Control Cable

标准 Standard

本产品按照Q/75230256-2.5、GB/T 19666-2005标准制造。

The product is manufactured as per Q/75230256-2.5、GB/T 19666-2005 standards.

阻燃试验要求符合GB/T 18380-2008(IEC60332)的规定。

Flame-retardant test requirement is in accordance with GB/T 18380-2008(IEC60332) standard.

适用范围 Applicable Scope

本产品选用氟聚合物材料，采用专用的氟聚合物挤出设备生产，产品具有优良的电气性能，且具有耐高温、耐酸碱、防腐、耐老化、等优异性能。广泛应用于电力、冶金、石油、化工等领域及高温环境中交流额定电压（ U_0/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。

Fluorine polymer material and special extruding machine is used to manufacture the product. The product has better electrical performances and other superior performances as high-temp resistant, acid and alkali-resistant, corrosion resistant and ageing resistant etc and they are expansively applied to instrument, signal transmission of power distribution device, control and measuring system at rated voltage (U_0/U) up to and including 450/750V of some industries as electricity, metallurgy, petroleum and chemistry.

使用特性 Operating Features

1、电缆额定电压 Rated voltage： U_0/U ：450/750V

U_0 —电缆设计用的导体对地或金属屏蔽之间的额定工频电压；

Rated power frequency voltage from conductor to ground or between metal shielding layers

U —电缆设计用的导体间的额定工频电压； Rated power frequency voltage between conductors

2、电缆正常运行时导体最高工作温度：F46绝缘为200℃，F40绝缘时为180℃。

Max. operating temp. of conductor at normal operation: 200℃ for F46 insulation, 180℃ for F40 insulation.

3、电缆短路时导体最高温度：氟聚合物绝缘为260℃（短路最长持续时间为5秒）。

Max temp of conductor at short circuit: 260℃ for fluorine polymer insulation (max duration at short circuit is 5s).

4、电缆推荐允许弯曲半径：Recommended permissible bending radius

非铠装型或金属丝编织屏蔽电缆应不小于电缆外径的8倍；

It is not 8 times less than cable O.D for non-armored or metal wire braided and shielded cable

铠装型或金属带屏蔽电缆应不小于电缆外径的12倍。

It is not 12 times less than cable O.D for non-armored or metal wire braided and shielded cable

5、电缆的最低允许敷设温度：Min. permissible installation temp. of Cable

敷设时电缆温度不低于0℃，环境温度低于0℃时，应对电缆进行预热。

The ambient temp. of cable installation shall not be less than 0℃, the cable shall be preheated if the temp. is less than 0℃.

电缆的型号、名称和使用环境 Type, Designation and Service Environment

型号 Type	名称 Description	使用环境 Service Environment
KFV	氟聚合物绝缘、聚氯乙烯护套、控制电缆 Fluorine polymer insulated, PVC sheathed, control cable	敷设在室内、电缆沟、管道等固定场合。 For fixed occasions as indoor, cable conduit, tube
KFVP	氟聚合物绝缘、聚氯乙烯护套、铜丝编织总屏蔽控制电缆 Fluorine polymer insulated, copper wire collective braided and shielded, PVC sheathed, control cable	敷设在室内、电缆沟、管道等有强电磁干扰的固定场合。 For fixed occasions with stronger electromagnetic interference as indoor, cable conduit, tube etc.
KFVP2	氟聚合物绝缘、聚氯乙烯护套、铜塑复合带绕包屏蔽控制电缆 Fluorine polymer insulated, copper laminated tape wrapped and shielded, PVC sheathed, control cable	
KFVP3	氟聚合物绝缘、聚氯乙烯护套、铝塑复合带绕包屏蔽控制电缆 Fluorine polymer insulated, Al laminated tape wrapped and shielded, PVC sheathed, control cable	
KFV22	氟聚合物绝缘、聚氯乙烯护套、双钢带铠装控制电缆 Fluorine polymer insulated, double steel tape armored, PVC sheathed, control cable	敷设在室内、电缆沟、管道、直埋等固定场合，能承受较大机械外力。 For fixed occasions as indoor, cable conduit, tube, direct bury, cable could bear larger mechanical external forces
KFVR	氟聚合物绝缘、聚氯乙烯护套、控制软电缆 Fluorine polymer insulated, PVC sheathed, flexible control cable	敷设在室内、电缆沟、管道等有移动要求场合。 For portable occasions as indoor, cable conduit, tube
KFVRP	氟聚合物绝缘、聚氯乙烯护套、铜丝编织总屏蔽控制软电缆 Fluorine polymer insulated, copper wire collective braided and shielded, PVC sheathed, flexible control cable	敷设在室内、电缆沟、管道等有强电磁干扰的有移动要求场合。 For portable occasions with stronger electromagnetic interference as indoor, cable conduit, tube etc.
KFVRP2	氟聚合物绝缘、聚氯乙烯护套、铜塑复合带绕包屏蔽控制软电缆 Fluorine polymer insulated, copper laminated tape wrapped and shielded, PVC sheathed, flexible control cable	
KFVRP3	氟聚合物绝缘、聚氯乙烯护套、铝塑复合带绕包屏蔽控制软电缆 Fluorine polymer insulated, Al laminated tape wrapped and shielded, PVC sheathed, flexible control cable	
KFVR22	氟聚合物绝缘、聚氯乙烯护套、双钢带铠装控制软电缆 Fluorine polymer insulated, double steel tape armored, PVC sheathed, flexible control cable	敷设在室内、电缆沟、管道、直埋等有移动要求场合，能承受较大机械外力。 For portable occasions as indoor, cable conduit, tube, direct bury, cable could bear larger mechanical external forces

备注：耐火型电缆在型号前加“NH-”表示，阻燃型电缆在型号前加“Z（A、B、C）-”表示

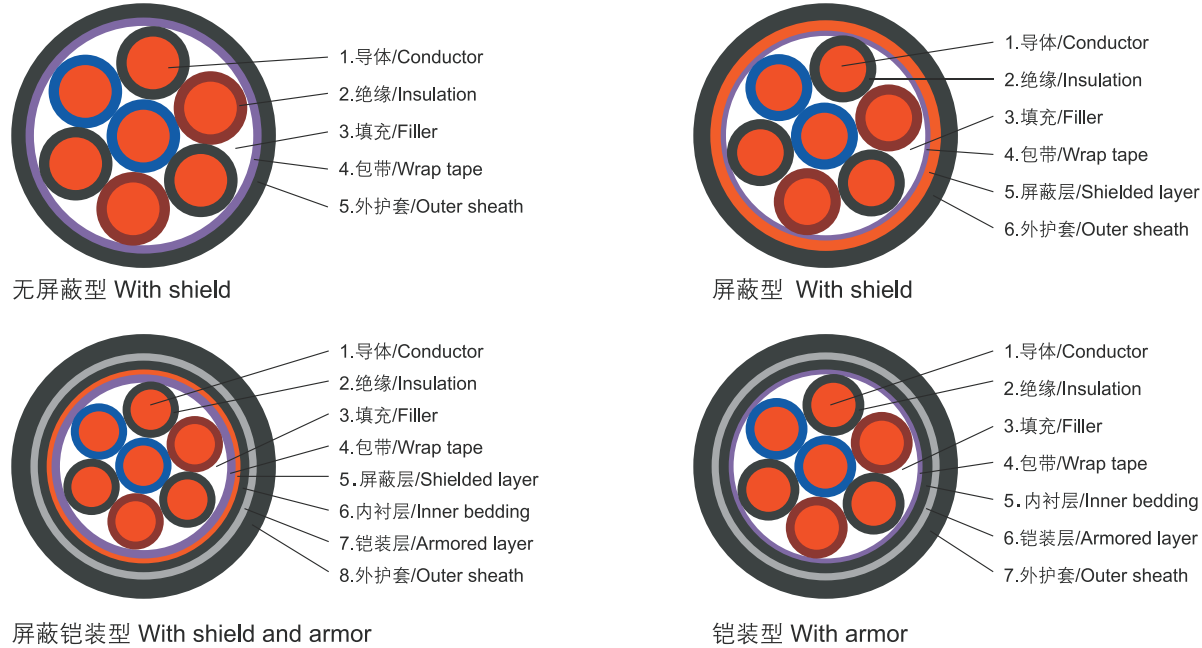
Note: “NH-” is added in front of fire-resistant cable, and “Z（A、B、C）-” is added in front of flame-retardant cable.

生产范围 Production Scope

型号 Type	导体标称截面 Nom. cross section of conductor mm ²						
	0.5	0.75	1.0	1.5	2.5	4	6
KFV、KFVR	芯数 No. of cores 2-61						
KFVP、KFVP2、KFVP3							
KFV22、KFVR22							
KFVRP、KFVRP2、KFVRP3							

控制电缆 Control Cable

电缆的结构图 Cable Drawings



主要试验项目及指标 Main Test Items and Index

1、20℃时导电线芯最大直流电阻 Max. D.C Resistance of Conductor at 20℃

规格 / mm ² Specification	20℃时铜导体最大直流电阻 / Ω/km Max. D.C resistance of conductor at 20℃	
	第一种实心导体 Category 1 solid conductor	第五种软铜导体 Category 5 soft copper conductor
0.5	36.0	39.0
0.75	24.5	26.0
1.0	18.1	19.5
1.5	12.1	13.3
2.5	7.41	7.98
4	4.61	4.95
6	3.08	3.30

2、交流电压试验: A.C voltage test

额定电压450/750V成品电缆应能经受工频交流3000V电压试验5min不击穿。

Completed cable at rated voltage of 450/750V shall be capable of withstanding 3000V power frequency A.C voltage test in 5 min without breakdown.

3、绝缘电阻常数: Insulation resistance constant

成品电缆的绝缘电阻常数20℃时应不小于3000 MΩ·km。

Insulation resistance constant of completed cable at 20℃ shall not be less than 3000 MΩ·km.

正常温度下的绝缘电阻常数应不小于3 MΩ·km。

Insulation resistance constant at normal temp shall not be less than 3 MΩ·km.

硅橡胶绝缘控制电缆 Silicon Rubber Insulated Control Cable

标准 Standard

本产品按照Q/75230256-2.3、GB/T 19666-2005标准制造。

The products will be manufactured as per Q/75230256-2.3、GB/T 19666-200 standards.

阻燃试验要求符合GB/T 18380-2008(IEC60332)的规定。

The requirements of flame-retardant test shall be in accordance with GB/T 18380-2008 (IEC60332) standard.

适用范围 Applicable Scopes

本产品选用硅橡胶材料，采用专用的挤出生产线及硫化工艺生产，产品具有耐高温、耐低温、结构柔软、耐酸碱、防腐、耐老化等优异性能。广泛应用于电力、冶金、石油、化工等领域及高低温环境中长期使用。

Silicon rubber material and special extruding production line and vulcanization technology is used to manufacture the product. The product has superior performances as high-temp resistant, low-temp resistant, flexible structure, acid and alkali-resistant, and ageing resistant etc and they are expansively applied to some industries as electricity, metallurgy, petroleum and chemistry and high-temp environment.

使用特性 Operating Features

1、电缆额定电压Rated voltage : U_0/U : 450/750V

U_0 —电缆设计用的导体对地或金属屏蔽之间的额定工频电压;

Rated power frequency voltage from conductor to ground or between metal shielding layers

U —电缆设计用的导体间的额定工频电压;

Rated power frequency voltage between conductors

2、电缆导体的最高长期允许工作温度: 硅橡胶绝缘为180℃;

Max. long-term permissible operating temp of cable conductor: 180℃ for silicon rubber insulation

3、电缆短路时导体最高温度: 硅橡胶绝缘为350℃ (短路最长持续时间为5秒);

Max temp of conductor at short circuit: 350℃ for silicon rubber insulation (max duration at short circuit is 5s).

4、电缆安装时的最小弯曲半径: Min. bending radius of cable installation:

有铠装层或屏蔽结构的电缆应不小于电缆外径的12倍;

It is not 12 times less than cable O.D for armored or shielded cable

无铠装层的电缆, 应不小于电缆外径的6倍。

It is not 6 times less than cable O.D for non-armored cable

5、电缆敷设 Cable Installation

硅橡胶绝缘聚氯乙烯护套电缆敷设时电缆温度不低于0℃, 环境温度低于0℃时, 应对电缆进行预热。

Installation temp of silicon rubber insulated PVC sheathed cable shall not be less than 0℃, the cable shall be preheated if the ambient temp is less than 0℃.

硅橡胶绝缘硅橡胶护套电缆敷设时电缆温度不低于-30℃, 环境温度低于-30℃时, 应对电缆进行预热。

Installation temp of silicon rubber insulated and sheathed cable shall not be less than -30℃, the cable shall be preheated if the ambient temp is less than -30℃.

控制电缆 Control Cable

基本型号及名称 Type and Description

型号 Type	名称 Description
KGG	硅橡胶绝缘、硅橡胶护套控制电缆 Silicone rubber insulated and sheathed, control cable
KGGP	硅橡胶绝缘、编织总屏蔽、硅橡胶护套控制电缆 Silicone rubber insulated, collective braided and shielded, silicon rubber sheathed, control cable
KGGR	硅橡胶绝缘、硅橡胶护套控制软电缆 Silicone Rubber Insulated and Sheathed Flexible Control Cable
KGGRP	硅橡胶绝缘、编织总屏蔽、硅橡胶护套控制软电缆 Silicone rubber insulated and sheathed, flexible control cable
KGV	硅橡胶绝缘、聚氯乙烯护套控制电缆 Silicone rubber insulated, PVC sheathed, control cable
KGVP	硅橡胶绝缘、编织总屏蔽、聚氯乙烯护套控制电缆 Silicone rubber insulated, collective braided and shielded, PVC sheathed, control cable
KGVR	硅橡胶绝缘、聚氯乙烯护套控制软电缆 Silicone rubber insulated, PVC sheathed, flexible control cable
KGVRP	硅橡胶绝缘、编织总屏蔽、聚氯乙烯护套控制软电缆 Silicone rubber insulated, collective braided and shielded, PVC sheathed, flexible control cable

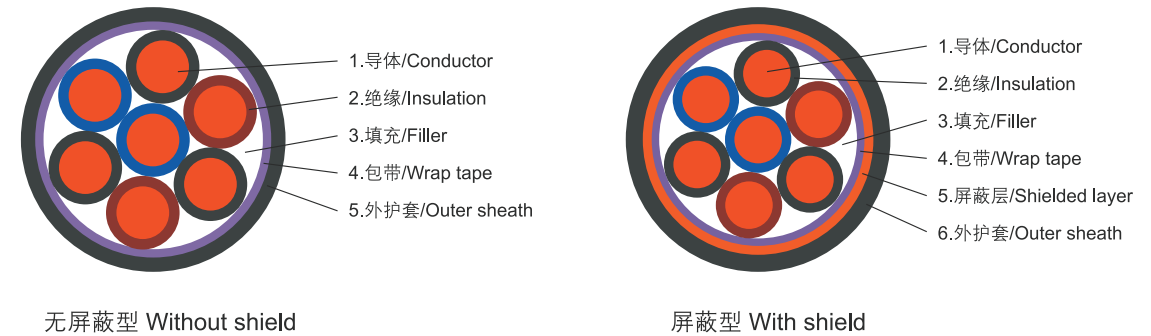
备注：耐火型电缆在型号前加“NH-”表示，阻燃型电缆在型号前加“Z(A、B、C)-”表示，低烟无卤阻燃型电缆在型号前加“WDZ(A、B、C)-”表示。

Note: “NH -” is added in front of fire-resistant cable, “Z(A、B、C)-” is added in front of flame-retardant cable, WDZ (A、B、C) - is added in front of LSOH flame-retardant cable.

生产范围 Production Scope

型号 Type	导体标称截面 Nom. cross section of conductor mm ²						
	0.5	0.75	1.0	1.5	2.5	4	6
KGG、KGV	芯数 No. of cores 2-61						
KGGP、KGVP							
KGGR、KGVR							
KGGRP、KGVRP							

电缆的结构图 Cable Drawings



主要试验项目及指标 Main Test Items and Index

1、20℃时导电线芯最大直流电阻

Max. D.C Resistance of Conductor at 20℃

规格 / mm ² Specification	20℃时铜导体最大直流电阻 / Ω/km Max. D.C resistance of conductor at 20℃	
	第一种实心导体 Category 1 solid conductor	第五种软铜导体 Category 5 soft copper conductor
0.5	36.0	39.0
0.75	24.5	26.0
1.0	18.1	19.5
1.5	12.1	13.3
2.5	7.41	7.98
4	4.61	4.95
6	3.08	3.30

2、交流电压试验: A.C voltage test

额定电压450/750V成品电缆应能经受工频交流3000V电压试验5min不击穿。

Completed cable at rated voltage of 450/750V shall be capable of withstanding 3000V power frequency A.C voltage test in 5 min without breakdown.

3、绝缘电阻常数: Insulation resistance constant

成品电缆绝缘电阻20℃时应不小于1500 MΩ·km。

Insulation resistance constant of completed cable at 20℃ shall not be less than 1500 MΩ·km.

正常温度下的绝缘电阻常数应不小于0.15 MΩ·km。

Insulation resistance constant at normal temp shall not be less than 0.15 MΩ·km