



**BEIJING HUAYUAN GAOKE CABLE CO.,LTD.**  
Daxing Industrial District, Beijing, China  
www.bjhygkable.com Tel: +86-010-80261008 Fax: +86-010-89233216

## Combustion-retardant Wire & Cable Serial Products

### ■ Product Standard

Enterprise standard. At the same time, apart from implementing IEC60332 or GB/T18380-2001 or the GA306-2007 the Public Safety Industrial Standard for combustion retardant characteristics, products also adopt state standard (GB) for non-combustion-resisting type equivalent to the products.

### ■ Usage

This product is suitable for use in all places using non-combustion-retardant type power cable, electrical equipment-use wire and cable and all corresponding products and at the same time requires combustion-retardant environment and conditions.

### ■ Property for Use

1. Rated voltage ( $U_0/U$ , from 300/300V to 26/35kV according to different kinds of product series.
2. The max.work temperature of cable for a long period is: 70°C, 90°C and 105°C.
3. For short circuit (5s), the max.work temperature of conductor does not exceed 160°C for 70°C; 250°C for 90°C.
4. The temperature for laying cable is not less than 0°C.
5. Cable bend radius implements corresponding non-combustion-retardant cable standard stipulation.
6. Combustion-retardant characteristics can be divided into categories A and C (category B is not recommended).
  - a. ZC-type combustion-retardant cable is used in general combustion-retardant places requiring IEC60332-3C category.
  - b. ZA-type combustion-retardant cable is used in combustion-retardant places requiring relatively harsh IEC60332-3A category.
  - c. Single cable should reach the requirement of IEC60332-1(2) non- burning, that is, self-extinguishing nature. Multi-cable or a bundle of cable will only burn in a certain scope after reaching the IEC60332-3 standard and will extinguish itself.

### ■ Type of Cable

Type	Rated Voltage	Designation	Scope of Application
ZA(C)-VV	0.6/1kV	Copper core PVC insulated combustion-retardant power cable	Nuclear power station, underground railway, telecommunications station, high rises, petroleum, metallurgy, power plant, military installations, tunnel, etc.
ZA(C)-VLV <sub>22</sub>		Aluminum core PVC insulated combustion-retardant power cable	
ZA(C)-YJY	0.6/1~8.7/10kV	Copper XLPE insulated PE sheathed combustion-retardant power cable Aluminum core XLPE insulated PVC	

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ZA(C)-YJLV <sub>22</sub>		sheathed, armored combustion-retardant power cable	
ZA(C)-KVV	450/750V	Copper core PVC insulated combustion-retardant control cable	
ZA(C)-KVVR		Copper core PVC insulated combustion-retardant control soft cable	
ZA(C)-KVVP <sub>22</sub>		Copper core PVC insulated, metal screened, armored combustion-retardant control cable	
ZA(C)-BV	450/750V	Copper core PVC insulated combustion-retardant wire	Fixed or movable laying in power installation, instrument & meters, etc.
ZA(C)-BVV	300/500V	Copper core PVC insulated combustion-retardant cable	
ZA(C)-RVB	300/300V	Copper core PVC insulated combustion-retardant flat soft wire	
ZA(C)-PYV	250V	Copper core PE insulated, PVC sheathed combustion-retardant signal cable	Railway automatic installations
ZA(C)-PUYVR	250V	Copper core PE insulated, PVC sheathed combustion-retardant mine signal soft cable	Mine transmission
ZA(C)-JYV	300/500V	Copper core PE insulated, PVC sheathed combustion-retardant computer cable	Computer weak electrical appliances & equipment

#### ■ Name Type and Use Scope of Products

Name	Type	Class	Use Scope
Flame-retarding series	ZR	IV A	A.D. rated voltage 35kV or less plastic insulating and flame retarding power cable; A.D. rated voltage 450/750V or less plastic insulating and flame retarding control cable and A.D. rated voltage 450/750V or less plastic insulating and flame retarding cable.
		IV B	
		IV C	
		I A	
		I B	
		I C	
		II A	
		II B	
		II C	

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		IIIA	
		IIIB	
		IIIC	

■ For specifications

Type	Voltage	Class	Cross-section mm <sup>2</sup>
ZA(C)-VV ZA(C)-YJY ZA(C)-VLV <sub>22</sub> ZA(C)-YJLV <sub>22</sub>	0.6/1~1.8/3kV	1	1.5-800 10-800
ZA(C)-VV ZA(C)-YJY ZA(C)-VLV <sub>22</sub> ZA(C)-YJLV <sub>22</sub>		2	1.5-185 4-185
ZA(C)-VV ZA(C)-YJY ZA(C)-VLV <sub>22</sub> ZA(C)-YJLV <sub>22</sub>		3	1.5-400 4-400
ZA(C)-VV ZA(C)-YJY ZA(C)-VLV <sub>22</sub> ZA(C)-YJLV <sub>22</sub>		3+1 3+2 4+1	4-300
ZA(C)-VV ZA(C)-YJY ZA(C)-VLV <sub>22</sub> ZA(C)-YJLV <sub>22</sub>		5	1.5-300 4-300
ZA(C)-YJY ZA(C)-YJLV <sub>22</sub> ZA(C)-YJY ZA(C)-YJLV <sub>22</sub>		1 3	25-800 25-400
ZA(C)-KV V	450/750V	2-14 2-61	4,6,10 0.75,1.0,1.5,2.5
ZA(C)-KVVP <sub>22</sub>		4-14 6-61	4,6,10 0.75,1.0,1.5,2.5
ZA(C)-KVVR		4-61	0.75,1.0,1.5,2.5
ZA(C)-BV	450/750V	1	1.5-400
ZA(C)-BVV	300/500V	1 2,3,4,5	0.75-10 1.5-35
ZA(C)-RVB	300/300V	2	0.3-2.5
ZA(C)-PYV	250V	2-48	1.0mm
ZA(C)-PUYVR	250V	4	0.5, 1.5
ZA(C)-JYV	300/500V	2.4,6,19 3 3 3	1.0 2, 3, 4, 5, 6, 10 1.5 3 1.5 2.5

■ Technical property, conditions and others, except combustion-retardant characteristics, are all the same as corresponding non-combustion-retardant type cable in the sample book.

■ Flame-Retarding Property, Class and Technical Requirements

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Item  Flame-Retarding Class		Height of Carbonization			Technical Requirement m	Toxic Property of Smoke (Thickness) mg/L	Density of Smoke (the Smallest Light Penetrating Rate) %
		Test Conditions					
		Non-Metal Weight for Sampling L/m	Fired Temperature °C	Time for Firing min			
Flame-Retarding Class- I	I A	7.0	>815	40	≤2.5	≥12.4	≥80
	I B	3.5		20			
	I C	1.5					
Flame-Retarding Class- II	II A	7.0		40		≥60	
	II B	2.5		20			
	II C	1.5					
Flame-Retarding Class-III	IIIA	7.0		40		≥6.15	≥20
	IIIB	3.5		20			
	IIIC	1.5					
Flame-Retarding Class-IV	IVA	7.0		40		—	—
	IVB	3.5		20			
	IVC	1.5					
Note: “IVA, IVB and IVC” shows respectively the “A, B and C” .							

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