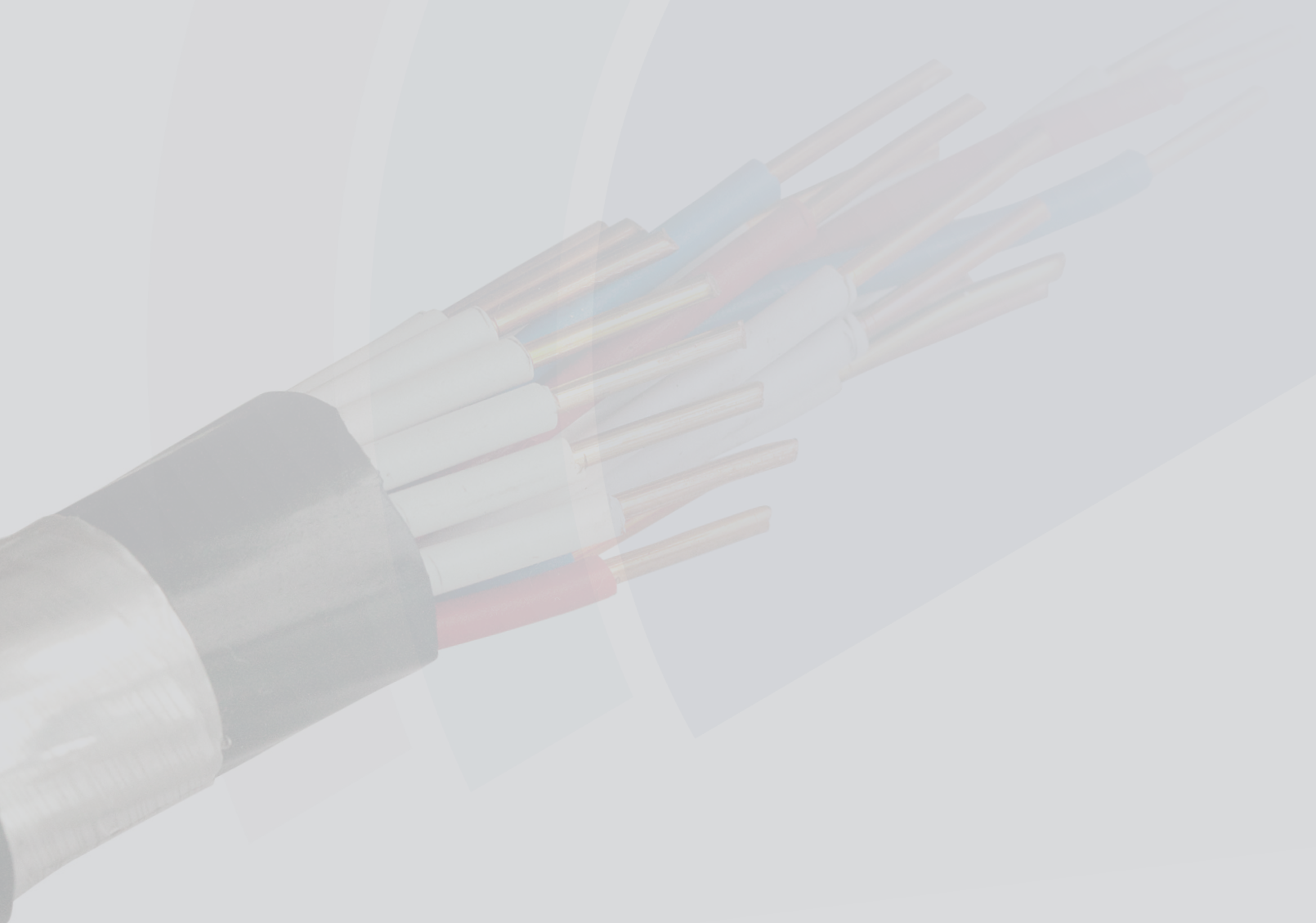


C A T A L O G U E

CABLING AND WIRING PRODUCTS



## CABLING AND WIRING PRODUCTS

### DESCRIPTION OF THE CABLES AND WIRES CATALOGUE

The catalogue of cabling and wiring products is designed for clients and partners of the company.

Target use and operating classification of the cabling and wiring products are featured in the sections of this catalogue.

The catalogue contains description of main products. This description is provided in tables with the following cells:

1. Product Model
2. Design
3. Working Voltage
4. Conductor Cross-Section
5. Purpose of Use
6. A document that regulates manufacturing process.

Product name, main parameters and technical description correspond to the requirements stated in the documents that regulate the manufacturing process.

Description of the products has a reference purpose and it can not be used as an official regulatory document.

Should you have any questions, please do not hesitate to contact our company representatives.

## 1. CABLING AND WIRING PRODUCTS

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## CABLING AND WIRING PRODUCTS

POWER CABLES (GOST 16442-80)

4

Model	Design	Number of Strands	Working Voltage	Wire Cross-Section, mm <sup>2</sup>	Purpose of Use
АВВГ	A type of cable with aluminum wires with PVC insulation and PVC sheath.	UP TO 5	0,66 kV	2,5-50,0	Used to transfer and distribute electric power in fixed units with nominal AC voltage which varies between 0.66 and 1.0 kV. This type of cable is laid in cable duct systems, tunnels, indoors, on the walls of buildings and structures and out-doors.
			1,0 kV	2,5-240,0	
ВВГ	A type of cable with copper wires with PVC insulation and PVC sheath.	UP TO 5	0,66 kV	1,5-50,0	
			1,0 kV	1,5-240,0	
АВВГШВ	Armored cable with aluminum wires, with PVC insulation, AaPv protective covering (when twisted wires of the cable are wrapped with two galvanized steel strips and then the cable is placed inside the protective hose made from PVC plasticate).	UP TO 5	0,66 kV	2,5-50,0	Used to transfer and distribute electric power in fixed units with nominal AC voltage which varies between 0.66 and 1.0 kV. This type of cable is laid in cables duct systems, tunnels, indoors, on the walls of buildings and structures and out-doors. It is allowed to be buried in soil.
			1,0 kV	2,5-240,0	
ВВГШВ	Armored cable with copper wires, with PVC insulation, AaPv protective covering (when twisted wires of the cable are wrapped with two galvanized steel strips and then the cable is placed inside the protective hose made from PVC plasticate).	UP TO 5	0,66 kV	1,5-50,0	
			1,0 kV	1,5-240,0	

## CABLING AND WIRING PRODUCTS

Model	Design	Number of Strands	Working Voltage	Wire Cross-Section, mm <sup>2</sup>	Purpose of Use
АВВГнг	Fire-resistant PVC sheathed cable with aluminum wires and with PVC protective covering.	UP TO 5	0,66 kV	2,5-50,0	Used to transfer and distribute electric power in fixed units with nominal AC voltage which varies between 0.66 and 1.0 kV. This type of cable is laid in cables duct systems, tunnels, indoors, on the walls of buildings and structures and out-doors.
			1,0 kV	2,5-240,0	
ВВГнг	Fire-resistant PVC sheathed cable with aluminum wires and with PVC protective covering.	UP TO 5	0,66 kV	1,5-50,0	
			1,0 kV	1,5-240,0	
АВББШВнг	Armored cable with aluminum wires, with PVC insulation, AaPv protective covering (when twisted wires of the cable are wrapped with two galvanized steel strips and then the cable is placed inside the protective hose made from fire-resistant PVC plasticate).	UP TO 5	0,66 kV	2,5-50,0	
			1,0 kV	2,5-240,0	
ВББШВнг	Armored cable with copper wires, with PVC insulation, AaPv protective covering (when twisted wires of the cable are wrapped with two galvanized steel strips and then the cable is placed inside the protective hose made from fire-resistant PVC plasticate).	UP TO 5	0,66 kV	1,5-50,0	
			1,0 kV	1,5-240,0	

Cables are manufactured using low-smoke and fire-resistant plasticates and they are labeled with "LS" marking the following way: АВВГнг-LS, ВВГнг-LS, АВББШВнг-LS, ВББШВнг-LS.

## CABLING AND WIRING PRODUCTS

Model	Design	Number of Strands	Wire Cross-Section, mm <sup>2</sup>	Purpose of Use
AKBBГ	Current-conducting aluminum cable strands: insulated with PVC plasticate, twisted into concentric layers and covered with PVC plasticate.	4 - 61	2,5-6,0	Used for fixed connection to electrical devices and equipment, terminal blocks of electrical substations with nominal AC voltage up to 660 V and frequency up to 1000 Hz or DC voltage up to 1000 V. Laid indoors, ducts, tunnels, in corrosive environments, without significant mechanical impact on the cable.
KBBГ	Current-conducting copper cable strands: insulated with PVC plasticate, twisted into concentric layers and covered with PVC plasticate.	4 - 61	0,75-6,0	Laid indoors, ducts, tunnels without mechanical impact on the cable in corrosive environments and without requirement to protect electrical circuits from exposure to external electric fields.
AKBBГЭ	Current-conducting aluminum cable strands: insulated with PVC plasticate and twisted into concentric layers. Twisted strands are wrapped and shielded using aluminum foil. Cable sheath is made from PVC plasticate.	4 - 61	2,5-6,0	Laid indoors, ducts, tunnels without mechanical impact on the cable in corrosive environments and without requirement to protect electrical circuits from exposure to external electric fields.
KBBГЭ	Current-conducting copper cable strands: insulated with PVC plasticate and twisted into concentric layers. Twisted strands are wrapped and shielded using aluminum foil. Cable sheath is made from PVC plasticate.	4 - 61	0,75-6,0	Laid indoors, ducts, tunnels without mechanical impact on the cable in corrosive environments and without the requirement to protect electrical circuits from exposure to external electric fields.
AKBБШВ	Current-conducting aluminum cable strands: insulated with PVC plasticate and twisted into concentric layers. Twisted strands are wrapped and armored using two galvanized steel strips. Cable sheath is made from PVC plasticate.	4 - 61	2,5-6,0	Used for fixed connection to electrical devices and equipment, terminal blocks of electrical substations with nominal AC voltage up to 660 V and frequency up to 1000 Hz or DC voltage up to 1000 V.
KBБШВ	Current-conducting copper cable strands: insulated with PVC plasticate and twisted into concentric layers. Twisted strands are wrapped and armored using two galvanized steel strips. Cable sheath is made from PVC plasticate.	4 - 61	0,75-6,0	Laid indoors, ducts, tunnels. Buried in soil (tranches) in corrosive environments and in places exposed to earth currents, when cables are not exposed to tensile stress.

## CABLING AND WIRING PRODUCTS

Model	Design	Number of Strands	Wire Cross-Section, mm <sup>2</sup>	Purpose of Use
AKBBГНГ	Current conducting aluminum cable strands: insulated with PVC plasticate, twisted into concentric layers and sheathed with fire-resistant PVC plasticate.	4 - 61	2,5-6,0	Used for fixed connection to electrical devices and equipment, terminal blocks of electrical substations with nominal AC voltage up to 660 V and frequency up to 1000 Hz or DC voltage up to 1000 V. Laid indoors, ducts, tunnels, in corrosive environments, without significant mechanical impact on the cable.
КВВГНГ	Current conducting copper cable strands: insulated with PVC plasticate, twisted into concentric layers and sheathed with fire-resistant PVC plasticate.	4 - 61	0,75-6,0	
AKBBГЭНГ	Current conducting aluminum cable strands: insulated with PVC plasticate and twisted into concentric layers. Twisted strands are wrapped and shielded using aluminum foil. Cable sheath is made from fire-resistant PVC plasticate.	4 - 61	2,5-6,0	Laid indoors, ducts, tunnels without mechanical impact on the cable in corrosive environments and without the requirement to protect electrical circuits from exposure to external electric fields.
КВВГЭНГ	Current conducting copper cable strands: insulated with PVC plasticate and twisted into concentric layers. Twisted strands are wrapped and shielded using aluminum foil. Cable sheath is made from fire-resistant PVC plasticate.	4 - 61	0,75-6,0	Laid indoors, ducts, tunnels without mechanical impact on the cable in corrosive environment and without needs to protect electrical circuits from exposure to external electric fields.
AKBBШВНГ	Current-conducting aluminum cable strands: insulated with PVC plasticate and twisted into concentric layers. Twisted strands are wrapped and armored using two galvanized steel strips. Cable sheath is made from fire-resistant PVC plasticate.	4 - 61	2,5-6,0	Used for fixed connection to electrical devices and equipment, terminal blocks of electrical substations with nominal AC voltage up to 660 V and frequency up to 1000 Hz or DC voltage up to 1000 V. Laid indoors, ducts, tunnels. Buried in soil (tranches) in corrosive environments and in places exposed to earth currents, when cables are not exposed to tensile stress.
КВБШВНГ	Current-conducting copper cable strands: insulated with PVC plasticate and twisted into concentric layers. Twisted strands are wrapped and armored using two galvanized steel strips. Cable sheath is made from fire-resistant PVC plasticate.	4 - 61	0,75-6,0	

Cables are manufactured using low-smoke and low-gas fire-resistant plasticates and they are labeled with "LS" marking the following way: AKBBГНГ-LS, КВВГНГ-LS, AKBBШВНГ-LS, КВБШВНГ-LS, АКВВГЭНГ-LS, КВВГЭНГ-LS.

## CABLING AND WIRING PRODUCTS

Model	Design	Cross-section, mm <sup>2</sup>	Purpose of Use
A	Strand twisted from aluminum wires.	16 - 900	Used out-doors in Type I and II air. Used onshore in all macroclimatic areas with mild and cold climates.
AC	Strand consisting from steel core and aluminum wires.	16/2,7 - 600/72	
ACKC	AC cable: the space between strands of the steel core including the outer surface is filled with neutral grease that has high heat resistance.	16/2,7 - 600/72	Used on the seacoasts, lake coasts, in industrial areas, saline sand regions, and also in their adjacent areas with Type II and III air onshore and offshore in all macroclimatic areas.
ACKП	AC cable: the space between strands of the steel core excluding the outer surface is filled with neutral grease that has high heat resistance.	16/2,7 - 600/72	



## CABLING AND WIRING PRODUCTS

Model	Design	Number of Strands	Wire Cross-Section, mm <sup>2</sup>	Purpose of Use
NYY NYM	Current conducting copper strands of Class 1 and 2, insulated with PVC plasticate, twisted into concentric layers, filled with uncured rubber. Strand sheath is made from fire-resistant PVC plasticate.	Up to 5	1,5 - 240	Used to transfer and distribute electric power in fixed units with nominal AC voltage which varies between 0.66 and 1.0 kV. This type of cable is laid in cable duct systems, tunnels, indoors, on the walls of buildings and structures and out-doors.
		5 - 61	1,5-6,0	
NYCY NYCWY	Current conducting copper strands of Class 1 and 2, insulated with PVC plasticate, twisted into concentric layers, and wrapped using uncured rubber. Current conducting concentric core is located on top of the wrapping. Cable core is made from copper wires and lateral copper spiral. Cable sheath is made from fire-resistant PVC plasticate.	Up to 5	1,5 - 240	Used to transfer and distribute electric power in fixed units with nominal AC voltage which varies between 0.66 and 1.0 kV. This type of cable is laid in cable duct systems, tunnels, indoors, on the walls of buildings and structures and out-doors. Current conducting concentric strand can be used as PE-, PEN- current conducting strand or shielding.
		5 - 61	1,5-6,0	

POWER DISTRIBUTION CABLE WITH NOMINAL VOLTAGE - U0/U 0,6/1 KV (DIN VDE 0276-603,DIN VDE 0276-627)

## CABLING AND WIRING PRODUCTS

Model	Design	Strand Class	Cross-section, mm <sup>2</sup>	Purpose of Use
АПВ	A wire with an aluminum strand and with PVC insulation.	1	2,5-240,0	Used for electric units. It is designed for fixed installation in lighting and electric lines and also for installing equipment, machines, tools and machinery with nominal AC voltage up to 450 V and with 400 Hz frequency or DC voltage up to 1000 V.
ПВ 1	A wire with a copper strand and with PVC insulation.	1	0,5-6,0	
ПВ 2	A flexible wire with a copper strand and with PVC insulation.	2,3	0,5-240,0	
ПВ 3	A highly flexible wire with a copper strand and with PVC insulation.	3,4	0,5-240,0	
ПВ5	A flexible wire with a copper strand and with PVC insulation.	5,6	16-120	
АППВ	A flat zip wire with aluminum strands (two or three) with PVC insulation.	1	2,5 И 4,0	
ППВ	A flat zip wire with copper strands (two or three) with PVC insulation.	1	1,0;1,5;2,5;4,0	

## CABLING AND WIRING PRODUCTS

Model	Design	Number of Strands	Cross-section, mm <sup>2</sup>	Purpose of Use
ПВС	Current conducting copper strands of Class 5, insulated with PVC plasticate, twisted into concentric layers and sheathed with PVC plasticate of different colors.	2 - 5	0,75-6	Used to connect electronic equipment and home care and repair devices, cloth washers, refrigerators, garden tools and other similar equipment, and also to manufacture extension cords.
ШВВП	Current conducting copper strands of Class 5, insulated with PVC plasticate, laid parallel in the same angle and sheathed with PVC plasticate of different colors.	2 and 3	0,5 and 0,75	Used to connect personal care or climate control devices, electric soldering irons, lamps, kitchen appliances, electronic equipment and other similar devices, and also to manufacture extension cords.

FLEXIBLE WIRE AND CORDS  
WITH VOLTAGE - 450/750 V (GOST 7399-97)

## CABLING AND WIRING PRODUCTS

Model	Design	Number of Strands	Cross-section, mm <sup>2</sup>	Purpose of Use
СБВГ	A signal and blocking cable with copper strands: insulated with PE and sheathed with PVC plasticate.	3 - 30 3 - 42	0,8; 0,9; 1,0	For single installation in-doors, in dry ducts and tunnels, in corrosive environments, without mechanical impact on the cable.
СБВГнг	The same cable and also sheathed with fire-resistant plasticate.	3 - 30 3 - 42	0,8; 0,9; 1,0	The same, but for batch installation.
СБВБГ	The same cable and also sheathed with PVC plasticate and armored with two steel strips.	3 - 42 3 - 42	0,9; 1,0	For single installation in dry cable ducts, tunnels, manifolds, in places where cables may be exposed to mechanical impact, including insignificant tensile force.
СБВБГнг	The same cable and also sheathed with fire-resistant plasticate.	3 - 42 3 - 42	0,9; 1,0	The same, but for batch installation.
СБВББШвнг	The same cable and also sheathed with fire-resistant PVC plasticate, armored with two steel strips, jacketed with fire-resistant PVC plasticate.	3 - 42 3 - 42	0,9; 1,0	The same, but in corrosive environments.
СБПББШв	A signal and blocking cable with copper strands: insulated with PE, sheathed with PE, armored with two steel strips, jacketed in PVC plasticate hose.	3 - 42 3 - 42	0,9; 1,0	For installation in ducts, tunnels, manifolds, in plastic pipelines. For burying in soil when cable is not exposed to significant tensile force.
СБЗПББШв	The same cable and also with water-blocking cable core filling.	3 - 42 3 - 42	0,9; 1,0	The same, but in high humidity.
СБПВГ	A signal and blocking cable with copper strands: insulated with PE, sheathed with PE and armored with two steel strips.	3 - 42 3 - 42	0,9; 1,0	For installation in ducts, in places where cable may be exposed to mechanical impact, but not to tensile force.
СБПБ	A signal and blocking cable with copper strands: insulated with PE, sheathed with PE and armored with two steel strips.	3 - 42 3 - 42	0,9; 1,0	For burying in soil in corrosive environments, when cable is not exposed to significant tensile force.

## CABLING AND WIRING PRODUCTS

Model	Design	Number of Strands	Cross-section, mm <sup>2</sup>	Operating voltage	Purpose of Use
СБПБ6Шп	The same and also sheathed with PE material, armored with two steel strips, jacketed in PE hose.	3 - 42 3 - 42	0,9;1,0	380 V AC, 50 Hz or 700 V DC.	For installation in plastic pipelines. For burying in soil where cable may be exposed to mechanical impact, but not to tensile force.
СБЗПБ6Шп	The same cable and also with water-blocking cable core filling.	3 - 42 3 - 42	0,9;1,0	380 V AC, 50 Hz or 700 V DC.	The same, but in high humidity.
СБЗПБ	The same cable and also with water-blocking cable core filling.	3 - 42 3 - 42	0,9, 1,0		
СБЗПБГ	A signal and blocking cable with copper strands: insulated with PE, sheathed with PE, armored with two steel strips, and also with water-blocking cable core filling.	3 - 42 3 - 42	0,9;1,0	380 V AC, 50 Hz or 700 V DC.	
СБПу	A signal and blocking cable with copper strands: insulated with PE, thick sheathed with PE.	3 - 42 3 - 42	0,9;1,0	380 V AC, 50 Hz or 700 V DC	For installation in plastic pipelines. For burying in soil in corrosive environments without mechanical impact.
СБЗПу	The same cable and also with water-blocking cable core filling.	3, 4, 5, 12, 16, 30, 33, 42	0,9, 1,0		The same, but in high humidity.
СБЗПУ(Э)	The same cable and also (shielded) with water-blocking cable core filling .	3 - 42 3 - 42	0,9;1,0	380 V AC, 50 Hz or 700 V DC.	
СБЗПЭБпШп	A signal and blocking cable with copper strands: insulated with PE, sheathed with PE, shielded, armored with two steel strips, with corrosion protection, jacketed in a PVC hose, and also with water-blocking cable core filling.	3 - 42 3 - 42	0,9;1,0	380 V AC, 50 Hz or 700 V DC	For installation in ducts, tunnels, manifolds, in plastic pipelines. For burying in soil when cable is not exposed to significant tensile force, in high humidity.

## CABLING AND WIRING PRODUCTS

Model	INPUT POWER, KW	Heating Time	Heating t° of the plate surface	Electric Shock Protection Class	Weight, kg.	Dimensions, mm	Minimum Heating Area
ПБН	1,0	1 hour	90°C	III	48	1000* 650*400	10 m <sup>2</sup>

Concrete heating plates are designed for additional building heating. They consist of the frame, concrete plate with a steel spiral heater that is placed around air channels. Plates are certified in the State Standard System of the Republic of Kazakhstan. Certificate № KZ.1910317.01.01.03091 issued on December 10, 2011.

A heater has nominal AC single phase voltage 220 V, 50 Hz.

Based on use conditions, a heater is rated as a device with unattended operation.

Guaranteed service life not less than one year starting from the purchase date.

Specified service life is 3 years.

Plates are ideally used to heat electric substations due to their efficiency, reliability, low cost and smaller dimensions instead of existing PET heaters.





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