



CABLE PRODUCTS

Control cable (GOST 1508-78, ST AO KEK-004-2024).

Control cables with aluminum conductors or aluminum alloy conductors are designed for fixed connection to stationary electrical devices, equipment, and clamp assemblies of electrical distribution devices with a nominal alternating voltage up to 660 V at a frequency of up to 100 Hz or a constant voltage up to 1000 V.

Unarmored control cables are used for installation in rooms, channels, and tunnels in the absence of mechanical influences.

Shielded control cables are used for installation in rooms, channels, and tunnels, in the absence of mechanical influences and the need to protect electrical circuits from the effects of external electric fields.

Control cables armored with steel tapes are used for installation in rooms, channels, tunnels, underground (in trenches), including in aggressive environments and in areas exposed to stray currents, provided the cable is not subjected to significant tensile forces.

Control cables armored with steel wires are used for installation in rooms, channels, tunnels, underground (in trenches), including in aggressive environments and in areas exposed to stray currents, provided the cable is subjected to significant tensile forces.



- Conductive conductors:
 - Class 1 according to GOST 22483-2021;
 - Conductor cross-section from 2.5 mm² to 10 mm²;
 - Number of conductors in the cable from 4 to 61;
 - Color or numerical conductor marking.
- Cables may have a common core shield made of:
 - Copper foil or copper tape;
 - Aluminum foil;
 - Alu-polymer tape;
 - Copper-polymer tape.



- Cables may have protective armor:
 - Made of galvanized steel wires;
 - Made of galvanized steel tapes.



- Wide operating temperature range: from minus 60 to plus 50 °C.
Minimum cable installation temperature: minus 15 °C.



- Climate design UHL, HL, T, placement categories 2-5 (according to GOST 15150-69).



- Warranty period for cable operation is 3 years.
Service life of cables is at least 15 years from the date of manufacture.

Cable construction

A single-wire current-carrying conductor made of aluminum or aluminum alloy, round in shape, class 1 according to GOST 22483-2021.

Nominal cross-section and number of conductors

Nominal conductor cross-section, mm ²	Number of conductors
2,5	4; 5; 7; 10; 14; 19; 27; 37
4; 6; 10	4; 5; 10

By agreement with the customer, cables with a different number of conductors can be manufactured.



The insulation of the conductors can be made from the following materials:

«V» – polyvinyl chloride plastisol, including low fire hazard type;

«P» – polymer composition, free from halogens.

The marking of insulated conductors can be either color-coded or numerical (with the distance between digits not exceeding 35 mm).

Cables without the letter «C» in their designation must have a counting pair in each twist, with the insulated conductors of this pair differing in color from each other and from the other conductors. The color marking should be solid or in the form of longitudinal stripes with a width of at least 1 mm.

Insulated conductors in round cables are twisted into a core.

Insulated conductors in flat cables are arranged in one plane.

Shield:

«E» – shield made of copper or aluminum tape (foil), or aluminum-polymer tape, or copper-polymer tape.

Outer sheath:

«V» – polyvinyl chloride plastisol, including low combustibility and low fire hazard types;

«P» – polymer composition, free from halogens.

Protective armor:

«Bb» – separating layer (inner sheath) and armor made of two galvanized steel tapes;

«Kb» – separating layer (inner sheath) and armor made of galvanized steel wires.

A protective hose is applied over the armor:

«Shv» – made of polyvinyl chloride plastisol, including low combustibility or low fire hazard types;

«P» – polymer composition, free from halogens.

The color of the outer sheath/protective hose of the cable is determined by agreement with the consumer. In the absence of specifications, cables are made in black color.

Cable manufacturing according to the customer's specifications:

- with a different number and nominal cross-section of conductors;
- with a different class of current-carrying conductors;
- with a colored outer sheath/protective hose (red, white, blue, or another color).

Technical specifications

Nominal voltage	– alternating voltage up to 660 V with a frequency up to 100 Hz – direct voltage up to 1000 V
Insulation resistance during operation, $t = +20\text{ }^{\circ}\text{C}$, not less than	9 M Ω (conductor cross-section from 2.5 to 4.0 mm ²); 6 M Ω (conductor cross-section from 6.0 to 10.0 mm ²).
Electrical resistance of conductors at $t = +20\text{ }^{\circ}\text{C}$, not less than	complies with GOST 22483-2021
Testing of cables with alternating voltage at a frequency of 50 Hz (5 minutes)	2500 V
Ambient temperature, upper limit	plus 50 $^{\circ}\text{C}$
Ambient temperature, lower limit	minus 50 $^{\circ}\text{C}$
Installation at a temperature not lower than	Non-armored: minus 15 $^{\circ}\text{C}$ Armored: minus 7 $^{\circ}\text{C}$
Maximum operating temperature of the conductor	plus 70 $^{\circ}\text{C}$
Resistance to mould fungi	Cables resistant to mould fungi, fouling degree up to 2 points
Minimum allowable bending radius of cables	– for armored cables – 10 calculated outer diameters of the cable; – for non-armored cables – 6 calculated outer diameters of the cable
Service life of cables, not less than	15 years (when installed in rooms, tunnels, channels – 25 years)
Warranty period of operation	3 years

Classification of cables according to fire hazard indicators.

Designation of cable type in terms of fire hazard indicators.	Cable type according to fire hazard indicators as per GOST 31565-2012.
(without index)	Cables with insulation, outer sheath, or protective hose made of polyvinyl chloride plastic, non-flame propagating when installed singly.
ng(A)	Cables with polyvinyl chloride plastic insulation, with an outer sheath or protective hose made of low-flammability polyvinyl chloride plastic, non-flame propagating when installed in groups according to category A.
ng(A)-LS	Cables with insulation, outer sheath, or protective hose made of low fire hazard polyvinyl chloride plastic, non-flame propagating when installed in groups according to category A, with reduced smoke and gas emission.
ng(A)-LSLTx	Cables with insulation, outer sheath, or protective hose made of low fire hazard polyvinyl chloride plastic, non-flame propagating when installed in groups according to category A, with reduced smoke and gas emission, and low toxicity of combustion products.
ng(A)-HF	Cables with insulation, outer sheath, or protective hose made of a polymer composite, halogen-free, non-flame propagating when installed in groups according to category A, and not emitting corrosive gaseous products during combustion and smoldering.

Ordering designation

