

## **ВБВнгд-FR 4x4-1 ТУ У 31.3-00214534-055:2006**

Fire-resistant power cables with copper conductors, with low fire-risk PVC-compound insulation, galvanized steel-tape armoured, with low fire-risk PVC-compound outer sheath

Cables are used for laying:

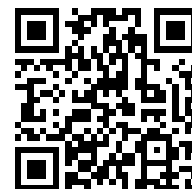
- *in bunches*
- *in premises, dry ducts and tunnels, in corrosive environment*
- *in places, where small mechanical impacts on cable are possible, including tensile forces*
- *in bunches, in crowded places*
- *power supply cable lines of NPP safety system equipment, circuits wiring of fire safety systems (fire alarm circuits, power supply of fire-fighting pumps, lightning of emergency exits and evacuation routes, smoke exhaust and blowing ventilation systems, evacuation elevators); for wiring in hospital surgical wings, emergency and equipment (current collectors) power supply circuits, operating in a fire emergency*

Manufacturing of extruded fire-resistant barrier is possible

Fire safety code in accordance with ДСТУ 4809:2007: ПБ123121080

Products of this mark meet the requirements:

- *single wire cable flame retardance*
- *bunched cable flame retardance category A*
- *toxicity class Tk3 of the combustion products of nonmetallic elements (toxicity index over 120 g/m<sup>3</sup>)*
- *class ДТк1 on smoke-forming ability by smouldering of non-metallic elements (coefficient of smoke formation from 50 to 500 m<sup>2</sup>/kg)*
- *class ДПк2 on smoke-forming ability by combustion (minimum luminous flux more than 60 %)*
- *corrosive class Kк1 of combustion products of non-metallic elements (the number of halogen hydrides less than 150 mg/g, pH less than 4.3, specific conductivity more than 10 μS/mm)*
- *flame-resistant class FE180 under fire conditions with a temperature not less than 750 °C*



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### TECHNICAL SPECIFICATIONS

Rated voltage	kV	1
Number and rated area of conductors	mm <sup>2</sup>	4 x 4
Phase insulation thickness	mm	1
Permissible continious current rating (AC of industrial frequency) *		
• by aerial laying	A	33
• by burial	A	43
Maximum permissible conductor temperature		
• Continuous	°C	+70
• in emergency operation	°C	+80
• at short circuit	°C	+250
Operating temperature range	°C	-50 ... +50
Minimum bending radius by laying	mm	165
Rated outer diameter of the cable (for reference) **	mm	22
Cable weight (approximate)	kg/km	670
Rated factory cable length and gross weight of the delivery on the drums ***	m, t	# 14: 1300 • 1.1

#### Notes:

When ordering it is necessary to agree the factory length of the product with the manufacturer

\* Long permissible current loads are calculated during operation in four-wire networks with load in all the conductors for the following conditions: air temperature plus 25 °C, soil temperature plus 15 °C, thermal resistivity of soil 1.2 °K·m/W, laying depth in the soil 0.7 m

\*\* The external diameter may differ from the rated up to ± 10 %

### CONSTRUCTION

1. Copper conductor
2. Fire-resistant barrier
3. Low fire-risk PVC compound insulation
4. Low fire-risk PVC-compound inner sheath
5. Double galvanized steel-tape armour
6. Low fire-risk PVC compound outer sheath

Note: Conductor twisting is not illustrated

