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## ВБВнгд-FR 5х4-1 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/m³)
- class  $\Pi T \kappa 1$  on smoke-forming ability by smouldering of non-metallic elements (coefficient of smoke formation from 50 to 500 m<sup>2</sup>/kg)
- class ДΠκ2 on smoke-forming ability by combustion (minimum luminous flux more than 60 %)
- corrosive class K $\kappa$ 1 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  $\mu$ S/mm)
- flame-resistant class FE180 under fire conditions with a temperature not less than 750 °C









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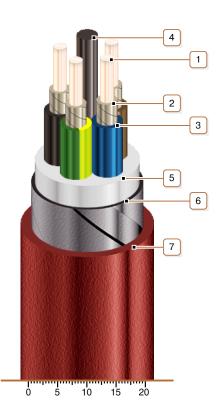
### **TECHNICAL SPECIFICATIONS**

Rated voltage	kV	1
Number and rated area of conductors	mm²	5 x 4
Phase insulation thikness	mm	1
Permissible continious current rating (AC of industrial frequency) *		
• by aerial laying	Α	33
• by burial	Α	43
Maximum permissible conductor temperature		
Continious	°C	+70
in emergency operation	°C	+80
at short circuit	°C	+250
Operating temperature range	°C	-50 +50
Minimum bending radius by laying	mm	180
Rated outer diameter of the cable (for reference) **	mm	24
Cable weight (approximate)	kg/km	760
Rated factory cable length and gross weight of the delivery	m, t	# 14: 1090 • 1.0
on the drums ***		

#### Notes:

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

<sup>\*\*</sup> The external diameter may differ from the rated up to  $\pm$  10 %



#### CONSTRUCTION

- 1. Copper conductor
- 2. Fire-resistant barrier

Note: Manufacturing of extruded fire-resistant barrier is possible

- 3. Low fire-risk PVC compound insulation
- 4. Low fire-risk PVC-compound bundle
- 5. Low fire-risk PVC-compound inner sheath
- 6. Double galvanized steel-tape armour
- 7. Low fire-risk PVC compound outer sheath

Note: Conductor twisting is not illustrated

<sup>\*</sup> Long permissible current loads are calculated 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