



## **ВВГнгд-FR 4x120-1** **ТУ У 31.3-00214534-055:2006**

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

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Cables are used for laying:

- *in bunches*
  - *in premises, dry ducts and tunnels, in corrosive environment*
  - *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*
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Manufacturing of cable with low fire-risk PVC compound inner sheath is possible

Manufacturing of extruded fire-resistant barrier is possible

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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 Кк1 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 120                                                |
| Phase insulation thickness                                                   | mm              | 1.6                                                    |
| Permissible continuous current rating (AC of industrial frequency) *         |                 |                                                        |
| • by aerial laying                                                           | A               | 280                                                    |
| • by burial                                                                  | A               | 294                                                    |
| 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              | 322.5                                                  |
| Rated outer diameter of the cable (for reference) **                         | mm              | 43                                                     |
| Cable weight (approximate)                                                   | kg/km           | 5510                                                   |
| Rated factory cable length and gross weight of the delivery on the drums *** | m, t            | # 16a: 520 • 3.1<br># 18: 600 • 3.8<br># 20: 960 • 5.9 |

#### 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 multiwire compact conductor
2. Fire-resistant barrier
3. Low fire-risk PVC compound insulation
4. PET film winding
5. Low fire-risk PVC compound outer sheath

Note: Conductor twisting is not illustrated

