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# ПвЭАкПнг-НF-20 1x70 ТУ У 31.3-00214534-058:2007

Single-core power cables with copper conductor, flame-retardant and halogen-free, with XLPE, aluminium-wire armoured, with polymer compound outer sheath

Due to non-magnetic armour, cables operate at AC Technical cable requirements correspond to IEC 60502-2

Cables are used for laying:

- in places, where small mechanical impacts on cable are possible, including tensile forces
- in premises, tunnels, ducts, mines, dry soil and outdoor under shelter
- at sites, where low smoke and corrosive gas emission are required (NPP, subway, large industrial facilities,
- high-rise buildings, etc.)

single laying

It is possible to manufacture cables with extruded semiconductor layer along outer sheath. Order entry example:

ПвЭАкПнг-НГ-П-20 1х70/16 ТУ У 31.3-00214534-058:2007

An extruded semiconductor layer along outer sheath ensures the correct testing of cable line with sections of underground laying in polymer pipes.

It is possible to manufacture cables with an integrated fiber-optic module.

Order entry example:

ПвЭАкПнг-HF-20 1x70/16 (ОМ) ТУ У 31.3-00214534-058:2007

In conjunction with the DTS system, the integrated fiber-optic module can act as a distributed cable line temperature sensor.

It is possible to manufacture cable with sealed conductor. Order entry example: ПвЭАкПнг-HF-20 1x70/16 (г) ТУ У 31.3-00214534-058:2007

It is possible manufacturing of cables in versions (A) and (B), flame-retardant when laying in bunches

Fire safety code in accordance with ДСТУ 4809:2007: ΠБ102122000 Products of this mark meet the requirements:

• single wire cable flame retardance

• toxicity class Tk2 of the combustion products of nonmetallic elements (toxicity index from 40 up to 120 g/m<sup>3</sup>)

• class  $\[mu]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 ДПк2 on smoke-forming ability by combustion (minimum luminous flux more than 60 %)

• corrosive class Kk2 of combustion products of non-metallic elements (the number of halogen hydrides less than 150 mg/g, pH more than 4.3, specific conductivity less than 10  $\mu$ S/mm)





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### **TECHNICAL SPECIFICATIONS**

Rated voltage	kV	20
Maximum voltage	kV	24
Number and rated area of conductors	mm²	1 x 70
Insulation thikness	mm	5.5
Minimum screen cross-section	mm²	16
Permissible short circuit current across the screen of	kA	3.3
minimum cross-section		
Maximum permissible short-circuit current in core	kA	10
Permissible continious current rating *		
by aerial laying in trefoil formation	А	296
• by aerial flat laying	А	356
by burial in trefoil formation	А	239
• by burial flat	А	246
Partial discharge factor for rated voltage, not more than	рС	6
Maximum permissible conductor temperature		
Continious	°C	+90
in emergency operation	°C	+130
at short circuit	°C	+250
Operating temperature range	°C	-60 +50
Minimum bending radius by laying	mm	640
Rated outer diameter of the cable (for reference) **	mm	40
Cable weight (approximate)	kg/km	2200
Rated factory cable length and gross weight of the delivery	m, t	# 18аУД-40: 1062 • 2.9
on the drums ***		# 22УД-60: 1093 • 3.3
		# 20аУД-60: 1244 • 3.4

Notes:

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

\* Long permissible current loads are calculated for the following conditions: conductor temperature 90 °C, air temperature 30 °C, soil temperature 20 °C, thermal resistivity of soil 1.5 °K • m/W, laying depth in the soil 0.8 m, while laying in flat formation the distance between cables in clear is equal to the cable diameter, while laying in trefoil formation cables are laid side by side, shields are earthed on both ends of the line

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

\*\*\* Отклонение фактической массы брутто от указанного значения может составлять  $\pm$  7 %



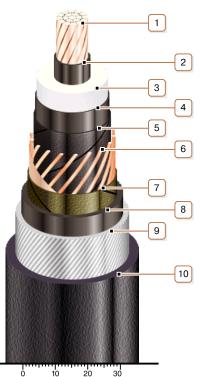


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#### **CONSTRUCTION**

- 1. Copper multiwire compact conductor
- Note: It is possible to manufacture cable with sealed conductor.
- 2. Inner extruded semiconducting layer
- 3. XLPE insulation
- 4. Outer extruded semiconducting layer
- 5. Lapping layer of semiconductive swellable tape
- 6. Copper screen
- 7. Lapping layer of nonwoven cloth tape
- 8. Extruded bedding of polyethylene
- 9. Aluminium-wire armour

10. Polymer compound outer sheath:flame-retardant and halogen-free Note: It is possible to manufacture cable with extruded semiconductor layer along outer sheath

10 20 30