



## **АПВЭВнгд-10 3x120 ТУ У 31.3-00214534-017-2003**

Power cables with aluminium conductors, flame-retardant, with XLPE and PVC compound outer sheath, with low smoke and gas emission

For the cable of this mark correspond the foreign-made analogues:

АПВВнг(В)-LS (RU) • АПВВнг(А)-LS (RU)

Technical cable requirements correspond to IEC 60502-2

Cables are used for laying:

- *in premises, tunnels, ducts, mines, dry soil and outdoor under shelter*
- *in bunches*
- *at sites, where low smoke and gas emission are required (NPP, subway, large industrial facilities, high-rise buildings, etc.)*

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

Order entry example:

АПВЭВнгд-10 3x120/16 (ОМ) ТУ У 31.3-00214534-017-2003

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 conductors.

Order entry example:

АПВЭВнгд-10 3x120/16 (г) ТУ У 31.3-00214534-017-2003

Fire safety code in accordance with ДСТУ 4809:2007: ПБ132121000

Products of this mark meet the requirements:

- *single wire cable flame retardance*
- *bunched cable flame retardance category B*
- *toxicity class Tk2 of the combustion products of nonmetallic elements (toxicity index from 40 up to 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 Kk1 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)*



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### TECHNICAL SPECIFICATIONS

Rated voltage	kV	10
Maximum voltage	kV	12
Number and rated area of conductors	mm <sup>2</sup>	3 x 120
Insulation thickness	mm	3.4
Minimum screen cross-section	mm <sup>2</sup>	16
Permissible short circuit current across the screen of minimum cross-section	kA	3.3
Maximum permissible short-circuit current in core	kA	11.3
Permissible continuous current rating *		
• <i>by aerial laying</i>	A	273
• <i>by burial</i>	A	232
Partial discharge factor for rated voltage, not more than	pC	6
Maximum permissible conductor temperature		
• <i>Continuous</i>	°C	+90
• <i>in emergency operation</i>	°C	+130
• <i>at short circuit</i>	°C	+250
Operating temperature range (in climate version NF)	°C	-50 ... +50
Operating temperature range (in climate version T)	°C	-25 ... +65
Minimum bending radius by laying	mm	928
Rated outer diameter of the cable (for reference) **	mm	58
Cable weight (approximate)	kg/km	3910
Rated factory cable length and gross weight of the delivery on the drums	m, t	# 18аУД-40: 423 • 2.2 # 20аУД-60: 526 • 2.8 # 25УД-90: 838 • 4.8

#### Notes:

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

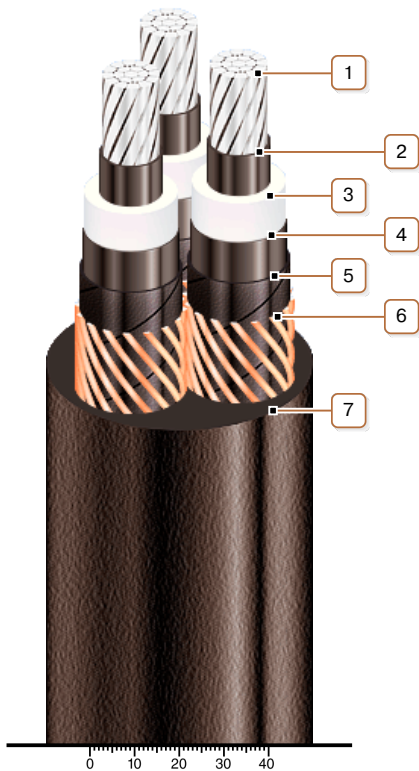
\* Long permissible current loads are calculated for the following conditions: conductor temperature 90 °C, air temperature 30 °C, soil temperature 20 °C, load factor 1.0, thermal resistivity of soil 1.5 °K·m/W, laying depth in the ground 0.8 m, shields are grounded at both ends of the line

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



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### CONSTRUCTION

#### 1. Aluminium multiwire compacted conductor

Notes:

- It is possible to manufacture cable with a single-wire conductor
- It is possible to manufacture cable with sealed conductors.

#### 2. Inner extruded semiconducting layer

#### 3. XLPE insulation

#### 4. Outer extruded semiconducting layer

#### 5. Lapping layer of semiconductive swellable tape

#### 6. Copper screen

#### 7. Low fire-risk PVC compound outer sheath

Note: Conductor twisting is not illustrated