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# АПвЭАкП-20 1х500 ТУ У 31.3-00214534-017-2003

Single-core power cables with aluminium conductor, with XLPE, aluminium-wire armoured, with polyethylene outer sheath

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

AI/XLPE/CWS/PE/AWA/MDPE (GB) · XHAKXSAx (PL)

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 soil (trenches)
- in the air, including cable structures, if provided the additional fire protection

It is possible to manufacture cables with extruded semiconductor layer along outer sheath.

Order entry example:

АПВЭАКП-П-20 1х500/35 ТУ У 31.3-00214534-017-2003

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:

АПвЭАкП-20 1x500/35 (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 conductor.

Order entry example:

АПвЭАкП-20 1х500/35 (г) ТУ У 31.3-00214534-017-2003







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## **TECHNICAL SPECIFICATIONS**

Rated voltage	kV	20
Maximum voltage	kV	24
Number and rated area of conductors	mm²	1 x 500
Insulation thikness	mm	5.5
Minimum screen cross-section	mm²	35
Permissible short circuit current across the screen of	kA	7.1
minimum cross-section		
Maximum permissible short-circuit current in core	kA	47
Permissible continious current rating *		
by aerial laying in trefoil formation	Α	786
by aerial flat laying	Α	881
by burial in trefoil formation	Α	526
• by burial flat	Α	522
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	928
Rated outer diameter of the cable (for reference) **	mm	58
Cable weight (approximate)	kg/km	3970
Rated factory cable length and gross weight of the delivery	m, t	# 22УД-60: 499 • 2.9
on the drums		# 25УД-90: 838 • 4.9

#### Notes:

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

<sup>\*</sup> 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

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



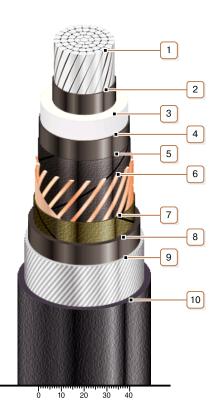




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### **CONSTRUCTION**

- 1. Aluminium multiwire compacted 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. Outer sheath of polyethylene or polyethylene copolymer Note: It is possible to manufacture cable with extruded semiconductor layer along outer sheath