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# АПвЭАкПу-35 1x800 ТУ У 31.3-00214534-017-2003

Single-core power cables with aluminium conductor, with XLPE, aluminium-wire armoured, with strengthened polyethylene 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 soil (trenches)
- · on difficult route sections, according to the unique specification
- 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:

АПвЭАкПу-П-35 1х800/35 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:

АПвЭАкПу-35 1х800/35 (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:

АПвЭАкПу-35 1х800/35 (г) ТУ У 31.3-00214534-017-2003







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## АПвЭАкПу-35 1x800 ТУ У 31.3-00214534-017-2003

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## **TECHNICAL SPECIFICATIONS**

Maximum voltagekV42Number and rated area of conductorsmm²1 x 800Insulation thiknessmm8.6Minimum screen cross-sectionmm²35Permissible short circuit current across the screen of minimum cross-sectionkA7.1Maximum permissible short-circuit current in corekA75.2Permissible continious current rating * • by aerial laying in trefoil formationA1041• by aerial flat layingA1132• by burial in trefoil formationA664• by burial flatA647Partial discharge factor for rated voltage, not more thanpC6Maximum permissible conductor temperature• Continious° C+90• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1200Rated outer diameter of the cable (for reference) **mm75Cable weight (approximate)kg/km6250Rated factory cable length and gross weight of the delivery on the drums ***m, t# 25УД-90: 443 • 4.3	Rated voltage	kV	35
Insulation thikness mm 8.6  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 75.2  Permissible continious current rating *  · by aerial laying in trefoil formation A 1041  · by aerial flat laying A 1132  · by burial in trefoil formation A 664  · by burial flat  Partial discharge factor for rated voltage, not more than pC 6  Maximum permissible conductor temperature  · Continious	Maximum voltage	kV	42
Minimum screen cross-sectionmm²35Permissible short circuit current across the screen of minimum cross-sectionkA7.1Maximum permissible short-circuit current in corekA75.2Permissible continious current rating * • by aerial laying in trefoil formationA1041• by aerial flat layingA1132• by burial in trefoil formationA664• by burial flatA647Partial discharge factor for rated voltage, not more thanpC6Maximum permissible conductor temperature• Continious° C+90• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1200Rated outer diameter of the cable (for reference) **mm75Cable weight (approximate)kg/km6250Rated factory cable length and gross weight of the deliverym, t# 25УД-90: 443 · 4.3	Number and rated area of conductors	mm²	1 x 800
Permissible short circuit current across the screen of minimum cross-section  Maximum permissible short-circuit current in core kA 75.2  Permissible continious current rating *  • by aerial laying in trefoil formation A 1041  • by aerial flat laying A 1132  • by burial in trefoil formation A 664  • by burial flat A 664  • by burial flat A 647  Partial discharge factor for rated voltage, not more than pC 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 1200  Rated outer diameter of the cable (for reference) ** mm 75  Cable weight (approximate) kg/km 6250  Rated factory cable length and gross weight of the delivery m, t # 25УД-90: 443 • 4.3	Insulation thikness	mm	8.6
minimum cross-section  Maximum permissible short-circuit current in core  RA 75.2  Permissible continious current rating *  · by aerial laying in trefoil formation  A 1041  · by aerial flat laying  A 1132  · by burial in trefoil formation  A 664  · by burial flat  Partial discharge factor for rated voltage, not more than  PC 6  Maximum permissible conductor temperature  · Continious  · C +90  · in emergency operation  · at short circuit  Coperating temperature range  Minimum bending radius by laying  Rated outer diameter of the cable (for reference) **  Rated factory cable length and gross weight of the delivery  m, t # 25УД-90: 443 · 4.3	Minimum screen cross-section	mm²	35
Maximum permissible short-circuit current in core  RA 75.2  Permissible continious current rating *  • by aerial laying in trefoil formation  A 1041  • by aerial flat laying  A 1132  • by burial in trefoil formation  A 664  • by burial flat  Partial discharge factor for rated voltage, not more than  Partial discharge factor for rated voltage, not more than  Continious  Continious  Continious  Continious  Contraction of Contraction  Contraction of Contraction  A 647  Partial discharge factor for rated voltage, not more than  Continious  Continious  Continious  Contraction of Contractio	Permissible short circuit current across the screen of	kA	7.1
Permissible continious current rating *  • by aerial laying in trefoil formation  • by aerial flat laying  • by burial in trefoil formation  • by burial in trefoil formation  • by burial flat  • by burial flat  • by burial flat  A 647  Partial discharge factor for rated voltage, not more than  pC 6  Maximum permissible conductor temperature  • Continious  • C +90  • in emergency operation  • C +130  • at short circuit  • C +250  Operating temperature range  Minimum bending radius by laying  Rated outer diameter of the cable (for reference) **  mm 75  Cable weight (approximate)  Rated factory cable length and gross weight of the delivery  m, t #25УД-90: 443 • 4.3	minimum cross-section		
<ul> <li>by aerial laying in trefoil formation</li> <li>by aerial flat laying</li> <li>by burial in trefoil formation</li> <li>by burial in trefoil formation</li> <li>by burial flat</li> <li>by burial flat</li> <li>A 647</li> <li>Partial discharge factor for rated voltage, not more than</li> <li>C 6</li> <li>Maximum permissible conductor temperature</li> <li>Continious</li> <li>C +90</li> <li>in emergency operation</li> <li>C +130</li> <li>at short circuit</li> <li>C +250</li> <li>Operating temperature range</li> <li>C -60 +50</li> <li>Minimum bending radius by laying</li> <li>mm 1200</li> <li>Rated outer diameter of the cable (for reference) **</li> <li>mm 75</li> <li>Cable weight (approximate)</li> <li>kg/km 6250</li> <li>Rated factory cable length and gross weight of the delivery</li> <li>m, t # 25УД-90: 443 · 4.3</li> </ul>	Maximum permissible short-circuit current in core	kA	75.2
<ul> <li>by aerial flat laying</li> <li>by burial in trefoil formation</li> <li>by burial flat</li> <li>by burial flat</li> <li>Cottinious</li> <li>in emergency operation</li> <li>at short circuit</li> <li>Coperating temperature range</li> <li>Cominimum bending radius by laying</li> <li>Rated outer diameter of the cable (for reference)</li> <li>by burial flat laying</li> <li>A 664</li> <li>A 647</li> <li>C 6</li> <li>C +90</li> <li>C +90</li> <li>C +130</li> <li>C +250</li> <li>C -60 +50</li> <li>Minimum bending radius by laying</li> <li>Mm 1200</li> <li>Rated outer diameter of the cable (for reference) **</li> <li>Mg/km 6250</li> <li>Rated factory cable length and gross weight of the delivery</li> <li>M, t #25УД-90: 443 • 4.3</li> </ul>	Permissible continious current rating *		
• by burial in trefoil formationA664• by burial flatA647Partial discharge factor for rated voltage, not more thanpC6Maximum permissible conductor temperature• Continious° C+90• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1200Rated outer diameter of the cable (for reference) **mm75Cable weight (approximate)kg/km6250Rated factory cable length and gross weight of the deliverym, t# 25УД-90: 443 • 4.3	by aerial laying in trefoil formation	Α	1041
・ by burial flat A 647 Partial discharge factor for rated voltage, not more than pC 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 1200 Rated outer diameter of the cable (for reference) ** mm 75 Cable weight (approximate) kg/km 6250 Rated factory cable length and gross weight of the delivery m, t # 25УД-90: 443 • 4.3	• by aerial flat laying	Α	1132
Partial discharge factor for rated voltage, not more than pC 6  Maximum permissible conductor temperature  • Continious  • in emergency operation  • at short circuit  • C +250  Operating temperature range  Minimum bending radius by laying  Rated outer diameter of the cable (for reference) **  Cable weight (approximate)  Rated factory cable length and gross weight of the delivery  pC +90  * C +130  * C +250  C -60 +50  mm 1200  mm 75  Kg/km 6250  Rated factory cable length and gross weight of the delivery  m, t # 25УД-90: 443 • 4.3	by burial in trefoil formation	Α	664
Maximum permissible conductor temperature°C+90• Continious°C+90• in emergency operation°C+130• at short circuit°C+250Operating temperature range°C-60 +50Minimum bending radius by layingmm1200Rated outer diameter of the cable (for reference) **mm75Cable weight (approximate)kg/km6250Rated factory cable length and gross weight of the deliverym, t# 25УД-90: 443 • 4.3	• by burial flat	Α	647
• Continious° C+90• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1200Rated outer diameter of the cable (for reference) **mm75Cable weight (approximate)kg/km6250Rated factory cable length and gross weight of the deliverym, t# 25УД-90: 443 • 4.3	Partial discharge factor for rated voltage, not more than	рС	6
• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1200Rated outer diameter of the cable (for reference) **mm75Cable weight (approximate)kg/km6250Rated factory cable length and gross weight of the deliverym, t# 25УД-90: 443 • 4.3	Maximum permissible conductor temperature		
* at short circuit  C +250 Operating temperature range  C -60 +50 Minimum bending radius by laying mm 1200 Rated outer diameter of the cable (for reference) ** Cable weight (approximate) Rated factory cable length and gross weight of the delivery m, t # 25УД-90: 443 • 4.3	Continious	°C	+90
Operating temperature range° C-60 +50Minimum bending radius by layingmm1200Rated outer diameter of the cable (for reference) **mm75Cable weight (approximate)kg/km6250Rated factory cable length and gross weight of the deliverym, t# 25УД-90: 443 • 4.3	· in emergency operation	°C	+130
Minimum bending radius by laying mm 1200 Rated outer diameter of the cable (for reference) ** mm 75 Cable weight (approximate) kg/km 6250 Rated factory cable length and gross weight of the delivery m, t # 25УД-90: 443 • 4.3	• at short circuit	°C	+250
Rated outer diameter of the cable (for reference) ** mm 75 Cable weight (approximate) kg/km 6250 Rated factory cable length and gross weight of the delivery m, t # 25УД-90: 443 • 4.3	Operating temperature range	°C	-60 +50
Cable weight (approximate) kg/km 6250 Rated factory cable length and gross weight of the delivery m, t # 25УД-90: 443 • 4.3	Minimum bending radius by laying	mm	1200
Rated factory cable length and gross weight of the delivery m, t # 25УД-90: 443 • 4.3	Rated outer diameter of the cable (for reference) **	mm	75
	Cable weight (approximate)	kg/km	6250
	Rated factory cable length and gross weight of the delivery on the drums ***	m, t	# 25УД-90: 443 • 4.3

#### 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 %

<sup>\*\*\*</sup> Отклонение фактической массы брутто от указанного значения может составлять ± 7 %



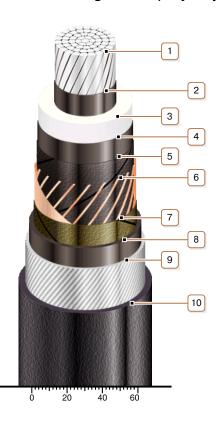




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### **CONSTRUCTION**

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. Strengthened polyethylene outer sheath

Note: It is possible to manufacture cable with extruded semiconductor layer along outer sheath