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ПвЭгаПнг-HF-20 3x35 ТУ У 31.3-00214534-058:2007

Power cables with copper conductors, flame-retardant and halogen-free, with XLPE, longitudinal and transverse screen sealing and polymer compound outer sheath

Technical cable requirements correspond to IEC 60502-2

Cables are used for laying:

- 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:

ПвЭгаПнг-НF-П-20 3х35/16 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:

ПвЭгаПнг-HF-20 3x35/16 (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 conductors.

Order entry example:

ПвЭгаПнг-НF-20 3х35/16 (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: ПБ102122000

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/m³)
- class $\protect\ensuremath{\mathsf{LTK1}}$ on smoke-forming ability by smouldering of non-metallic elements (coefficient of smoke formation from 50 to 500 m²/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 μ S/mm)







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Power cables with copper conductors, flame-retardant and halogen-free, with XLPE, longitudinal and transverse screen sealing and polymer compound outer sheath

TECHNICAL SPECIFICATIONS

Maximum voltagekV24Number and rated area of conductorsmm² 3×35 Insulation thiknessmm 5.5 Minimum screen cross-sectionmm² 16 Permissible short circuit current across the screen of minimum cross-sectionkA 3.3 Maximum permissible short-circuit current in corekA 5 Permissible continious current rating *. 4 4 . by aerial layingA 4 4 . by burialA 4 4 Partial discharge factor for rated voltage, not more thanpC 4 Maximum permissible conductor temperature 4 4 . Continious 4 4 4 . in emergency operation 4 4 4 . at short circuit 4 4 4 4 . The mergency operation at short circuit 4 4 4 4 . A short circuit 4 4 4 4 4 . A short circuit at a short circuit 4 4 4 4 . A short circuit at a sh	Rated voltage	kV	20
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 5 Permissible continious current rating * · by aerial laying A 170 · by burial A 153 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 944 Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180	Maximum voltage	kV	24
Minimum screen cross-sectionmm²16Permissible short circuit current across the screen of minimum cross-sectionkA3.3Maximum permissible short-circuit current in corekA5Permissible continious current rating * • by aerial layingA170• by burialA153Partial 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 layingmm944Rated outer diameter of the cable (for reference) **mm59Cable weight (approximate)kg/km4180	Number and rated area of conductors	mm²	3 x 35
Permissible short circuit current across the screen of minimum cross-section Maximum permissible short-circuit current in core kA 5 Permissible continious current rating * • by aerial laying A 170 • by burial A 153 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 Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180	Insulation thikness	mm	5.5
minimum cross-sectionKA5Permissible continious current rating *• by aerial layingA170• by burialA153Partial 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 layingmm944Rated outer diameter of the cable (for reference) **mm59Cable weight (approximate)kg/km4180	Minimum screen cross-section	mm²	16
Maximum permissible short-circuit current in core kA 5 Permissible continious current rating * • by aerial laying A 170 • by burial A 153 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 944 Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180	Permissible short circuit current across the screen of	kA	3.3
Permissible continious current rating * • by aerial laying • by burial Partial discharge factor for rated voltage, not more than Partial discharge factor for rated voltage, not more than 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 944 Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180	minimum cross-section		
 by aerial laying by burial Partial discharge factor for rated voltage, not more than Partial discharge factor for rated voltage, not more than pC 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 944 Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180 	Maximum permissible short-circuit current in core	kA	5
 by burial Partial discharge factor for rated voltage, not more than Maximum permissible conductor temperature Continious in emergency operation at short circuit C +250 Operating temperature range C -60 +50 Minimum bending radius by laying Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180 	Permissible continious current rating *		
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 • C -60 +50 Minimum bending radius by laying Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180	by aerial laying	Α	170
Maximum permissible conductor temperature• Continious° C+90• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm944Rated outer diameter of the cable (for reference) **mm59Cable weight (approximate)kg/km4180	• by burial	Α	153
 Continious in emergency operation at short circuit C +250 Operating temperature range C -60 +50 Minimum bending radius by laying Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180 	Partial discharge factor for rated voltage, not more than	рС	6
 in emergency operation at short circuit C +250 Operating temperature range C -60 +50 Minimum bending radius by laying Rated outer diameter of the cable (for reference) ** Cable weight (approximate) kg/km 4180 	Maximum permissible conductor temperature		
 at short circuit C +250 Operating temperature range C -60 +50 Minimum bending radius by laying mm 944 Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180 	Continious	° C	+90
Operating temperature range °C -60 +50 Minimum bending radius by laying mm 944 Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180	in emergency operation	° C	+130
Minimum bending radius by laying mm 944 Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180	• at short circuit	° C	+250
Rated outer diameter of the cable (for reference) ** mm 59 Cable weight (approximate) kg/km 4180	Operating temperature range	° C	-60 +50
Cable weight (approximate) kg/km 4180	Minimum bending radius by laying	mm	944
<u> </u>	Rated outer diameter of the cable (for reference) **	mm	59
D + 16 + 11 + 11 + 11 + 12 + 13 + 13 + 14 + 14 + 14 + 14 + 14 + 14	Cable weight (approximate)	kg/km	4180
Rated factory cable length and gross weight of the delivery m, t # 18ауд-40: 404 • 2.2	Rated factory cable length and gross weight of the delivery	m, t	# 18аУД-40: 404 • 2.2
on the drums *** # 20aУД-60: 500 • 2.8	on the drums ***		# 20aУД-60: 500 • 2.8
# 25УД-90: 838 • 5.1			# 25УД-90: 838 • 5.1

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 \pm 10 %

^{***} Отклонение фактической массы брутто от указанного значения может составлять $\pm\,7\,\%$







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CONSTRUCTION

- 1. Central polyethylene bundle
- 2. Copper multiwire compact conductor
 Note: It is possible to manufacture cable with sealed conductors.
- 3. Inner extruded semiconducting layer
- 4. XLPE insulation
- 5. Outer extruded semiconducting layer
- 6. Lapping layer of semiconductive swellable tape
- 7. Copper screen
- 8. Extruded filling of PVC compound
- 9. Alumopolymer tape
- 10. Polymer compound outer sheath:flame-retardant and halogen-free Note: It is possible to manufacture cable with extruded semiconductor layer along outer sheath

Note: Conductor twisting is not illustrated