







ПвЭгПнг-HF-60 1x500 ТУ У 31.3-00214534-060:2011

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

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

N2XSH (DE) · 2XSH (DE) · NUHKXS (PL)

Technical cable requirements correspond to IEC 60840

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.)

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

Order entry example:

ПвЭгПнг-НF-П-60 1х500/95 ТУ У 31.3-00214534-060:2011

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:

ПвЭгПнг-HF-60 1х500/95 (ОМ) ТУ У 31.3-00214534-060:2011

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:

ПвЭгПнг-НF-60 1х500/95 (г) ТУ У 31.3-00214534-060:2011

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/m³)
- class $\mathcal{L}T\kappa 1$ 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 $K\kappa 2$ 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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ПвЭгПнг-HF-60 1x500 ТУ У 31.3-00214534-060:2011

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

TECHNICAL SPECIFICATIONS

Maximum voltage kV 72.5 Conductor rated area mm² 500 Minimum screen cross-section mm² 95 Partial discharge factor for rated voltage, not more than pC 6 Permissible short circuit current across the screen of kA 7.1 Maximum permissible short-circuit current in core kA 71.5 Permissible continious current rating by aerial laying * - in trefoil formation with double-side screen earthing A 832 - in trefoil formation with single-side screen earthing or cross screen earthing - plane with double-side screen earthing or cross screen A 1071 - plane with single-side screen earthing or cross screen A 1071 - permissible continious current rating by burial * - in trefoil formation with double-side screen earthing or cross screen A 1071 - plane with single-side screen earthing or cross screen earthing - permissible continious current rating by burial * - in trefoil formation with double-side screen earthing or A 734 - ross screen earthing - plane with double-side screen earthing or A 734 - ross screen earthing - plane with single-side screen earthing or cross screen earthing - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen A 774 - plane with single-side screen earthing or cross screen earthing or cross screen earthing A 595 - plane with double-side screen earthing or cross screen earthing A 595 - plane with double-side s	Rated voltage	kV	60
Minimum screen cross-section mm² 95 Partial discharge factor for rated voltage, not more than pC 6 Permissible short circuit current across the screen of minimum cross-section Maximum permissible short-circuit current in core kA 71.5 Permissible continious current rating by aerial laying * - in trefoil formation with double-side screen earthing A 903 - in trefoil formation with single-side screen earthing or A 903 - plane with double-side screen earthing or cross screen earthing or plane with single-side screen earthing or cross screen earthing Permissible continious current rating by burial * - in trefoil formation with double-side screen earthing or A 1071 - plane with single-side screen earthing or cross screen earthing or a 1071 - plane with single-side screen earthing or A 734 - in trefoil formation with single-side screen earthing or A 734 - in trefoil formation with single-side screen earthing or A 734 - in trefoil formation with single-side screen earthing or A 774 - plane with double-side screen earthing or cross screen earthing ear	Maximum voltage	kV	72.5
Partial discharge factor for rated voltage, not more than pC 6 Permissible short circuit current across the screen of kA 7.1 minimum cross-section Maximum permissible short-circuit current in core kA 71.5 Permissible continious current rating by aerial laying * - in trefoil formation with double-side screen earthing A 832 - in trefoil formation with single-side screen earthing or cross screen earthing - plane with double-side screen earthing or cross screen earthing - plane with single-side screen earthing or cross screen A 1071 - plane with single-side screen earthing or cross screen A 1071 - plane with interfoil formation with double-side screen earthing or cross screen A 1071 - plane with interfoil formation with single-side screen earthing or A 734 - in trefoil formation with single-side screen earthing or A 734 - in trefoil formation with single-side screen earthing or A 734 - in trefoil formation with single-side screen earthing or A 734 - plane with double-side screen earthing or cross screen earthing - plane with double-side screen earthing or cross screen A 774 - arthing Maximum permissible conductor temperature - Continious - C +90 - in emergency operation - C +130 - at short circuit - C -60 +50 Minimum bending radius by laying Mated factory cable length and gross weight of the delivery - m, t # 22VД-60: 450 · 4.8 on the drums - # 25VД-90: 771 · 8.2	Conductor rated area	mm²	500
Permissible short circuit current across the screen of minimum cross-section Maximum permissible short-circuit current in core Permissible continious current rating by aerial laying * · in trefoil formation with double-side screen earthing or cross screen earthing · plane with double-side screen earthing or cross screen earthing or plane with single-side screen earthing or earthing Permissible continious current rating by burial * · in trefoil formation with double-side screen earthing or cross screen earthing earthing earthing or cross screen earthing or cross screen earthing or cross screen earthing or cross screen earthing earthing earthing earthing earthing earthing or cross screen earthing or cross screen earthing	Minimum screen cross-section	mm²	95
minimum cross-section Maximum permissible short-circuit current in core Permissible continious current rating by aerial laying * • in trefoil formation with double-side screen earthing or cross screen earthing • plane with double-side screen earthing or cross screen earthing or plane with single-side screen earthing or cross screen earthing Permissible continious current rating by burial * • in trefoil formation with double-side screen earthing or cross screen earthing or cross screen earthing Permissible continious current rating by burial * • in trefoil formation with double-side screen earthing or cross screen earthing or cross screen earthing • plane with single-side screen earthing or cross screen earthing or cross screen earthing • plane with single-side screen earthing or cross screen earthing • plane with single-side screen earthing or cross screen earthing 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 Mated outer diameter of the cable (for reference) ** mm 64 Cable weight (approximate) kg/km 8600 Rated factory cable length and gross weight of the delivery m, t # 22YД-60: 450 • 4.8 on the drums # 25YД-90: 771 • 8.2	Partial discharge factor for rated voltage, not more than	рС	6
Maximum permissible short-circuit current in core Permissible continious current rating by aerial laying * in trefoil formation with double-side screen earthing in trefoil formation with single-side screen earthing or plane with double-side screen earthing plane with double-side screen earthing or cross screen plane with double-side screen earthing or cross screen plane with single-side screen earthing or cross screen permissible continious current rating by burial * in trefoil formation with double-side screen earthing or in trefoil formation with single-side screen earthing or plane with double-side screen earthing or plane with double-side screen earthing or plane with double-side screen earthing plane with single-side screen earthing or cross screen plane with double-side screen earthing plane with double-side screen earthing plane with	Permissible short circuit current across the screen of	kA	7.1
Permissible continious current rating by aerial laying * in trefoil formation with double-side screen earthing or A 903 cross screen earthing plane with double-side screen earthing or A 1071 plane with single-side screen earthing or cross screen A 1071 plane with single-side screen earthing or cross screen A 1071 permissible continious current rating by burial * in trefoil formation with double-side screen earthing A 668 in trefoil formation with single-side screen earthing or A 734 cross screen earthing plane with double-side screen earthing A 595 plane with double-side screen earthing or cross screen A 774 earthing Maximum permissible conductor temperature Continious °C +90 in emergency operation °C +250 Operating temperature range °C -60+50 Minimum bending radius by laying mm 1024 Rated outer diameter of the cable (for reference) ** mm 64 Cable weight (approximate) kg/km 8600 Rated factory cable length and gross weight of the delivery m, t # 22УД-60: 450 • 4.8 on the drums #25УД-90: 771 • 8.2	minimum cross-section		
• in trefoil formation with double-side screen earthing A 832 • in trefoil formation with single-side screen earthing or cross screen earthing A 903 • plane with double-side screen earthing or cross screen earthing A 797 • plane with single-side screen earthing or cross screen earthing A 1071 • plane with single-side screen earthing by burial * • in trefoil formation with double-side screen earthing or cross screen earthing A 668 • in trefoil formation with single-side screen earthing or cross screen earthing A 734 • plane with double-side screen earthing or cross screen earthing A 595 • plane with single-side screen earthing or cross screen earthing A 774 • plane with single-side screen earthing or cross screen earthing A 774 • plane with single-side screen earthing or cross screen earthing A 795 • plane with single-side screen earthing or cross screen earthing A 774 • plane with single-side screen earthing or cross screen A 774 • continious ° C +90 • in emergency operation ° C +90 • in emergency operation ° C +250 • at sh	Maximum permissible short-circuit current in core	kA	71.5
• in trefoil formation with single-side screen earthing or cross screen earthing A 903 • plane with double-side screen earthing A 797 • plane with single-side screen earthing or cross screen earthing A 1071 earthing A 1071 Permissible continious current rating by burial * • in trefoil formation with double-side screen earthing A 668 • in trefoil formation with single-side screen earthing or cross screen earthing A 734 • plane with double-side screen earthing A 595 • plane with single-side screen earthing or cross screen A 774 earthing A 774 Maximum permissible conductor temperature • C +90 • in emergency operation • C +90 • in emergency operation • C +90 • in emergency operation • C +250 Operating temperature range • C -60 +50 Minimum bending radius by laying mm 1024 Rated outer diameter of the cable (for reference) ** mm 64 Cable weight (approximate) kg/km 8600 Rated factory cable length and gross weight of the delivery m, t # 22УД-60: 450 • 4.8 on the drums # 25УД-90: 771 • 8.2	Permissible continious current rating by aerial laying *		
ross screen earthing plane with double-side screen earthing or cross screen plane with single-side screen earthing or cross screen plane with single-side screen earthing or cross screen permissible continious current rating by burial * in trefoil formation with double-side screen earthing in trefoil formation with single-side screen earthing or plane with double-side screen earthing or plane with double-side screen earthing plane with single-side screen earthing or cross screen screen earthing or	 in trefoil formation with double-side screen earthing 	Α	832
 plane with double-side screen earthing plane with single-side screen earthing or cross screen earthing Permissible continious current rating by burial * in trefoil formation with double-side screen earthing in trefoil formation with single-side screen earthing or plane with double-side screen earthing plane with double-side screen earthing plane with single-side screen earthing or cross screen plane with single-side	 in trefoil formation with single-side screen earthing or 	А	903
 plane with single-side screen earthing or cross screen earthing Permissible continious current rating by burial * in trefoil formation with double-side screen earthing in trefoil formation with single-side screen earthing or cross screen earthing plane with double-side screen earthing plane with double-side screen earthing plane with single-side screen earthing or cross screen plane with single-side screen earthing or cross screen plane with single-side screen earthing or cross screen continious continious continious continious in emergency operation continious at short circuit conductor temperature conductor temperature range conductor temperature and the screen earthing or cross screen continious do the short circuit conductor temperature do the screen earthing or and the screen earth	cross screen earthing		
earthing Permissible continious current rating by burial * • in trefoil formation with double-side screen earthing	 plane with double-side screen earthing 	Α	797
Permissible continious current rating by burial * · in trefoil formation with double-side screen earthing	 plane with single-side screen earthing or cross screen 	Α	1071
· in trefoil formation with double-side screen earthing · in trefoil formation with single-side screen earthing or cross screen earthing · plane with double-side screen earthing · plane with single-side screen earthing or cross screen · plane with single-side screen earthing or cross screen earthing Maximum permissible conductor temperature · Continious · C +90 · in emergency operation · in emergency operation · at short circuit · C +250 Operating temperature range Minimum bending radius by laying Rated outer diameter of the cable (for reference) ** mm 64 Cable weight (approximate) Rated factory cable length and gross weight of the delivery on the drums # 25yД-90: 771 ⋅ 8.2	earthing		
・in trefoil formation with single-side screen earthing or cross screen earthing ・plane with double-side screen earthing ・plane with single-side screen earthing or cross screen ・plane with single-side screen earthing or cross screen earthing 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) ** Cable weight (approximate) Rated factory cable length and gross weight of the delivery on the drums # 25УД-90: 771 • 8.2	Permissible continious current rating by burial *		
cross screen earthing • plane with double-side screen earthing or cross screen • plane with single-side screen earthing or cross screen earthing 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 Minimum bending radius by laying Rated outer diameter of the cable (for reference) ** mm 64 Cable weight (approximate) Rated factory cable length and gross weight of the delivery on the drums # 22УД-60: 450 • 4.8 # 25УД-90: 771 • 8.2	 in trefoil formation with double-side screen earthing 	Α	668
 plane with double-side screen earthing plane with single-side screen earthing or cross screen plane with double-side screen earthing plane with double-side screen plane with single-side screen plane with screen<td> in trefoil formation with single-side screen earthing or </td><td>Α</td><td>734</td>	 in trefoil formation with single-side screen earthing or 	Α	734
・ plane with single-side screen earthing or cross screen earthing 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 1024 Rated outer diameter of the cable (for reference) ** mm 64 Cable weight (approximate) kg/km 8600 Rated factory cable length and gross weight of the delivery m, t # 22УД-60: 450 · 4.8 on the drums # 25УД-90: 771 · 8.2			
earthingMaximum permissible conductor temperature• Continious° C+90• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1024Rated outer diameter of the cable (for reference) **mm64Cable weight (approximate)kg/km8600Rated factory cable length and gross weight of the deliverym, t# 22УД-60: 450 • 4.8on the drums# 25УД-90: 771 • 8.2	 plane with double-side screen earthing 	Α	595
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 layingmm1024Rated outer diameter of the cable (for reference) **mm64Cable weight (approximate)kg/km8600Rated factory cable length and gross weight of the deliverym, t# 22УД-60: 450 • 4.8on the drums# 25УД-90: 771 • 8.2	 plane with single-side screen earthing or cross screen 	Α	774
• Continious° C+90• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1024Rated outer diameter of the cable (for reference) **mm64Cable weight (approximate)kg/km8600Rated factory cable length and gross weight of the deliverym, t# 22УД-60: 450 • 4.8on the drums# 25УД-90: 771 • 8.2	earthing		
• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1024Rated outer diameter of the cable (for reference) **mm64Cable weight (approximate)kg/km8600Rated factory cable length and gross weight of the deliverym, t# 22УД-60: 450 • 4.8on the drums# 25УД-90: 771 • 8.2	Maximum permissible conductor temperature		
• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1024Rated outer diameter of the cable (for reference) **mm64Cable weight (approximate)kg/km8600Rated factory cable length and gross weight of the deliverym, t# 22УД-60: 450 • 4.8on the drums# 25УД-90: 771 • 8.2	Continious		
Operating temperature range° C-60 +50Minimum bending radius by layingmm1024Rated outer diameter of the cable (for reference) **mm64Cable weight (approximate)kg/km8600Rated factory cable length and gross weight of the deliverym, t# 22УД-60: 450 • 4.8on the drums# 25УД-90: 771 • 8.2	 in emergency operation 	° C	+130
Minimum bending radius by layingmm1024Rated outer diameter of the cable (for reference) **mm64Cable weight (approximate)kg/km8600Rated factory cable length and gross weight of the deliverym, t# 22УД-60: 450 • 4.8on the drums# 25УД-90: 771 • 8.2	at short circuit		
Rated outer diameter of the cable (for reference) **mm64Cable weight (approximate)kg/km8600Rated factory cable length and gross weight of the deliverym, t# 22УД-60: 450 • 4.8on the drums# 25УД-90: 771 • 8.2	Operating temperature range	° C	
Cable weight (approximate)kg/km8600Rated factory cable length and gross weight of the deliverym, t# 22УД-60: 450 • 4.8on the drums# 25УД-90: 771 • 8.2		mm	1024
Rated factory cable length and gross weight of the delivery m, t # 22УД-60: 450 • 4.8 on the drums # 25УД-90: 771 • 8.2	Rated outer diameter of the cable (for reference) **	mm	64
on the drums # 25УД-90: 771 • 8.2		kg/km	8600
• •		m, t	• •
# 26УД-100: ***951 • 10.0	on the drums		
			# 26УД-100: ***951 • 10.0

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, load factor 1.0, thermal resistivity of soil 1.0 °K • m/W, laying depth in the ground 1.5 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

^{**} The external diameter may differ from the rated up to \pm 10 %

^{***} Option delivery on not full drum



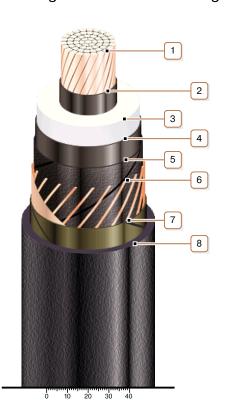




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Power cables with copper conductor, flame-retardant and halogen-free, with XLPE, longitudinal screen sealing and polymer compound outer sheath



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

Note: It is possible to manufacture a cable with a fiber optic module built into the screen, including as a DTS system sensor

- 7. Lapping layer of glass tape
- 8. Polymer compound outer sheath:flame-retardant and halogen-free Note: It is possible to manufacture cable with extruded semiconductor layer along outer sheath