





7, Autogennaya Str., Kharkov, 61099, Ukraine. Phone: (+38-057) 728-1244, 728-1241. Fax: (+38-057) 728-1243, (+38-0572) 946-830 E-mail: market@yuzhcable.com.ua

ПвЭСПнг-60 1x120 ТУ У 31.3-00214534-060:2011

Power cables with copper conductor, XLPE-insulated, with copper screen, lead-sheathed, with outer sheath of polymer composition, flame retardant

Technical cable requirements correspond to IEC 60840

Cables are used for laying:

- in places, where small mechanical impacts on cable are possible, including tensile forces
- in premises, tunnels, ducts, mines, dry soil and outdoor under shelter
- single laying

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

Order entry example:

ПвЭСПнг-П-60 1х120/95 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:

ПвЭСПнг-60 1х120/95 (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:

ПвЭСПнг-60 1х120/95 (г) ТУ У 31.3-00214534-060:2011

Fire safety code in accordance with ДСТУ 4809:2007: ΠБ101122000

Products of this mark meet the requirements:

- · single wire cable flame retardance
- toxicity class Tk1 of the combustion products of nonmetallic elements (toxicity index from 13 up to 40 g/m³)
- class μ TK1 on smoke-forming ability by smouldering of non-metallic elements (coefficient of smoke formation from 50 to 500 m²/kg)
- class ДΠκ2 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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Power cables with copper conductor, XLPE-insulated, with copper screen, lead-sheathed, with outer sheath of polymer composition, flame retardant

TECHNICAL SPECIFICATIONS

Rated voltage			
Conductor rated area mm² 120 Sheath thikness mm 2.1 Partial discharge factor for rated voltage, not more than pC 6 Maximum permissible short-circuit current in core kA 17.2 Permissible continious current rating by aerial laying * · in trefoil formation with double-side screen earthing A 405 · in trefoil formation with single-side screen earthing or cross screen earthing A 414 · in trefoil formation with single-side screen earthing or A 455 · plane with double-side screen earthing or cross screen A 491 earthing Permissible continious current rating by burial * · in trefoil formation with double-side screen earthing or cross screen earthing in trefoil formation with single-side screen earthing or cross screen earthing - plane with double-side screen earthing or cross screen earthing - plane with double-side screen earthing or cross screen A 355 cross screen earthing - plane with double-side screen earthing or cross screen A 370 earthing Maximum permissible conductor temperature - Continious - C +90 - in emergency operation - C +130 - at short circuit - C -60 +50 Minimum bending radius by laying Rated outer diameter of the cable (for reference) ** Rated factory cable length and gross weight of the delivery on the drums *** # 25VД-60: 499 • 4.7 # 25VД-90: 838 • 7.9 # 26VД-100: **** 1076 • 10.	Rated voltage	kV	60
Sheath thikness mm 2.1 Partial discharge factor for rated voltage, not more than pC 6 Maximum permissible short-circuit current in core kA 17.2 Permissible continious current rating by aerial laying * • in trefoil formation with double-side screen earthing or cross screen earthing or cross screen earthing A 405 • in trefoil formation with single-side screen earthing or cross screen earthing A 414 • plane with double-side screen earthing or cross screen A 491 earthing A 491 Permissible continious current rating by burial * • in trefoil formation with double-side screen earthing or cross screen earthing A 346 • in trefoil formation with single-side screen earthing or cross screen earthing A 346 • plane with double-side screen earthing or cross screen A 370 earthing A 342 • plane with single-side screen earthing or cross screen A 370 earthing A 342 • plane with single-side screen earthing or cross screen C + 370 earthing A 365	Maximum voltage	kV	72.5
Partial discharge factor for rated voltage, not more than Maximum permissible short-circuit current in core 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 cross screen earthing 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 double-side screen earthing or cross screen earthing plane with double-side screen earthing or plane with double-side screen earthing or plane with double-side screen earthing or plane with single-side screen earthing or cross screen arthing Maximum permissible conductor temperature continious in emergency operation in emergency operation charactericuit A 455 491 491 491 491 491 491 491	Conductor rated area	mm²	120
Maximum permissible short-circuit current in corekA17.2Permissible continious current rating by aerial laying *. in trefoil formation with double-side screen earthing or cross screen earthingA405. in trefoil formation with single-side screen earthing or cross screen earthingA414. plane with double-side screen earthing or cross screen earthingA455. plane with single-side screen earthing or cross screen earthingA491Permissible continious current rating by burial *. in trefoil formation with double-side screen earthing or cross screen earthing or an interfoil formation with single-side screen earthing or cross screen earthingA346. plane with double-side screen earthing or cross screen earthingA342. plane with single-side screen earthing or cross screen earthingA370maximum permissible conductor temperatureC+90. Continious° C+90. in emergency operation° C+130. at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1425Rated outer diameter of the cable (for reference) **mm57Cable weight (approximate)kg/km7600Rated factory cable length and gross weight of the delivery on the drums ***# 229/Д-60: 499 · 4.7n the drums ***# 259/Д-90: 838 · 7.9# 269/Д-100: **** 107.6 · 10.	Sheath thikness		2.1
Permissible continious current rating by aerial laying * • 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 or cross screen • 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 • a 491 Permissible continious current rating by burial * • in trefoil formation with double-side screen earthing or cross screen earthing • in trefoil formation with single-side screen earthing or cross 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 • continious • c +90 • in emergency operation • c +90 • 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) Rated factory cable length and gross weight of the delivery on the drums *** # 22YД-60: 499 • 4.7 Rated rums *** # 22YД-60: 499 • 4.7 # 25YД-90: 838 • 7.9 # 26YД-100: **** 1076 • 10.	Partial discharge factor for rated voltage, not more than	рС	6
• in trefoil formation with double-side screen earthingA405• in trefoil formation with single-side screen earthing or cross screen earthingA414• plane with double-side screen earthing or cross screen earthingA455• plane with single-side screen earthing or cross screen earthingA491Permissible continious current rating by burial * • in trefoil formation with double-side screen earthing or in trefoil formation with single-side screen earthing or cross screen earthingA346• in trefoil formation with single-side screen earthing or plane with double-side screen earthingA342• plane with single-side screen earthing or cross screen earthingA370Maximum permissible conductor temperatureC+90• in emergency operation° C+90• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1425Rated outer diameter of the cable (for reference) **mm57Cable weight (approximate)kg/km7600Rated factory cable length and gross weight of the delivery on the drums ***m, t# 229/Д-60: 499 • 4.7on the drums ***# 259/Д-90: 838 • 7.9# 269/Д-100: **** 107.00: ****	Maximum permissible short-circuit current in core	kA	17.2
・ 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 earthing ・ plane with single-side screen earthing or cross screen earthing earthing Permissible continious current rating by burial * ・ in trefoil formation with double-side screen earthing	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 pearthing Permissible continious current rating by burial * in trefoil formation with double-side screen earthing or A 346 in trefoil formation with single-side screen earthing or A 355 cross screen earthing plane with double-side screen earthing or A 370 plane with double-side screen earthing or cross screen plane with single-side screen earthing or cross screen plane w	in trefoil formation with double-side screen earthing	Α	405
 plane with double-side screen earthing plane with single-side screen earthing or cross screen plane with single-side screen earthing or cross screen 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 or cross screen plane with single-side screen earthing or cross screen c +90 t +90 c +90 in emergency operation ° C +90 in emergency operation ° C +90 in emergency operation ° C +250 Operating temperature range ° C +250 Operating temperature range ° C -60 +50 Minimum bending radius by laying mm 1425 Rated outer diameter of the cable (for reference) ** mm 57 Cable weight (approximate) kg/km 7600 Rated factory cable length and gross weight of the delivery on the drums *** # 25 УД-60: 499 • 4.7 # 25 УД-90: 838 • 7.9 # 26 УД-100: **** 	in trefoil formation with single-side screen earthing or	Α	414
 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 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 C +90 in emergency operation c +130 at short circuit C +250 Operating temperature range C -60 +50 Minimum bending radius by laying mm 1425 Rated outer diameter of the cable (for reference) ** mm 57 Cable weight (approximate) kg/km 7600 Rated factory cable length and gross weight of the delivery on the drums *** # 22УД-60: 499 • 4.7 # 25УД-90: 838 • 7.9 # 26УД-100: ***** 1076 • 10. 	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	455
Permissible continious current rating by burial * · in trefoil formation with double-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 earthing Maximum permissible conductor temperature · Continious	 plane with single-side screen earthing or cross screen 	Α	491
• in trefoil formation with double-side screen earthingA346• in trefoil formation with single-side screen earthing or cross screen earthingA355• plane with double-side screen earthingA342• plane with single-side screen earthing or cross screen earthingA370Maximum permissible conductor temperature° C+90• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1425Rated outer diameter of the cable (for reference) **mm57Cable weight (approximate)kg/km7600Rated factory cable length and gross weight of the delivery on the drums ***# 22УД-60: 499 • 4.7# 25УД-90: 838 • 7.9# 26УД-100: **** 1076 • 10.	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 plane with double-side screen earthing plane with single-side screen earthing plane with double-side screen earthing plane with sale plane with sa	Permissible continious current rating by burial *		
ross screen earthing ightharpoology plane with double-side screen earthing ightharpoology plane with single-side screen earthing or cross screen earthing Maximum permissible conductor temperature Continious in emergency operation in emergency opera	in trefoil formation with double-side screen earthing	Α	346
• plane with double-side screen earthingA342• plane with single-side screen earthing or cross screen earthingA370Maximum permissible conductor temperature° C+90• Continious° C+130• in emergency operation° C+250• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1425Rated outer diameter of the cable (for reference) **mm57Cable weight (approximate)kg/km7600Rated factory cable length and gross weight of the delivery on the drums ***# 22УД-60: 499 • 4.7# 25УД-90: 838 • 7.9# 26УД-100: ***** 1076 • 10.	in trefoil formation with single-side screen earthing or	Α	355
• plane with single-side screen earthing or cross screen earthing Maximum permissible conductor temperature • Continious • in emergency operation • at short circuit 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 on the drums *** Page 170 A 370 370 490 +90 -130 -1	cross screen earthing		
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 layingmm1425Rated outer diameter of the cable (for reference) **mm57Cable weight (approximate)kg/km7600Rated factory cable length and gross weight of the delivery on the drums ***m, t# 22УД-60: 499 • 4.7# 25УД-90: 838 • 7.9 # 26УД-100: **** 1076 • 10.	 plane with double-side screen earthing 	Α	342
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 layingmm1425Rated outer diameter of the cable (for reference) **mm57Cable weight (approximate)kg/km7600Rated factory cable length and gross weight of the delivery on the drums ***m, t# 22УД-60: 499 • 4.7# 25УД-90: 838 • 7.9 # 26УД-100: ***** 1076 • 10.	 plane with single-side screen earthing or cross screen 	Α	370
· Continious° C+90• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1425Rated outer diameter of the cable (for reference) **mm57Cable weight (approximate)kg/km7600Rated factory cable length and gross weight of the delivery on the drums ***m, t# 22УД-60: 499 • 4.7# 25УД-90: 838 • 7.9 # 26УД-100: ***** 1076 • 10.	earthing		
• in emergency operation° C+130• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1425Rated outer diameter of the cable (for reference) **mm57Cable weight (approximate)kg/km7600Rated factory cable length and gross weight of the delivery on the drums ***m, t# 22УД-60: 499 • 4.7# 25УД-90: 838 • 7.9 # 26УД-100: **** 1076 • 10.	Maximum permissible conductor temperature		
• at short circuit° C+250Operating temperature range° C-60 +50Minimum bending radius by layingmm1425Rated outer diameter of the cable (for reference) **mm57Cable weight (approximate)kg/km7600Rated factory cable length and gross weight of the delivery on the drums ***m, t# 22УД-60: 499 • 4.7# 25УД-90: 838 • 7.9 # 26УД-100: **** 1076 • 10.	Continious	_	+90
Operating temperature range° C-60 +50Minimum bending radius by layingmm1425Rated outer diameter of the cable (for reference) **mm57Cable weight (approximate)kg/km7600Rated factory cable length and gross weight of the delivery on the drums ***m, t# 22УД-60: 499 • 4.7# 25УД-90: 838 • 7.9 # 26УД-100: **** 1076 • 10.	in emergency operation		+130
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 *** Minimum bending radius by laying mm 57 kg/km 7600 m, t # 22УД-60: 499 • 4.7 # 25УД-90: 838 • 7.9 # 26УД-100: **** 1076 • 10.	at short circuit		
Rated outer diameter of the cable (for reference) ** mm 57 Cable weight (approximate) kg/km 7600 Rated factory cable length and gross weight of the delivery on the drums *** # 22УД-60: 499 • 4.7 # 25УД-90: 838 • 7.9 # 26УД-100: **** 1076 • 10.	Operating temperature range	° C	-60 +50
Cable weight (approximate)kg/km7600Rated factory cable length and gross weight of the delivery on the drums ***m, t# 22УД-60: 499 • 4.7# 25УД-90: 838 • 7.9 # 26УД-100: **** 1076 • 10.		mm	1425
Rated factory cable length and gross weight of the deliverym, t# 22УД-60: 499 • 4.7on the drums ***# 25УД-90: 838 • 7.9# 26УД-100: **** 1076 • 10.	Rated outer diameter of the cable (for reference) **	mm	57
on the drums *** # 25УД-90: 838 • 7.9 # 26УД-100: **** 1076 • 10.	Cable weight (approximate)	kg/km	7600
# 26УД-100: **** 1076 • 10.		m, t	# 22УД-60: 499 • 4.7
• •	on the drums ***		• •
0			# 26УД-100: **** 1076 • 10.
			0

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 1.0 °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 %

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

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



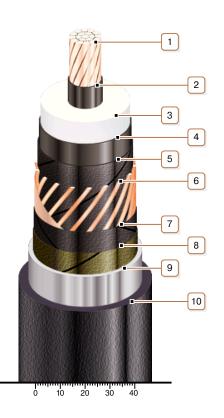




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Power cables with copper conductor, XLPE-insulated, with copper screen, lead-sheathed, with outer sheath of polymer composition, flame retardant



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 semiconductive swellable tape
- 8. Lapping layer of semiconductive tape
- 9. Lead sheath
- 10. Flame-retardant polymer compound outer sheath

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