





7, Autogennaya Str., Kharkov, 61099, Ukraine. Phone: (+38-057) 728-1244, 728-1241. Fax: (+38-057) 728-1243, (+38-0572) 946-830

# АПвЭгаПнг-HF-132 1x1600 ТУ У 31.3-00214534-060:2011

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

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:

АПвЭгаПнг-НF-П-132 1х1600/95 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:

АПвЭгаПнг-HF-132 1x1600/95 (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:

АПвЭгаПнг-HF-132 1x1600/95 (г) ТУ У 31.3-00214534-060:2011

Fire safety code in accordance with ДСТУ 4809:2007: ΠБ122122000

Products of this mark meet the requirements:

- · single wire cable flame retardance
- · bunched cable flame retardance category A
- toxicity class Tk2 of the combustion products of nonmetallic elements (toxicity index from 40 up to 120 g/m<sup>3</sup>)
- class  $\mu$ 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  $\mu$ S/mm)







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### **TECHNICAL SPECIFICATIONS**

Rated voltage	kV	132	
Maximum voltage	kV	145	
Conductor rated area	mm²	1600	
Minimum screen cross-section	mm²	35	
Partial discharge factor for rated voltage, not more than	рС	6	
Permissible short circuit current across the screen of	kA	14.2	
minimum cross-section			
Maximum permissible short-circuit current in core	kA	151	
Permissible continious current rating by aerial laying *			
in trefoil formation with double-side screen earthing	Α	1382	
in trefoil formation with single-side screen earthing or	Α	1605	
cross screen earthing			
plane with double-side screen earthing	Α	1265	
plane with single-side screen earthing or cross screen	Α	1899	
earthing			
Permissible continious current rating by burial *			
in trefoil formation with double-side screen earthing	Α	955	
in trefoil formation with single-side screen earthing or	Α	1153	
cross screen earthing			
plane with double-side screen earthing	Α	797	
plane with single-side screen earthing or cross screen	Α	1225	
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	1776	
Rated outer diameter of the cable (for reference) **	mm	111	
Cable weight (approximate)	kg/km	14650	
A	-		

#### 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, 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

<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  $\pm\,7\,\%$ 



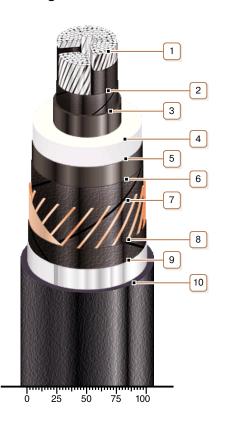




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### **CONSTRUCTION**

- 1. Aluminium multiwire compacted conductor
- It is possible to manufacture cable with sealed conductor.
- · Conductor segment twisting is not illustrated
- 2. Lapping layer of semiconductive swellable tape
- 3. Inner extruded semiconducting layer
- 4. XLPE insulation
- 5. Outer extruded semiconducting layer
- 6. Lapping layer of semiconductive swellable tape
- 7. 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

- 8. Lapping layer of semiconductive swellable tape
- 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