PJSC «BERDYANSK CABLE PLANT», as an individual economic structure, was founded on the base of «Azovkabel», one of the oldest cable works of the former USSR. These works was holding the second place in the country by the volume of manufactured products. We try do not waste this rating; moreover, we try to develop and improve the potential of the works. Geography of our sales is constantly expanding.

Product range comprises more than five thousand types of cable. Extra heavy-duty cables are our main focus. Underground and underwater cables, cables for aggressive and dangerous environments are our line of business. We have big positive experience in manufacturing of highly technical cables for aggressive environments. Base on this experience, our company constantly and successfully develops and improves as cable design, hence keeping the production standards. Scientific and production potential, huge experience and professionalism allow our company to develop new designs for cables and wires to meet various requirements of the customer.

Our company was the first in Ukraine to obtain the certificate of Research Studies Institute for Safety in mining industry (MAKNII) and started industrial manufacture of mining power cables with polyvinylchloride (PVC) insulation.

Only these cables comply with modern exclusive safety standards.

We successfully produce power flexible, control and mine communication, telephone cables, and power cables for rated voltage up to 30 kV, self–supporting insulated wire for overhead power lines, connecting wires and cores, wires for electric devices, non–insulated copper flexible wires, cables and wires for rolling stock, railway and electrical transport, heating wires and other cable and wire products. Power cables with the cross-linked polyethylene (XLPE) insulation producing on the equipment of the world-leading manufacturer «MAILLEFER».

With regard to safety requirements, the company applies production of improved fire – resistant cables.

We are a company with a closed production cycle.

Our company has its own production facilities for the manufacture of insulating materials of different complexity.

We have accredited central factory laboratory, laboratory of metrology and department of standardization with high qualified staff that allows controlling the quality of our products and providing service to other companies.

The requirements of the international standard ISO 9001:2009 corresponds to the production that has been introduced and continuously improving the quality management system. It is a worldwide-acknowledged certificate, which is a forcible argument for the benefit of any cooperation with our company.

Quality – our proposal and this principle has never let us down.

www.bkz.com.ua
Contents

POWER CABLES WITH THE CROSS-LINKED POLYETHYLENE (XLPE) INSULATION 6 -30 kV .......... 3

Power cables with XLPE insulation and polyethylene or polyethylene reinforced oversheath:
PvP, АPvP, PvPu, АPvPu (ПвП, АПвП, ПвПу, АПвПу) .................................................. 3

Single-core power cables with XLPE insulation, armoured by aluminum tape or aluminum wire in polyethylene oversheath:
PvBaP, РbKaP, АPvBaP, АPвKaP (ПвБаП, РбКаП, АПвБаП, АПвКаП) .......................... 5

Power cables with XLPE insulation and PVC oversheath, including armoured: PvV, АPvV (ПвВ, АПвВ).
Single-core power cables: PvBaV, АPvBaV, PvKaV, АPвKaV (ПвБаВ, АПвБаВ, ПвКаВ, АПвКаВ).
Three-core power cables: АPвBV, PvBV, АPвKV, ПvKV (АПвBV, ПвBV, АПвKV, ПвKV) ........ 7

Power cables with XLPE insulation and PVC flame-retardant oversheath, including armoured: PbVng, АPbVng (ПвВнг, АПвВнг).
Single-core power cables: PbBaVng, АPbBaVng, ПbKaVng, АPвKaVng (ПбБаВнг, АПбБаВнг, ПбКаВнг, АПвКаВнг).
Three-core power cables: АPvBVng, ПvBVng, АPвKVng, ПvKVng (АПвBVнг, ПвBVнг, АПвKVнг, ПвKVнг) ............. 9

Power cables with XLPE insulation and PVC flame-retardant oversheath with low smoke and gas emission, including armoured: ПвВнгLS, АPвВнгLS (ПвВнгLS, АПвВнгLS).
Single-core cables: ПвBaVngLS, АPвBaVngLS, ПвKaVngLS, АPвKaVngLS (ПвБаВнгLS, АПвБаВнгLS, ПвКаВнгLS, АПвКаВнгLS).
Three-core cables: ПвBVngLS, АPвBVngLS, ПвKVngLS, АPвKVngLS (ПвBVнгLS, АПвBVнгLS, ПвKVнгLS, АПвKVнгLS) ......................... 11

Power cables with XLPE insulation, longitudinal screen sealing and polyethylene or reinforced polyethylene oversheath, including armoured: PvP2g, АPвP2g, АPвPu2g (ПвП2г, АПвП2г, АПвПу2г).
Single-core power cables: АPвBaP2g, ПbBaP2g, АPвKaP2g, ПbKaP2g (АПвБаП2г, ПбБаП2г, АПвКаП2г, ПбКаП2г).
Three-core power cables: АPвBP2g, ПвBP2g, АPвKP2g, ПвKP2g (АПвБП2г, ПвБП2г, АПвКП2г, ПвКП2г) .................................................. 13

Three-core power cables with XLPE insulation armoured with galvanized steel tape or steel wire and polyethylene oversheath:
PvBP, РbKP, АPвBP, АPвKP (ПвБП, ПбКП, АПвБП, АПвКП) ........................................ 15

Power cables with XLPE insulation, longitudinal and transverse sealing and polyethylene or polyethylene reinforced oversheath, including armoured: PvF2g, АPвF2g, АPвPu2g (ПвF2г, АПвF2г, АПвПу2г).
Single-core power cables: АPвBaF2g, ПbBaF2g, АPвKaF2g, ПbKaF2g (АПвБаП2г, ПбБаП2г, АПвКаП2г, ПбКаП2г).
Three-core power cables: АPвBF2g, ПвBF2g, АPвKF2g, ПвKF2g (АПвБФ2г, ПвБФ2г, АПвКФ2г, ПвКФ2г) .................................................. 17

SELF-SUPPORTING INSULATED WIRES FOR OVERHEAD POWER LINES ......................... 19

Self-supporting protected insulated single-core high-voltage wire with a light-stabilized XLPE insulation:
SIP-3, SIPn-3…g, SIPn-3…г (СИП-3, СИПн-3…г) .................................. 21

Self-supporting and flame-retardant wires with a light-stabilized XLPE insulation:
SIP-4, SIPn-4, SIP-4…g (СИП-4, СИПн-4, СИП-4…г) .................................. 23

REFERENCE DATA ........................................................................... 25
Power cables with XLPE insulation and polyethylene or polyethylene reinforced oversheath

**PvP, APvP, PvPu, APvPu (ПвП, АПвП, ПвПу, АПвПу)**

3.6/6; 6/10; 8.7/15; 12/20; 18/30 kV

Our cables are manufactured and tested in accordance with TU U 27.3 – 31850229 – 032:2014 and DSTU IEC 60502 – 2

**Application**

These cables are intended for transmission and power distribution in stationary installations of medium voltage, AC 50 or 60 Hz, and for networks with grounded and insulated neutral categories A, B and C according to international standard IEC 60183 DSTU.

When the cable is installed outdoors without protection from solar radiation, including installation in cable constructions, it is necessary to provide additional measures of fire-fighting protection.

For installation on routes with unlimited difference of elevation.

Cables with reinforced oversheath are specially intended for laying at the complicated sections of the lines in accordance with the ETU.

Climate class (N) and (NF), location categories 1 and 2.

**Ordering designation of cable**: APvP – 6/10 kV 1×50/16.

This marking voltage is not obligatory, may be designated upon customers request.

**Construction**

**CONDUCTORS**
Copper or aluminum round compacted or sector-shaped conductor (class 2 in accordance with GOST 22483).

**SCREEN OVERLYING OF ELECTROCONDUCTIVE CORE SCREEN**
Extruded electroconductive cross-linked polymer composition.

**INSULATION**
Insulation of cross-linked polyethylene (XLPE).

**SCREEN OVER INSULATION**
Extruded electroconductive cross-linked polymer composition.

**SEPARATION LAYER**
A layer of electroconductive paper tape or electroconductive synthetic tape must be applied over cable core with sector-shaped conductors and also for single-core and three-core cables with round conductors.

**COPPER WIRES SCREEN STRANDED COPPER TAPE**
Copper wires screen must be laid over the layer of electroconductive tapes in the cables of all types. Spiralled copper tape or copper wires skein must be laid over copper wires.

**SEPARATION LAYER**
Separation layer of nonwoven fabric is laid over copper screen of single-core and three-core cables with sector-shaped conductors.

**CABLE CORE**
Screened by copper wires round conductors of three-core cables are stranded into the cable core.

The inner sheath is laid over the cable core. The inner sheath must be compatible with insulation material and oversheath.

**OVERSHEATH**
Polyethylene (P). Reinforced oversheath is made from high-density polyethylene.

**Conformity the foreign-made analogues:**

N2XS2Y, N2XSE2Y (2XS2Y); NA2XS2Y, NA2XSE2Y (A2XS2Y) VDE 0276-620:1996 (HD 620 S1, 5C, 6C)
### Technical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal conductor cross-section</td>
<td>25–800 mm² for single-core cables 25–400 mm² for three-core cables</td>
</tr>
<tr>
<td>Nominal screen cross-section</td>
<td>16–70 mm² for single-core cables 16–50 mm² for three-core cables</td>
</tr>
<tr>
<td>Possible to produce cable with a larger screen cross-section, as agreed</td>
<td>while placing the order.</td>
</tr>
<tr>
<td>Ambient temperature during operation cable</td>
<td>from -60 °C up to +50 °C</td>
</tr>
<tr>
<td>Relative humidity at ambient temperatures up to (35±2) °C</td>
<td>98 %</td>
</tr>
<tr>
<td>Minimal temperature of cable laying without pre-heating</td>
<td>-20 °C</td>
</tr>
<tr>
<td>Allowed cable laying after pre-heating</td>
<td>from -20 °C up to -40 °C</td>
</tr>
<tr>
<td>Maximum permissible temperature for the conductors heating:</td>
<td>+ 90 °C</td>
</tr>
<tr>
<td>- protractedly</td>
<td>+ 130 °C</td>
</tr>
<tr>
<td>- in emergency mode</td>
<td>+ 250 °C</td>
</tr>
<tr>
<td>Minimum allowed radius of bending during cable laying:</td>
<td>15 diameters of cable</td>
</tr>
<tr>
<td>- single-core cables</td>
<td>12 diameters of cable</td>
</tr>
<tr>
<td>- multicore cables</td>
<td></td>
</tr>
<tr>
<td>The level of partial discharges</td>
<td>no more 10 pKi</td>
</tr>
<tr>
<td>Guarantee period</td>
<td>5 years</td>
</tr>
<tr>
<td>Service life</td>
<td>30 years</td>
</tr>
</tbody>
</table>

Permissible current loads and permissible short-circuit currents for these cables are described in cross-section «Reference data».

Manufactured cable length may be agreed with the customer request.

The manufacturer can ensure compliance of cable quality with requirements of current technical specification, provided all terms of transportation, storage, installation and use have been observed.

On customers request is allowed other marking of cable.

All products are certified.
Single-core power cables with XLPE insulation, armoured by aluminum tape or aluminum wire in polyethylene oversheath

**PvBaP, PbKaP, APvBaP, APvKaP**

(ПвБаП, ПбКаП, АПвБаП, АПвКаП)

3.6/6; 6/10; 8.7/15; 12/20; 18/30 kV

Our cables are manufactured and tested in accordance with TU U 27.3 – 31850229 – 032:2014 and DSTU IEC 60502 – 2

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**Application**

These cables are intended for laying in premises, in ducts, channels, dry soils and places where mechanical impacts on cables, including stretching forces, might be possible. Also these cables can be used for installation on lines of complicated configuration.

The cables of PvKaP, APvKaP types are specially intended for laying in ordinary soils (trenches), as well as in highly corrosive soils.

Ordering designation of cable: APvKaP – 6/10 kV 1×300/16.

This marking voltage is not obligatory, may be designated upon customers request.

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**Construction**

**CONDUCTORS**
Copper or aluminum round compacted conductor (class 2 in accordance with GOST 22483).

**SCREEN OVERLYING OF ELECTROCONDUCTIVE CORE SCREEN**
Extruded electroconductive cross-linked polymer composition.

**INSULATION**
Insulation of cross-linked polyethylene (XLPE).

**SCREEN OVER INSULATION**
Extruded electroconductive cross-linked polymer composition.

**SEPARATION LAYER**
A layer of electroconductive paper tape or electroconductive synthetic tape.

**COPPER WIRES SCREEN STRANDED COPPER TAPE**
Copper wires screen. Spiralled copper tape or copper wires skein must be laid over copper wires.

**SEPARATION LAYER**
Separation layer of nonwoven fabric.

**INNER SHEATH**
Laid-on by extrusion.

**ARMOUR**
Armour of aluminum tapes (Ba) or round aluminum or aluminum alloy wires (Ka).

**OVERSHEATH**
Polyethylene (P).
Technical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal conductor cross-section</td>
<td>25–800 mm²</td>
</tr>
<tr>
<td>Nominal screen cross-section</td>
<td>16–70 mm² for single core</td>
</tr>
<tr>
<td>Possible to produce cable with a larger screen cross-section, as agreed</td>
<td></td>
</tr>
<tr>
<td>while placing the order</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature during operation cable</td>
<td>from - 60 °C up to + 50 °C</td>
</tr>
<tr>
<td>Relative humidity at ambient temperatures up to (35±2) °C</td>
<td>98 %</td>
</tr>
<tr>
<td>Minimal temperature of cable laying without pre-heating</td>
<td>- 20 °C</td>
</tr>
<tr>
<td>Allowed temperature after pre-heating</td>
<td>from - 20 °C up to - 40 °C</td>
</tr>
<tr>
<td>Maximum permissible temperature for the conductors heating:</td>
<td></td>
</tr>
<tr>
<td>- protractedly</td>
<td>+ 90 °C</td>
</tr>
<tr>
<td>- in emergency mode</td>
<td>+ 130 °C</td>
</tr>
<tr>
<td>- in short circuit mode</td>
<td>+ 250 °C</td>
</tr>
<tr>
<td>Minimum allowed radius of bending during cable laying:</td>
<td></td>
</tr>
<tr>
<td>- single-core cables</td>
<td>15 diameters of cable</td>
</tr>
<tr>
<td>The level of partial discharges</td>
<td>no more 10 pKi</td>
</tr>
<tr>
<td>Guarantee period</td>
<td>5 years</td>
</tr>
<tr>
<td>Service life</td>
<td>30 years</td>
</tr>
</tbody>
</table>

Permissible current loads and permissible short-circuit currents for these cables are described in cross-section «Reference data».

Manufactured cable length may be agreed with the customer request.

The manufacturer can ensure compliance of cable quality with requirements of current technical specification, provided all terms of transportation, storage, installation and use have been observed.

On customers request is allowed other marking of cable.

All products are certified.
Power cables with XLPE insulation and PVC oversheath, including armoured:

**PvV, APvV (ПвВ, АПвВ)**

**Single-core power cables:** PvBaV, APvBaV, PvKaV, APvKaV (ПвБаВ, АПвБаВ, ПвКаВ, АПвКаВ)

**Three-core power cables:** APvBV, PvBV, APvKV, PvKV (АПвБВ, ПвБВ, АПвКВ, ПвКВ)

3.6/6; 6/10; 8.7/15; 12/20; 18/30 kV

Our cables are manufactured and tested in accordance with
TU U 27.3 – 31850229 – 032:2014 and DSTU IEC 60502 – 2

Conformity the foreign-made analogues:
N2XSY, N2XSEY (2XSУ, 2XSEУ), NA2XSY, NA2XSEY (A2XSУ, A2XSEУ), NA2XSEB2Y, N2XSEB2Y, VDE 0276-620:1996 (HD 620 S1, 5С, 6С)

Application

These cables are intended for transmission and power distribution in stationary installations of medium voltage and for networks with grounded and insulated neutral.

These cables are intended for stationary laying in premises, in cable constructions. It is allowed to install cable in dry soils.

For installation on routes with unlimited difference of elevation.

Cables are flame retardant with a single laying.

Ordering designation of cable: APvV – 8.7/15 kV 1×500/35.

This marking voltage is not obligatory, may be designated upon customers request.

Construction

**CONDUCTORS**
Copper or aluminum round compacted or sector-shaped conductor (class 2 in accordance with GOST 22483).

**SCREEN OVERLAYING OF ELECTROCONDUCTIVE CORE SCREEN**
Extruded electroconductive cross-linked polymer composition.

**INSULATION**
Insulation of cross-linked polyethylene (XLPE).

**SCREEN OVER INSULATION**
Extruded electroconductive cross-linked polymer composition.

**SEPARATION LAYER**
A layer of electroconductive paper tape or electroconductive synthetic tape must be applied over electroconductive core screen of single-core and three-core cables with round conductors and also cable core with sector-shaped conductors.

**COPPER WIRES SCREEN STRANDED COPPER TAPE**
Copper wires screen. Spiralled copper tape or copper wires skein must be laid over copper wires.

**SEPARATION LAYER**
Separation layer of nonwoven fabric is laid over copper screen of single-core and three-core cables with sector-shaped conductors.

**INNER SHEATH**
The inner sheath must be compatible with insulation material and oversheath for three-core cables (armoured and unarmoured) and single-core armoured cables.

**ARMOUR**
For three-core cables armour is made from galvanized steel tapes (B) or galvanized steel wires (K); armour from aluminum tape (Ba) or aluminum or aluminum alloy round wires (Ka) – for single-core cables.

**OVERSHEATH**
Polyvinylchloride (PVC) compound.
### Technical characteristics

<table>
<thead>
<tr>
<th>Nominal conductor cross-section</th>
<th>25–800 mm² for single-core cables</th>
<th>25–240 mm² for three-core cables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal screen cross-section</td>
<td>16–70 mm² for single-core cables</td>
<td>16–50 mm² for three-core cables</td>
</tr>
<tr>
<td><strong>Possible to produce cable with a larger screen cross-section, as agreed while placing the order</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature during operation cable</td>
<td>from - 50 °C up to + 50 °C</td>
<td></td>
</tr>
<tr>
<td>Relative humidity at ambient temperatures up to (35±2) °C</td>
<td>98 %</td>
<td></td>
</tr>
<tr>
<td>Minimal temperature of cable laying without pre-heating</td>
<td>- 15 °C</td>
<td></td>
</tr>
<tr>
<td>Allowed cable laying after pre-heating</td>
<td>from - 15 °C up to - 40 °C</td>
<td></td>
</tr>
<tr>
<td>Maximum permissible temperature for the conductors heating:</td>
<td>+ 90 °C</td>
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<td></td>
</tr>
<tr>
<td>Guarantee period</td>
<td>5 years</td>
<td></td>
</tr>
<tr>
<td>Service life</td>
<td>30 years</td>
<td></td>
</tr>
</tbody>
</table>

Permissible current loads and permissible short-circuit currents for these cables are described in cross-section «Reference data».

Cables are flame retardant with a single laying.

On customers request is made cables with PVC oversheath with longitudinal (index «g») and double screen sealing (longitudinal and transverse - index «2g») and longitudinal sealing of conductors.

Manufactured cable length may be agreed with the customer request.

The manufacturer can ensure compliance of cable quality with requirements of current technical specification, provided all terms of transportation, storage, installation and use have been observed.

On customers request is allowed other marking of cable.

All products are certified.

On customers request is made cables with PVC oversheath with longitudinal (index «g») and double screen sealing (longitudinal and transverse - index «2g») and longitudinal sealing of conductors.

Manufactured cable length may be agreed with the customer request.

The manufacturer can ensure compliance of cable quality with requirements of current technical specification, provided all terms of transportation, storage, installation and use have been observed.

On customers request is allowed other marking of cable.

All products are certified.
Power cables with XLPE insulation and PVC flame-retardant oversheath, including armoured

PvVng, APvVng (ПвВнг, АПвВнг)

Single-core power cables: PvBaVng, APvBaVng, PvKaVng, APvKaVng (ПвБаВнг, АПвБаВнг, ПвКаВнг, АПвКаВнг)

Three-core power cables: APvBVng, PvBVng, APvKVng, PvKVng (АПвБВнг, ПвБВнг, АПвКВнг, ПвКВнг)

3.6/6; 6/10; 8.7/15; 12/20; 18/30 kV

Our cables are manufactured and tested in accordance with TU U 27.3 – 31850229 – 032:2014 and DSTU IEC 60502 – 2

Conformity the foreign-made analogues:

N2XSY, N2XSEY (2XSY, 2XSEY), NA2XSY, NA2XSEY (A2XSY, A2XSEY),

NA2XSEB2Y, N2XSEB2Y, VDE 0276-620:1996 (HD 620 S1, 5C, 6C)

Application

These cables are intended for transmission and power distribution in stationary installations of medium voltage and for networks with grounded and insulated neutral.

These cables are intended for stationary laying in premises, in cable constructions. Cables are designated for laying in workings that require fire safety when laid in bundles.

Ordering designation of cable: PvBVng – 6/10 kV 3×240/25.

This marking voltage is not obligatory, may be designated upon customers request.

Construction

CONDUCTORS

Copper or aluminum round compacted or sector-shaped conductor (class 2 in accordance with GOST 22483).

SCREEN OVERLYING OF ELECTROCONDUCTIVE CORE SCREEN

Extruded electroconductive cross-linked polymer composition.

INSULATION

Insulation of cross-linked polyethylene (XLPE).

SCREEN OVER INSULATION

Extruded electroconductive cross-linked polymer composition.

SEPARATION LAYER

A layer of electroconductive paper tape or electroconductive synthetic tape must be applied over electroconductive core screen of single-core and three-core cables with round conductors and also cable core with sector-shaped conductors.

COPPER WIRES SCREEN STRANDED COPPER TAPE

Copper wires screen. Spiralled copper tape or copper wires skein must be laid over copper wires.

SEPARATION LAYER

Separation layer of nonwoven fabric is laid over copper screen of single-core and three-core cables with sector-shaped conductors.

INNER SHEATH

The inner sheath must be compatible with insulation material and oversheath for three-core cables (armoured and unarmoured) and single-core armoured cables.

ARMOUR

For three-core cables armour is made from galvanized steel tapes (B) or galvanized steel wires (K); armour from aluminum tape (Ba) or aluminum or aluminum alloy round wires (Ka) – for single-core cables.

OVERSHEATH

Oversheath is made from low risk-of-fire polyvinylchloride (PVC) compound.
### Technical characteristics

| Nominal conductor cross-section | 25–800 mm² for single-core cables  
| | 25–240 mm² for three-core cables  |
| Nominal screen cross-section | 16–70 mm² for single-core cables  
| | 16–50 mm² for three-core cables  |
| Possible to produce cable with a larger screen cross-section, as agreed while placing the order | |
| Ambient temperature during operation cable | from -50 °C up to +50 °C  |
| Relative humidity at ambient temperatures up to (35±2) °C | 98 %  |
| Minimal temperature of cable laying without pre-heating | -15 °C  |
| Allowed cable laying after pre-heating | from -15 °C up to -40 °C  |
| Maximum permissible temperature for the conductors heating:  
| - protractedly | + 90 °C  
| - in emergency mode | + 130 °C  
| - in short circuit mode | + 250 °C  |
| Minimum allowed radius of bending during cable laying:  
| - single-core cables | 15 diameters of cable  
| - multicore cables | 12 diameters of cable  |
| The level of partial discharges | no more 10 pKi  |
| Guarantee period | 5 years  |
| Service life | 30 years  |

Permissible current loads and permissible short-circuit currents for these cables are described in cross-section «Reference data».

These cables have flame-retarding ability when laid in bundles in accordance with 4.2 DSTU 4809, DSTU 4237 – 3 – 22 (category A).

On customers request is made cables with PVC oversheath with longitudinal (index «g») and double screen sealing (longitudinal and transverse - index «2g») and longitudinal sealing of conductors.

 Manufactured cable length may be agreed with the customer request.

The manufacturer can ensure compliance of cable quality with requirements of current technical specification, provided all terms of transportation, storage, installation and use have been observed.

On customers request is allowed other marking of cable.

All products are certified.
Power cables with XLPE insulation and PVC flame-retardant oversheath with low smoke and gas emission, including armoured \( \text{PvVngLS}, \ \text{APvVngLS} \ (\text{PвВнгLS}, \ \text{АПвВнгLS}) \)

Single-core power cables: \( \text{PvBaVngLS}, \ \text{APvBaVngLS}, \ \text{PvKaVngLS}, \ \text{APvKaVngLS} \ (\text{ПвБаВнгLS}, \ \text{АПвБаВнгLS}, \ \text{ПвKaВнгLS}, \ \text{АПвKaВнгLS}) \)

Three-core power cables: \( \text{PvBVngLS}, \ \text{APvBVngLS}, \ \text{PvKVngLS}, \ \text{APvKVngLS} \ (\text{ПвБВнгLS}, \ \text{АПвБВнгLS}, \ \text{ПвКВнгLS}, \ \text{АПвКВнгLS}) \)

3.6/6; 6/10; 8.7/15; 12/20; 18/30 kV

Our cables are manufactured and tested in accordance with TU U 27.3 – 31850229 – 032:2014 and DSTU IEC 60502 – 2

Conformity the foreign-made analogues:
N2XSY, N2XSEY (2XSY, 2XSEY), NA2XSY, NA2XSEY (A2XSY, A2XSEY), NA2XSEB2Y, N2XSEB2Y, VDE 0276-620:1996 (HD 620 S1, 5C, 6C)

Application

These cables are intended for transmission and power distribution in stationary installations of medium voltage and for networks with grounded and insulated neutral.

These cables are intended for stationary laying in premises, in cable constructions. Cables are designated for stationary installation in bundles laying in workings.

Ordering designation of cable: \( \text{PvBVngLS} – 6/10 \text{kV} \ 3 \times 185/35 \).

This marking voltage is not obligatory, may be designated upon customers request.

Construction

CONDUCTORS
Copper or aluminum round compacted or sector-shaped conductor (class 2 in accordance with GOST 22483).

SCREEN OVERLYING OF ELECTROCONDUCTIVE CORE SCREEN
Extruded electroconductive cross-linked polymer composition.

INSULATION
Insulation of cross-linked polyethylene (XLPE).

SCREEN OVER INSULATION
Extruded electroconductive cross-linked polymer composition.

SEPARATION LAYER
A layer of electroconductive paper tape or electroconductive synthetic tape must be applied over electroconductive core screen of single-core and three-core cables with round conductors and also cable core with sector-shaped conductors.

COPPER WIRES SCREEN STRANDED COPPER TAPE
Copper wires screen. Spiralled copper tape or copper wires skein must be laid over copper wires.

SEPARATION LAYER
Separation layer of glass tape is laid over copper screen of unarmoured single-core and three-core cables with sector-shaped conductors.

INNER SHEATH
Inner sheath is made of low risk-of-fire polyvinylchloride (PVC) compound for cables with «ngLS» designation or low level of smoke, halogen-free PVC compound for cables with «ngLSHF».

ARMOUR
For three-core cables armour is made from galvanized steel tapes (B) or galvanized steel wires (K); armour from aluminum tape (Ba) or aluminum or aluminum alloy round wires (Ka) – for single-core cables.

OVERSHEATH
Oversheath is made from low risk-of-fire polyvinylchloride (PVC) compound for cables with «ngLS» designation and low level of smoke, halogen-free PVC compound for cables with «ngLSHF».
## Technical characteristics

| Nominal conductor cross-section | 25–800 mm² for single-core cables  
25–240 mm² for three-core cables |
|-------------------------------|--------------------------------------|
| Nominal screen cross-section  | 16–70 mm² for single-core cables  
16–50 mm² for three-core cables |
| Possible to produce cable with a larger screen cross-section, as agreed while placing the order | |
| Ambient temperature during operation cable | from -30 °C up to +50 °C |
| Relative humidity at ambient temperatures up to (35±2) °C | 98 % |
| Minimal temperature of cable laying without pre-heating | -15 °C |
| Allowed cable laying after pre-heating | from -15 °C up to -30 °C |
| Maximum permissible temperature for the conductors heating:  
- protractedly  
- in emergency mode  
- in short circuit mode | +90 °C  
+130 °C  
+250 °C |
| Minimum allowed radius of bending during cable laying:  
- single-core cables  
- multicore cables | 15 diameters of cable  
12 diameters of cable |
| The level of partial discharges | no more 10 pKi |
| Guarantee period | 5 years |
| Service life | 30 years |

Permissible current loads and permissible short-circuit currents for these cables are described in cross-section «Reference data».

These cables have flame-retarding ability when laid in bundles in accordance with 4.2 DSTU 4809, DSTU 4237 – 3 – 22 (category A).

On customers request is made cables with a low level of smoke, halogen-free PVC compound with «ngLSHF» designation for use at sites where there are special requirements to low emission of corrosive gases.

Manufactured cable length may be agreed with the customer request.

On customers request is made cables with PVC oversheath with longitudinal (index «g») and double screen sealing (longitudinal and transverse - index «2g») and longitudinal sealing of conductors.

The manufacturer can ensure compliance of cable quality with requirements of current technical specification, provided all terms of transportation, storage, installation and use have been observed.

On customers request is allowed other marking of cable.

All products are certified.
Power cables with XLPE insulation, longitudinal screen sealing and polyethylene or reinforced polyethylene oversheath, including armoured 
PvPg, PvPug, APvPg, APvPug 
(PвПг, ПвПуг, АПвПг, АПвПуг)
Single-core power cables: APvBaPg, PvBaPg, APvKaPg, PvKaPg (АПвБаПг, ПвБаПг, АПвКаПг, ПвKaПг)
Three-core power cables: APvBpg, PvBpg, APvKpg, PvKpg (АПвБПг, ПвБПг, АПвКПг, ПвКПг)

3.6/6; 6/10; 8.7/15; 12/20; 18/30 kV

Our cables are manufactured and tested in accordance with 
TU U 27.3 – 31850229 – 032:2014 and DSTU IEC 60502 – 2

Conformity the foreign-made analogues:
N2XS(F)2Y (2XS(F)2Y); NA2XS(F)2Y (A2XS(F)2Y), VDE 0276-620:1996 (HD 620 S1, 5C, 6C)

Application

These cables are intended for laying in premises, in ducts, channels and places where mechanical impacts on cables, including stretching forces, might be possible. Also these cables can be used for installation on lines of complicated configuration.

Cables with screen sealing are used undergrounds with increased moisture and in partially flooded premises.

Ordering designation of cable: APvBpg – 12/20 kV 3×120/16.

This marking voltage is not obligatory, may be designated upon customers request.

Construction

CONDUCTORS
Copper or aluminum round compacted or sector-shaped conductor (class 2 in accordance with GOST 22483).

SCREEN OVERLAYING OF ELECTROCONDUCTIVE CORE SCREEN
Extruded electroconductive cross-linked polymer composition.

INSULATION
Insulation of cross-linked polyethylene (XLPE).

SCREEN OVER INSULATION
Extruded electroconductive cross-linked polymer composition.

SEPARATION LAYER
A layer of electroconductive water-blocking tape.

COPPER WIRES SCREEN STRANDED COPPER TAPE
Copper wires screen. Spiralled copper tape or copper wires skein must be laid over copper wires.

SEPARATION LAYER
Separation layer of water-blocking tape is laid over copper screen of single-core cables.

INNER SHEATH
The inner sheath must be compatible with insulation material and oversheath for three-core cables (armoured and unarmoured) and single-core armoured cables.

ARMOUR
For three-core cables armour is made from galvanized steel tapes (B) or galvanized steel wires (K); armour from aluminum tape (Ba) or aluminum or aluminum alloy round wires (Ka) – for single-core cables. Separation layer of water-blocking tape is laid over armour.

OVERSHEATH
Polyethylene (P). Reinforced oversheath is made from high-density polyethylene of increased thickness (Pu).
**Technical characteristics**

<table>
<thead>
<tr>
<th>Nominal conductor cross-section</th>
<th>25–800 mm² for single-core cables, 25–240 mm² for three-core cables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal screen cross-section</td>
<td>16–70 mm² for single-core cables, 16–50 mm² for three-core cables</td>
</tr>
<tr>
<td>Possible to produce cable with a larger screen cross-section, as agreed while placing the order</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature during operation cable</td>
<td>from - 60 °C up to + 50 °C</td>
</tr>
<tr>
<td>Relative humidity at ambient temperatures up to (35±2) °C</td>
<td>98 %</td>
</tr>
<tr>
<td>Minimal temperature of cable laying without pre-heating</td>
<td>- 20 °C</td>
</tr>
<tr>
<td>Allowed cable laying after pre-heating</td>
<td>from - 20 °C up to - 40 °C</td>
</tr>
<tr>
<td>Maximum permissible temperature for the conductors heating:</td>
<td></td>
</tr>
<tr>
<td>- protractedly</td>
<td>+ 90 °C</td>
</tr>
<tr>
<td>- in emergency mode</td>
<td>+ 130 °C</td>
</tr>
<tr>
<td>- in short circuit mode</td>
<td>+ 250 °C</td>
</tr>
<tr>
<td>Hermetically sealed cables must be resistant for longitudinal propagation of water in case of damage the oversheath. Water penetration into the cable must not exceed in both directions from the fault location of oversheath</td>
<td>1 500 mm</td>
</tr>
<tr>
<td>Minimum allowed radius of bending during cable laying:</td>
<td></td>
</tr>
<tr>
<td>- single-core cables</td>
<td>15 diameters of cable</td>
</tr>
<tr>
<td>- multicore cables</td>
<td>12 diameters of cable</td>
</tr>
<tr>
<td>The level of partial discharges</td>
<td>no more 10 pKi</td>
</tr>
<tr>
<td>Guarantee period</td>
<td>5 years</td>
</tr>
<tr>
<td>Service life</td>
<td>30 years</td>
</tr>
</tbody>
</table>

Permissible current loads and permissible short-circuit currents for these cables are described in cross-section «Reference data».

On customers’ request is made cables with a longitudinal sealing of conductors.

Manufactured cable length may be agreed with the customer request.

The manufacturer can ensure compliance of cable quality with requirements of current technical specification, provided all terms of transportation, storage, installation and use have been observed.

On customers’ request is allowed other marking of cable.

All products are certified.
Three-core power cables with XLPE insulation armoured with galvanized steel tape or steel wire and polyethylene oversheath

\text{ПвБП, ПбКП, АПвБП, АПвКП}

3.6/6; 6/10; 8.7/15; 12/20; 18/30 kV

Our cables are manufactured and tested in accordance with TU U 27.3 – 31850229 – 032:2014 and DSTU IEC 60502 – 2

Conformity the foreign-made analogues:
N2XSEBY, VDE 0276-620:1996 (HD 620 S1, 5C, 6C)

Application

These cables are intended for laying in premises, in ducts, channels, dry soils and places where mechanical impacts on cables, including stretching forces, might be possible. Also these cables can be used for installation on lines of complicated configuration.

The cables of ПвКП, АПвКП types are specially intended for laying in ordinary soils (trenches), as well as in highly corrosive soils.

Ordering designation of cable: ПвBP – 6/10 kV 3\times95/25.

This marking voltage is not obligatory, may be designated upon customers request.

Construction

CONDUCTORS
Copper or aluminum round compacted conductor (class 2 in accordance with GOST 22483).

SCREEN OVERLYING OF ELECTROCONDUCTIVE CORE SCREEN
Extruded electroconductive cross-linked polymer composition.

INSULATION
Insulation of cross-linked polyethylene (XLPE).

SCREEN OVER INSULATION
Extruded electroconductive cross-linked polymer composition.

SEPARATION LAYER
A layer of electroconductive paper tape or electroconductive synthetic tape.

COPPER WIRES SCREEN STRANDED COPPER TAPE
Copper wires screen. Spiralled copper tape or copper wires skein must be laid over copper wires.

CABLE CORE
Screened by copper wires round conductors of cables are stranded into the cable core. The inner sheath is laid over the cable core. The inner sheath must be compatible with insulation material and oversheath.

ARMOUR
For these cables armour is made from galvanized steel tapes (B) or galvanized steel wires (K).

OVERSHEATH
Polyethylene (P).
Technical characteristics

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal conductor cross-section</td>
<td>25–240 mm²</td>
</tr>
<tr>
<td>Nominal screen cross-section</td>
<td>16–50 mm²</td>
</tr>
<tr>
<td>Possible to produce cable with a larger screen cross-section, as agreed while placing the order</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature during operation cable</td>
<td>from - 60 °C up to + 50 °C</td>
</tr>
<tr>
<td>Relative humidity at ambient temperatures up to (35±2) °C</td>
<td>98 %</td>
</tr>
<tr>
<td>Minimal temperature of cable laying without pre-heating</td>
<td>- 20 °C</td>
</tr>
<tr>
<td>Allowed cable laying after pre-heating</td>
<td>from - 20 °C up to - 40 °C</td>
</tr>
<tr>
<td>Maximum permissible temperature for the conductors heating:</td>
<td></td>
</tr>
<tr>
<td>- protractedly</td>
<td>+ 90 °C</td>
</tr>
<tr>
<td>- in emergency mode</td>
<td>+ 130 °C</td>
</tr>
<tr>
<td>- in short circuit mode</td>
<td>+ 250 °C</td>
</tr>
<tr>
<td>Minimum allowed radius of bending during cable laying:</td>
<td></td>
</tr>
<tr>
<td>- multicore cables</td>
<td>12 diameters of cable</td>
</tr>
<tr>
<td>The level of partial discharges</td>
<td>no more 10 pKi</td>
</tr>
<tr>
<td>Guarantee period</td>
<td>5 years</td>
</tr>
<tr>
<td>Service life</td>
<td>30 years</td>
</tr>
</tbody>
</table>

Permissible current loads and permissible short-circuit currents for these cables are described in cross-section «Reference data».

Manufactured cable length may be agreed with the customer request.

The manufacturer can ensure compliance of cable quality with requirements of current technical specification, provided all terms of transportation, storage, installation and use have been observed.

On customers request is allowed other marking of cable.

All products are certified.
Power cables with XLPE insulation, longitudinal and transverse sealing and polyethylene or polyethylene reinforced oversheath, including armoured

\[ \text{PvP2g, PvPu2g, APvP2g, APvPu2g} \]
\[ (\text{ПвП2г, ПвПу2г, АПвП2г, АПвПу2г}) \]

**Single-core power cables:**

\[ \text{APvBaP2g, PvPBaP2g, APvKaP2g, PvPKaP2g} \]
\[ (\text{АПвБаП2г, ПвБаП2г, АПвКаП2г, ПвКаП2г}) \]

**Three-core power cables:**

\[ \text{APvBP2g, PvPBP2g, APvKP2g, PvPKP2g} \]
\[ (\text{АПвБП2г, ПвБП2г, АПвКП2г, ПвКП2г}) \]

3.6/6; 6/10; 8.7/15; 12/20; 18/30 kV

Our cables are manufactured and tested in accordance with

TU U 27.3 – 31850229 – 032:2014 and DSTU IEC 60502 – 2

**Conformity the foreign-made analogues:**

N2XS(FL)2Y (2XS(FL)2Y), NA2XS(F)2Y, NA2XS(FL)2Y, VDE 0276-620:1996

(HD 620 S1, 5C, 6C)

**Application**

These cables are intended for laying in premises, in ducts, channels and places where mechanical impacts on cables, including stretching forces, might be possible. Also these cables can be used for installation on lines of complicated configuration.

Cables with screen sealing are used undergrounds with increased moisture and in partially flooded premises.

Ordering designation of cable: PvPu2g – 6/10 kV 1×35/16.

This marking voltage is not obligatory, may be designated upon customers request.

**Construction**

**CONDUCTORS**
Copper or aluminium round compacted or sector-shaped conductor (class 2 in accordance with GOST 22483).

**SCREEN OVERLYING OF ELECTROCONDUCTIVE CORE SCREEN**
Extruded electroconductive cross-linked polymer composition.

**INSULATION**
Insulation of cross-linked polyethylene (XLPE).

**SCREEN OVER INSULATION**
Extruded electroconductive cross-linked polymer composition.

**SEPARATION LAYER**
A layer of electroconductive water-blocking tape.

**COPPER WIRES SCREEN STRANDED COPPER TAPE**
Copper wires screen. Spiralled copper tape or copper wires skein must be laid over copper wires.

**SEPARATION LAYER**
Separation layer of water-blocking tape is laid over copper screen of single-core cables.

**INNER SHEATH**
The inner sheath must be compatible with insulation material and oversheath for three-core cables (armoured and unarmoured) and single-core armoured cables.

**ARMOUR**
For three-core cables armour is made from galvanized steel tapes (B) or galvanized steel wires (K); armour from aluminum tape (Ba) or aluminum or aluminum alloy round wires (Ka) – for single-core cables. Separation layer of water-blocking tape is laid over armour.

**ADDITIONAL SEPARATION LAYER**
Laminated aluomopolymer tape with a layer of aluminum.

**OVERSHEATH**
Polyethylene (P). Reinforced oversheat is made from high-density polyethylene of increased thickness (Pu).
## Technical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal conductor cross-section</td>
<td>25–800 mm² for single-core cables, 25–240 mm² for three-core cables</td>
</tr>
<tr>
<td>Nominal screen cross-section</td>
<td>16–70 mm² for single-core cables, 16–50 mm² for three-core cables</td>
</tr>
<tr>
<td>Ambient temperature during operation cable</td>
<td>from -60 °C up to +50 °C</td>
</tr>
<tr>
<td>Relative humidity at ambient temperatures up to (35±2) °C</td>
<td>98 %</td>
</tr>
<tr>
<td>Minimal temperature of cable laying without pre-heating</td>
<td>-20 °C</td>
</tr>
<tr>
<td>Allowed cable laying after pre-heating</td>
<td>from -20 °C up to -40 °C</td>
</tr>
<tr>
<td>Maximum permissible temperature for the conductors heating:</td>
<td></td>
</tr>
<tr>
<td>- protractedly</td>
<td>+90 °C</td>
</tr>
<tr>
<td>- in emergency mode</td>
<td>+130 °C</td>
</tr>
<tr>
<td>- in short circuit mode</td>
<td>+250 °C</td>
</tr>
<tr>
<td>Hermetically sealed cables must be resistant for longitudinal propagation of water in case of damage the oversheath. Water penetration into the cable must not exceed in both directions from the fault location of oversheath</td>
<td>1 500 mm</td>
</tr>
<tr>
<td>Minimum allowed radius of bending during cable laying:</td>
<td></td>
</tr>
<tr>
<td>- single-core cables</td>
<td>15 diameters of cable</td>
</tr>
<tr>
<td>- multicore cables</td>
<td>12 diameters of cable</td>
</tr>
<tr>
<td>The level of partial discharges</td>
<td>no more 10 pKi</td>
</tr>
<tr>
<td>Guarantee period</td>
<td>5 years</td>
</tr>
<tr>
<td>Service life</td>
<td>30 years</td>
</tr>
</tbody>
</table>

Permissible current loads and permissible short-circuit currents for these cables are described in cross-section «Reference data».

On customers' request, cables with a longitudinal sealing of conductors can be made.

Manufactured cable length may be agreed with the customer request.

The manufacturer can ensure compliance of cable quality with requirements of current technical specification, provided all terms of transportation, storage, installation and use have been observed.

On customers' request, other marking of cable is allowed.

All products are certified.
SELF-SUPPORTING INSULATED WIRES FOR OVERHEAD POWER LINES
Self-supporting protected insulated single-core high-voltage wire with a light-stabilized XLPE insulation

SIP-3, SIP-3...g, SIPn-3, SIPn-3...g

(СИП-3, СИП-3...г, СИПн-3, СИПн-3...г)

20 kV; 30 kV

Our wires are manufactured and tested in accordance with TU U 31.3-31850229-023:2007 and DSTU IEC 4743:2007

Conformity the foreign-made analogues:
SAX, PAS (SFS 5790, SFS5791; Finland), AALXS, AALXSn, AFLwsXS, AFLwsXSn, AAsXS, AAsXSn, AAsXSnu (Poland)

Application

These wires are used for laying aerial electric power lines for the rated voltage from 10 kV till 35 kV at a rated frequency of 50 Hz.

These wires are intended for overhead electric power lines in moderate, cold and tropical climate. Climate class (NF), location categories 1, 2 and 3.

Ordering designation of wire: SIP-3 1x95 – 35.

This marking is not obligatory, may be designated upon customers request.

Construction

CONDUCTOR
Multicore aluminum-alloy stranded compacted round conductor.
Wires with sealed conductor are designated as SIP-3 1x95g.
Wires with sealed conductor must contain a water-blocking material or materials.

INSULATION
Laid-on by extrusion from cross-linked polyethylene (XLPE).

Wire SIP-3...g: self-supporting protected insulated single-core high-voltage wire with sealed conductor, light-stabilized XLPE insulation.

Wire SIPn-3: self-supporting protected insulated single-core high-voltage wire with light-stabilized XLPE insulation. This wire have flame-retarding ability when laid in bundles.

Wire SIPn-3...g: self-supporting protected insulated single-core high-voltage wire with sealed conductor, light-stabilized and flame-retardant XLPE insulation. These wires have flame-retarding ability when laid in bundles.
Technical characteristics

Permissible current loads calculated for the ambient temperature +25 °C, wind speed 6 m/s and solar radiation intensity 1000 Vt/m², and permissible short-circuit currents for these wires are described in cross-section «Reference data».

Wires are bending – resistant during installation. Suspension of wires in overhead power lines must meet the requirements of Electrical Installation Regulations.

Manufactured wire length may be agreed with the customer request. Transportation and storage of wire must accord with GOST 18690.

The manufacturer can ensure compliance of wire quality with requirements of DSTU 4743 and current technical specification, provided all terms of transportation, storage, installation and use have been observed.

On customers request other marking of wire is allowed.

Wires are delivered on drums.

All products are certified.

Rated voltage: 20 kV and 35 kV
Nominal conductor cross-section: 25 – 240 mm²
Ambient temperature during operation: from -60 °C up to +50 °C

Wires must be resistant to the effects of solar irradiation
Sealed conductors of wires must be resistant to longitudinal propagation of water

Minimal temperature of wire laying without pre-heating: -20 °C
Maximum permissible temperature for the conductors heating:
- at normal operation mode: 90 °C
- in short circuit mode: 250 °C

Minimum allowed radius of bending during wire laying, no less: 10 D, where D – nominal outer diameter of wire, mm
Guarantee period: 3 years
Service life, no less: 40 years

Breaking strength of conductors of self-supporting protected wire is described next table:

<table>
<thead>
<tr>
<th>Nominal conductor cross-section, mm²</th>
<th>Breaking strength of conductor, kN, not less</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>7.4</td>
</tr>
<tr>
<td>35</td>
<td>10.3</td>
</tr>
<tr>
<td>50</td>
<td>14.2</td>
</tr>
<tr>
<td>70</td>
<td>20.6</td>
</tr>
<tr>
<td>95</td>
<td>27.9</td>
</tr>
<tr>
<td>120</td>
<td>35.2</td>
</tr>
<tr>
<td>150</td>
<td>43.4</td>
</tr>
<tr>
<td>185</td>
<td>53.5</td>
</tr>
<tr>
<td>240</td>
<td>69.5</td>
</tr>
</tbody>
</table>

Technical Data (reference values)

<table>
<thead>
<tr>
<th>Wire</th>
<th>Number and nominal cross-section of conductors, mm²</th>
<th>Nominal overall diameter, mm</th>
<th>Weight of 1km wire, kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-supporting protected insulated single-core high-voltage wire SIP-3 20 kV</td>
<td>1x35</td>
<td>12.00</td>
<td>186</td>
</tr>
<tr>
<td></td>
<td>1x50</td>
<td>13.00</td>
<td>215</td>
</tr>
<tr>
<td></td>
<td>1x70</td>
<td>15.00</td>
<td>282</td>
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<tr>
<td></td>
<td>1x95</td>
<td>16.00</td>
<td>364</td>
</tr>
<tr>
<td></td>
<td>1x120</td>
<td>18.00</td>
<td>445</td>
</tr>
<tr>
<td></td>
<td>1x150</td>
<td>19.00</td>
<td>540</td>
</tr>
<tr>
<td></td>
<td>1x185</td>
<td>21.00</td>
<td>722</td>
</tr>
<tr>
<td></td>
<td>1x240</td>
<td>24.00</td>
<td>950</td>
</tr>
<tr>
<td>Self-supporting protected insulated single-core high-voltage wire SIP-3 35 kV</td>
<td>1x35</td>
<td>14.00</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>1x50</td>
<td>16.00</td>
<td>263</td>
</tr>
<tr>
<td></td>
<td>1x70</td>
<td>17.00</td>
<td>334</td>
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<tr>
<td></td>
<td>1x95</td>
<td>19.00</td>
<td>421</td>
</tr>
<tr>
<td></td>
<td>1x120</td>
<td>20.00</td>
<td>518</td>
</tr>
<tr>
<td></td>
<td>1x150</td>
<td>22.00</td>
<td>618</td>
</tr>
<tr>
<td></td>
<td>1x185</td>
<td>24.00</td>
<td>808</td>
</tr>
<tr>
<td></td>
<td>1x240</td>
<td>26.00</td>
<td>1045</td>
</tr>
</tbody>
</table>
Self-supporting and flame-retardant wires with a light-stabilized XLPE insulation

**SIP-4, SIPn-4, SIP-4...g (СИП-4, СИПн-4, СИП-4...г)**

0.6/1 kV

Our wires are manufactured and tested in accordance with


Conformity the foreign-made analogues:

AsXS, AAsXSn, AsXSn (Poland)

### Application

These wires are used for long-distance electric power lines for the rated voltage of 0.6/1 kV to the input and for the laying on the walls of buildings and engineering structures, at a rated frequency of 50 Hz.

Climate class (NF), location categories 1, 2 and 3.

Ordering designation of wire:

SIPn-4 2×16 – 0.6/1.0.

This marking is not obligatory, may be designated upon customers request.

### Construction

**CONDUCTOR**

Aluminum multicore compacted main and auxiliary conductors Wires with sealed conductor are designated as SIP-4 4x16g.

Wires with sealed conductor must contain a water-blocking material or materials.

**INSULATION**

Laid-on by extrusion from cross-linked polyethylene (XLPE).

Wire SIP-4 (AsXS): self-supporting wire with a light-stabilized XLPE insulation

Wire SIPn-4 (AsXSn): self-supporting and flame-retardant wire with a light-stabilized XLPE insulation. This wire have flame-retarding ability when laid in bundles.

Wire SIP-4...g: self-supporting wire with a light-stabilized XLPE insulation with sealed conductor, light-stabilized XLPE insulation.

### Technical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltage</td>
<td>0.6/1 kV</td>
</tr>
<tr>
<td>Number of main conductors</td>
<td>1, 2, 3, 4</td>
</tr>
<tr>
<td>Nominal main conductor cross-section</td>
<td>10–240 mm²</td>
</tr>
<tr>
<td>Nominal auxiliary conductor cross-section for exterior lighting</td>
<td>16 mm², 25 mm²</td>
</tr>
<tr>
<td>Ambient temperature during operation</td>
<td>from -60 °C up to +50 °C</td>
</tr>
<tr>
<td>Wires must be resistant to the effects of solar irradiation</td>
<td></td>
</tr>
<tr>
<td>Sealed conductors of wires must be resistant to longitudinal propagation of water</td>
<td></td>
</tr>
<tr>
<td>Minimal temperature of wire laying without pre-heating</td>
<td>-20 °C</td>
</tr>
<tr>
<td>Maximum permissible temperature for the conductors heating:</td>
<td></td>
</tr>
<tr>
<td>- at normal operation mode</td>
<td>90 °C</td>
</tr>
<tr>
<td>- in short circuit mode</td>
<td>250 °C</td>
</tr>
<tr>
<td>Minimum allowed radius of bending during wire laying, no less:</td>
<td>10 D, where D – nominal outer diameter, mm</td>
</tr>
<tr>
<td>Guarantee period</td>
<td>3 years</td>
</tr>
<tr>
<td>Service life, no less</td>
<td>40 years</td>
</tr>
</tbody>
</table>
Permissible current loads calculated for the ambient temperature + 25 °C, wind speed 6 m/s and solar radiation intensity 1000 Vt/m², and permissible short-circuit currents for these wires are described in cross-section «Reference data».

Wire bending – resistant during installation. Suspension of wires in overhead power lines must meet the requirements of Electrical Installation Regulations.

Manufactured wire length may be agreed with the customer request. Transportation and storage of wire must be in accordance with GOST 18690.

The manufacturer can ensure compliance of wire quality with requirements of DSTU 4743 and current technical specification, provided all terms of transportation, storage, installation and use have been observed.

On customers request other marking of wire is allowed.

Wires are delivered on drums. All products are certified.

### Technical Data (reference values)

<table>
<thead>
<tr>
<th>Number and nominal cross-section of conductors, mm²</th>
<th>Nominal overall diameter, mm</th>
<th>Weight of 1 km wire, kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>2x10</td>
<td>13.00</td>
<td>95</td>
</tr>
<tr>
<td>2x16</td>
<td>15.00</td>
<td>137</td>
</tr>
<tr>
<td>2x25</td>
<td>18.00</td>
<td>195</td>
</tr>
<tr>
<td>2x35</td>
<td>20.00</td>
<td>256</td>
</tr>
<tr>
<td>2x50</td>
<td>23.00</td>
<td>395</td>
</tr>
<tr>
<td>2x70</td>
<td>27.00</td>
<td>491</td>
</tr>
<tr>
<td>2x95</td>
<td>31.00</td>
<td>649</td>
</tr>
<tr>
<td>2x120</td>
<td>34.00</td>
<td>813</td>
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<tr>
<td>3x10</td>
<td>14.00</td>
<td>143</td>
</tr>
<tr>
<td>3x16</td>
<td>16.00</td>
<td>197</td>
</tr>
<tr>
<td>3x25</td>
<td>19.00</td>
<td>292</td>
</tr>
<tr>
<td>3x35</td>
<td>22.00</td>
<td>383</td>
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<tr>
<td>3x50</td>
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<td>533</td>
</tr>
<tr>
<td>3x70</td>
<td>29.00</td>
<td>737</td>
</tr>
<tr>
<td>3x95</td>
<td>34.00</td>
<td>973</td>
</tr>
<tr>
<td>3x120</td>
<td>36.00</td>
<td>1219</td>
</tr>
<tr>
<td>4x10</td>
<td>15.00</td>
<td>184</td>
</tr>
<tr>
<td>4x16</td>
<td>18.00</td>
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</tr>
<tr>
<td>4x25</td>
<td>23.00</td>
<td>389</td>
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<tr>
<td>4x35</td>
<td>24.00</td>
<td>511</td>
</tr>
<tr>
<td>4x50</td>
<td>29.00</td>
<td>711</td>
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<tr>
<td>4x70</td>
<td>32.00</td>
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<tr>
<td>4x95</td>
<td>38.00</td>
<td>1298</td>
</tr>
<tr>
<td>4x120</td>
<td>41.00</td>
<td>1626</td>
</tr>
<tr>
<td>4x150</td>
<td>45.00</td>
<td>1978</td>
</tr>
<tr>
<td>2x25+1x16</td>
<td>19.00</td>
<td>260</td>
</tr>
<tr>
<td>2x25+2x16</td>
<td>20.60</td>
<td>326</td>
</tr>
<tr>
<td>2x35+1x16</td>
<td>19.20</td>
<td>321</td>
</tr>
<tr>
<td>2x35+1x25</td>
<td>20.00</td>
<td>353</td>
</tr>
<tr>
<td>2x35+2x16</td>
<td>21.40</td>
<td>387</td>
</tr>
<tr>
<td>2x35+2x25</td>
<td>25.00</td>
<td>450</td>
</tr>
<tr>
<td>2x50+1x16</td>
<td>24.00</td>
<td>421</td>
</tr>
<tr>
<td>2x50+1x25</td>
<td>28.00</td>
<td>453</td>
</tr>
<tr>
<td>2x50+2x16</td>
<td>25.60</td>
<td>487</td>
</tr>
<tr>
<td>2x50+2x25</td>
<td>28.70</td>
<td>511</td>
</tr>
<tr>
<td>2x70+1x16</td>
<td>27.00</td>
<td>557</td>
</tr>
<tr>
<td>2x70+1x25</td>
<td>27.20</td>
<td>589</td>
</tr>
<tr>
<td>2x70+2x16</td>
<td>27.20</td>
<td>623</td>
</tr>
<tr>
<td>2x70+2x25</td>
<td>27.20</td>
<td>686</td>
</tr>
<tr>
<td>2x95+1x16</td>
<td>31.00</td>
<td>714</td>
</tr>
<tr>
<td>2x95+1x25</td>
<td>31.00</td>
<td>746</td>
</tr>
</tbody>
</table>

| 2x95+2x16                                         | 31.00                       | 780                     |
| 2x95+2x25                                         | 31.00                       | 843                     |
| 2x120+1x16                                        | 34.00                       | 878                     |
| 2x120+1x25                                        | 34.00                       | 910                     |
| 2x120+2x16                                        | 34.00                       | 943                     |
| 2x120+2x25                                        | 34.00                       | 1007                    |
| 3x25+1x16                                        | 22.30                       | 358                     |
| 3x25+2x16                                        | 26.40                       | 423                     |
| 3x35+1x16                                        | 22.40                       | 449                     |
| 3x35+2x16                                        | 26.00                       | 481                     |
| 3x35+2x25                                        | 26.40                       | 515                     |
| 3x50+1x16                                        | 28.00                       | 578                     |
| 3x50+1x25                                        | 28.00                       | 515                     |
| 3x50+2x16                                        | 30.20                       | 631                     |
| 3x50+2x25                                        | 31.40                       | 664                     |
| 3x70+1x16                                        | 30.00                       | 728                     |
| 3x70+1x25                                        | 31.10                       | 803                     |
| 3x70+2x16                                        | 33.40                       | 868                     |
| 3x70+2x25                                        | 35.00                       | 932                     |
| 3x95+1x16                                        | 35.00                       | 1039                    |
| 3x95+1x25                                        | 35.00                       | 1071                    |
| 3x95+2x16                                        | 39.00                       | 1104                    |
| 3x95+2x25                                        | 40.00                       | 1168                    |
| 3x120+1x16                                       | 36.00                       | 1285                    |
| 3x120+1x25                                       | 36.80                       | 1317                    |
| 3x120+2x16                                       | 41.00                       | 1350                    |
| 3x120+2x25                                       | 43.00                       | 1414                    |
| 4x25+1x16                                        | 24.80                       | 455                     |
| 4x25+2x16                                        | 27.00                       | 520                     |
| 4x35+1x16                                        | 26.40                       | 577                     |
| 4x35+1x25                                        | 28.00                       | 609                     |
| 4x35+2x16                                        | 29.00                       | 642                     |
| 4x35+2x25                                        | 29.00                       | 698                     |
| 4x50+1x16                                        | 29.80                       | 777                     |
| 4x50+1x25                                        | 31.00                       | 808                     |
| 4x50+2x16                                        | 31.40                       | 842                     |
| 4x50+2x25                                        | 31.40                       | 906                     |
| 4x70+1x16                                        | 34.00                       | 1049                    |
| 4x70+1x25                                        | 35.00                       | 1080                    |
| 4x70+2x16                                        | 36.00                       | 1114                    |
| 4x70+2x25                                        | 36.00                       | 1178                    |
| 4x95+1x16                                        | 39.00                       | 1369                    |
| 4x95+1x25                                        | 40.00                       | 1395                    |
| 4x95+2x16                                        | 46.00                       | 1429                    |
| 4x95+2x25                                        | 46.00                       | 1492                    |
| 4x120+1x16                                       | 41.00                       | 1691                    |
| 4x120+1x25                                       | 42.20                       | 1723                    |
| 4x120+2x16                                       | 44.00                       | 1757                    |
| 4x120+2x25                                       | 44.00                       | 1820                    |
### Reference data

#### PERMISSIBLE CURRENT LOADS OF POWER CABLES WITH THE XLPE INSULATION 6 - 30 KV

Permissible current loads of single-core cables for rated voltage of 3.6/6 kV:

<table>
<thead>
<tr>
<th>Nominal conductor cross-section, mm²</th>
<th>at cable laying in ground, A</th>
<th>at cable laying in air, A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>copper conductor in a plane</td>
<td>aluminum conductor by triangle</td>
</tr>
<tr>
<td>35</td>
<td>221</td>
<td>193</td>
</tr>
<tr>
<td>50</td>
<td>250</td>
<td>225</td>
</tr>
<tr>
<td>70</td>
<td>310</td>
<td>275</td>
</tr>
<tr>
<td>95</td>
<td>336</td>
<td>326</td>
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<tr>
<td>120</td>
<td>380</td>
<td>370</td>
</tr>
<tr>
<td>150</td>
<td>416</td>
<td>413</td>
</tr>
<tr>
<td>185</td>
<td>466</td>
<td>466</td>
</tr>
<tr>
<td>240</td>
<td>531</td>
<td>537</td>
</tr>
<tr>
<td>300</td>
<td>590</td>
<td>604</td>
</tr>
<tr>
<td>400</td>
<td>633</td>
<td>677</td>
</tr>
<tr>
<td>500</td>
<td>697</td>
<td>759</td>
</tr>
<tr>
<td>630</td>
<td>792</td>
<td>848</td>
</tr>
<tr>
<td>800</td>
<td>825</td>
<td>933</td>
</tr>
</tbody>
</table>

Permissible current loads of single-core cables for rated voltage of 6/10 kV:

<table>
<thead>
<tr>
<th>Nominal conductor cross-section, mm²</th>
<th>at cable laying in ground, A</th>
<th>at cable laying in air, A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>copper conductor in a plane</td>
<td>aluminum conductor by triangle</td>
</tr>
<tr>
<td>50</td>
<td>222</td>
<td>216</td>
</tr>
<tr>
<td>70</td>
<td>272</td>
<td>267</td>
</tr>
<tr>
<td>95</td>
<td>325</td>
<td>321</td>
</tr>
<tr>
<td>120</td>
<td>369</td>
<td>370</td>
</tr>
<tr>
<td>150</td>
<td>414</td>
<td>422</td>
</tr>
<tr>
<td>185</td>
<td>468</td>
<td>467</td>
</tr>
<tr>
<td>240</td>
<td>542</td>
<td>543</td>
</tr>
<tr>
<td>300</td>
<td>613</td>
<td>617</td>
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<tr>
<td>400</td>
<td>700</td>
<td>712</td>
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<tr>
<td>500</td>
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<td>799</td>
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<td>630</td>
<td>906</td>
<td>894</td>
</tr>
<tr>
<td>800</td>
<td>1019</td>
<td>992</td>
</tr>
</tbody>
</table>
## Reference data

### Permissible current loads of single-core cables for rated voltage of 12/20 kV, 18/30 kV:

<table>
<thead>
<tr>
<th>Nominal conductor cross-section, mm²</th>
<th>at cable laying in ground, A</th>
<th>at cable laying in air, A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>copper conductor</td>
<td>aluminum conductor</td>
</tr>
<tr>
<td></td>
<td>in a plane by triangle</td>
<td>in a plane by triangle</td>
</tr>
<tr>
<td>50</td>
<td>230</td>
<td>225</td>
</tr>
<tr>
<td>70</td>
<td>290</td>
<td>270</td>
</tr>
<tr>
<td>95</td>
<td>336</td>
<td>326</td>
</tr>
<tr>
<td>120</td>
<td>380</td>
<td>371</td>
</tr>
<tr>
<td>150</td>
<td>417</td>
<td>413</td>
</tr>
<tr>
<td>185</td>
<td>466</td>
<td>466</td>
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<tr>
<td>240</td>
<td>532</td>
<td>538</td>
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<tr>
<td>300</td>
<td>582</td>
<td>605</td>
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<tr>
<td>400</td>
<td>635</td>
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<td>766</td>
<td>851</td>
</tr>
<tr>
<td>800</td>
<td>830</td>
<td>942</td>
</tr>
</tbody>
</table>

### Current loads of three-core cables for rated voltage 3.6/6, 6/10, 8.7/15, 12/20 and 18/30 kV at cable laying in ground:

<table>
<thead>
<tr>
<th>Nominal conductor cross-section, mm²</th>
<th>Current at laying in ground, A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>copper conductor</td>
</tr>
<tr>
<td></td>
<td>3.6/6 kV</td>
</tr>
<tr>
<td>35</td>
<td>164</td>
</tr>
<tr>
<td>50</td>
<td>192</td>
</tr>
<tr>
<td>70</td>
<td>233</td>
</tr>
<tr>
<td>95</td>
<td>279</td>
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<tr>
<td>120</td>
<td>316</td>
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<td>150</td>
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</tr>
<tr>
<td>185</td>
<td>396</td>
</tr>
<tr>
<td>240</td>
<td>457</td>
</tr>
</tbody>
</table>

### Current loads of three-core cables for rated voltage 3.6/6, 6/10, 8.7/15, 12/20 and 18/30 kV at cable laying in air:

<table>
<thead>
<tr>
<th>Nominal conductor cross-section, mm²</th>
<th>Current at laying in air, A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>copper conductor</td>
</tr>
<tr>
<td></td>
<td>3.6/6 kV</td>
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<tr>
<td>35</td>
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<td>120</td>
<td>366</td>
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<tr>
<td>150</td>
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</tr>
<tr>
<td>185</td>
<td>471</td>
</tr>
<tr>
<td>240</td>
<td>550</td>
</tr>
</tbody>
</table>

### Permissible current loads for ambient temperature + 15 °C at cable laying in air. For other designed ambient temperatures it is necessary to use correcting coefficients described in table:

<table>
<thead>
<tr>
<th>Laying conditions</th>
<th>Correcting coefficients for next ambient temperatures, °C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-5</td>
</tr>
<tr>
<td>Ground</td>
<td>1.13</td>
</tr>
<tr>
<td>Air</td>
<td>1.21</td>
</tr>
</tbody>
</table>
## Reference data

**PERMISSIBLE CURRENT LOADS AND PERMISSIBLE CURRENTS OF ONE-SECOND SHORT-CIRCUIT OF SELF-SUPPORTING INSULATED WIRES FOR OVERHEAD POWER LINES FOR VOLTAGE 0.6/1 kV, 20 kV (for lines on voltage 10 kV, 15 kV, 20 kV) and 35 kV (for lines on voltage 30 kV and 35 kV)**

Permissible current loads of wires, calculated for ambient temperature +25° C, speed of wind 6 m/s and intensity of solar radioactivity 1000 Vt/m², and permissible currents of one-second short-circuit are described in table:

<table>
<thead>
<tr>
<th>Nominal conductor cross-section, mm²</th>
<th>Permissible current loads, A, no more</th>
<th>Permissible current of one-second short-circuit, kA, no more</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>insulated wires</td>
<td>protected insulated wires</td>
</tr>
<tr>
<td>10</td>
<td>90</td>
<td>-</td>
</tr>
<tr>
<td>16</td>
<td>100</td>
<td>-</td>
</tr>
<tr>
<td>25</td>
<td>130</td>
<td>-</td>
</tr>
<tr>
<td>35</td>
<td>160</td>
<td>200</td>
</tr>
<tr>
<td>50</td>
<td>195</td>
<td>245</td>
</tr>
<tr>
<td>70</td>
<td>240</td>
<td>310</td>
</tr>
<tr>
<td>95</td>
<td>300</td>
<td>370</td>
</tr>
<tr>
<td>120</td>
<td>340</td>
<td>430</td>
</tr>
<tr>
<td>150</td>
<td>380</td>
<td>485</td>
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<tr>
<td>185</td>
<td>436</td>
<td>580</td>
</tr>
<tr>
<td>240</td>
<td>515</td>
<td>600</td>
</tr>
</tbody>
</table>

**PERMISSIBLE CURRENTS OF ONE-SECOND SHORT-CIRCUIT**

Permissible currents of one-second short-circuit of cables and wires should be no more described in table:

<table>
<thead>
<tr>
<th>Nominal conductor cross-section, mm²</th>
<th>Permissible current of one-second short-circuit of cable, kA</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper conductor</td>
<td>insulated wires</td>
</tr>
<tr>
<td>50</td>
<td>7.15</td>
</tr>
<tr>
<td>70</td>
<td>10.0</td>
</tr>
<tr>
<td>95</td>
<td>13.6</td>
</tr>
<tr>
<td>120</td>
<td>17.2</td>
</tr>
<tr>
<td>150</td>
<td>21.5</td>
</tr>
<tr>
<td>185</td>
<td>26.5</td>
</tr>
<tr>
<td>240</td>
<td>34.3</td>
</tr>
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Currents short-circuit of one-second are calculated at temperature of cable conductor before the beginning short-circuit is 90 °C and the limit temperature of cable conductor at short-circuit equal to 250 °C.

**Permissible currents of short-circuit in copper screens:**

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<th>Current of one-second short-circuit, kA, no more</th>
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**CABLE DRUMS FOR ELECTRIC CABLES AND WIRES. TECHNICAL DATA AND DIMENSION ACCORDING TO GOST 515179**

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<th>Length of drum (HWD), mm</th>
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Note: Drum number denotes diameter of flunge in decimeter.
## Reference data

### MULTITURN METAL DRUMS FOR CABLE AND WIRES.

**TECHNICAL DATA AND DIMENSION ACCORDING TO GOST 16 0.684.01480**

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**Note:**
1. Drum number denotes diameter of flanges in decimeter.
2. Drum description entails drum number: index M (for silumin molded) or MC (for steel welded), performance and standard number.
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Reference data

PJSC «PA «BERDYANSK CABLE PLANT»
Berdyansk cable plant