

## N2XSEY 3.6/6 kV

Cable for underground power distribution and subtransmission.

### Description

#### Application

Underground power distribution and subtransmission. As transformer feeders in substations. In power plants, industrial and operation installations, in residential areas and mining installations, in dry or wet locations.

#### Construction

1. Conductor: Copper, class 2.
2. Inner semi-conductor: Extruded.
3. Insulation: Cross linked polyethylene XLPE.
4. External semi-conductor: Extruded strippable.
5. Screen: Copper tapes.
6. Filler: Compound polyvinyl chloride PVC.
7. Outer sheath: Compound polyvinyl chloride PVC.

#### Main characteristics

Conductor temperature of 90°C for normal operation, 130°C for emergency overload and 250°C for short circuit conditions. Excellent properties against heat aging. Resistance to abrasion and moisture. Adequate resistance to greases and oils. Flame retardant.

#### Gauge:

From 10 mm<sup>2</sup> up to 240 mm<sup>2</sup>

#### Marking:

INDECO S.A. N2XSEY 3.6/6 kV Section

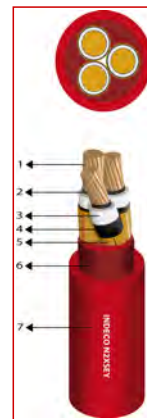
#### Packing:

Non returnable wooden reels.

#### Colour:

Insulation: Natural.

Outer sheath: Red.



#### Standards

**International** IEC 60228;  
IEC 60332-1; IEC 60502-2;  
IEC 60811-1-1; IEC 60811-1-2;  
IEC 60811-1-3; IEC 60811-1-4;  
IEC 60811-2-1; IEC 60811-3-1;  
IEC 60811-3-2

**National** NTP-IEC 60228; NTP-IEC 60502-2



Lead free  
Yes



Rated Voltage U<sub>0</sub>/U (Um)  
3.6/6 kV



Flame retardant  
IEC 60332-1



Oil resistance  
Good



Maximum operating  
temperature  
90 °C

## N2XSEY 3.6/6 kV

### National standards

**NTP-IEC 60228:** Conductors of insulated cables.

**NTP-IEC 60502-2:** Power cables with extruded insulation and their accessories for rated voltages from 6 kV up to 30 kV.

### International standards

**IEC 60228:** Conductors of insulated cables.

**IEC 60332-1:** Test for vertical flame propagation for a single insulated wire or cable.

**IEC 60502-2:** Power cables with extruded insulation and their accessories for rated voltages from 6 kV up to 30 kV.

**IEC 60811-1-1:** Measurement of thickness and overall dimensions - Test for determining the mechanical properties.

**IEC 60811-1-2:** Thermal ageing methods.

**IEC 60811-1-3:** Water absorption tests - Shrinkage test.

**IEC 60811-1-4:** Tests at low temperature.

**IEC 60811-2-1:** Ozone resistance, hot set and mineral oil immersion tests.

**IEC 60811-3-1:** Pressure test at high temperature - Tests for resistance to cracking.

**IEC 60811-3-2:** Loss of mass test - Thermal stability test.

### Characteristics

Construction characteristics	
Conductor material	Copper
Material of the inner semi-conductor	Extruded
Insulating material	XLPE
Material of the external semi-conductor	Extruded strippable
Individual screen	Copper tapes helically applied
Outer sheath	PVC
Lead free	Yes
Electrical characteristics	
Rated Voltage U <sub>0</sub> /U (Um)	3.6/6 kV
Usage characteristics	
Flame retardant	IEC 60332-1
Oil resistance	Good
Maximum operating temperature	90 °C



Lead free  
Yes



Rated Voltage U<sub>0</sub>/U (Um)  
3.6/6 kV



Flame retardant  
IEC 60332-1



Oil resistance  
Good



Maximum operating  
temperature  
90 °C

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### Dimensional Data

Cross section [mm²]	Total nb wires	Conductor diam. [mm]	Diam. over insulation [mm]	Diam. over screen [mm]	Diam. over sheath [mm]	Approx. weight [kg/km]
10	7	3.7	9.35	11.1	28.9	1094
16	7	4.67	10.33	11.9	30.5	1382
25	7	5.88	11.53	13.1	33.3	1789
35	7	6.92	12.58	14.2	35.6	2180
50	19	8.15	13.81	15.4	38.5	2694
70	19	9.78	15.44	17.1	42.3	3499
95	19	11.53	17.2	18.8	46.6	4538
120	37	13.0	18.66	20.3	50	5456
150	37	14.41	20.07	21.7	53.2	6452
185	37	16.15	21.81	23.4	56.9	7767
240	37	18.51	24.17	25.8	62.4	9822

### Electrical Data

Cross section [mm²]	Max. DC Resist. Cond. 20°C [Ohm/km]	A.C. cond. resist. 90 °C - trefoil [Ohm/km]	Phase reactance 60 Hz - trefoil formation [Ohm/km]	Perm. current rating buried 20°C - trefoil formation [A]	current rating in air 30°C - trefoil [A]
10	1.83	2.334	0.154	81	87
16	1.15	1.4665	0.1493	101	109
25	0.727	0.9272	0.1389	129	142
35	0.524	0.6685	0.132	153	170
50	0.387	0.494	0.1225	181	204
70	0.268	0.3426	0.1165	221	253
95	0.193	0.2474	0.111	262	304
120	0.153	0.1968	0.1068	298	351
150	0.124	0.16	0.102	334	398
185	0.0991	0.1292	0.101	377	455
240	0.0754	0.1	0.098	434	531

### Calculation of Current Condition Multi-core M.V.

#### CALCULATION OF CURRENT CONDITION

#### BASED ON NTP-IEC 60502-2 Annex B

Maximum conductor temperature: 90°C.

Ambient air temperature: 30°C.



Lead free  
Yes



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Flame retardant  
IEC 60332-1



Oil resistance  
Good



Maximum operating  
temperature  
90 °C

## N2XSEY 3.6/6 kV

Ground temperature: 20°C.

Depth of laying: 0.8 m.

Thermal resistivity of soil: 1.5 K.m/W.



Lead free  
Yes



Rated Voltage  $U_0/U$  (Um)  
3.6/6 kV



Flame retardant  
IEC 60332-1



Oil resistance  
Good



Maximum operating  
temperature  
90 °C