# EN 50288-7 XLPE Insulation IOS Armoured Fire Retardant

- Instrumentation cables 170/300 V
- Individual & Overall Screen (IOS)
**- Oil resistant**

## STANDARDS

**Test** IEC 60332-3-22 Cat.A

## APPLICATIONS

These Instrumentation and communication are used to **transmit analogue or digital signals in measurement and process control** They are well adapted to**underground use in industrial applications where chemical and mechanical protections are needed (refinery areas, chemical plant...). The individual screening of each pair limits the consequence of crosstalk.**

## Design

Conductor:

Stranded bare copper class 2

Insulation:

Cross-linked polyethylene (XLPE)

Individual screen:

Polyester tape

Tinned copper drain wire

Aluminium backed polyester tape

Polyester tape

Overall screen:

Polyester tape

Tinned copper drain wire

Aluminium backed polyester tape

Inner sheath:

Polyvinyl chloride (PVC)

Armour:

Galvanized steel wires (SWA)

Outer sheath:

Polyvinyl chloride (PVC)

Colour: black

Other colour on request

| Rated Voltage Uo/U (Um) | Mechanical resistance to impacts | Fire retardant | Oil resistance | Electro magnetic interference resistance | Operating temp. | Max.conductor temp.in service |
|---|---|---|---|---|---|---|
| **170/300V** | **Good** | **EN IEC 60332-3-22 ... (Cat A)** | **Yes** | **Yes** | **-20 ... 60 °C** | **90 °C** |

## Core identification

Pair: white - black
White core printed with pair number

## Marking

NEXANS 279 XLPE/IND.+OA.SCR/PVC/SWA/PVC 170/300V Nber of pairs & cross-section Cu IEC 60332-3-22(A) MM YYYY Manufacturing number + metric marking

## CONTACT

Market information
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# EN 50288-7 XLPE Insulation IOS Armoured Fire Retardant

## CHARACTERISTICS

| | |
|---|---|
| **Construction characteristics** | |
| Conductor material | Bare copper |
| Type of conductor | Stranded, class 2 |
| Insulation | XLPE (Cross-linked Polyethylene) |
| Individual screen | Tinned copper drain wire + aluminium/polyester tape |
| Overall screen | Tinned copper drain wire + aluminium/polyester tape |
| Inner sheath | PVC |
| Armour type | Galvanized steel wires |
| Outer sheath | PVC |
| Protection | Yes |
| **Electrical characteristics** | |
| Rated Voltage Uo/U (Um) | 170/300V |
| **Mechanical characteristics** | |
| Mechanical resistance to impacts | Good |
| **Usage characteristics** | |
| Fire retardant | EN IEC 60332-3-22 (cat A) |
| Oil resistance | Yes |
| Electro magnetic interference resistance | Yes |
| Operating temperature, range | -20 ... 60 °C |
| Max. conductor temperature in service | 90 °C |
| Standard | EN |

## SECTION 0.5MM²

| nb pairs | Conductor diam. [mm] | Diam. over insulation [mm] | Diam. over inner sheath [mm] | Diam. over armour [mm] | Min. outer diam. [mm] | Max. outer diam. [mm] | Approx. weight [kg/km] |
|---|---|---|---|---|---|---|---|
| 2 | 0.9 | 1.38 | 7.6 | 9.4 | 11.7 | 12.9 | 261 |
| 5 | 0.9 | 1.38 | 9.8 | 11.6 | 13.9 | 15.4 | 380 |
| 10 | 0.9 | 1.38 | 12.7 | 14.5 | 16.8 | 18.5 | 547 |
| 20 | 0.9 | 1.38 | 16.7 | 18.5 | 20.9 | 23.0 | 836 |
| 30 | 0.9 | 1.38 | 19.8 | 22.3 | 24.7 | 27.3 | 1261 |


Rated Voltage Uo/U (Um)
**170/300V**


Mechanical resistance to impacts
**Good**


Fire retardant
**EN IEC 60332-3-22 (cat A)**


Oil resistance
**Yes**


Electro magnetic interference resistance
**Yes**


Operating temp.
**-20 ... 60 °C**


Max.conductor temp.in service
**90 °C**

# EN 50288-7 XLPE Insulation IOS Armoured Fire Retardant

## SECTION 0.75MM²

| nb pairs | Conductor diam. [mm] | Diam. over insulation [mm] | Diam. over inner sheath [mm] | Diam. over armour [mm] | Min. outer diam. [mm] | Max. outer diam. [mm] | Approx. weight [kg/km] |
|---|---|---|---|---|---|---|---|
| 2 | 1.1 | 1.58 | 8.3 | 10.1 | 12.4 | 13.6 | 291 |
| 5 | 1.1 | 1.58 | 10.8 | 12.6 | 14.9 | 16.5 | 444 |
| 10 | 1.1 | 1.58 | 14.2 | 16.0 | 18.4 | 20.3 | 664 |
| 20 | 1.1 | 1.58 | 18.5 | 21.0 | 23.5 | 25.9 | 1147 |
| 30 | 1.1 | 1.58 | 22.3 | 24.8 | 27.4 | 30.2 | 1551 |

## SECTION 1MM²

| nb pairs | Conductor diam. [mm] | Diam. over insulation [mm] | Diam. over inner sheath [mm] | Diam. over armour [mm] | Min. outer diam. [mm] | Max. outer diam. [mm] | Approx. weight [kg/km] |
|---|---|---|---|---|---|---|---|
| 2 | 1.28 | 1.76 | 9 | 10.8 | 13.2 | 14.5 | 323 |
| 5 | 1.28 | 1.76 | 11.7 | 13.5 | 15.8 | 17.4 | 493 |
| 10 | 1.28 | 1.76 | 15.4 | 17.2 | 19.6 | 21.6 | 750 |
| 20 | 1.28 | 1.76 | 20.3 | 22.8 | 25.2 | 27.8 | 1322 |
| 30 | 1.28 | 1.76 | 24.4 | 26.9 | 29.4 | 32.4 | 1779 |

## SECTION 1.5MM²

| nb pairs | Conductor diam. [mm] | Diam. over insulation [mm] | Diam. over inner sheath [mm] | Diam. over armour [mm] | Min. outer diam. [mm] | Max. outer diam. [mm] | Approx. weight [kg/km] |
|---|---|---|---|---|---|---|---|
| 2 | 1.5 | 2.16 | 10.4 | 12.2 | 14.6 | 16.1 | 388 |
| 5 | 1.5 | 2.16 | 13.7 | 15.5 | 17.9 | 19.8 | 623 |
| 10 | 1.5 | 2.16 | 18.2 | 20.7 | 23.2 | 25.6 | 1099 |
| 20 | 1.5 | 2.16 | 24 | 26.5 | 29.0 | 32.0 | 1705 |
| 30 | 1.5 | 2.16 | 29.3 | 31.8 | 34.5 | 38.1 | 2590 |

## SECTION 2.5MM²

| nb pairs | Conductor diam. [mm] | Diam. over insulation [mm] | Diam. over inner sheath [mm] | Diam. over armour [mm] | Min. outer diam. [mm] | Max. outer diam. [mm] | Approx. weight [kg/km] |
|---|---|---|---|---|---|---|---|
| 2 | 1.91 | 2.57 | 11.9 | 13.7 | 16.0 | 17.7 | 484 |
| 5 | 1.91 | 2.57 | 15.8 | 17.6 | 20.0 | 22.0 | 771 |
| 10 | 1.91 | 2.57 | 21.1 | 23.6 | 26.2 | 28.9 | 1391 |

Rated Voltage Uo/U (Um)
**170/300V**

Mechanical resistance to impacts
**Good**

Fire retardant
**EN IEC 60332-3-22 (cat A)**

Oil resistance
**Yes**

Electro magnetic interference resistance
**Yes**

Operating temp.
**-20 ... 60 °C**

Max.conductor temp.in service
**90 °C**

# EN 50288-7 XLPE Insulation IOS Armoured Fire Retardant

| nb pairs | Conductor diam. [mm] | Diam. over insulation [mm] | Diam. over inner sheath [mm] | Diam. over armour [mm] | Min. outer diam. [mm] | Max. outer diam. [mm] | Approx. weight [kg/km] |
|---|---|---|---|---|---|---|---|
| 20 | 1.91 | 2.57 | 28.3 | 30.8 | 33.6 | 37.0 | 2272 |
| 30 | 1.91 | 2.57 | 34.1 | 37.3 | 40.1 | 44.2 | 3358 |

## SELLING AND DELIVERY INFORMATION

Other fire performances IEC 60332-1 or IEC 60332-3-24(C) and enhanced hydrocarbon resistance on request.

Minimum bending radius:

10 x outer diameter
To be doubled during laying operations

Tinned copper conductors available on request


Rated Voltage Uo/U (Um)
**170/300V**


Mechanical resistance to impacts
**Good**


Fire retardant
**EN IEC 60332-3-22 (cat A)**


Oil resistance
**Yes**


Electro magnetic interference resistance
**Yes**


Operating temp.
**-20 ... 60 °C**


Max.conductor temp.in service
**90 °C**