



### CONTACT

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### APPLICATION

Special application in places with poor ventilation, where, in case of fire, the emission of corrosive, toxic gases and smoke threatens life and destroys electrical and electronic equipment. In case of fire, possible victims have higher chances of surviving because they don't breathe in toxic gases and have good visibility to escape the area. They are usually installed in conduits and in indoor areas in tray. Not recommended for outdoor installations

### STANDARDS

#### PRODUCT

NTP-IEC 60228; NTP 370.252; NTP 370.266-3-31; NTP 370.264-7; IEC 60228

#### TEST

IEC 60332-1-2; UL 2556; IEC 60332-3-24; IEC 60754-1; IEC 60754-2; IEC 61034-2

### CONSTRUCTION

1. Conductor: Soft copper, class 2.
2. Insulation: Halogen free thermoplastic sliding material HFFR.

### MAIN CHARACTERISTICS

- Fire retardant, zero dense smoke emission and halogen free.
- Easy and fast opening due to its innovative OPEN FAST die-cut packaging.
- Easy installation due to its sliding insulation, it does not need any type of lubricant for installation in pipes.
- Easy to measure due to its double sequential marking called METRIUM which allows to quickly read the installed lengths.
- Use of VIGICHECK technology product originality identification hologram.

### CROSS SECTION

From 1,5 mm<sup>2</sup> up to 6 mm<sup>2</sup>.

### MARKING

INDECO BY NEXANS PC NH-90 450/750 V - Section - H07Z1-R TYPE 2 - Year - MADE IN PERU (- sequential length m. || sequential length m. + ).

### PACKING

From 1,5 mm<sup>2</sup> to 6 mm<sup>2</sup> in standard 100 meter rolls with VIGICHECK hologram.

### COLOUR

Black, Red, Blue and White.



Conductor flexibility  
Class 2 IEC 60228



Rated Voltage U<sub>0</sub>/U  
(Um)  
450/750 V



Maximum operating  
temperature  
90 °C



Halogen free  
Low content  
Halogen IEC  
60754-1



Gases corrosivity  
Low Corrosivity  
IEC 60754-2



Smoke density  
Low Smoke  
Emission IEC  
61034-2



Flame retardant  
IEC 60332-1-2; FT1



Fire retardant  
EN IEC 60332-3-24  
(cat C)

## PRODUCT STANDARDS

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

**NTP 370.252:** Thermoplastic and thermoset insulated cables of rated voltages up to and including 450/750 V.

**NTP 370.266-3-31:** Low voltage electrical cables. Cable with nominal voltage less than or equal to 450/750 V - **Part 3-31:** Cables with special properties before the fire. Single core cables without cover with halogen-free thermoplastic insulation and low smoke emission.

**NTP 370.264-7:** Insulation, covering and coating materials for low voltage electrical power cables - **Part 7:** Halogen-free thermoplastic compounds for insulation.

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

## TESTING STANDARDS

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

**IEC 60332-1-2:** Test for vertical flame propagation for a single insulated wire or cable - Procedure for 1 kW pre-mixed flame.

**UL 2556:** Wire and Cable Test Methods. **Section 9.3:** FT1 (Vertical-Specimen) Flame Test.

**IEC 60332-3-24:** Test for vertical flame spread of vertically-mounted bunched wires or cables - Category C.

**IEC 60684-2:** Flexible insulating sleeving - **Part 2:** Methods of test.

**IEC 60754-1:** Test on gases evolved during combustion of materials from cables - **Part 1:** Determination of the halogen acid gas content.

**IEC 60754-2:** Test on gases evolved during combustion of materials from cables - **Part 2:** Determination of acidity (by pH measurement) and conductivity.

**IEC 61034-2:** Measurement of smoke density of cables burning under defined conditions.

## CHARACTERISTICS

### Construction characteristics

|                       |                                             |
|-----------------------|---------------------------------------------|
| Conductor material    | Soft copper                                 |
| Insulation            | Halogen free thermoplastic material sliding |
| Conductor flexibility | Class 2 IEC 60228                           |

### Electrical characteristics

|                                                           |           |
|-----------------------------------------------------------|-----------|
| Rated Voltage U <sub>0</sub> /U (U <sub>m</sub> )         | 450/750 V |
| Dielectric strength                                       | 2.5 kV    |
| Time of application Dielectric strength core to screen AC | 5 min.    |

### Usage characteristics

|                                          |                                              |
|------------------------------------------|----------------------------------------------|
| Metric marking                           | Double marking of sequential footage METRIUM |
| Maximum operating temperature            | 90 °C                                        |
| Short-circuit max. conductor temperature | 160 °C                                       |

### Fire safety characteristics

|                   |                                 |
|-------------------|---------------------------------|
| Halogen free      | Low content Halogen IEC 60754-1 |
| Gases corrosivity | Low Corrosivity IEC 60754-2     |
| Smoke density     | Low Smoke Emission IEC 61034-2  |
| Flame retardant   | IEC 60332-1-2; FT1              |

## Fire safety characteristics

Fire retardant

EN IEC 60332-3-24 (cat C)

## DIMENSIONAL DATA

| Cross section [mm <sup>2</sup> ] | Total nb wires | Conductor diam. [mm] | Min. insulation thick. [mm] | Nom. outer diam. [mm] | Approx. weight [kg/km] |
|----------------------------------|----------------|----------------------|-----------------------------|-----------------------|------------------------|
| 1.5                              | 7              | 1.5                  | 0.7                         | 3.0                   | 21                     |
| 2.5                              | 7              | 1.9                  | 0.8                         | 3.6                   | 33                     |
| 4                                | 7              | 2.4                  | 0.8                         | 4.1                   | 48                     |
| 6                                | 7              | 3.0                  | 0.8                         | 4.6                   | 68                     |

## ELECTRICAL DATA

| Cross section [mm <sup>2</sup> ] | Max. DC Resist. Cond. 20°C [Ohm/km] | Perm rating in duct 30°C [A] | Nominal capacitance [pF/m] |
|----------------------------------|-------------------------------------|------------------------------|----------------------------|
| 1.5                              | 12.1                                | 20                           | 641.0                      |
| 2.5                              | 7.41                                | 27                           | 695.0                      |
| 4                                | 4.61                                | 33                           | 830.0                      |
| 6                                | 3.08                                | 44                           | 1040.0                     |

## PRODUCT LIST

| Nexans Ref.                                                                                     | Country Ref. | Name                       | Colour | Nominal outer diameter [mm] | Approximate weight [kg/km] |
|-------------------------------------------------------------------------------------------------|--------------|----------------------------|--------|-----------------------------|----------------------------|
|  P00039266-6 | 10053662     | PC NH-90 450/750 V 1,5 mm2 | White  | 3.0                         | 21                         |
|  P00039269-6 | 10053673     | PC NH-90 450/750 V 1,5 mm2 | Black  | 3.0                         | 21                         |
|  P00039267-6 | 10053674     | PC NH-90 450/750 V 1,5 mm2 | Blue   | 3.0                         | 21                         |
|  P00039299-5 | 10053676     | PC NH-90 450/750 V 2,5 mm2 | Red    | 3.6                         | 33                         |
|  P00039301-5 | 10053679     | PC NH-90 450/750 V 2,5 mm2 | White  | 3.6                         | 33                         |
|  P00039298-5 | 10053677     | PC NH-90 450/750 V 2,5 mm2 | Black  | 3.6                         | 33                         |
|  P00039300-6 | 10053680     | PC NH-90 450/750 V 2,5 mm2 | Blue   | 3.6                         | 33                         |
|  P00039306-5 | 10053681     | PC NH-90 450/750 V 4 mm2   | Red    | 4.1                         | 48                         |
|  P00039308-5 | 10053684     | PC NH-90 450/750 V 4 mm2   | White  | 4.1                         | 48                         |
|  P00039305-6 | 10053682     | PC NH-90 450/750 V 4 mm2   | Black  | 4.1                         | 48                         |
|  P00039307-5 | 10053685     | PC NH-90 450/750 V 4 mm2   | Blue   | 4.1                         | 48                         |
|  P00039312-5 | 10053687     | PC NH-90 450/750 V 6 mm2   | Red    | 4.6                         | 68                         |
|  P00039314-5 | 10053689     | PC NH-90 450/750 V 6 mm2   | White  | 4.6                         | 68                         |

 = Make to order,  = In stock,

| Nexans Ref.                                                                                   | Country Ref. | Name                       | Colour | Nominal outer diameter [mm] | Approximate weight [kg/km] |
|-----------------------------------------------------------------------------------------------|--------------|----------------------------|--------|-----------------------------|----------------------------|
|  P00039311-6 | 10053686     | PC NH-90 450/750 V 6 mm2   | Black  | 4.6                         | 68                         |
|  P00039313-5 | 10053688     | PC NH-90 450/750 V 6 mm2   | Blue   | 4.6                         | 68                         |
|  P00039268-6 | 10053661     | PC NH-90 450/750 V 1,5 mm2 | Red    | 3.0                         | 21                         |

 = Make to order,  = In stock,

## CALCULATION OF CURRENT CONDITION L.V.; NH-90

### CALCULATION OF CURRENT CONDITION

Calculation of current capacity based on NEC (National Electrical Code NFPA 70) table 310.16 and table 310.17.

Maximum conductor temperature : 90°C.  
Ambient air temperature : 30°C.