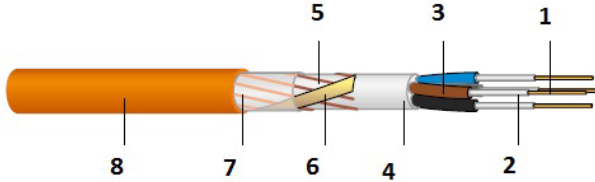


(N)HXCH FE180 E90

Safety cable, 0.6/1kV, Keram

halogen-free, with improved fire characteristics,
with reference to VDE 0266 and CENELEC HD 604 S1,
circuit integrity (FE180) in accordance with VDE 0472-814, IEC 60331,
System Circuit Integrity E90 in accordance with DIN 4102-12



- 1 Conductor: solid/stranded
- 2 Fire barrier: high-peformance Keram compound
- 3 Insulation: cross-linked polymer, zero halogen
- 4 Filler: flame retardant, zero halogen
- 5 Concentric conductor: bare copper wire
- 6 Reinforcing helix: bare copper tape
- 7 Separator: plastic tape
- 8 Sheath: FRNC/LSZH



Description

Cables with intrinsic fire resistance are installed in all areas that require special protection of people and equipment against fire and fire damages and where strict security requirements must be fulfilled. Suitable for indoor applications. For outdoor applications, protection must be provided against exposure to direct sunlight. The cable should only be laid directly in earth or water if a protective conduit is used. These cables correspond to the demands of System Circuit Integrity E90* in accordance with DIN 4102-12. System Circuit Integrity is guaranteed at an operating voltage up to 400V.

Permitted operating temperature at conductor of +90°C.

Construction

| | |
|-----------------------|---|
| Conductor | Bare copper, solid or stranded, IEC 60228 and EN 60228 (VDE 0295) |
| Insulation | Double insulation, cross-linked, high-performance Keram special compound, VDE 0266 "HX11" |
| Core colours | CENELEC HD 308 S2, VDE 0293 |
| Separator | Plastic tape |
| Filler | Halogen-free compound or plastic tape |
| Concentric conductor | Bare copper wires with reinforced helix |
| Outer sheath material | Flame retardant Polyolefin compound, CENELEC HD 604 S1 and VDE 0276-604 "HM4" |
| Outer sheath colour | orange |

General properties

| | |
|--------------------------|-----------------|
| Circuit Integrity | E90 |
| Insulation integrity | FE 180 |
| Installation temperature | -5 °C - +50 °C |
| Operating temperature | -45 °C - +90 °C |

Electrical properties

| | |
|----------------------|---------|
| Nominal voltage | 0.6/1kV |
| Test voltage at 50Hz | 4,000 V |

Mechanical properties

| | |
|--|--------|
| Minimum bending during installation (multi core) | 12 x D |
| Minimum bending radius permanent (multi core) | 12 x D |

Standards

| | |
|---------------------------------|--|
| Insulation Integrity (FE180) | IEC 60331-11/-21 (180 minutes), VDE 0472-814 (FE180), BS 6387 C/W/Z, IEC 60331-1 (120 minutes), IEC 60331-2 (120 minutes), EN 50200 (PH120 minutes), VDE 0482-200 (PH120), AREI-RGIE Art.104-FR1 |
| System circuit integrity | DIN 4102-12, VdS 3423 (Single-core more than 16.0 mm ²), AREI-RGIE Art.104-FR2 |
| Smoke density | IEC 61034-1/-2, EN 61034-1/-2, VDE 0482-1034-1/-2, AREI-RGIE Art.104-SD |
| Zero halogen no corrosive gases | IEC 60754-1/-2, EN 60754-1/-2, VDE 0482-754-1/-2, AREI-RGIE Art.104-SA |
| Flame propagation | IEC 60332-1-2, EN 60332-1-2, VDE 0482-332-1-2, AREI-RGIE Art.104-F1 |
| Flame spread | IEC 60332-3-22/-24, EN 60332-3-22/-24, VDE 0482-332-3-22/-24, AREI-RGIE Art.104-F2 |

Note

System Circuit Integrity is dependent on installation method.

Versions

| Material number | Product | Outer sheath diameter [mm] | CU rate [kg/km] | Weight [kg/km] | Fire load [kWh/m] | Conductor | Construction | GTIN / EAN |
|-----------------|-------------------------------|----------------------------|-----------------|----------------|-------------------|-----------|--------------|----------------|
| 186071 | (N)HXCH FE180 E90 3 x 1.5/1.5 | 13.2 | 66 | 245 | 0.65 | solid | 3L | 40393910076813 |
| 186195 | (N)HXCH FE180 E90 3 x 2.5/2.5 | 14.1 | 104 | 303 | 0.72 | solid | 3L | 40393910076257 |
| 186197 | (N)HXCH FE180 E90 3 x 4/4 | 15.6 | 161 | 400 | 0.84 | solid | 3L | 40393910076233 |
| 187278 | (N)HXCH FE180 E90 3 x 6/6 | 16.9 | 240 | 521 | 0.94 | solid | 3L | 40393910074048 |
| 187279 | (N)HXCH FE180 E90 3 x 10/10 | 18.6 | 408 | 727 | 1.15 | solid | 3L | 40393910074031 |
| 196386 | (N)HXCH FE180 E90 3 x 16/16 | 24.4 | 643 | 1,144 | 1.64 | stranded | 3L | 40393910061109 |
| 172417 | (N)HXCH FE180 E90 3 x 35/16 | 29 | 1,190 | 1,944 | 2.25 | stranded | 3L | 40393910078657 |
| 187408 | (N)HXCH FE180 E90 3 x 50/25 | 32.5 | 1,723 | 2,549 | 2.90 | stranded | 3L | 40393910073782 |
| 187409 | (N)HXCH FE180 E90 3 x 70/35 | 37.6 | 2,410 | 3,536 | 3.42 | stranded | 3L | 40393910073775 |
| 187410 | (N)HXCH FE180 E90 3 x 95/50 | 41.9 | 3,296 | 4,599 | 4.50 | stranded | 3L | 40393910073768 |
| 187411 | (N)HXCH FE180 E90 3 x 120/70 | 45.3 | 4,236 | 5,688 | 5.02 | stranded | 3L | 40393910073751 |
| 187412 | (N)HXCH FE180 E90 3 x 150/70 | 50 | 5,100 | 6,912 | 6.00 | stranded | 3L | 40393910073744 |
| 187414 | (N)HXCH FE180 E90 3 x 240/120 | 62.4 | 8,242 | 11,153 | 9.08 | stranded | 3L | 40393910073737 |
| 186072 | (N)HXCH FE180 E90 4 x 1.5/1.5 | 14.1 | 81 | 280 | 0.73 | solid | 3LN | 40393910076806 |
| 186196 | (N)HXCH FE180 E90 4 x 2.5/2.5 | 15.1 | 128 | 350 | 0.82 | solid | 3LN | 40393910076240 |
| 186198 | (N)HXCH FE180 E90 4 x 4/4 | 16.7 | 200 | 464 | 0.96 | solid | 3LN | 40393910076226 |
| 186199 | (N)HXCH FE180 E90 4 x 6/6 | 18.1 | 297 | 615 | 1.13 | solid | 3LN | 40393910076219 |
| 186200 | (N)HXCH FE180 E90 4 x 10/10 | 20.1 | 504 | 858 | 1.33 | solid | 3LN | 40393910076202 |

| Material number | Product | Outer sheath diameter [mm] | CU rate [kg/km] | Weight [kg/km] | Fire load [kWh/m] | Conductor | Construction | GTIN / EAN |
|-----------------|--------------------------------|----------------------------|-----------------|----------------|-------------------|-----------|--------------|----------------|
| 186131 | (N)HXCH FE180 E90 4 x 16/16 | 25.3 | 796 | 1,398 | 1.81 | stranded | 3LN | 40393910076783 |
| 186132 | (N)HXCH FE180 E90 4 x 25/16 | 28.9 | 1,142 | 1,898 | 2.28 | stranded | 3LN | 40393910076776 |
| 186133 | (N)HXCH FE180 E90 4 x 35/16 | 31.6 | 1,526 | 2,382 | 2.60 | stranded | 3LN | 40393910076769 |
| 186134 | (N)HXCH FE180 E90 4 x 50/25 | 36.7 | 2,203 | 3,249 | 3.49 | stranded | 3LN | 40393910076752 |
| 186135 | (N)HXCH FE180 E90 4 x 70/35 | 41.3 | 3,082 | 4,370 | 4.25 | stranded | 3LN | 40393910076745 |
| 186136 | (N)HXCH FE180 E90 4 x 95/50 | 46.4 | 4,208 | 5,732 | 5.53 | stranded | 3LN | 40393910076738 |
| 186137 | (N)HXCH FE180 E90 4 x 120/70 | 50.1 | 5,388 | 7,078 | 6.25 | stranded | 3LN | 40393910076721 |
| 186138 | (N)HXCH FE180 E90 4 x 150/70 | 55.3 | 6,540 | 8,631 | 7.58 | stranded | 3LN | 40393910076714 |
| 186139 | (N)HXCH FE180 E90 4 x 185/95 | 60.8 | 8,159 | 10,727 | 9.18 | stranded | 3LN | 40393910076707 |
| 186140 | (N)HXCH FE180 E90 4 x 240/120 | 69.2 | 10,546 | 13,947 | 11.60 | stranded | 3LN | 40393910076691 |
| 186073 | (N)HXCH FE180 E90 7 x 1.5/2.5 | 16.1 | 133 | 390 | 0.94 | solid | 7L | 40393910076790 |
| 191096 | (N)HXCH FE180 E90 7 x 2.5/2.5 | 17.3 | 200 | 485 | 1.05 | solid | 7L | 40393910069792 |
| 187415 | (N)HXCH FE180 E90 12 x 1.5/2.5 | 20.2 | 205.8 | 589 | 1.38 | solid | 12L | 40393910073720 |
| 187402 | (N)HXCH FE180 E90 24 x 1.5/6 | 27 | 413 | 1,066 | 2.32 | solid | 24L | 40393910073812 |
| 187403 | (N)HXCH FE180 E90 24 x 2.5/10 | 29.6 | 696 | 1,419 | 2.69 | solid | 24L | 40393910073805 |
| 187404 | (N)HXCH FE180 E90 30 x 1.5/6 | 28.4 | 499 | 1,232 | 2.67 | solid | 30L | 40393910073799 |

Additional dimensions available on request.

Subject to technical modification

As of 2023-10-30 08:22:38