

## (N)HXH-J E90



### Anwendung

Überall dort, wo durch hohe Sachwertkonzentration im Brandfall Schaden an Mensch und Material verhindert werden muß. Geeignet zur festen Installation in trockenen, feuchten und nassen Räumen über, auf, im und unter Putz, sowie im Mauerwerk und im Beton. Sie sind auch für die Verlegung im Freien und Erdreich bei einer Verlegung in Rohren geeignet. Die Verlegung im Rohr ist jedoch zulässig, wenn Vorkehrungen getroffen sind, daß sich im Rohr keine Wasseransammlung bilden kann. Die Kabel sind halogenfrei, besitzen geringe Rauchgasentwicklung, keine Brandfortleitung und einen Isolationserhalt im Brandfall von 180 Minuten gem. VDE 0472 T. 814. Darüber hinaus hat das Kabel die Prüfung auf Funktionserhalt nach DIN 4102 Teil 12 (E 90) für alle Standard-Tragesysteme (Kabelrinnen und -leitern, Deckenverlegung) bestanden und ist damit für den Einsatz in Brandmeldeanlagen, Anlagen zur Alarmierung und Erteilung von Anweisungen an Personen, Sicherheitsbeleuchtung und sonstige Ersatzstrombeleuchtung gem. VDE 0108 geeignet.

### Normen

nach DIN VDE 0266 VDE 0266:2000-03, DIN 4102-12:1998-11,  
DIN EN IEC 60332-3-24 VDE 0482-332-3-24:2019-05,  
DIN EN 61034-1 VDE 0482-1034-1:2021-02,  
DIN EN 60754-1 VDE 0482-754-1:2021-02

CE = Das Produkt ist konform zur EG-Niederspannungsrichtlinie 2014/35/EU.

### Application

Everywhere, where in case of fire human life and material assets are to be protected and safety consciousness take a special significance. Suitable for fixed installation in dry and moist rooms, in, above, on and beneath plaster as well as in masonry walls and in concrete. These cables are suitable for outdoor applications and in underground by using in conduits or tubes. Additionally valid also DIN VDE 0298 part 1 and 2. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

The cables are halogen-free, have low smoke gas development, no fire propagation and insulation retention in the event of fire for 180 minutes in accordance with VDE 0472 part 814. In addition, the cable has been tested for functional integrity in accordance with DIN 4102 Part 12 (E 90) for all standard carrying systems (Cable troughs and ladders, ceiling installation) and is therefore suitable for use in fire alarm systems, systems for alarming and issuing instructions to people, safety lighting and other backup lighting in accordance with VDE 0108.

### Standards

security cable in the case of fire to DIN VDE 0266 & FE 180:  
Insulation integrity to DIN VDE 0472 part 814 & E 30:  
Function-  
ality to DIN 4102 part 12

CE = The product is conformed with the EC Low-Voltage Directive 2014/35/EU.

#### Aufbau

|                            |                                                                                       |
|----------------------------|---------------------------------------------------------------------------------------|
| <b>Innenleiter</b>         | Kupferleiter blank ein- oder mehrdrähtig nach<br>VDE 0295:2005-09<br>Kl. 1 bzw. Kl. 2 |
| <b>Aderisolierung</b>      | speziell vernetzter Silikonwerkstoff                                                  |
| <b>Aderfarbcode</b>        | nach HD 308 S2                                                                        |
| <b>Verseilelement</b>      | Adern gemeinsam verseilt                                                              |
| <b>Außenmantelmaterial</b> | halogenfreies Polymer HM4                                                             |

#### Techn. Daten

|                                     |                       |
|-------------------------------------|-----------------------|
| <b>Nennspannung</b>                 | $U_0/U$ : 600 /1000 V |
| <b>Nennspannung Gleichstrom DC</b>  | $U_0/U$ : 0 /0        |
| <b>Prüfspannung</b>                 | 4000 V                |
| <b>Biegeradius fest (xD)</b>        | 12                    |
| <b>Betriebstemperatur fest</b>      | -30 °C bis 90 °C      |
| <b>Betriebstemperatur beweglich</b> | -15 °C bis 70 °C      |
| <b>Kurzschlusstemperatur</b>        | 250 °C                |
| <b>Kurzschlussdauer</b>             | 5 sek.                |

#### Construction

|                                  |                                                                       |
|----------------------------------|-----------------------------------------------------------------------|
| <b>Inner Conductor</b>           | bare copper conductor to DIN VDE<br>0295 cl. 1 or cl. 2, HD 383       |
| <b>Core Insulation</b>           | special cross-linked halogen-free fire resistant<br>silicone compound |
| <b>Core Color</b>                | to DIN VDE 0293-308                                                   |
| <b>Stranding Elements</b>        | cores stranded in layers                                              |
| <b>Outer Insulation Material</b> | thermoplastic halogen- free compound<br>type HM4                      |

#### Technical Data

|                                     |                       |
|-------------------------------------|-----------------------|
| <b>Nominal Voltage</b>              | $U_0/U$ : 600 /1000 V |
| <b>Nominal Voltage DC</b>           | $U_0/U$ : 0 /0        |
| <b>Test Voltage</b>                 | 4000 V                |
| <b>Bending Radius fixed (xD)</b>    | 12                    |
| <b>Operating Temperature solid</b>  | -30 °C to 90 °C       |
| <b>Operating Temperature moving</b> | -15 °C to 70 °C       |
| <b>Short Circuit Temperature</b>    | 250 °C                |
| <b>Short Circuit Duration</b>       | 5 sek.                |

# Kabel und Leitungen E30/E90

## Halogen-Free Cables E30 / E90



| Art. Nr.<br>Prod. Nr. | Option<br>Option | Abmessung<br>Dimensions | Farbe<br>Color  | Gewicht (kg/km) ca.<br>Weight (kg/km) approx. | Außen-Durchmesser (mm) ca.<br>Outer-Diameter (mm) approx. |
|-----------------------|------------------|-------------------------|-----------------|-----------------------------------------------|-----------------------------------------------------------|
| 02603085              | O                | 1 x 2,5 re              | orange - orange | 63.0                                          | 5.8                                                       |
| 02603013              | O                | 1 x 6 re                | orange - orange | 120.0                                         | 10.0                                                      |
| 02603015              | O                | 1 x 16 re               | orange - orange | 230.0                                         | 11.0                                                      |
| 02603016              | O                | 1 x 25 rm               | orange - orange | 340.0                                         | 13.0                                                      |
| 02603017              | O                | 1 x 35 rm               | orange - orange | 440.0                                         | 14.0                                                      |
| 02603018              | O                | 1 x 50 rm               | orange - orange | 620.0                                         | 16.0                                                      |
| 02603019              | O                | 1 x 70 rm               | orange - orange | 850.0                                         | 18.0                                                      |
| 02603020              | O                | 1 x 95 rm               | orange - orange | 1,100.0                                       | 20.0                                                      |
| 02603021              | O                | 1 x 120 rm              | orange - orange | 1,350.0                                       | 21.0                                                      |
| 02603072              | J                | 1 x 120 rm              | orange - orange | 1,350.0                                       | 21.0                                                      |
| 02603022              | O                | 1 x 150 rm              | orange - orange | 1,650.0                                       | 24.0                                                      |
| 02603023              | O                | 1 x 185 rm              | orange - orange | 2,100.0                                       | 26.0                                                      |
| 02603079              | J                | 1 x 240 rm              | orange - orange | 2,600.0                                       | 29.0                                                      |
| 02603024              | O                | 1 x 240 rm              | orange - orange | 2,600.0                                       | 29.0                                                      |
| 02603025              | O                | 1 x 300 rm              | orange - orange | 3,300.0                                       | 32.0                                                      |
| 02603088              | O                | 1 x 400 rm              | orange - orange | 4,055.0                                       | 33.3                                                      |
| 02603089              | O                | 1 x 500 rm              | orange - orange | 5,130.0                                       | 40.0                                                      |
| 02603026              | O                | 2 x 1,5                 | orange - orange | 210.0                                         | 14.0                                                      |
| 02603027              | O                | 2 x 2,5                 | orange - orange | 250.0                                         | 15.0                                                      |
| 02603028              | O                | 2 x 4 re                | orange - orange | 310.0                                         | 16.0                                                      |
| 02603029              | O                | 2 x 6 re                | orange - orange | 380.0                                         | 17.0                                                      |
| 02603030              | O                | 2 x 10 re               | orange - orange | 510.0                                         | 19.0                                                      |
| 02603031              | O                | 2 x 16 rm               | orange - orange | 680.0                                         | 21.0                                                      |
| 02603004              | J                | 3 x 1,5                 | orange - orange | 240.0                                         | 15.0                                                      |

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# Kabel und Leitungen E30/E90

## Halogen-Free Cables E30 / E90



| Art. Nr.<br>Prod. Nr. | Option<br>Option | Abmessung<br>Dimensions | Farbe<br>Color  | Gewicht (kg/km) ca.<br>Weight (kg/km) approx. | Außen-Durchmesser (mm) ca.<br>Outer-Diameter (mm) approx. |
|-----------------------|------------------|-------------------------|-----------------|-----------------------------------------------|-----------------------------------------------------------|
| 02603005              | J                | 3 x 2,5                 | orange - orange | 290.0                                         | 16.0                                                      |
| 02603033              | J                | 3 x 4 re                | orange - orange | 360.0                                         | 17.0                                                      |
| 02603051              | J                | 3 x 6 re                | orange - orange | 511.0                                         | 17.4                                                      |
| 02603052              | J                | 3 x 10 re               | orange - orange | 677.0                                         | 19.1                                                      |
| 02603074              | J                | 3 x 16 re               | orange - orange | 1,000.0                                       | 21.0                                                      |
| 02603050              | J                | 3 x 16 rm               | orange - orange | 1,000.0                                       | 21.0                                                      |
| 02603053              | J                | 3 x 25 rm               | orange - orange | 1,392.0                                       | 25.8                                                      |
| 02603054              | J                | 3 x 35 rm               | orange - orange | 1,778.0                                       | 28.4                                                      |
| 02603059              | J                | 3 x 120/70 rm           | orange - orange | 5,822.0                                       | 46.7                                                      |
| 02603060              | J                | 3 x 150/70 rm           | orange - orange | 6,850.0                                       | 50.5                                                      |
| 02603087              | J                | 3 x 185/95 rm           | orange - orange | 7,569.0                                       | 52.0                                                      |
| 02603061              | J                | 3 x 240/120 rm          | orange - orange | 10,930.0                                      | 62.3                                                      |
| 02603006              | J                | 4 x 1,5                 | orange - orange | 280.0                                         | 16.0                                                      |
| 02603034              | J                | 4 x 2,5                 | orange - orange | 350.0                                         | 17.0                                                      |
| 02603003              | J                | 4 x 4 re                | orange - orange | 440.0                                         | 19.0                                                      |
| 02603035              | J                | 4 x 6 re                | orange - orange | 560.0                                         | 20.0                                                      |
| 02603002              | J                | 4 x 10 re               | orange - orange | 760.0                                         | 22.0                                                      |
| 02603036              | J                | 4 x 16 re               | orange - orange | 1,100.0                                       | 25.0                                                      |
| 02603078              | J                | 4 x 16 rm               | orange - orange | 1,100.0                                       | 25.0                                                      |
| 02603037              | J                | 4 x 25 rm               | orange - orange | 1,600.0                                       | 30.0                                                      |
| 02603038              | J                | 4 x 35 rm               | orange - orange | 2,100.0                                       | 32.0                                                      |
| 02603039              | J                | 4 x 50 rm               | orange - orange | 2,900.0                                       | 37.0                                                      |
| 02603040              | J                | 4 x 70 rm               | orange - orange | 3,900.0                                       | 41.0                                                      |
| 02603041              | J                | 4 x 95 rm               | orange - orange | 5,200.0                                       | 47.0                                                      |

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| Art. Nr.<br>Prod. Nr. | Option<br>Option | Abmessung<br>Dimensions | Farbe<br>Color  | Gewicht (kg/km) ca.<br>Weight (kg/km) approx. | Außen-Durchmesser (mm) ca.<br>Outer-Diameter (mm) approx. |
|-----------------------|------------------|-------------------------|-----------------|-----------------------------------------------|-----------------------------------------------------------|
| 02603042              | J                | 4 x 120 rm              | orange - orange | 6,300.0                                       | 51.0                                                      |
| 02603071              | J                | 4 x 150 rm              | orange - orange | 7,725.0                                       | 53.0                                                      |
| 02603076              | J                | 4 x 185 rm              | orange - orange | 9,550.0                                       | 59.0                                                      |
| 02603069              | J                | 4 x 240 rm              | orange - orange | 12,800.0                                      | 64.0                                                      |
| 02603001              | J                | 5 x 1,5                 | orange - orange | 350.0                                         | 15.0                                                      |
| 02603007              | J                | 5 x 2,5                 | orange - orange | 394.0                                         | 19.0                                                      |
| 02603008              | J                | 5 x 4 re                | orange - orange | 490.0                                         | 20.0                                                      |
| 02603009              | J                | 5 x 6 re                | orange - orange | 620.0                                         | 22.0                                                      |
| 02603043              | J                | 5 x 10 re               | orange - orange | 950.0                                         | 24.0                                                      |
| 02603010              | J                | 5 x 16 re               | orange - orange | 1,145.0                                       | 27.0                                                      |
| 02603073              | J                | 5 x 16 rm               | orange - orange | 1,400.0                                       | 28.0                                                      |
| 02603044              | J                | 5 x 25 rm               | orange - orange | 2,000.0                                       | 32.0                                                      |
| 02603048              | J                | 5 x 35 rm               | orange - orange | 350.0                                         | 36.0                                                      |
| 02603049              | J                | 5 x 50 rm               | orange - orange | 3,700.0                                       | 40.0                                                      |
| 02603082              | J                | 5 x 70 rm               | orange - orange | 4,600.0                                       | 41.0                                                      |
| 02603083              | J                | 5 x 95 rm               | orange - orange | 4,750.0                                       | 51.0                                                      |
| 02603084              | J                | 5 x 120 rm              | orange - orange | 6,780.0                                       | 51.0                                                      |
| 02603081              | J                | 5 x 150 rm              | orange - orange | 8,586.0                                       | 59.0                                                      |
| 02603011              | J                | 7 x 1,5                 | orange - orange | 380.0                                         | 19.0                                                      |
| 02603045              | J                | 7 x 2,5                 | orange - orange | 480.0                                         | 20.0                                                      |
| 02603046              | J                | 7 x 4 re                | orange - orange | 530.0                                         |                                                           |
| 02603062              | J                | 10 x 1,5                | orange - orange | 680.0                                         | 22.9                                                      |
| 02603064              | J                | 10 x 2,5                | orange - orange | 850.0                                         | 27.0                                                      |
| 02603012              | J                | 12 x 1,5                | orange - orange | 580.0                                         | 24.0                                                      |

| Art. Nr.<br>Prod. Nr. | Option<br>Option | Abmessung<br>Dimensions | Farbe<br>Color  | Gewicht (kg/km) ca.<br>Weight (kg/km) approx. | Außen-Durchmesser (mm) ca.<br>Outer-Diameter (mm) approx. |
|-----------------------|------------------|-------------------------|-----------------|-----------------------------------------------|-----------------------------------------------------------|
| 02603063              | J                | 12 x 2,5                | orange - orange | 910.0                                         | 25.2                                                      |
| 02603080              | J                | 14 x 1,5                | orange - orange | 620.0                                         | 24.0                                                      |
| 02603070              | J                | 19 x 1,5                | orange - orange | 950.0                                         | 28.0                                                      |
| 02603066              | J                | 19 x 2,5                | orange - orange | 1,250.0                                       | 32.0                                                      |
| 02603075              | J                | 24 x 1,5                | orange - orange | 1,200.0                                       | 30.0                                                      |
| 02603067              | J                | 24 x 2,5                | orange - orange | 1,580.0                                       | 35.0                                                      |