



LOW-VOLTAGE & SAFETY CABLES

**N2XH** power cable, 0,6/1 kV, halogen-free, without functionality**Technical data**

- Power and control cable acc. to DIN VDE 0276 part 604, HD 604 S1 part 1 and part 5G
- **Temperature range**  
during installation -5°C to +50°C  
fixed installation -30°C to +90°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**  $U_0/U$  0,6/1 kV
- **Test voltage** 4 kV
- **Minimum bending radius**  
single-core 15x cable  $\varnothing$   
multi-core 12x cable  $\varnothing$
- **Radiation resistance**  
up to  $100 \times 10^6$  cJ/kg (up to 100 Mrad)
- **Caloric load values**  
see Technical Informations

**Cable structure**

- Bare copper-conductor, to DIN VDE 0295 cl.1 or cl.2, single-wire or multi-wire, BS 6360 cl.1 or cl.2, IEC 60228 cl.1 or cl.2
- Core insulation of cross-linked polyethylene (XLPE) compound type 2X11 to HD 604 S1
- Core identification to DIN VDE 0293-308
- Core identification for 3+½ conductor  
J-type: GN-YE (½), BN, BK, GY  
O-type: BU (½), BN, BK, GY
- Cores stranded in layers (for multi-core cables)
- Overall filled inner sheath
- Covered by filling compound or taping
- Outer sheath of thermoplastic polyolefine, compound type HM4 to HD 604 S1
- Sheath colour black

**Properties**

- Halogen-free, no separation of corrosive or toxic gases
- Limited propagation of fire
- Low smoke development
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

**Tests**

- Flame test acc. to DIN VDE 0482-332-3-24, BS 4066 part 3, DIN EN 60332-3-24, IEC 60332-3-24 (previously DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

**Note**

- re = round conductor, single-wire  
rm = round conductor, multi-wire  
sm = sectional conductor, multi-wire
- J-version = with GN-YE conductor  
O-version = without GN-YE conductor
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- **LSOH** = Low Smoke Zero Halogen

**Application**

Halogen-free power cables with enhanced characteristics in case of fire are used for applications where harm to human life and damage to property must be prevented in the event of fire, e. g. in power stations, industrial installations, communal establishments, hotels, airports, underground stations, railway stations, hospitals department stores, banks, schools theaters, multi-storey buildings, process control centres etc. Suitable for fixed installation in dry, damp or wet environments, 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. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no.<br>J type | O type | No. cores x<br>cross-sec.<br>mm <sup>2</sup> | Outer Ø<br>app. mm | Cop.<br>weight<br>kg / km | Weight<br>app.<br>kg / km | AWG-No.   |
|--------------------|--------|--|--------------------|---------------------------|---------------------------|-----------|
|                    | 53558  | 1 x 1,5 rm                                   | 6,0                | 14,4                      | 41,0                      | 16        |
|                    | 53559  | 1 x 2,5 rm                                   | 6,5                | 24,0                      | 53,0                      | 14        |
| 53100              | 53248  | 1 x 4 re                                     | 8,0                | 39,0                      | 68,0                      | 12        |
| 53101              | 53249  | 1 x 6 re                                     | 9,0                | 58,0                      | 90,0                      | 10        |
| 53102              | 53250  | 1 x 10 re                                    | 9,0                | 96,0                      | 140,0                     | 8         |
| 53103              | 53251  | 1 x 16 re                                    | 10,0               | 154,0                     | 190,0                     | 6         |
| 53104              | 53252  | 1 x 25 rm                                    | 11,0               | 240,0                     | 290,0                     | 4         |
| 53105              | 53253  | 1 x 35 rm                                    | 12,0               | 336,0                     | 390,0                     | 2         |
| 53106              | 53254  | 1 x 50 rm                                    | 15,0               | 480,0                     | 510,0                     | 1         |
| 53107              | 53255  | 1 x 70 rm                                    | 17,0               | 672,0                     | 710,0                     | 2/0       |
| 53108              | 53256  | 1 x 95 rm                                    | 19,0               | 912,0                     | 960,0                     | 3/0       |
| 53109              | 53257  | 1 x 120 rm                                   | 21,0               | 1152,0                    | 1200,0                    | 4/0       |
| 53110              | 53258  | 1 x 150 rm                                   | 23,0               | 1440,0                    | 1480,0                    | 300 kcmil |
| 53111              | 53259  | 1 x 185 rm                                   | 25,0               | 1776,0                    | 1910,0                    | 350 kcmil |
| 53112              | 53260  | 1 x 240 rm                                   | 28,0               | 2304,0                    | 2370,0                    | 500 kcmil |
| 53113              | 53261  | 1 x 300 rm                                   | 30,0               | 2880,0                    | 2970,0                    | 600 kcmil |
| 52485              | 52486  | 1 x 400 rm                                   | 32,9               | 3840,0                    | 3957,0                    | 750 kcmil |

| Part no.<br>J type | O type | No. cores x<br>cross-sec.<br>mm <sup>2</sup> | Outer Ø<br>app. mm | Cop.<br>weight<br>kg / km | Weight<br>app.<br>kg / km | AWG-No. |
|--------------------|--------|--|--------------------|---------------------------|---------------------------|---------|
| 53114              | 53262  | 2 x 1,5 re                                   | 12,0               | 29,0                      | 185,0                     | 16      |
| 53115              | 53263  | 2 x 2,5 re                                   | 12,2               | 48,0                      | 220,0                     | 14      |
| 53116              | 53264  | 2 x 4 re                                     | 13,2               | 77,0                      | 275,0                     | 12      |
| 53117              | 53265  | 2 x 6 re                                     | 14,1               | 115,0                     | 335,0                     | 10      |
| 53118              | 53266  | 2 x 10 re                                    | 16,2               | 192,0                     | 450,0                     | 8       |
| 53119              | 53267  | 2 x 16 re                                    | 17,8               | 307,0                     | 620,0                     | 6       |
| 53120              | 53268  | 2 x 25 rm                                    | 21,0               | 480,0                     | 930,0                     | 4       |

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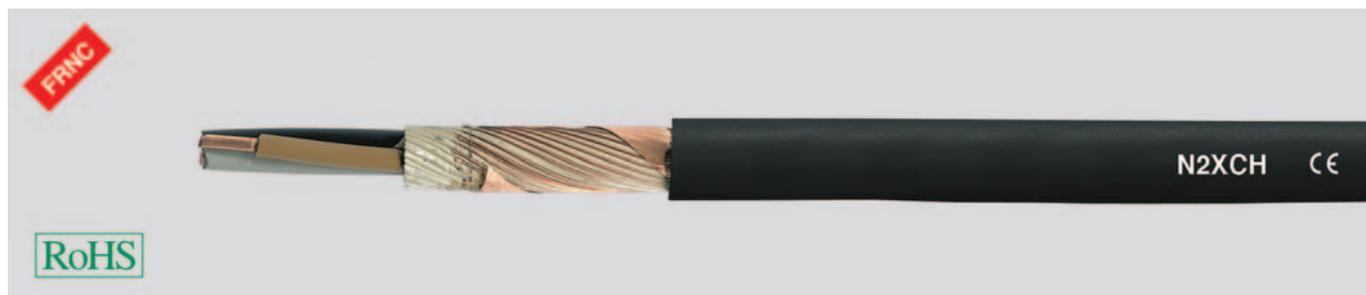
**N2XH** power cable, 0,6/1 kV, halogen-free, without functionality

| Part no.<br>J type | O type | No. cores x<br>cross-sec.<br>mm <sup>2</sup> | Outer Ø<br>app. mm | Cop.<br>weight<br>kg / km | Weight<br>app.<br>kg / km | AWG-No.   |
|--------------------|--------|--|--------------------|---------------------------|---------------------------|-----------|
| 53121              | 53269  | 3 x 1,5 re                                   | 13,0               | 43,0                      | 220,0                     | 16        |
| 53122              | 53270  | 3 x 2,5 re                                   | 14,0               | 72,0                      | 280,0                     | 14        |
| 53123              | 53271  | 3 x 4 re                                     | 15,0               | 115,0                     | 350,0                     | 12        |
| 53124              | 53272  | 3 x 6 re                                     | 16,0               | 173,0                     | 420,0                     | 10        |
| 53125              | 53273  | 3 x 10 re                                    | 18,0               | 288,0                     | 600,0                     | 8         |
| 53126              | 53274  | 3 x 16 re                                    | 20,0               | 461,0                     | 770,0                     | 6         |
| 53127              | 53275  | 3 x 25 rm                                    | 21,8               | 720,0                     | 1120,0                    | 4         |
| 53128              | 53276  | 3 x 35 sm                                    | 24,9               | 1008,0                    | 1550,0                    | 2         |
| 53129              | 53277  | 3 x 50 sm                                    | 25,2               | 1440,0                    | 1750,0                    | 1         |
| 53130              | 53278  | 3 x 70 sm                                    | 29,2               | 2016,0                    | 2450,0                    | 2/0       |
| 53131              | 53279  | 3 x 95 sm                                    | 32,0               | 2736,0                    | 3250,0                    | 3/0       |
| 53132              | 53280  | 3 x 120 sm                                   | 34,9               | 3456,0                    | 4000,0                    | 4/0       |
| 53133              | 53281  | 3 x 150 sm                                   | 39,2               | 4320,0                    | 5000,0                    | 300 kcmil |
| 53134              | 53282  | 3 x 185 sm                                   | 44,1               | 5328,0                    | 6150,0                    | 350 kcmil |
| 53135              | 53283  | 3 x 240 sm                                   | 49,2               | 6912,0                    | 8000,0                    | 500 kcmil |
| 53143              | 53284  | 4 x 1,5 re                                   | 13,0               | 58,0                      | 235,0                     | 16        |
| 53144              | 53285  | 4 x 2,5 re                                   | 14,0               | 96,0                      | 290,0                     | 14        |
| 53145              | 53286  | 4 x 4 re                                     | 15,0               | 154,0                     | 370,0                     | 12        |
| 53146              | 53287  | 4 x 6 re                                     | 16,0               | 230,0                     | 470,0                     | 10        |
| 53147              | 53288  | 4 x 10 re                                    | 18,0               | 384,0                     | 670,0                     | 8         |
| 53148              | 53289  | 4 x 16 re                                    | 20,0               | 614,0                     | 930,0                     | 6         |
| 53149              | 53290  | 4 x 25 rm                                    | 25,0               | 960,0                     | 1440,0                    | 4         |
| 53150              | 53291  | 4 x 35 sm                                    | 27,0               | 1344,0                    | 1890,0                    | 2         |
| 53151              | 53292  | 4 x 50 sm                                    | 28,0               | 1920,0                    | 2300,0                    | 1         |
| 53152              | 53293  | 4 x 70 sm                                    | 32,0               | 2688,0                    | 3200,0                    | 2/0       |
| 53153              | 53294  | 4 x 95 sm                                    | 36,0               | 3648,0                    | 4250,0                    | 3/0       |
| 53154              | 53295  | 4 x 120 sm                                   | 40,2               | 4608,0                    | 5350,0                    | 4/0       |
| 53155              | 53296  | 4 x 150 sm                                   | 45,8               | 5760,0                    | 6550,0                    | 300 kcmil |
| 53156              | 53297  | 4 x 185 sm                                   | 49,5               | 7104,0                    | 8100,0                    | 350 kcmil |
| 53157              | 53298  | 4 x 240 sm                                   | 56,0               | 9216,0                    | 10550,0                   | 500 kcmil |
| 53158              | 53299  | 5 x 1,5 re                                   | 14,5               | 72,0                      | 280,0                     | 16        |
| 53159              | 53309  | 5 x 2,5 re                                   | 16,0               | 120,0                     | 350,0                     | 14        |
| 53160              | 53310  | 5 x 4 re                                     | 17,0               | 192,0                     | 450,0                     | 12        |
| 53161              | 53311  | 5 x 6 re                                     | 18,5               | 288,0                     | 600,0                     | 10        |
| 53162              | 53312  | 5 x 10 re                                    | 21,0               | 480,0                     | 850,0                     | 8         |
| 53163              | 53313  | 5 x 16 re                                    | 24,0               | 768,0                     | 1200,0                    | 6         |
| 53557              |        | 5 x 25 rm                                    | 28,0               | 1200,0                    | 1539,0                    | 4         |
| 53164              | 53314  | 7 x 1,5 re                                   | 15,5               | 101,0                     | 350,0                     | 16        |
| 53171              | 53315  | 7 x 2,5 re                                   | 17,0               | 168,0                     | 370,0                     | 14        |
| 53178              | 53316  | 7 x 4 re                                     | 17,2               | 269,0                     | 530,0                     | 12        |
| 53165              | 53317  | 10 x 1,5 re                                  | 18,5               | 144,0                     | 480,0                     | 16        |
| 53172              | 53318  | 10 x 2,5 re                                  | 20,0               | 240,0                     | 500,0                     | 14        |
| 53166              | 53319  | 12 x 1,5 re                                  | 19,0               | 173,0                     | 520,0                     | 16        |
| 53173              | 53320  | 12 x 2,5 re                                  | 21,0               | 288,0                     | 560,0                     | 14        |
| 53179              | 53321  | 12 x 4 re                                    | 21,2               | 461,0                     | 800,0                     | 12        |
| 53167              | 53322  | 14 x 1,5 re                                  | 20,0               | 202,0                     | 550,0                     | 16        |
| 53174              | 53323  | 14 x 2,5 re                                  | 22,0               | 336,0                     | 630,0                     | 14        |
| 53168              | 53324  | 19 x 1,5 re                                  | 22,0               | 274,0                     | 700,0                     | 16        |
| 53175              | 53325  | 19 x 2,5 re                                  | 24,0               | 456,0                     | 800,0                     | 14        |
| 53169              | 53326  | 24 x 1,5 re                                  | 25,0               | 346,0                     | 850,0                     | 16        |
| 53176              | 53327  | 24 x 2,5 re                                  | 27,0               | 576,0                     | 990,0                     | 14        |
| 53170              | 53328  | 30 x 1,5 re                                  | 26,0               | 432,0                     | 950,0                     | 16        |
| 53177              | 53329  | 30 x 2,5 re                                  | 28,0               | 720,0                     | 1180,0                    | 14        |

| Part no.<br>J type | O type | No. cores x<br>cross-sec.<br>mm <sup>2</sup> | Outer Ø<br>app. mm | Cop.<br>weight<br>kg / km | Weight<br>app.<br>kg / km | AWG-No.   |
|--------------------|--------|--|--------------------|---------------------------|---------------------------|-----------|
| 53136              | 53330  | 3 x 50 / 25 sm                               | 28,5               | 1680,0                    | 2100,0                    | 1         |
| 53137              | 53331  | 3 x 70 / 35 sm                               | 31,4               | 2352,0                    | 2800,0                    | 2/0       |
| 53138              | 53332  | 3 x 95 / 50 sm                               | 34,9               | 3216,0                    | 3750,0                    | 3/0       |
| 53139              | 53333  | 3 x 120 / 70 sm                              | 38,0               | 4128,0                    | 4750,0                    | 4/0       |
| 53140              | 53334  | 3 x 150 / 70 sm                              | 43,3               | 4992,0                    | 5750,0                    | 300 kcmil |
| 53141              | 53335  | 3 x 185 / 95 sm                              | 47,2               | 6240,0                    | 7200,0                    | 350 kcmil |
| 53142              | 53336  | 3 x 240 / 120 sm                             | 53,4               | 8064,0                    | 9300,0                    | 500 kcmil |

Dimensions and specifications may be changed without prior notice. (RQ02)

# N2XCH power cable, 0,6/1kV, halogen-free, with concentric conductor, without functionality



## Technical data

- Power and control cable acc. to DIN VDE 0276 part 604, HD 604 S1 part 1 and part 5G
- **Temperature range** during installation -5°C to +50°C fixed installation -30°C to +90°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**  $U_0/U$  0,6/1 kV
- **Test voltage** 4 kV
- **Minimum bending radius** 12x cable Ø
- **Radiation resistance** up to  $100 \times 10^6$  cJ/kg (up to 100 Mrad)
- **Caloric load values** see Technical Informations

## Cable structure

- Bare copper-conductor, to DIN VDE 0295 cl.1 or cl.2, single-wire or multi-wire, BS 6360 cl.1 or cl.2, IEC 60228 cl.1 or cl.2
- Core insulation of cross-linked polyethylene (XLPE) compound type 2X11 to HD 604 S1
- Core identification to DIN VDE 0293-308
- Cores stranded in layers (for multi-core cables)
- Overall filled inner sheat
- Covered by filling compound or taping
- Concentric conductor of bare Cu-wires
- Outer sheath of thermoplastic polyolefine, compound type HM4 to HD 604 S1
- Sheath colour black

## Properties

- Halogen-free, no liberation of corrosive or toxic gases
- Limited propagation of fire
- Low smoke development
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

## Tests

- Flame test acc. to DIN VDE 0482-332-3-24, BS 4066 part 3, DIN EN 60332-3-24, IEC 60332-3-24 (previously DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

## Note

- re = round conductor, single-wire
- rm = round conductor, multi-wire
- sm = sectional conductor, multi-wire
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- **LS0H** = Low Smoke Zero Halogen

## Application

The power cables with enhanced characteristics in case of fire are used in power stations.

The concentric conductor can be used as a PE or PEN conductor or as screen. Suitable for fixed installation in dry, damp or wet environments, 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. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes

CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   | Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|----------|--|-----------------|---------------------|---------------------|-----------|
| 53200    | 2 x 1,5 / 1,5 re                       | 12,0            | 53,0                | 250,0               | 16        | 53223    | 4 x 4 / 4 re                           | 17,5            | 202,0               | 480,0               | 12        |
| 53201    | 2 x 2,5 / 2,5 re                       | 13,0            | 81,0                | 280,0               | 14        | 53224    | 4 x 6 / 6 re                           | 19,0            | 297,0               | 600,0               | 10        |
| 53202    | 2 x 4 / 4 re                           | 14,0            | 122,0               | 320,0               | 12        | 53225    | 4 x 10 / 10 re                         | 21,5            | 504,0               | 850,0               | 8         |
| 53203    | 2 x 6 / 6 re                           | 15,0            | 183,0               | 400,0               | 10        | 53226    | 4 x 16 / 16 re                         | 24,5            | 797,0               | 1200,0              | 6         |
| 53204    | 2 x 10 / 10 re                         | 16,0            | 311,0               | 560,0               | 8         | 53227    | 4 x 25 / 16 rm                         | 29,0            | 1142,0              | 1800,0              | 4         |
| 53205    | 2 x 16 / 16 re                         | 19,1            | 490,0               | 780,0               | 6         | 53228    | 4 x 35 / 16 rm                         | 29,5            | 1528,0              | 2100,0              | 2         |
| 53206    | 3 x 1,5 / 1,5 re                       | 13,0            | 67,0                | 250,0               | 16        | 53229    | 4 x 50 / 25 sm                         | 32,5            | 2203,0              | 2800,0              | 1         |
| 53207    | 3 x 2,5 / 2,5 re                       | 14,0            | 104,0               | 320,0               | 14        | 53230    | 4 x 70 / 35 sm                         | 38,0            | 3082,0              | 3800,0              | 2/0       |
| 53208    | 3 x 4 / 4 re                           | 16,5            | 161,0               | 400,0               | 12        | 53231    | 4 x 95 / 50 sm                         | 43,5            | 4208,0              | 5100,0              | 3/0       |
| 53209    | 3 x 6 / 6 re                           | 18,0            | 242,0               | 500,0               | 10        | 53758    | 4 x 120 / 70 sm                        | 50,5            | 5388,0              | 6556,0              | 4/0       |
| 53210    | 3 x 10 / 10 re                         | 20,0            | 408,0               | 750,0               | 8         | 53759    | 4 x 150 / 70 sm                        | 52,1            | 6540,0              | 7600,0              | 300 kcmil |
| 53211    | 3 x 16 / 16 re                         | 22,5            | 643,0               | 1000,0              | 6         | 53760    | 4 x 185 / 95 sm                        | 57,2            | 8159,0              | 9370,0              | 350 kcmil |
| 53212    | 3 x 25 / 16 rm                         | 27,0            | 902,0               | 1600,0              | 4         | 53761    | 4 x 240 / 120 sm                       | 62,6            | 10546,0             | 11611,0             | 500 kcmil |
| 53213    | 3 x 35 / 16 rm                         | 27,5            | 1190,0              | 1900,0              | 2         | 53232    | 7 x 1,5 / 2,5 re                       | 15,0            | 132,0               | 320,0               | 16        |
| 53214    | 3 x 50 / 25 rm                         | 32,3            | 1723,0              | 2400,0              | 1         | 53239    | 7 x 2,5 / 2,5 re                       | 15,5            | 200,0               | 400,0               | 14        |
| 53215    | 3 x 70 / 35 sm                         | 35,6            | 2410,0              | 3060,0              | 2/0       | 53246    | 7 x 4 / 4 re                           | 18,1            | 316,0               | 580,0               | 12        |
| 53216    | 3 x 95 / 50 sm                         | 39,0            | 3296,0              | 4200,0              | 3/0       | 53233    | 10 x 1,5 / 2,5 re                      | 17,2            | 177,0               | 420,0               | 16        |
| 53217    | 3 x 120 / 70 sm                        | 42,0            | 4236,0              | 5207,0              | 4/0       | 53240    | 10 x 2,5 / 4 re                        | 18,9            | 287,0               | 550,0               | 14        |
| 53218    | 3 x 150 / 70 sm                        | 43,5            | 5100,0              | 5700,0              | 300 kcmil | 53234    | 12 x 1,5 / 2,5 re                      | 18,4            | 204,0               | 460,0               | 16        |
| 53219    | 3 x 185 / 95 sm                        | 47,4            | 6383,0              | 7150,0              | 350 kcmil | 53241    | 12 x 2,5 / 4 re                        | 19,2            | 335,0               | 610,0               | 14        |
| 53220    | 3 x 240 / 120 sm                       | 53,5            | 8240,0              | 9250,0              | 500 kcmil | 53247    | 12 x 4 / 6 re                          | 22,6            | 528,0               | 910,0               | 12        |
| 53221    | 4 x 1,5 / 1,5 re                       | 13,5            | 81,0                | 300,0               | 16        | 53235    | 16 x 1,5 / 4 re                        | 20,0            | 275,0               | 686,0               | 16        |
| 53222    | 4 x 2,5 / 2,5 re                       | 14,5            | 129,0               | 380,0               | 14        | 53242    | 16 x 2,5 / 6 re                        | 20,9            | 450,0               | 805,0               | 14        |

Continuation ▶

# N2XCH power cable, 0,6/1kV, halogen-free, with concentric conductor, without functionality

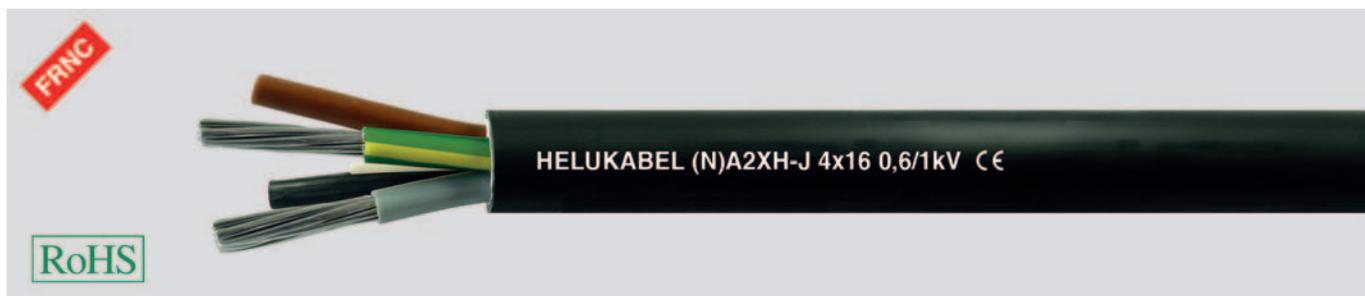


| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|--|-----------------|---------------------|---------------------|---------|
| 53236    | 21 x 1,5 / 6 re                        | 22,6            | 370,0               | 766,0               | 16      |
| 53243    | 21 x 2,5 / 6 re                        | 25,2            | 572,0               | 1015,0              | 14      |
| 53237    | 24 x 1,5 / 6 re                        | 23,2            | 412,0               | 800,0               | 16      |
| 53244    | 24 x 2,5 / 10 re                       | 26,1            | 695,0               | 1100,0              | 14      |
| 53238    | 30 x 1,5 / 6 re                        | 24,3            | 500,0               | 930,0               | 16      |
| 53245    | 30 x 2,5 / 10 re                       | 28,0            | 842,0               | 1290,0              | 14      |

Dimensions and specifications may be changed without prior notice. (RQ02)

**(N)A2XH** power cable, 0,6/1 kV, halogen-free, without functionality

EAC

**Technical data**

- Power and control cable adapted to DIN VDE 0276 part 604, HD 604 S1 part 1 and part 5G
- **Temperature range**  
during installation -5°C to +50°C  
fixed installation -30°C to +90°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**  $U_0/U$  0,6/1 kV
- **Test voltage** 4 kV
- **Minimum bending radius**  
single-core 15x cable  $\varnothing$   
multi-core 12x cable  $\varnothing$
- **Radiation resistance**  
up to  $100 \times 10^6$  cJ/kg (up to 100 Mrad)

**Cable structure**

- Aluminium-conductor, to DIN VDE 0295 cl.1 or cl.2, single-wire or multi-wire, BS 6360 cl.1 or cl.2, IEC 60228 cl.1 or cl.2
- Core insulation of cross-linked polyethylene (XLPE)  
compound type 2X11 to HD 604 S1
- Core identification to DIN VDE 0293-308
- Core identification for 3+½ conductor  
J-type: GN-YE (½), BN, BK, GY  
O-type: BU (½), BN, BK, GY
- Cores stranded in layers (for multi-core cables)
- Overall filled inner sheath
- Covered by filling compound or taping
- Outer sheath of thermoplastic polyolefine, ompound type HM4 to HD 604 S1
- Sheath colour black

**Properties**

- Halogen-free, no separation of corrosive or toxic gases
- Limited propagation of fire
- Low smoke development
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

**Tests**

- Flame test acc. to DIN VDE 0482-332-3-24, BS 4066 part 3, DIN EN 60332-3-24, IEC 60332-3-24 (previously DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

**Note**

- rm = round conductor, multi-wire;  
se = sector-shaped conductor, single-wire;  
sm = sector-shaped conductor, multi-wire
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- **LSOH** = Low Smoke Zero Halogen

**Application**

Halogen-free power cables for energy with enhanced characteristics in case of fire are used for applications where harm to human life and damage to property must be prevented in the event of fire, e. g. in power stations, industrial installations, communal establishments, hotels, airports, underground stations, railway stations, hospitals department stores, banks, schools theaters, multi-storey buildings, process control centres etc. Suitable for fixed installation in dry, damp or wet environments, 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. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no.<br>J type | O type | No. cores x<br>cross-sec.<br>mm <sup>2</sup> | Outer Ø<br>app. mm | Alu<br>weight<br>kg / km | Weight<br>app.<br>kg / km | AWG-No.    |
|--------------------|--------|--|--------------------|--------------------------|---------------------------|------------|
| 50073              | 50128  | 1 x 25 rm                                    | 9,9                | 73,0                     | 132,0                     | 4          |
| 50074              | 50129  | 1 x 35 rm                                    | 11,0               | 102,0                    | 166,0                     | 2          |
| 50075              | 50130  | 1 x 50 rm                                    | 12,5               | 145,0                    | 211,0                     | 1          |
| 50076              | 50131  | 1 x 70 rm                                    | 14,1               | 203,0                    | 283,0                     | 2/0        |
| 50077              | 50132  | 1 x 95 rm                                    | 16,1               | 276,0                    | 376,0                     | 3/0        |
| 50078              | 50133  | 1 x 120 rm                                   | 17,5               | 348,0                    | 456,0                     | 4/0        |
| 53562              | 53553  | 1 x 150 rm                                   | 19,6               | 435,0                    | 560,0                     | 300 kcmil  |
| 50079              | 50134  | 1 x 185 rm                                   | 21,8               | 537,0                    | 697,0                     | 350 kcmil  |
| 53561              | 50135  | 1 x 240 rm                                   | 24,0               | 696,0                    | 878,0                     | 500 kcmil  |
| 50080              | 53554  | 1 x 300 rm                                   | 26,7               | 870,0                    | 1073,0                    | 600 kcmil  |
| 50081              | 50136  | 1 x 400 rm                                   | 29,7               | 1160,0                   | 1347,0                    | 750 kcmil  |
| 50082              | 53555  | 1 x 500 rm                                   | 33,1               | 1450,0                   | 1705,0                    | 1000 kcmil |

| Part no.<br>J type | O type | No. cores x<br>cross-sec.<br>mm <sup>2</sup> | Outer Ø<br>app. mm | Alu<br>weight<br>kg / km | Weight<br>app.<br>kg / km | AWG-No. |
|--------------------|--------|--|--------------------|--------------------------|---------------------------|---------|
| 50083              | 50137  | 3 x 16 rm                                    | 16,3               | 139,0                    | 364,0                     | 6       |
| 50084              | 50138  | 3 x 25 rm                                    | 19,6               | 218,0                    | 530,0                     | 4       |
| 50085              | 50139  | 3 x 35 rm                                    | 22,1               | 305,0                    | 684,0                     | 2       |
| 50086              | 50140  | 3 x 35 se                                    | 19,0               | 305,0                    | 486,0                     | 2       |
| 50087              | 50141  | 3 x 50 sm                                    | 22,4               | 435,0                    | 655,0                     | 1       |
| 50088              | 50142  | 3 x 50 se                                    | 21,2               | 435,0                    | 622,0                     | 1       |
| 50089              | 50143  | 3 x 70 sm                                    | 26,1               | 609,0                    | 903,0                     | 2/0     |
| 50090              | 50144  | 3 x 70 se                                    | 25,2               | 609,0                    | 859,0                     | 2/0     |
| 50091              | 50145  | 3 x 95 sm                                    | 29,1               | 827,0                    | 1174,0                    | 3/0     |
| 50092              | 50146  | 3 x 95 se                                    | 27,8               | 827,0                    | 1115,0                    | 3/0     |
| 50093              | 50147  | 3 x 120 sm                                   | 32,2               | 1044,0                   | 1446,0                    | 4/0     |
| 50094              | 50148  | 3 x 120 se                                   | 30,8               | 1044,0                   | 1379,0                    | 4/0     |

Continuation ▶

**(N)A2XH power cable, 0,6/1 kV, halogen-free, without functionality**

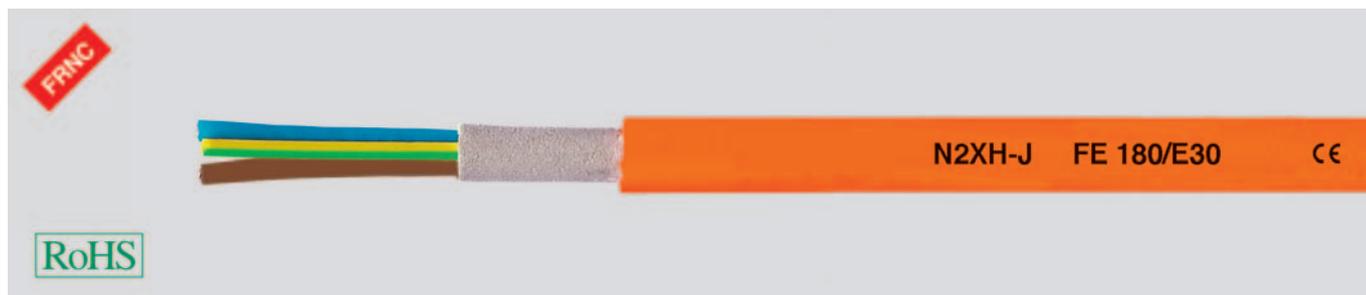
| Part no.<br>J type | O type | No.cores x<br>cross-sec.<br>mm <sup>2</sup> | Outer Ø<br>app. mm | Alu<br>weight<br>kg / km | Weight<br>app.<br>kg / km | AWG-No.   |
|--------------------|--------|---|--------------------|--------------------------|---------------------------|-----------|
| 50095              | 50149  | 3 x 150 sm                                  | 36,2               | 1305,0                   | 1780,0                    | 300 kcmil |
| 50096              | 50150  | 3 x 150 se                                  | 33,9               | 1305,0                   | 1685,0                    | 300 kcmil |
| 50097              | 50154  | 3 x 185 sm                                  | 40,1               | 1610,0                   | 2197,0                    | 350 kcmil |
| 50098              | 50155  | 3 x 185 se                                  | 37,6               | 1610,0                   | 2089,0                    | 350 kcmil |
| 50099              | 50156  | 3 x 240 sm                                  | 44,9               | 2088,0                   | 2782,0                    | 500 kcmil |
| 50100              | 50157  | 3 x 240 se                                  | 41,8               | 2088,0                   | 2634,0                    | 500 kcmil |
| 50101              | 50158  | 3 x 70 / 35 sm                              | 28,3               | 711,0                    | 1044,0                    | 2/0       |
| 50102              | 50159  | 3 x 120 / 70 sm                             | 35,1               | 1247,0                   | 1704,0                    | 4/0       |
| 53550              | 50160  | 3 x 150 / 70 sm                             | 39,7               | 1508,0                   | 2065,0                    | 300 kcmil |
| 50103              | 50161  | 3 x 185 / 95 sm                             | 43,7               | 1885,0                   | 2563,0                    | 350 kcmil |
| 53551              | 50162  | 3 x 240 / 120 sm                            | 49,1               | 2436,0                   | 3237,0                    | 500 kcmil |
| 53560              | 50163  | 4 x 16 rm                                   | 19,0               | 186,0                    | 460,0                     | 6         |
| 50104              | 50164  | 4 x 25 rm                                   | 21,7               | 290,0                    | 636,0                     | 4         |
| 50105              | 50165  | 4 x 35 sm                                   | 22,4               | 406,0                    | 649,0                     | 2         |
| 50106              | 50166  | 4 x 35 se                                   | 21,6               | 406,0                    | 623,0                     | 2         |
| 50107              | 50167  | 4 x 50 sm                                   | 25,4               | 580,0                    | 845,0                     | 1         |
| 53556              | 50168  | 4 x 50 se                                   | 24,6               | 580,0                    | 810,0                     | 1         |
| 50108              | 50169  | 4 x 70 sm                                   | 29,7               | 812,0                    | 1178,0                    | 2/0       |
| 53552              | 50170  | 4 x 70 se                                   | 28,8               | 812,0                    | 1126,0                    | 2/0       |

| Part no.<br>J type | O type | No.cores x<br>cross-sec.<br>mm <sup>2</sup> | Outer Ø<br>app. mm | Alu<br>weight<br>kg / km | Weight<br>app.<br>kg / km | AWG-No.   |
|--------------------|--------|---|--------------------|--------------------------|---------------------------|-----------|
| 50109              | 50171  | 4 x 95 sm                                   | 33,3               | 1102,0                   | 1538,0                    | 3/0       |
| 50110              | 50172  | 4 x 95 se                                   | 32,1               | 1102,0                   | 1467,0                    | 3/0       |
| 50111              | 50173  | 4 x 120 sm                                  | 37,2               | 1392,0                   | 1903,0                    | 4/0       |
| 50112              | 50174  | 4 x 120 se                                  | 35,5               | 1392,0                   | 1817,0                    | 4/0       |
| 50113              | 50175  | 4 x 150 sm                                  | 41,3               | 1740,0                   | 2328,0                    | 300 kcmil |
| 50114              | 50176  | 4 x 150 se                                  | 39,4               | 1740,0                   | 2223,0                    | 300 kcmil |
| 50115              | 50177  | 4 x 185 sm                                  | 45,7               | 2146,0                   | 2874,0                    | 350 kcmil |
| 50116              | 50178  | 4 x 185 se                                  | 43,4               | 2146,0                   | 2750,0                    | 350 kcmil |
| 50117              | 50179  | 4 x 240 sm                                  | 51,2               | 2784,0                   | 3646,0                    | 500 kcmil |
| 50118              | 50180  | 4 x 240 se                                  | 48,0               | 2784,0                   | 3465,0                    | 500 kcmil |
| 50119              | 50181  | 5 x 25 rm                                   | 23,9               | 362,0                    | 763,0                     | 4         |
| 50120              | 50182  | 5 x 35 rm                                   | 27,0               | 508,0                    | 986,0                     | 2         |
| 50121              | 50183  | 5 x 50 rm                                   | 31,3               | 725,0                    | 1309,0                    | 1         |
| 50122              | 50184  | 5 x 70 rm                                   | 35,8               | 1015,0                   | 1771,0                    | 2/0       |
| 50123              | 50185  | 5 x 95 sm                                   | 36,5               | 1378,0                   | 1891,0                    | 3/0       |
| 50124              | 50186  | 5 x 120 sm                                  | 39,2               | 1740,0                   | 2306,0                    | 4/0       |
| 50125              | 50187  | 5 x 150 sm                                  | 45,4               | 2175,0                   | 2865,0                    | 300 kcmil |
| 50126              | 50188  | 5 x 185 sm                                  | 50,1               | 2683,0                   | 3534,0                    | 350 kcmil |
| 50127              | 50189  | 5 x 240 sm                                  | 55,2               | 3480,0                   | 4482,0                    | 500 kcmil |

Dimensions and specifications may be changed without prior notice. (RQ02)

# N2XH-FE 180/E 30 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics

EAC



## Technical data

- Halogen-free security cable with improved characteristics in the case of fire to DIN VDE 0266
- **Temperature range**  
-30°C to +70°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**  $U_0/U$  0,6/1 kV
- **Test voltage** 4000 V
- **Minimum bending radius**  
15x cable Ø
- **Radiation resistance**  
up to 200x10<sup>6</sup> cJ/kg (up to 200 Mrad)
- **Caloric load values**  
see Technical Informations

## Cable structure

- Bare copper-conductor, to DIN VDE 0295 cl.1 or cl.2, single-wire or multi-wire, BS 6360 cl.1 or cl.2, IEC 60228 cl.1 or cl.2
- Core insulation of cross-linked polyethylene, compound type 2X11 to DIN VDE 0276 part 604
- Core identification to DIN VDE 0293-308 and 0276 part 604
- GN-YE conductor, 3 cores and above
- Cores stranded in layers
- Overall core covering, halogen-free filling compound, pressed
- Outer sheath of thermoplastic halogen-free polyolefine, flame retardant
- Sheath colour orange

## Tests

- Flame test acc. to DIN VDE 0482-332-3, BS 4066 part 3, DIN EN 60332-3, IEC 60332-3 (previously DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

## Properties

- Halogen free, no separation of corrosive and toxic gases
- Flame retardant and hardly flammable
- Self-extinguished and fire resistant
- No flame propagation, therefore security from fire
- low smoke density, low impairment of escape routes and fire extinguishing activities
- Toxicological harmless
- No self-ignition
- Maintenance of functionality during the increased current load
- **FE 180: Insulation integrity** for 180 minutes. Tests acc.to DIN VDE 0472 part 814 Δ IEC 60331. **Insulation integrity** under direct flame propagation for the test period of 180 minutes.
- **E 30: Functionality** of electrical cable systems for minimum 30 minutes. Test to DIN 4102 part 12. This fulfils the demands of technical guide lines for fire protection (supplement 1 to DIN VDE 0108 part 1). The **functionality** for 30 minutes assures when persons and animals are to be saved from a burning building. 30 minutes secures the functional performance of the fire warning and alarm systems, safety and spare lighting, passenger lifts with evacuation circuits, except the cables which are installed within the ladder shafts and engine rooms.

## Note

- re = round conductor, single-wire
- rm = round conductor, multi-wire
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- **LS0H** = Low Smoke Zero Halogen

## Application

Security cables are ideal for use everywhere, where in case of fire human life and material assets are to be protected and safety consciousness take a special significance, e. g. in industrial complexes, power stations, communal establishment, hotels, airports, underground railway networks, hospitals and outpatients clinic (DIN VDE 0107), department stores, data processing centres, theaters, cinemas, in multi-storey buildings, public gatherings, schools etc. (DIN VDE 0108), mining works, offshore plants, leading centres, traffic communication, emergency power supply and alarm systems. The cables are suitable for fixed installation in dry and moist rooms, in, above, on and beneath plaster as well as in masonry walls and in concrete. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. | Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|--|-----------------|---------------------|---------------------|---------|----------|--|-----------------|---------------------|---------------------|---------|
| 52058    | 1 x 4 re                               | 8,0             | 38,0                | 155,0               | 12      | 52063    | 1 x 35 rm                              | 14,0            | 336,0               | 460,0               | 2       |
| 52059    | 1 x 6 re                               | 9,0             | 58,0                | 190,0               | 10      | 52064    | 1 x 50 rm                              | 15,5            | 480,0               | 590,0               | 1       |
| 52060    | 1 x 10 re                              | 10,0            | 96,0                | 215,0               | 8       | 52065    | 1 x 70 rm                              | 17,5            | 672,0               | 820,0               | 2/0     |
| 52061    | 1 x 16 re                              | 10,5            | 154,0               | 240,0               | 6       | 52066    | 1 x 95 rm                              | 19,5            | 912,0               | 1090,0              | 3/0     |
| 52062    | 1 x 25 rm                              | 13,0            | 240,0               | 380,0               | 4       | 52067    | 1 x 120 rm                             | 21,0            | 1152,0              | 1350,0              | 4/0     |

Continuation ▶

# N2XH-FE 180/E 30 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics



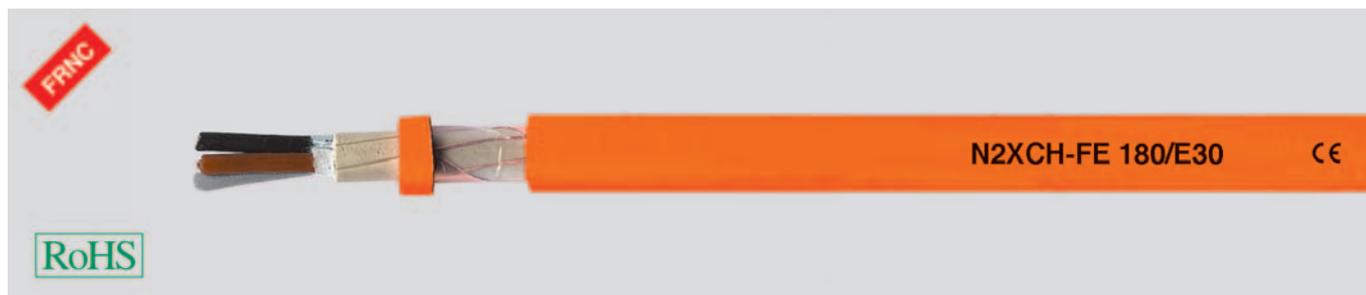
| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52068    | 1 x 150 rm                             | 23,0            | 1440,0              | 1650,0              | 300 kcmil |
| 52069    | 1 x 185 rm                             | 25,0            | 1776,0              | 2030,0              | 350 kcmil |
| 52070    | 1 x 240 rm                             | 29,0            | 2304,0              | 2590,0              | 500 kcmil |
| 52071    | 2 x 1,5 re                             | 11,5            | 29,0                | 170,0               | 16        |
| 52072    | 2 x 2,5 re                             | 12,0            | 48,0                | 190,0               | 14        |
| 52073    | 2 x 4 re                               | 13,0            | 77,0                | 260,0               | 12        |
| 52074    | 2 x 6 re                               | 14,0            | 115,0               | 310,0               | 10        |
| 52075    | 2 x 10 re                              | 15,5            | 192,0               | 430,0               | 8         |
| 52076    | 2 x 16 re                              | 17,5            | 307,0               | 600,0               | 6         |
| 52077    | 2 x 25 rm                              | 22,0            | 480,0               | 930,0               | 4         |
| 52078    | 3 x 1,5 re                             | 12,0            | 43,0                | 170,0               | 16        |
| 52079    | 3 x 2,5 re                             | 12,5            | 72,0                | 220,0               | 14        |
| 52080    | 3 x 4 re                               | 13,5            | 115,0               | 290,0               | 12        |
| 52081    | 3 x 6 re                               | 14,5            | 173,0               | 370,0               | 10        |
| 52082    | 3 x 10 re                              | 16,5            | 288,0               | 530,0               | 8         |
| 52083    | 3 x 16 re                              | 18,5            | 461,0               | 760,0               | 6         |
| 52084    | 3 x 25 rm                              | 23,5            | 720,0               | 1160,0              | 4         |
| 52088    | 3 x 25 / 16 rm                         | 22,5            | 874,0               | 1430,0              | 4         |
| 52085    | 3 x 35 rm                              | 26,0            | 1080,0              | 1560,0              | 2         |
| 52089    | 3 x 35 / 16 rm                         | 28,0            | 1162,0              | 1810,0              | 2         |
| 52086    | 3 x 50 rm                              | 29,0            | 1440,0              | 2030,0              | 1         |
| 52090    | 3 x 50 / 25 rm                         | 32,0            | 1680,0              | 2340,0              | 1         |
| 52087    | 3 x 70 rm                              | 34,0            | 2016,0              | 2890,0              | 2/0       |
| 52091    | 3 x 70 / 35 rm                         | 35,0            | 2352,0              | 3190,0              | 2/0       |
| 52092    | 3 x 95 / 50 rm                         | 40,0            | 3216,0              | 4350,0              | 3/0       |

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52093    | 3 x 120 / 70 rm                        | 45,0            | 4128,0              | 5550,0              | 4/0       |
| 52094    | 3 x 150 / 70 rm                        | 48,5            | 4992,0              | 6560,0              | 300 kcmil |
| 52095    | 3 x 185 / 95 rm                        | 54,0            | 6240,0              | 8240,0              | 350 kcmil |
| 52096    | 4 x 1,5 re                             | 12,5            | 58,0                | 210,0               | 16        |
| 52097    | 4 x 2,5 re                             | 13,0            | 96,0                | 260,0               | 14        |
| 52614    | 4 x 4 re                               | 13,0            | 154,0               | 310,0               | 12        |
| 52615    | 4 x 6 re                               | 14,5            | 230,0               | 410,0               | 10        |
| 52616    | 4 x 10 re                              | 16,0            | 384,0               | 620,0               | 8         |
| 52617    | 4 x 16 re                              | 18,0            | 614,0               | 900,0               | 6         |
| 52628    | 4 x 25 rm                              | 23,6            | 960,0               | 1600,0              | 4         |
| 52629    | 4 x 35 rm                              | 26,4            | 1344,0              | 2050,0              | 2         |
| 52383    | 4 x 50 rm                              | 29,5            | 1920,0              | 2761,0              | 1         |
| 52432    | 4 x 70 rm                              | 34,6            | 2688,0              | 3785,0              | 2/0       |
| 52433    | 4 x 95 rm                              | 39,0            | 3648,0              | 5010,0              | 3/0       |
| 52434    | 4 x 120 rm                             | 43,5            | 4608,0              | 6135,0              | 4/0       |
| 52618    | 5 x 1,5 re                             | 12,0            | 72,0                | 210,0               | 16        |
| 52619    | 5 x 2,5 re                             | 13,0            | 120,0               | 280,0               | 14        |
| 52620    | 5 x 4 re                               | 14,5            | 192,0               | 380,0               | 12        |
| 52621    | 5 x 6 re                               | 15,5            | 288,0               | 510,0               | 10        |
| 52622    | 5 x 10 re                              | 18,0            | 480,0               | 760,0               | 8         |
| 52623    | 5 x 16 re                              | 20,0            | 768,0               | 1120,0              | 6         |
| 52626    | 5 x 25 rm                              | 24,5            | 1200,0              | 1840,0              | 4         |
| 52627    | 5 x 35 rm                              | 33,5            | 1680,0              | 2510,0              | 2         |
| 52624    | 7 x 1,5 re                             | 13,0            | 101,0               | 250,0               | 16        |
| 52625    | 12 x 1,5 re                            | 16,5            | 173,0               | 390,0               | 16        |

Dimensions and specifications may be changed without prior notice. (RQ02)

# N2XCH-FE 180/E 30 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics

EAC



## Technical data

- Halogen-free security cable with improved characteristics in the case of fire to DIN VDE 0266
- **Temperature range**  
-30°C to +70°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**  $U_0/U$  0,6/1 kV
- **Test voltage** 4000 V
- **Minimum bending radius**  
15x cable Ø
- **Radiation resistance**  
up to 200x106 cJ/kg (up to 200 Mrad)
- **Caloric load values**  
see Technical Informations

## Cable structure

- Bare copper-conductor, to DIN VDE 0295 cl.1 or cl.2, single-wire or multi-wire, BS 6360 cl.1 or cl.2, IEC 60228 cl.1 or cl.2
- Core insulation of cross-linked polyethylene, compound type 2X11 to DIN VDE 0276 part 604
- Core identification to DIN VDE 0293-308 and 0276 part 604
- Cores stranded in layers
- Overall core covering, halogen-free filling compound, pressed
- Concentric conductor of Cu-bare wires with helix of copper tape
- Outer sheath of thermoplastic halogen-free polyolefine, flame retardant
- Sheath colour orange

## Tests

- Flame test acc. to DIN VDE 0482-332-3, BS 4066 part 3, DIN EN 60332-3, IEC 60332-3 (previously DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

## Properties

- Halogen-free; no evolution of corrosive and toxic gases
- Flame retardant and hardly flammable
- Self-extinguished and fire resistant
- No flame propagation, therefore security from fire
- Low smoke density, no darkening of emergency exits without hindering the fire extinguishing works
- Toxicological harmless
- No self-ignition
- Maintenance of functionality during the increased current load
- **FE 180: Insulation integrity** for 180 minutes. Tests acc.to DIN VDE 0472 part 814  $\Delta$  IEC 60331. **Insulation integrity** under direct flame propagation for the test period of 180 minutes.
- **E 30: Functionality** of electrical cable systems for minimum 30 minutes. Test method to DIN 4102 part 12. This fulfils the demands of technical guide lines for fire protection (supplement 1 to DIN VDE 0108 part 1). The **functionality** for 30 minutes assures when persons and animals are to be saved from a burning building. 30 minutes secures the functional performance of the fire warning and alarm systems, safety and spare lighting, passenger lifts with evacuation circuits, except the cables which are installed within the ladder shafts and engine rooms.

## Note

- re = round conductor, single-wire
- rm = round conductor, multi-wire
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- **LSOH** = Low Smoke Zero Halogen

## Application

Everywhere, where in case of fire human life and material assets are to be protected and safety consciousness take a special significance, e. g. in industrial complexes, power stations, communal establishment, hotels, airports, underground railway networks, hospitals and outpatients clinic (DIN VDE 0107), department stores, data processing centres, theaters, cinemas, in multi-storey buildings, public gatherings, schools etc. (DIN VDE 0108), mining works, offshore plants, leading centres, traffic communication, emergency power supply and alarm systems. 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. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no. | No.cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|---------------------------------------|-----------------|---------------------|---------------------|---------|
| 52098    | 2 x 1,5 / 1,5 re                      | 13,0            | 52,0                | 200,0               | 16      |
| 52099    | 2 x 2,5 / 2,5 re                      | 14,0            | 80,0                | 250,0               | 14      |
| 52100    | 2 x 4 / 4 re                          | 15,0            | 123,0               | 310,0               | 12      |

| Part no. | No.cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|---------------------------------------|-----------------|---------------------|---------------------|---------|
| 52101    | 2 x 6 / 6 re                          | 16,0            | 182,0               | 400,0               | 10      |
| 52102    | 2 x 10 / 10 re                        | 17,5            | 312,0               | 570,0               | 8       |
| 52103    | 3 x 1,5 / 1,5 re                      | 13,0            | 66,0                | 220,0               | 16      |

Continuation ▶

# N2XCH-FE 180/E 30 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics



| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52104    | 3 x 2,5 / 2,5 re                       | 14,0            | 104,0               | 270,0               | 14        |
| 52105    | 3 x 4 / 4 re                           | 15,5            | 161,0               | 360,0               | 12        |
| 52106    | 3 x 6 / 6 re                           | 16,5            | 240,0               | 470,0               | 10        |
| 52107    | 3 x 10 / 10 re                         | 18,5            | 408,0               | 680,0               | 8         |
| 52108    | 3 x 16 / 16 re                         | 21,0            | 643,0               | 960,0               | 6         |
| 52109    | 3 x 25 / 16 rm                         | 25,5            | 902,0               | 1390,0              | 4         |
| 52110    | 3 x 35 / 16 rm                         | 29,0            | 1190,0              | 1720,0              | 2         |
| 52111    | 3 x 50 / 25 rm                         | 31,5            | 1723,0              | 2320,0              | 1         |
| 52112    | 3 x 70 / 35 rm                         | 36,5            | 2410,0              | 3260,0              | 2/0       |
| 52113    | 3 x 95 / 50 rm                         | 40,0            | 3296,0              | 4310,0              | 3/0       |
| 52114    | 3 x 120 / 70 rm                        | 46,0            | 4236,0              | 5520,0              | 4/0       |
| 52115    | 3 x 150 / 70 rm                        | 50,5            | 5100,0              | 6620,0              | 300 kcmil |
| 52116    | 3 x 185 / 95 rm                        | 55,0            | 6383,0              | 8180,0              | 350 kcmil |
| 52117    | 3 x 240 / 120 rm                       | 61,5            | 8242,0              | 10620,0             | 500 kcmil |
| 52118    | 4 x 1,5 / 1,5 re                       | 15,0            | 81,0                | 260,0               | 16        |
| 52119    | 4 x 2,5 / 2,5 re                       | 16,0            | 128,0               | 310,0               | 14        |

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52120    | 4 x 4 / 4 re                           | 17,0            | 200,0               | 420,0               | 12        |
| 52121    | 4 x 6 / 6 re                           | 18,0            | 297,0               | 540,0               | 10        |
| 52122    | 4 x 10 / 10 re                         | 20,0            | 504,0               | 800,0               | 8         |
| 52123    | 4 x 16 / 16 re                         | 22,5            | 796,0               | 1150,0              | 6         |
| 52124    | 4 x 25 / 16 rm                         | 28,0            | 1142,0              | 1670,0              | 4         |
| 52125    | 4 x 35 / 16 rm                         | 30,5            | 1526,0              | 2160,0              | 2         |
| 52126    | 4 x 50 / 25 rm                         | 32,0            | 2203,0              | 2860,0              | 1         |
| 52127    | 4 x 70 / 35 rm                         | 39,5            | 3082,0              | 3980,0              | 2/0       |
| 52128    | 4 x 95 / 50 rm                         | 43,5            | 4208,0              | 5300,0              | 3/0       |
| 52129    | 4 x 120 / 70 rm                        | 49,5            | 5388,0              | 6740,0              | 4/0       |
| 52130    | 4 x 150 / 70 rm                        | 55,5            | 6558,0              | 8210,0              | 300 kcmil |
| 52131    | 4 x 185 / 95 rm                        | 60,0            | 8159,0              | 10200,0             | 350 kcmil |
| 52132    | 4 x 240 / 120 rm                       | 68,0            | 10546,0             | 12900,0             | 500 kcmil |
| 52133    | 7 x 1,5 / 2,5 re                       | 16,5            | 133,0               | 360,0               | 16        |
| 52134    | 30 x 1,5 / 6 re                        | 29,0            | 499,0               | 1070,0              | 16        |

Dimensions and specifications may be changed without prior notice. (RQ02)

# (N)HXH-FE 180/E 30 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics



## Technical data

- Halogen-free security cable with improved characteristics in the case of fire adapted to DIN VDE 0266
- **Temperature range**  
-30°C to +70°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**  $U_0/U$  0,6/1 kV
- **Test voltage** 4000 V
- **Minimum bending radius**  
15x cable Ø
- **Radiation resistance**  
up to  $200 \times 10^6$  cJ/kg (up to 200 Mrad)
- **Caloric load values**  
see Technical Informations

## Cable structure

- Bare copper-conductor, to DIN VDE 0295 cl.1 or cl.2, single-wire or multi-wire, BS 6360 cl.1 or cl.2, IEC 60228 cl.1 or cl.2
  - Core insulation of polymer
  - Core identification to DIN VDE 0293-308
  - GN-YE conductor, 3 cores and above
  - Cores stranded in layer
  - Overall core covering
  - Outer sheath of polyolefin-compound, flame retardant
  - Sheath colour orange
- ### Tests
- Flame test acc. to DIN VDE 0482-332-3, BS 4066 part 3, DIN EN 60332-3, IEC 60332-3 (previously DIN VDE 0472 part 804 test method C)
  - Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
  - Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
  - Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

## Properties

- Halogen-free; no evolution of corrosive and toxic gases
- Flame retardant and hardly flammable
- Self-extinguished and fire resistant
- No flame propagation, therefore security from fire
- Low smoke density, no darkening of emergency exits without hindering the fire extinguishing works
- Toxicological harmless
- No self-ignition
- Maintenance of functionality during the increased current load
- **FE 180: Insulation integrity** for 180 minutes. Tests acc. to DIN VDE 0472 part 814  $\Delta$  IEC 60331. **Insulation integrity** under direct flame propagation for the test period of 180 minutes.
- **E 30: Functionality** of electrical cable systems for minimum 30 minutes. Test to DIN 4102 part 12. This fulfils the demands of technical guide lines for fire protection (supplement 1 to DIN VDE 0108 part 1). The **functionality** for 30 minutes assures when persons and animals are to be saved from a burning building. 30 minutes secures the functional performance of the fire warning and alarm systems, safety and spare lighting, passenger lifts with evacuation circuits, except the cables which are installed within the ladder shafts and engine rooms.

## Note

- re = round conductor, single-wire  
rm = round conductor, multi-wire
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- **LSOH** = Low Smoke Zero Halogen

## Application

Security cables are ideal for use everywhere, where in case of fire human life and material assets are to be protected and safety consciousness take a special significance, e. g. in industrial complexes, power stations, communal establishment, hotels, airports, underground railway networks, hospitals and outpatients clinic (DIN VDE 0107), department stores, data processing centres, theaters, cinemas, in multi-storey buildings, public gatherings, schools etc. (DIN VDE 0108), mining works, offshore plants, leading centres, traffic communication, emergency power supply and alarm systems. The cables are 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. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|--|-----------------|---------------------|---------------------|---------|
| 52700    | 1 x 4 re                               | 7,0             | 38,0                | 98,0                | 12      |
| 52701    | 1 x 6 re                               | 7,5             | 58,0                | 125,0               | 10      |
| 52702    | 1 x 10 re                              | 8,0             | 96,0                | 165,0               | 8       |
| 52703    | 1 x 16 rm                              | 9,0             | 154,0               | 230,0               | 6       |
| 52704    | 1 x 25 rm                              | 10,5            | 240,0               | 345,0               | 4       |
| 52705    | 1 x 35 rm                              | 11,5            | 336,0               | 450,0               | 2       |
| 52706    | 1 x 50 rm                              | 12,0            | 480,0               | 590,0               | 1       |

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52707    | 1 x 70 rm                              | 15,0            | 672,0               | 800,0               | 2/0       |
| 52708    | 1 x 95 rm                              | 16,5            | 912,0               | 1100,0              | 3/0       |
| 52709    | 1 x 120 rm                             | 18,5            | 1152,0              | 1350,0              | 4/0       |
| 52710    | 1 x 150 rm                             | 20,5            | 1440,0              | 1650,0              | 300 kcmil |
| 52711    | 1 x 185 rm                             | 23,0            | 1776,0              | 2000,0              | 350 kcmil |
| 52712    | 1 x 240 rm                             | 25,5            | 2304,0              | 2650,0              | 500 kcmil |
| 52713    | 1 x 300 rm                             | 31,8            | 2880,0              | 3200,0              | 600 kcmil |

Continuation ▶

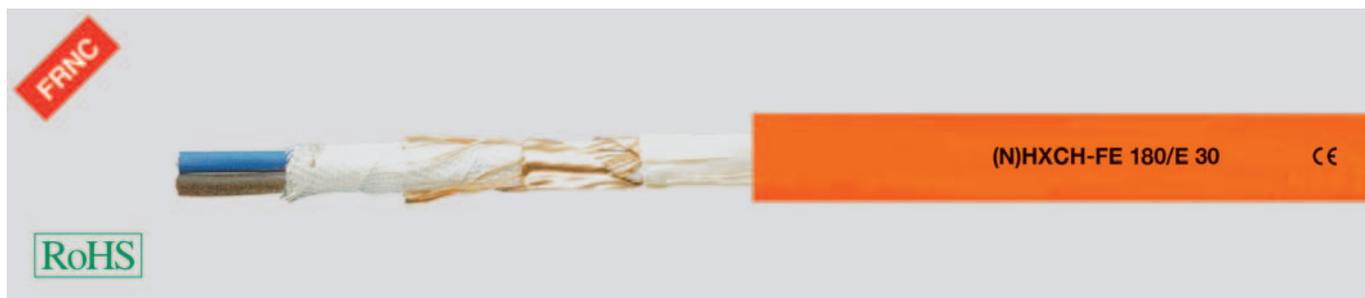
**(N)HXH-FE 180/E 30** security cable, halogen-free, 0,6/1 kV, with improved fire characteristics

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52714    | 2 x 2,5 re                             | 12,5            | 48,0                | 290,0               | 14        |
| 52715    | 2 x 4 re                               | 13,5            | 77,0                | 345,0               | 12        |
| 52716    | 2 x 6 re                               | 14,5            | 115,0               | 410,0               | 10        |
| 52717    | 2 x 10 re                              | 16,0            | 192,0               | 540,0               | 8         |
| 52718    | 2 x 16 rm                              | 18,0            | 307,0               | 720,0               | 6         |
| 52719    | 2 x 25 rm                              | 21,0            | 480,0               | 1100,0              | 4         |
| 52720    | 2 x 35 rm                              | 24,0            | 672,0               | 1120,0              | 2         |
| 52721    | 3 x 1,5 re                             | 12,5            | 43,0                | 280,0               | 16        |
| 52722    | 3 x 2,5 re                             | 13,5            | 72,0                | 330,0               | 14        |
| 52723    | 3 x 4 re                               | 14,5            | 115,0               | 400,0               | 12        |
| 52724    | 3 x 6 re                               | 15,5            | 173,0               | 480,0               | 10        |
| 52725    | 3 x 10 re                              | 17,0            | 288,0               | 650,0               | 8         |
| 52726    | 3 x 16 rm                              | 19,0            | 461,0               | 850,0               | 6         |
| 52727    | 3 x 25 rm                              | 22,5            | 720,0               | 1300,0              | 4         |
| 52728    | 3 x 35 rm                              | 24,5            | 1080,0              | 1700,0              | 2         |
| 52729    | 3 x 50 rm                              | 27,5            | 1440,0              | 2200,0              | 1         |
| 52730    | 3 x 70 rm                              | 32,0            | 2016,0              | 3000,0              | 2/0       |
| 52731    | 3 x 95 rm                              | 35,5            | 2736,0              | 4000,0              | 3/0       |
| 52732    | 3 x 120 rm                             | 39,5            | 3456,0              | 4850,0              | 4/0       |
| 52733    | 3 x 150 rm                             | 44,0            | 4320,0              | 5950,0              | 300 kcmil |
| 52734    | 3 x 185 rm                             | 49,5            | 5328,0              | 7450,0              | 350 kcmil |
| 52735    | 3 x 240 rm                             | 60,0            | 6910,0              | 8600,0              | 500 kcmil |
| 52736    | 4 x 1,5 re                             | 13,5            | 58,0                | 325,0               | 16        |
| 52737    | 4 x 2,5 re                             | 14,0            | 96,0                | 385,0               | 14        |
| 52738    | 4 x 4 re                               | 15,5            | 154,0               | 470,0               | 12        |
| 52739    | 4 x 6 re                               | 16,5            | 230,0               | 580,0               | 10        |
| 52740    | 4 x 10 re                              | 18,5            | 384,0               | 790,0               | 8         |
| 52741    | 4 x 16 rm                              | 20,5            | 614,0               | 1100,0              | 6         |
| 52742    | 4 x 25 rm                              | 24,5            | 960,0               | 1650,0              | 4         |
| 52743    | 4 x 35 rm                              | 27,0            | 1344,0              | 2150,0              | 2         |
| 52744    | 4 x 50 rm                              | 30,0            | 1920,0              | 2800,0              | 1         |
| 52745    | 4 x 70 rm                              | 35,0            | 2688,0              | 3800,0              | 2/0       |
| 52746    | 4 x 95 rm                              | 39,5            | 3648,0              | 5050,0              | 3/0       |
| 52747    | 4 x 120 rm                             | 43,5            | 4608,0              | 6150,0              | 4/0       |

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52748    | 4 x 150 rm                             | 49,0            | 5760,0              | 7650,0              | 300 kcmil |
| 52749    | 5 x 1,5 re                             | 14,0            | 72,0                | 375,0               | 16        |
| 52750    | 5 x 2,5 re                             | 15,0            | 120,0               | 445,0               | 14        |
| 52751    | 5 x 4 re                               | 16,5            | 192,0               | 560,0               | 12        |
| 52752    | 5 x 6 re                               | 18,0            | 288,0               | 690,0               | 10        |
| 52753    | 5 x 10 re                              | 20,0            | 480,0               | 950,0               | 8         |
| 52754    | 5 x 16 rm                              | 22,5            | 768,0               | 1300,0              | 6         |
| 52755    | 5 x 25 rm                              | 26,5            | 1200,0              | 1980,0              | 4         |
| 52756    | 5 x 35 rm                              | 36,0            | 1680,0              | 2600,0              | 2         |
| 52757    | 7 x 1,5 re                             | 15,0            | 101,0               | 365,0               | 16        |
| 52758    | 7 x 2,5 re                             | 16,5            | 168,0               | 540,0               | 14        |
| 52759    | 10 x 1,5 re                            | 18,0            | 144,0               | 580,0               | 16        |
| 52760    | 10 x 2,5 re                            | 20,0            | 240,0               | 710,0               | 14        |
| 52761    | 12 x 1,5 re                            | 19,0            | 173,0               | 640,0               | 16        |
| 52762    | 12 x 2,5 re                            | 20,5            | 288,0               | 790,0               | 14        |
| 52763    | 14 x 1,5 re                            | 20,0            | 202,0               | 740,0               | 16        |
| 52764    | 14 x 2,5 re                            | 21,5            | 336,0               | 880,0               | 14        |
| 52765    | 19 x 1,5 re                            | 21,5            | 274,0               | 880,0               | 16        |
| 52766    | 19 x 2,5 re                            | 23,5            | 456,0               | 1150,0              | 14        |
| 52767    | 24 x 1,5 re                            | 25,0            | 346,0               | 1100,0              | 16        |
| 52768    | 24 x 2,5 re                            | 27,0            | 576,0               | 1400,0              | 14        |
| 52769    | 30 x 1,5 re                            | 26,0            | 432,0               | 1300,0              | 16        |
| 52770    | 30 x 2,5 re                            | 28,5            | 720,0               | 1650,0              | 14        |

Dimensions and specifications may be changed without prior notice. (RQ02)

# (N)HXCH-FE 180/E 30 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics



## Technical data

- Halogen-free security cable with improved characteristics in the case of fire adapted to DIN VDE 0266
- **Temperature range**  
-30°C to +70°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**  $U_0/U$  0,6/1 kV
- **Test voltage** 4000 V
- **Minimum bending radius**  
15xcable Ø
- **Radiation resistance**  
up to  $200 \times 10^6$  cJ/kg (up to 200 Mrad)
- **Caloric load values**  
see Technical Informations

## Cable structure

- Bare copper-conductor, to DIN VDE 0295 cl.1 or cl.2, single-wire or multi-wire, BS 6360 cl.1 or cl.2, IEC 60228 cl.1 or cl.2
- Core insulation of polymer
- Core identification to DIN VDE 0293-308
- Core stranded in layer
- Overall core covering
- Copper wire screening with helix of copper tape
- Separator of special tape
- Outer sheath of polyolefin-compound, flame retardant
- Sheath colour orange

## Tests

- Flame test acc. to DIN VDE 0482-332-3, BS 4066 part 3, DIN EN 60332-3, IEC 60332-3 (previously DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

## Properties

- Halogen-free; no evolution of corrosive and toxic gases
- Flame retardant and hardly flammable
- Self-extinguished and fire resistant
- No flame propagation, therefore security from fire
- Low smoke density, no darkening
- Toxicological harmless
- No self-ignition
- Maintenance of functionality during the increased current load
- **FE 180: Insulation integrity** for 180 minutes. Tests acc.to DIN VDE 0472 part 814  $\Delta$  IEC 60331. **Insulation integrity** under direct flame propagation for the test period of 180 minutes.
- **E 30: Functionality** of electrical cable systems for minimum 30 minutes. Test method to DIN 4102 part 12. This fulfils the demands of technical guide lines for fire protection (supplement 1 to DIN VDE 0108 part 1). The **functionality** for 30 minutes assures when persons and animals are to be saved from a burning building. 30 minutes secures the functional performance of the fire warning and alarm systems, safety and spare lighting, passenger lifts with evacuation circuits, except the cables which are installed within the ladder shafts and engine rooms.

## Note

- re = round conductor, single-wire
- rm = round conductor, multi-wire
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- **LSOH** = Low Smoke Zero Halogen

## Application

Everywhere, where in case of fire human life and material assets are to be protected and safety consciousness take a special significance, e. g. in industrial complexes, power stations, communal establishment, hotels, airports, underground railway networks, hospitals and outpatients clinic (DIN VDE 0107), department stores, data processing centres, theaters, cinemas, in multi-storey buildings, public gatherings, schools etc. (DIN VDE 0108), mining works, offshore plants, leading centres, traffic communication, emergency power supply and alarm systems. 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. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. | Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|--|-----------------|---------------------|---------------------|---------|----------|--|-----------------|---------------------|---------------------|---------|
| 52900    | 2 x 1,5 / 1,5 re                       | 13,0            | 52,0                | 220,0               | 16      | 52907    | 3 x 4 / 4 re                           | 15,5            | 161,0               | 530,0               | 12      |
| 52901    | 2 x 2,5 / 2,5 re                       | 13,5            | 80,0                | 385,0               | 14      | 52908    | 3 x 6 / 6 re                           | 16,5            | 240,0               | 630,0               | 10      |
| 52902    | 2 x 4 / 4 re                           | 14,5            | 123,0               | 470,0               | 10      | 52909    | 3 x 10 / 10 re                         | 18,5            | 408,0               | 850,0               | 8       |
| 52903    | 2 x 6 / 6 re                           | 16,0            | 182,0               | 550,0               | 10      | 52910    | 3 x 16 / 16 rm                         | 20,5            | 643,0               | 1150,0              | 6       |
| 52904    | 2 x 10 / 10 re                         | 18,0            | 312,0               | 730,0               | 8       | 52911    | 3 x 25 / 16 rm                         | 24,0            | 902,0               | 1700,0              | 4       |
| 52905    | 3 x 1,5 / 1,5 re                       | 13,5            | 66,0                | 380,0               | 16      | 52912    | 3 x 35 / 16 rm                         | 26,5            | 1190,0              | 2150,0              | 2       |
| 52906    | 3 x 2,5 / 2,5 re                       | 14,5            | 104,0               | 430,0               | 14      | 52913    | 3 x 50 / 25 rm                         | 29,5            | 1723,0              | 2800,0              | 1       |

Continuation ▶

# (N)HXCH-FE 180/E 30 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52914    | 3 x 70 / 35 rm                         | 33,0            | 2410,0              | 3800,0              | 2/0       |
| 52915    | 3 x 95 / 50 rm                         | 37,5            | 3296,0              | 5100,0              | 3/0       |
| 52916    | 3 x 120 / 70 rm                        | 42,5            | 4236,0              | 6250,0              | 4/0       |
| 52917    | 3 x 150 / 70 rm                        | 47,0            | 5100,0              | 6900,0              | 300 kcmil |
| 52918    | 3 x 185 / 95 rm                        | 52,5            | 6383,0              | 8550,0              | 350 kcmil |
| 52919    | 3 x 240 / 120 rm                       | 58,5            | 8242,0              | 11150,0             | 500 kcmil |
| 52920    | 4 x 1,5 / 1,5 re                       | 14,5            | 81,0                | 435,0               | 16        |
| 52921    | 4 x 2,5 / 2,5 re                       | 15,5            | 128,0               | 500,0               | 14        |
| 52922    | 4 x 4 / 4 re                           | 16,5            | 200,0               | 610,0               | 12        |
| 52923    | 4 x 6 / 6 re                           | 17,5            | 297,0               | 740,0               | 10        |
| 52924    | 4 x 10 / 10 re                         | 20,0            | 504,0               | 1050,0              | 8         |
| 52925    | 4 x 16 / 16 re                         | 22,0            | 796,0               | 1350,0              | 6         |
| 52926    | 4 x 25 / 16 rm                         | 26,0            | 1142,0              | 1950,0              | 4         |
| 52927    | 4 x 35 / 16 rm                         | 28,5            | 1526,0              | 2400,0              | 2         |
| 52928    | 4 x 50 / 25 rm                         | 32,0            | 2203,0              | 3200,0              | 1         |
| 52929    | 4 x 70 / 35 rm                         | 37,0            | 3082,0              | 4300,0              | 2/0       |

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52930    | 4 x 95 / 50 rm                         | 41,5            | 4208,0              | 5750,0              | 3/0       |
| 52931    | 4 x 120 / 70 rm                        | 47,0            | 5388,0              | 7100,0              | 4/0       |
| 52932    | 4 x 150 / 70 rm                        | 52,0            | 6558,0              | 8550,0              | 300 kcmil |
| 52933    | 4 x 185 / 95 rm                        | 58,0            | 8159,0              | 10700,0             | 350 kcmil |
| 52934    | 4 x 240 / 120 rm                       | 64,0            | 10546,0             | 13930,0             | 500 kcmil |
| 52935    | 7 x 1,5 / 2,5 re                       | 16,5            | 133,0               | 635,0               | 16        |
| 52936    | 7 x 2,5 / 2,5 re                       | 17,5            | 200,0               | 680,0               | 14        |
| 52937    | 10 x 1,5 / 2,5 re                      | 19,5            | 176,0               | 870,0               | 16        |
| 52938    | 10 x 2,5 / 4 re                        | 21,0            | 286,0               | 980,0               | 14        |
| 52939    | 12 x 1,5 / 2,5 re                      | 20,0            | 205,0               | 1050,0              | 16        |
| 52940    | 12 x 2,5 / 4 re                        | 21,5            | 334,0               | 1050,0              | 14        |
| 52941    | 24 x 1,5 / 6 re                        | 26,0            | 413,0               | 1900,0              | 16        |
| 52942    | 24 x 2,5 / 10 re                       | 28,5            | 696,0               | 1900,0              | 14        |
| 52943    | 30 x 1,5 / 6 re                        | 27,0            | 499,0               | 2200,0              | 16        |
| 52944    | 30 x 2,5 / 10 re                       | 30,0            | 840,0               | 2200,0              | 14        |

Dimensions and specifications may be changed without prior notice. (RQ02)

# N2XH-FE 180/E 90 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics



## Technical data

- Halogen-free security cable with improved characteristics in the case of fire to DIN VDE 0266
- **Temperature range**  
-30°C to +70°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**  $U_0/U$  0,6/1 kV
- **Test voltage** 4000 V
- **Minimum bending radius**  
12x cable  $\varnothing$
- **Radiation resistance**  
up to 200x10<sup>6</sup> J/kg (up to 200 Mrad)
- **Caloric load values**  
see Technical Informations

## Cable structure

- Bare copper-conductor, to DIN VDE 0295 cl.1 or cl.2, single-wire or multi-wire, BS 6360 cl.1 or cl.2, IEC 60228 cl.1 or cl.2
- Core insulation with cross-linked polyethylene, compound type 2X11 to DIN VDE 0276 part 604
- Core identification to DIN VDE 0293-308 and 0276 part 604
- GN-YE conductor, 3 cores and above
- Cores stranded in layers
- Overall core covering, halogen-free filling compound, pressed
- Outer sheath of thermoplastic halogen-free polyolefine, flame retardant
- Sheath colour orange

## Tests

- Flame test acc. to DIN VDE 0482-332-3, BS 4066 part 3, DIN EN 60332-3, IEC 60332-3 (previously DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

## Properties

- Halogen-free; no evolution of corrosive and toxic gases
- Flame retardant and hardly flammable
- Self-extinguished and fire resistant
- No flame propagation, therefore security from fire
- Low smoke density, no darkening of emergency exits without hindering the fire extinguishing works
- Toxicological harmless
- No self-ignition
- Maintenance of functionality during the increased current load
- **FE 180: Insulation integrity** for 180 minutes. Tests acc.to DIN VDE 0472 part 814  $\Delta$  IEC 60331. **Insulation integrity** under direct flame propagation for the test period of 180 minutes.
- **E 90: Functionality** of electrical cable systems for minimum 90 minutes. Test method to DIN 4102 part 12. This fulfils the demands of technical guide lines for fire protection (supplement 1 to DIN VDE 0108 part 1). The **functionality** for 90 minutes assures the functional performance of water-pressure-rising stations for the supply to avoid smoke and heat in safety-stairs and inner rooms, ladder shafts and engine rooms for fire brigade lifts, emergency lifts for sickbeds in hospitals and the fire brigade lifts.

## Note

- re = round conductor, single-wire
- rm = round conductor, multi-wire
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- **LSOH** = Low Smoke Zero Halogen

## Application

Everywhere, where in case of fire human life and material assets are to be protected and safety consciousness take a special significance, e. g. in industrial complexes, power stations, communal establishment, hotels, airports, underground railway networks, hospitals and outpatients clinic (DIN VDE 0107), department stores, data processing centres, theaters, cinemas, in multi-storey buildings, public gatherings, schools etc. (DIN VDE 0108), mining works, offshore plants, leading centres, traffic communication, emergency power supply and alarm systems. 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. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer $\varnothing$ app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. | Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer $\varnothing$ app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------------------|---------------------|---------------------|---------|----------|--|-----------------------------|---------------------|---------------------|-----------|
| 52534    | 1 x 16 rm                              | 11,5                        | 154,0               | 250,0               | 6       | 52538    | 1 x 70 rm                              | 17,5                        | 672,0               | 840,0               | 2/0       |
| 52535    | 1 x 25 rm                              | 13,0                        | 240,0               | 360,0               | 4       | 52539    | 1 x 95 rm                              | 19,5                        | 912,0               | 1120,0              | 3/0       |
| 52536    | 1 x 35 rm                              | 14,0                        | 336,0               | 460,0               | 2       | 52540    | 1 x 120 rm                             | 21,5                        | 1152,0              | 1390,0              | 4/0       |
| 52537    | 1 x 50 rm                              | 15,5                        | 480,0               | 610,0               | 1       | 52541    | 1 x 150 rm                             | 23,5                        | 1440,0              | 1690,0              | 300 kcmil |

Continuation ▶

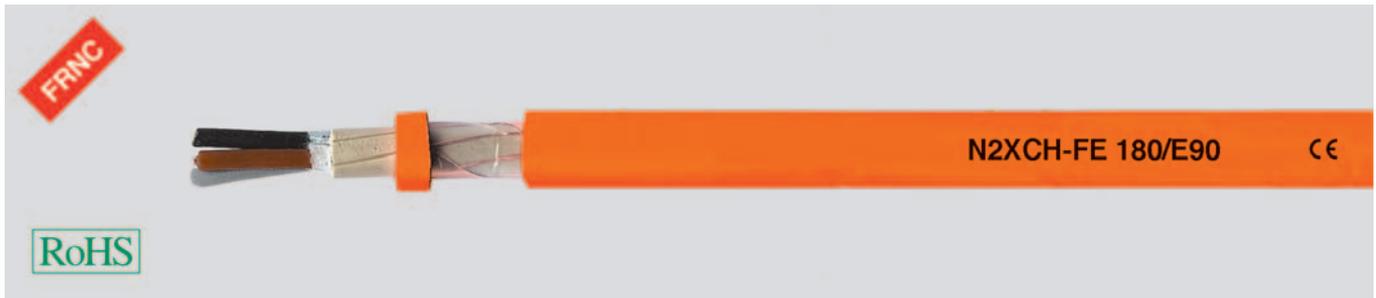
# N2XH-FE 180/E 90 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52542    | 1 x 185 rm                             | 25,5            | 1776,0              | 2090,0              | 350 kcmil |
| 52899    | 1 x 240 rm                             | 28,5            | 2304,0              | 2660,0              | 500 kcmil |
| 52543    | 1 x 300 rm                             | 31,0            | 2880,0              | 3350,0              | 600 kcmil |
| 52544    | 1 x 400 rm                             | 34,5            | 3840,0              | 4230,0              | 750 kcmil |
| 52545    | 2 x 1,5 re                             | 14,5            | 29,0                | 270,0               | 16        |
| 52546    | 2 x 2,5 re                             | 15,5            | 48,0                | 310,0               | 14        |
| 52547    | 2 x 4 re                               | 16,5            | 77,0                | 370,0               | 12        |
| 52548    | 2 x 6 re                               | 17,5            | 115,0               | 440,0               | 10        |
| 52549    | 2 x 10 rm                              | 19,5            | 192,0               | 600,0               | 8         |
| 52550    | 2 x 16 rm                              | 21,0            | 307,0               | 780,0               | 6         |
| 52551    | 2 x 25 rm                              | 23,5            | 480,0               | 1100,0              | 4         |
| 52552    | 2 x 35 rm                              | 26,5            | 672,0               | 1400,0              | 2         |
| 52553    | 2 x 50 rm                              | 30,0            | 960,0               | 1830,0              | 1         |
| 52554    | 2 x 70 rm                              | 33,0            | 1344,0              | 2420,0              | 2/0       |
| 52555    | 2 x 95 rm                              | 37,5            | 1824,0              | 3240,0              | 3/0       |
| 52556    | 2 x 120 rm                             | 41,0            | 2304,0              | 3940,0              | 4/0       |
| 52557    | 3 x 1,5 re                             | 15,0            | 43,0                | 260,0               | 16        |
| 52558    | 3 x 2,5 re                             | 16,0            | 72,0                | 350,0               | 14        |
| 52559    | 3 x 4 re                               | 17,0            | 115,0               | 420,0               | 12        |
| 52560    | 3 x 6 re                               | 18,0            | 173,0               | 520,0               | 10        |
| 52561    | 3 x 10 rm                              | 20,5            | 288,0               | 710,0               | 8         |
| 52562    | 3 x 16 rm                              | 22,5            | 461,0               | 950,0               | 6         |
| 52563    | 3 x 25 rm                              | 26,0            | 720,0               | 1370,0              | 4         |
| 52564    | 3 x 35 rm                              | 28,0            | 1008,0              | 1750,0              | 2         |
| 52572    | 3 x 35 / 16 rm                         | 29,5            | 1162,0              | 1950,0              | 2         |
| 52565    | 3 x 50 rm                              | 32,0            | 1440,0              | 2310,0              | 1         |
| 52573    | 3 x 50 / 25 rm                         | 33,5            | 1680,0              | 2640,0              | 1         |
| 52566    | 3 x 70 rm                              | 35,5            | 2016,0              | 3100,0              | 2/0       |
| 52574    | 3 x 70 / 35 rm                         | 37,0            | 2352,0              | 3520,0              | 2/0       |
| 52567    | 3 x 95 rm                              | 40,5            | 2736,0              | 4180,0              | 3/0       |
| 52575    | 3 x 95 / 50 rm                         | 42,0            | 3216,0              | 4710,0              | 3/0       |
| 52568    | 3 x 120 rm                             | 44,0            | 3456,0              | 5130,0              | 4/0       |
| 52576    | 3 x 120 / 70 rm                        | 46,5            | 4128,0              | 5910,0              | 4/0       |
| 52569    | 3 x 150 rm                             | 48,5            | 4320,0              | 6260,0              | 300 kcmil |
| 52577    | 3 x 150 / 70 rm                        | 50,0            | 4992,0              | 6970,0              | 300 kcmil |
| 52570    | 3 x 185 rm                             | 53,0            | 5328,0              | 7720,0              | 350 kcmil |
| 52578    | 3 x 185 / 95 rm                        | 55,5            | 6240,0              | 8750,0              | 350 kcmil |
| 52571    | 3 x 240 rm                             | 59,5            | 6912,0              | 9990,0              | 500 kcmil |
| 52579    | 3 x 240 / 120 rm                       | 61,5            | 8064,0              | 11180,0             | 500 kcmil |
| 52580    | 4 x 1,5 re                             | 16,5            | 58,0                | 350,0               | 16        |
| 52581    | 4 x 2,5 re                             | 17,5            | 96,0                | 420,0               | 14        |
| 52582    | 4 x 4 re                               | 18,5            | 154,0               | 510,0               | 12        |

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52583    | 4 x 6 re                               | 19,5            | 230,0               | 630,0               | 10        |
| 52584    | 4 x 10 rm                              | 22,5            | 384,0               | 880,0               | 8         |
| 52585    | 4 x 16 rm                              | 24,5            | 614,0               | 1180,0              | 6         |
| 52586    | 4 x 25 rm                              | 28,5            | 960,0               | 1730,0              | 4         |
| 52587    | 4 x 35 rm                              | 31,0            | 1344,0              | 2220,0              | 2         |
| 52588    | 4 x 50 rm                              | 35,0            | 1920,0              | 2940,0              | 1         |
| 52589    | 4 x 70 rm                              | 39,0            | 2688,0              | 3960,0              | 2/0       |
| 52590    | 4 x 95 rm                              | 45,0            | 3648,0              | 5360,0              | 3/0       |
| 52591    | 4 x 120 rm                             | 48,5            | 4608,0              | 6550,0              | 4/0       |
| 52592    | 4 x 150 rm                             | 54,0            | 5760,0              | 8070,0              | 300 kcmil |
| 52593    | 4 x 185 rm                             | 59,0            | 7104,0              | 9970,0              | 350 kcmil |
| 52594    | 4 x 240 rm                             | 66,0            | 9216,0              | 12830,0             | 500 kcmil |
| 52595    | 5 x 1,5 re                             | 18,0            | 72,0                | 420,0               | 16        |
| 52596    | 5 x 2,5 re                             | 19,0            | 120,0               | 500,0               | 14        |
| 52597    | 5 x 4 re                               | 20,0            | 192,0               | 610,0               | 12        |
| 52598    | 5 x 6 re                               | 21,5            | 288,0               | 760,0               | 10        |
| 52599    | 5 x 10 rm                              | 24,5            | 480,0               | 1070,0              | 8         |
| 52600    | 5 x 16 rm                              | 27,0            | 768,0               | 1450,0              | 6         |
| 52601    | 5 x 25 rm                              | 31,0            | 1200,0              | 2120,0              | 4         |
| 52602    | 5 x 35 rm                              | 34,0            | 1680,0              | 2730,0              | 2         |
| 52603    | 5 x 50 rm                              | 38,5            | 2400,0              | 3620,0              | 1         |
| 52604    | 5 x 70 rm                              | 43,5            | 3360,0              | 4940,0              | 2/0       |
| 52605    | 7 x 1,5 re                             | 19,5            | 101,0               | 480,0               | 16        |
| 52606    | 7 x 2,5 re                             | 20,5            | 168,0               | 580,0               | 14        |
| 52607    | 7 x 4 re                               | 22,0            | 269,0               | 730,0               | 12        |
| 52608    | 10 x 1,5 re                            | 24,0            | 144,0               | 650,0               | 16        |
| 52609    | 10 x 2,5 re                            | 25,5            | 240,0               | 790,0               | 14        |
| 52610    | 12 x 1,5 re                            | 24,5            | 173,0               | 720,0               | 16        |
| 52611    | 12 x 2,5 re                            | 26,0            | 288,0               | 890,0               | 14        |
| 52612    | 24 x 1,5 re                            | 33,0            | 346,0               | 1270,0              | 16        |

Dimensions and specifications may be changed without prior notice. (RQ02)

# N2XCH-FE 180/E 90 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics



## Technical data

- Halogen-free security cable with improved characteristics in the case of fire to DIN VDE 0266
- **Temperature range**  
-30°C to +70°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**  $U_0/U$  0,6/1 kV
- **Test voltage** 4000 V
- **Minimum bending radius**  
12x cable  $\varnothing$
- **Radiation resistance**  
up to  $200 \times 10^6$  J/kg (up to 200 Mrad)
- **Caloric load values**  
see Technical Informations

## Cable structure

- Bare copper-conductor, to DIN VDE 0295 cl.1 or cl.2, single-wire or multi-wire, BS 6360 cl.1 or cl.2, IEC 60228 cl.1 or cl.2
- Core insulation with cross-linked polyethylene, compound type 2X11 to DIN VDE 0276 part 604
- Core identification to DIN VDE 0293-308 and 0276 part 604
- Cores stranded in layers
- Overall core covering, halogen-free filling compound, pressed
- Concentric conductor of Cu-bare wires with helix of copper tape
- Outer sheath of thermoplastic halogen-free polyolefine, flame retardant
- Sheath colour orange

## Tests

- Flame test acc. to DIN VDE 0482-332-3, BS 4066 part 3, DIN EN 60332-3, IEC 60332-3 (previously DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

## Properties

- Halogen-free; no evolution of corrosive and toxic gases
- Flame retardant and hardly flammable
- Self-extinguished and fire resistant
- No flame propagation, therefore security from fire
- Low smoke density, no darkening of emergency exits without hindering the fire extinguishing works
- Toxicological harmless
- No self-ignition
- Maintenance of functionality during the increased current load
- **FE 180: Insulation integrity** for 180 minutes. Tests acc. to DIN VDE 0472 part 814  $\Delta$  IEC 60331. **Insulation integrity** under direct flame propagation for the test period of 180 minutes.
- **E 90: Functionality** of electrical cable systems for minimum 90 minutes. Test method to DIN 4102 part 12. This fulfils the demands of technical guide lines for fire protection (supplement 1 to DIN VDE 0108 part 1). The **functionality** for 90 minutes assures the functional performance of water-pressure-rising stations for the supply to avoid smoke and heat in safety-stairs and inner rooms, ladder shafts and engine rooms for fire brigade lifts, emergency lifts for sickbeds in hospitals and the fire brigade lifts.

## Note

- re = round conductor, single-wire  
rm = round conductor, multi-wire
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- **LSOH** = Low Smoke Zero Halogen

## Application

Everywhere, where in case of fire human life and material assets are to be protected and safety consciousness take a special significance, e. g. in industrial complexes, power stations, communal establishment, hotels, airports, underground railway networks, hospitals and outpatients clinic (DIN VDE 0107), department stores, data processing centres, theaters, cinemas, in multi-storey buildings, public gatherings, schools etc. (DIN VDE 0108), mining works, offshore plants, leading centres, traffic communication, emergency power supply and alarm systems. 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. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer $\varnothing$ app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. | Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer $\varnothing$ app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|--|-----------------------------|---------------------|---------------------|---------|----------|--|-----------------------------|---------------------|---------------------|---------|
| 52771    | 3 x 1,5 / 1,5 re                       | 16,5                        | 66,0                | 330,0               | 16      | 52776    | 3 x 16 / 16 rm                         | 24,5                        | 643,0               | 1130,0              | 6       |
| 52772    | 3 x 2,5 / 2,5 re                       | 17,5                        | 104,0               | 400,0               | 14      | 52777    | 3 x 25 / 16 rm                         | 28,0                        | 902,0               | 1560,0              | 4       |
| 52773    | 3 x 4 / 4 re                           | 18,5                        | 161,0               | 480,0               | 12      | 52778    | 3 x 35 / 16 rm                         | 30,5                        | 1190,0              | 1960,0              | 2       |
| 52774    | 3 x 6 / 6 re                           | 20,0                        | 240,0               | 600,0               | 10      | 52779    | 3 x 50 / 25 rm                         | 34,0                        | 1723,0              | 2610,0              | 2       |
| 52775    | 3 x 10 / 10 rm                         | 22,0                        | 408,0               | 840,0               | 8       | 52780    | 3 x 70 / 35 rm                         | 37,5                        | 2410,0              | 3500,0              | 2/0     |

Continuation ▶

# N2XCH-FE 180/E 90 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52781    | 3 x 95 / 50 rm                         | 43,0            | 3296,0              | 4700,0              | 3/0       |
| 52782    | 3 x 120 / 70 rm                        | 48,0            | 4236,0              | 5880,0              | 4/0       |
| 52783    | 3 x 150 / 70 rm                        | 52,0            | 4992,0              | 7300,0              | 300 kcmil |
| 52784    | 3 x 185 / 95 rm                        | 57,5            | 6383,0              | 8760,0              | 350 kcmil |
| 52785    | 3 x 240 / 120 rm                       | 63,5            | 8242,0              | 11280,0             | 500 kcmil |
| 52786    | 4 x 1,5 / 1,5 re                       | 17,5            | 81,0                | 390,0               | 16        |
| 52787    | 4 x 2,5 / 2,5 re                       | 19,0            | 128,0               | 470,0               | 14        |
| 52788    | 4 x 4 / 4 re                           | 20,0            | 200,0               | 570,0               | 12        |
| 52789    | 4 x 6 / 6 re                           | 21,5            | 297,0               | 720,0               | 10        |
| 52790    | 4 x 10 / 10 rm                         | 24,0            | 504,0               | 1010,0              | 8         |
| 52791    | 4 x 16 / 16 rm                         | 26,5            | 796,0               | 1370,0              | 6         |
| 52792    | 4 x 25 / 16 rm                         | 30,5            | 1142,0              | 1940,0              | 4         |
| 52793    | 4 x 35 / 16 rm                         | 33,0            | 1526,0              | 2420,0              | 2         |
| 52794    | 4 x 50 / 25 rm                         | 37,5            | 2203,0              | 3240,0              | 1         |

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 52795    | 4 x 70 / 35 rm                         | 41,5            | 3082,0              | 4360,0              | 2/0       |
| 52796    | 4 x 95 / 50 rm                         | 47,5            | 4208,0              | 5900,0              | 3/0       |
| 52797    | 4 x 120 / 70 rm                        | 52,5            | 5388,0              | 7340,0              | 4/0       |
| 52798    | 4 x 150 / 70 rm                        | 57,5            | 6540,0              | 8840,0              | 300 kcmil |
| 52799    | 4 x 185 / 95 rm                        | 63,5            | 8159,0              | 11020,0             | 350 kcmil |
| 52800    | 4 x 240 / 120 rm                       | 70,0            | 10546,0             | 14140,0             | 500 kcmil |
| 52801    | 7 x 1,5 / 2,5 re                       | 20,5            | 133,0               | 520,0               | 16        |
| 52805    | 7 x 2,5 / 2,5 re                       | 22,0            | 200,0               | 630,0               | 14        |
| 52802    | 12 x 1,5 / 2,5 re                      | 26,0            | 205,0               | 770,0               | 16        |
| 52806    | 12 x 2,5 / 4 re                        | 28,0            | 334,0               | 950,0               | 14        |
| 52803    | 24 x 1,5 / 6 re                        | 35,0            | 413,0               | 1380,0              | 16        |
| 52807    | 24 x 2,5 / 10 re                       | 37,5            | 696,0               | 1750,0              | 14        |
| 52804    | 30 x 1,5 / 6 re                        | 37,0            | 499,0               | 1630,0              | 16        |
| 52808    | 30 x 2,5 / 10 re                       | 39,5            | 840,0               | 2080,0              | 14        |

Dimensions and specifications may be changed without prior notice. (RQ02)

# (N)HXH-FE 180/E 90 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics

EAC



## Technical data

- Halogen-free security cable with improved characteristics in the case of fire adapted to DIN VDE 0266
- **Temperature range**  
-30°C to +70°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**  $U_0/U$  0,6/1 kV
- **Test voltage** 4000 V
- **Minimum bending radius**  
12x cable Ø
- **Radiation resistance**  
up to  $200 \times 10^6$  cJ/kg (up to 200 Mrad)
- **Caloric load values**  
see Technical Informations

## Cable structure

- Bare copper-conductor, to DIN VDE 0295 cl.1 or cl.2, single-wire or multi-wire, BS 6360 cl.1 or cl.2, IEC 60228 cl.1 or cl.2
  - Core insulation of polymer
  - Core identification to DIN VDE 0293-308
  - GN-YE conductor, 3 cores and above
  - Cores stranded in layer
  - Core wrapping with glass-fibre tape as flame-protection
  - Outer sheath of polyolefin-compound, flame retardant
  - Sheath colour orange
- ### Tests
- Flame test acc. to DIN VDE 0482-332-3, BS 4066 part 3, DIN EN 60332-3, IEC 60332-3 (previously DIN VDE 0472 part 804 test method C)
  - Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
  - Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
  - Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

## Properties

- Halogen-free; no evolution of corrosive and toxic gases
- Flame retardant and hardly flammable
- Self-extinguished and fire resistant
- No flame propagation, therefore security from fire
- Low smoke density, no darkening of emergency exits without hindering the fire extinguishing works
- Toxicological harmless
- No self-ignition
- Maintenance of functionality during the increased current load
- **FE 180: Insulation integrity** for 180 minutes. Tests acc.to DIN VDE 0472 part 814  $\Delta$  IEC 60331. **Insulation integrity** under direct flame propagation for the test period of 180 minutes.
- **E 90: Functionality** of electrical cable systems for minimum 90 minutes. Test method to DIN 4102 part 12. This fulfils the demands of technical guide lines for fire protection (supplement 1 to DIN VDE 0108 part 1). The **functionality** for 90 minutes assures the functional performance of water-pressure-rising stations for the supply to avoid smoke and heat in safety-stairs and inner rooms, ladder shafts and engine rooms for fire brigade lifts, emergency lifts for sickbeds in hospitals and the fire brigade lifts.

## Note

- re = round conductor, single-wire  
rm = round conductor, multi-wire
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- **LSOH** = Low Smoke Zero Halogen

## Application

Everywhere, where in case of fire human life and material assets are to be protected and safety consciousness take a special significance, e. g. in industrial complexes, power stations, communal establishment, hotels, airports, underground railway networks, hospitals and outpatients clinic (DIN VDE 0107), department stores, data processing centres, theaters, cinemas, in multi-storey buildings, public gatherings, schools etc. (DIN VDE 0108), mining works, offshore plants, leading centres, traffic communication, emergency power supply and alarm systems. 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. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 53180    | 1 x 16 rm                              | 11,0            | 154,0               | 255,0               | 6         |
| 53181    | 1 x 25 rm                              | 12,5            | 240,0               | 375,0               | 4         |
| 53182    | 1 x 35 rm                              | 13,5            | 336,0               | 475,0               | 2         |
| 53183    | 1 x 50 rm                              | 15,0            | 480,0               | 625,0               | 1         |
| 53184    | 1 x 70 rm                              | 16,5            | 672,0               | 855,0               | 2/0       |
| 53185    | 1 x 95 rm                              | 18,0            | 912,0               | 1140,0              | 3/0       |
| 53186    | 1 x 120 rm                             | 20,5            | 1152,0              | 1410,0              | 4/0       |
| 53187    | 1 x 150 rm                             | 22,5            | 1440,0              | 1730,0              | 300 kcmil |

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 53188    | 1 x 185 rm                             | 24,5            | 1776,0              | 2140,0              | 350 kcmil |
| 53189    | 1 x 240 rm                             | 27,0            | 2304,0              | 2700,0              | 500 kcmil |
| 53190    | 1 x 300 rm                             | 30,0            | 2880,0              | 3420,0              | 600 kcmil |
| 53191    | 1 x 400 rm                             | 33,5            | 3840,0              | 4310,0              | 750 kcmil |
| 53000    | 3 x 1,5 re                             | 14,0            | 43,0                | 280,0               | 16        |
| 53001    | 3 x 2,5 re                             | 15,0            | 72,0                | 330,0               | 14        |
| 53002    | 3 x 4 re                               | 16,0            | 115,0               | 400,0               | 12        |
| 53003    | 3 x 6 re                               | 17,0            | 173,0               | 480,0               | 10        |

Continuation ▶

# (N)HXH-FE 180/E 90 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics



| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 53004    | 3 x 10 re                              | 19,0            | 288,0               | 650,0               | 8         |
| 53005    | 3 x 16 re                              | 21,0            | 461,0               | 850,0               | 6         |
| 52990    | 3 x 25 rm                              | 25,0            | 720,0               | 1300,0              | 4         |
| 52991    | 3 x 35 rm                              | 28,0            | 1008,0              | 1700,0              | 2         |
| 52992    | 3 x 35 / 16 rm                         | 28,0            | 1162,0              | 1850,0              | 2         |
| 52993    | 3 x 50 / 25 rm                         | 32,0            | 1680,0              | 2500,0              | 1         |
| 52994    | 3 x 70 / 35 rm                         | 36,0            | 2352,0              | 3350,0              | 2/0       |
| 52995    | 3 x 95 / 50 rm                         | 42,0            | 3216,0              | 4500,0              | 3/0       |
| 52996    | 3 x 120 / 70 rm                        | 45,0            | 4128,0              | 5600,0              | 4/0       |
| 52997    | 3 x 150 / 70 rm                        | 49,0            | 4992,0              | 6700,0              | 300 kcmil |
| 52998    | 3 x 185 / 95 rm                        | 55,0            | 6240,0              | 8350,0              | 350 kcmil |
| 52999    | 3 x 240 / 120 rm                       | 63,0            | 8064,0              | 10000,0             | 500 kcmil |
| 53006    | 4 x 1,5 re                             | 15,0            | 58,0                | 325,0               | 16        |
| 53007    | 4 x 2,5 re                             | 16,0            | 96,0                | 385,0               | 14        |
| 53008    | 4 x 4 re                               | 17,0            | 154,0               | 470,0               | 12        |
| 53009    | 4 x 6 re                               | 18,0            | 230,0               | 580,0               | 10        |
| 53010    | 4 x 10 re                              | 20,0            | 384,0               | 790,0               | 8         |
| 53011    | 4 x 16 re                              | 22,0            | 614,0               | 1100,0              | 6         |
| 53012    | 4 x 25 rm                              | 27,0            | 960,0               | 1650,0              | 4         |
| 53013    | 4 x 35 rm                              | 30,0            | 1344,0              | 2150,0              | 2         |
| 53014    | 4 x 50 rm                              | 34,0            | 1920,0              | 2800,0              | 1         |
| 53030    | 4 x 70 rm                              | 39,0            | 2688,0              | 3800,0              | 2/0       |
| 53031    | 4 x 95 rm                              | 44,0            | 3648,0              | 5050,0              | 3/0       |

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|--|-----------------|---------------------|---------------------|---------|
| 53070    | 4 x 120 rm                             | 47,0            | 4608,0              | 6150,0              | 4/0     |
| 53390    | 4 x 150 rm                             | 51,2            | 5760,0              | 7662,0              | 4/0     |
| 53015    | 5 x 1,5 re                             | 16,0            | 72,0                | 375,0               | 16      |
| 53016    | 5 x 2,5 re                             | 17,0            | 120,0               | 445,0               | 14      |
| 53017    | 5 x 4 re                               | 18,0            | 192,0               | 560,0               | 12      |
| 53018    | 5 x 6 re                               | 20,0            | 288,0               | 690,0               | 10      |
| 53019    | 5 x 10 re                              | 22,0            | 480,0               | 950,0               | 8       |
| 53020    | 5 x 16 rm                              | 24,0            | 768,0               | 1300,0              | 6       |
| 53021    | 5 x 25 rm                              | 29,0            | 1200,0              | 1980,0              | 4       |
| 53028    | 5 x 35 rm                              | 33,0            | 1680,0              | 2350,0              | 2       |
| 53029    | 5 x 50 rm                              | 38,0            | 2500,0              | 3100,0              | 1       |
| 53022    | 7 x 1,5 re                             | 19,0            | 101,0               | 560,0               | 16      |
| 53027    | 7 x 2,5 re                             | 21,0            | 168,0               | 650,0               | 14      |
| 53025    | 10 x 1,5 re                            | 23,0            | 144,0               | 750,0               | 16      |
| 53026    | 10 x 2,5 re                            | 25,0            | 240,0               | 910,0               | 14      |
| 53023    | 12 x 1,5 re                            | 25,0            | 173,0               | 850,0               | 16      |
| 53024    | 12 x 2,5 re                            | 26,0            | 288,0               | 1000,0              | 14      |

Dimensions and specifications may be changed without prior notice. (RQ02)

# (N)HXCH-FE 180/E 90 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics

EAC



## Technical data

- Halogen-free security cable with improved characteristics in the case of fire adapted to DIN VDE 0266
- **Temperature range**  
-30°C to +70°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage**  $U_0/U$  0,6/1 kV
- **Test voltage** 4000 V
- **Minimum bending radius**  
12x cable Ø
- **Radiation resistance**  
up to  $200 \times 10^6$  cJ/kg (up to 200 Mrad)
- **Caloric load values**  
see Technical Informations

## Cable structure

- Bare copper-conductor, to DIN VDE 0295 cl.1 or cl.2, single-wire or multi-wire, BS 6360 cl.1 or cl.2, IEC 60228 cl.1 or cl.2
  - Core insulation of polymer
  - Each single core covering with flame resistant glass-fibre tape
  - Core identification to DIN VDE 0293-308
  - Cores stranded in layer
  - Core wire screening with helix of copper tape
  - Bare copper wire screening with helix of copper tape
  - Outer sheath of polyolefin-compound, flame retardant
  - Sheath colour orange
- ### Tests
- Flame test acc. to DIN VDE 0482-332-3, BS 4066 part 3, DIN EN 60332-3, IEC 60332-3 (previously DIN VDE 0472 part 804 test method C)
  - Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
  - Halogen-free acc. to DIN VDE 0482 part 267, DIN EN 50267-2-1, IEC 60754-1 (equivalent DIN VDE 0472 part 815)
  - Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

## Properties

- Halogen-free; no evolution of corrosive and toxic gases
- Flame retardant and hardly flammable
- Self-extinguished and fire resistant
- No flame propagation, therefore security from fire
- Low smoke density, no darkening of emergency exits without hindering the fire extinguishing works
- Toxicological harmless
- No self-ignition
- Maintenance of functionality during the increased current load
- **FE 180: Insulation integrity** for 180 minutes. Tests acc. to DIN VDE 0472 part 814  $\Delta$  IEC 60331. **Insulation integrity** under direct flame propagation for the test period of 180 minutes.
- **E 90: Functionality** of electrical cable systems for minimum 90 minutes. Test method to DIN 4102 part 12. This fulfils the demands of technical guide lines for fire protection (supplement 1 to DIN VDE 0108 part 1). The **functionality** for 90 minutes assures the functional performance of water-pressure-rising stations for the supply to avoid smoke and heat in safety-stairs and inner rooms, ladder shafts and engine rooms for fire brigade lifts, emergency lifts for sickbeds in hospitals and the fire brigade lifts.

## Note

- re = round conductor, single-wire  
rm = round conductor, multi-wire
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- **LSOH** = Low Smoke Zero Halogen

## Application

Everywhere, where in case of fire human life and material assets are to be protected and safety consciousness take a special significance, e. g. in industrial complexes, power stations, communal establishment, hotels, airports, underground railway networks, hospitals and outpatients clinic (DIN VDE 0107), department stores, data processing centres, theaters, cinemas, in multi-storey buildings, public gatherings, schools etc. (DIN VDE 0108), mining works, offshore plants, leading centres, traffic communication, emergency power supply and alarm systems. Suitable for fixed installation in dry and moist rooms, in, above, on and beneath plaster as well as in masonry walls and in concrete. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

CE = The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. | Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|---------|----------|--|-----------------|---------------------|---------------------|-----------|
| 59028    | 2 x 2,5 / 2,5 re                       | 16,0            | 80,0                | 390,0               | 14      | 53041    | 3 x 70 / 35 rm                         | 38,0            | 2410,0              | 3800,0              | 2/0       |
| 53032    | 3 x 1,5 / 1,5 re                       | 16,9            | 66,0                | 380,0               | 16      | 53042    | 3 x 95 / 50 rm                         | 44,0            | 3296,0              | 5100,0              | 3/0       |
| 53033    | 3 x 2,5 / 2,5 re                       | 18,0            | 104,0               | 430,0               | 14      | 53043    | 3 x 120 / 70 rm                        | 47,0            | 4236,0              | 6250,0              | 4/0       |
| 53034    | 3 x 4 / 4 re                           | 19,0            | 161,0               | 530,0               | 12      | 53044    | 3 x 150 / 70 rm                        | 51,0            | 4992,0              | 6900,0              | 300 kcmil |
| 53035    | 3 x 6 / 6 re                           | 20,1            | 240,0               | 640,0               | 10      | 53045    | 3 x 185 / 95 rm                        | 56,0            | 6383,0              | 8550,0              | 350 kcmil |
| 53036    | 3 x 10 / 10 re                         | 22,0            | 408,0               | 850,0               | 8       | 53046    | 3 x 240 / 120 rm                       | 65,0            | 8242,0              | 11150,0             | 500 kcmil |
| 53037    | 3 x 16 / 16 rm                         | 24,0            | 643,0               | 1150,0              | 6       |          |  |                 |                     |                     |           |
| 53038    | 3 x 25 / 16 rm                         | 28,0            | 902,0               | 1700,0              | 4       |          |  |                 |                     |                     |           |
| 53039    | 3 x 35 / 16 rm                         | 30,0            | 1190,0              | 2150,0              | 2       |          |  |                 |                     |                     |           |
| 53040    | 3 x 50 / 25 rm                         | 34,0            | 1723,0              | 2800,0              | 1       |          |  |                 |                     |                     |           |

Continuation ▶

# (N)HXCH-FE 180/E 90 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics



| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No.   |
|----------|--|-----------------|---------------------|---------------------|-----------|
| 53047    | 4 x 1,5 / 1,5 re                       | 18,0            | 81,0                | 435,0               | 16        |
| 53048    | 4 x 2,5 / 2,5 re                       | 18,9            | 128,0               | 500,0               | 14        |
| 53049    | 4 x 4 / 4 re                           | 20,0            | 200,0               | 610,0               | 12        |
| 53050    | 4 x 6 / 6 re                           | 21,0            | 297,0               | 740,0               | 10        |
| 53051    | 4 x 10 / 10 re                         | 23,0            | 504,0               | 1050,0              | 8         |
| 53052    | 4 x 16 / 16 rm                         | 25,0            | 796,0               | 1350,0              | 6         |
| 53053    | 4 x 25 / 16 rm                         | 30,0            | 1142,0              | 1950,0              | 4         |
| 53054    | 4 x 35 / 16 rm                         | 33,0            | 1526,0              | 2400,0              | 2         |
| 53055    | 4 x 50 / 25 rm                         | 37,0            | 2203,0              | 3200,0              | 1         |
| 53056    | 4 x 70 / 35 rm                         | 42,0            | 3082,0              | 4300,0              | 2/0       |
| 53057    | 4 x 95 / 50 rm                         | 47,0            | 4208,0              | 5750,0              | 3/0       |
| 53058    | 4 x 120 / 70 rm                        | 51,0            | 5388,0              | 7100,0              | 4/0       |
| 53059    | 4 x 150 / 70 rm                        | 56,0            | 6540,0              | 8550,0              | 300 kcmil |
| 53060    | 4 x 185 / 95 rm                        | 68,0            | 8159,0              | 10700,0             | 350 kcmil |
| 53061    | 4 x 240 / 120 rm                       | 70,0            | 10546,0             | 13930,0             | 500 kcmil |
| 53062    | 7 x 1,5 / 2,5 re                       | 21,0            | 133,0               | 680,0               | 16        |

| Part no. | No. cores x cross-sec. mm <sup>2</sup> | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km | AWG-No. |
|----------|--|-----------------|---------------------|---------------------|---------|
| 53066    | 7 x 2,5 / 2,5 re                       | 21,0            | 200,0               | 680,0               | 14      |
| 53063    | 12 x 1,5 / 2,5 re                      | 27,0            | 205,0               | 1050,0              | 16      |
| 53067    | 12 x 2,5 / 4 re                        | 28,0            | 334,0               | 1050,0              | 14      |
| 53064    | 24 x 1,5 / 6 re                        | 37,0            | 413,0               | 1900,0              | 16      |
| 53068    | 24 x 2,5 / 10 re                       | 37,5            | 696,0               | 1900,0              | 14      |
| 53065    | 30 x 1,5 / 6 re                        | 39,0            | 499,0               | 2200,0              | 16      |
| 53069    | 30 x 2,5 / 10 re                       | 39,5            | 840,0               | 2200,0              | 14      |

Dimensions and specifications may be changed without prior notice. (RQ02)

# JE-H(St)H Bd FE 180/E 30 up to E 90 (orange), halogen-free



## Technical data

- Flame retardant, halogen-free installation cable adapted to DIN VDE 0815
- **Loop resistance**  
max. 73,2 Ohm/km
- **Temperature range**  
flexing -5°C to +50°C  
fixed installation -30°C to +70°C
- **Operating peak voltage**  
225 V (not for purposes of high current and power installation)
- **Test voltage**  
core/core 500 V  
core/screen 2000 V
- **Insulation resistance**  
min. 100 MOhm x km
- **Mutual capacitance**  
max. 120 nF/km at 800 Hz  
(this values may be extended at 20% with a make-up up to 4 pairs)
- **Capacitance unbalance**  
max. 200 pF/100 m  
(20% of the values, but one value up to 400 pF is allowed)
- **Minimum bending radius**  
6x cable Ø
- **Radiation resistance**  
up to 100x10<sup>6</sup> cJ/kg (up to 100 Mrad)
- **Caloric load values**  
see Technical Informations

## Cable structure

- Bare copper-conductor, single-wire
- Core insulation halogen-free, cross-linked polymer, compound type HI1 flame retardant (E90 with special foil wrapping over conductor)
- Core identification with colour rings and ring-groups to DIN VDE 0815
- Cores twisted to pairs, 4 pairs consist to unit, several units stranded to layers
- Units identified by numbered tape
- Core wrapping with special polyester and glass-fibre tape
- Screening with alu-laminated polyester tape and solid tinned copper drain wire 0,8 mm Ø
- Outer sheath halogen-free, flame retardant to DIN VDE 0207 part 24 HM2
- Sheath colour orange

## Tests

- Flame test acc. to DIN VDE 0482-332-3, BS 4066 part 3, DIN EN 60332-3, IEC 60332-3 (previously DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

## Note

- **E 30 to E 90**  
Functionality (burning behaviour) is dependant on corresponding installation technique.
- **LSOH** = Low Smoke Zero Halogen

## Properties

- No fire propagation
- Low smoke density
- Not for purposes of high current and power installation as well as underground laying.
- **FE 180: Insulation integrity** for 180 minutes. Tests acc. to DIN VDE 0472 part 814  $\Delta$  IEC 60331. **Insulation integrity** under direct flame propagation for the test period of 180 minutes.
- **E 30: Functionality** of electrical cable systems for minimum 30 minutes. Test to DIN 4102 part 12. The **functionality** for 30 minutes assures when persons and animals are to be saved from a burning building. 30 minutes secures the functional performance of the fire warning and alarm systems, safety and spare lighting, passenger lifts with evacuation circuits, except the cables which are installed within the ladder shafts and engine rooms.
- **E 90: Functionality** of electrical cable systems for minimum 90 minutes. Test method to DIN 4102 part 12. The **functionality** for 90 minutes assures the functional performance of water-pressure-rising stations for the supply to avoid smoke and heat in safety-stairs and inner rooms, ladder shafts and engine rooms for fire brigade lifts, emergency lifts for sickbeds in hospitals and the fire brigade lifts.

## Application

Flame resistant, halogen-free, static screened installation cables for telecommunication purpose. The static screen prevents strong interference impulse. Suitable for fixed installation everywhere, where in case of fire human life and material assets are to be protected and a safety consciousness take a special significance, e. g. in industrial complexes, public buildings, hotels, airports, under ground railway networks, hospitals.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

### Functionality E 30 to E 90

| Part no. | No.pairs x cross-sec. mm | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km |   |
|----------|--------------------------|-----------------|---------------------|---------------------|---|
| 34081    | 2 x 2 x 0,8              | 7,4             | 25,0                | 74,0                | - |
| 34082    | 4 x 2 x 0,8              | 10,8            | 45,0                | 127,0               | - |
| 34083    | 8 x 2 x 0,8              | 16,9            | 85,0                | 300,0               | - |
| 34084    | 12 x 2 x 0,8             | 18,5            | 126,0               | 336,0               | - |
| 34085    | 16 x 2 x 0,8             | 20,1            | 166,0               | 426,0               | - |
| 34086    | 20 x 2 x 0,8             | 22,2            | 206,0               | 529,0               | - |
| 34087    | 32 x 2 x 0,8             | 29,1            | 326,0               | 859,0               | - |
| 34088    | 40 x 2 x 0,8             | 34,2            | 407,0               | 1094,0              | - |
| 34089    | 52 x 2 x 0,8             | 37,3            | 529,0               | 1280,0              | - |

### Functionality E 30

| Part no. | No.pairs x cross-sec. mm | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km |   |
|----------|--------------------------|-----------------|---------------------|---------------------|---|
| 34148    | 2 x 2 x 0,8              | 7,5             | 25,0                | 74,0                | - |
| 34149    | 4 x 2 x 0,8              | 9,3             | 45,0                | 127,0               | - |
| 34150    | 8 x 2 x 0,8              | 11,4            | 85,0                | 300,0               | - |
| 34151    | 12 x 2 x 0,8             | 13,0            | 126,0               | 336,0               | - |
| 34152    | 16 x 2 x 0,8             | 15,7            | 166,0               | 426,0               | - |
| 34153    | 20 x 2 x 0,8             | 16,5            | 206,0               | 529,0               | - |
| 34154    | 32 x 2 x 0,8             | 20,3            | 326,0               | 859,0               | - |
| 34155    | 40 x 2 x 0,8             | 23,4            | 407,0               | 1094,0              | - |
| 34156    | 52 x 2 x 0,8             | 25,2            | 529,0               | 1280,0              | - |

Dimensions and specifications may be changed without prior notice. (RQ02)

# JE-H(St)H Bd fire warning cable, FE 180/E 30 to E 90 (red), halogen-free



## Technical data

- Flame retardant, halogen-free installation cable, adapted to DIN VDE 0815
- **Loop resistance**  
max. 73,2 Ohm/km
- **Temperature range**  
flexing -5°C to +50°C  
fixed installation -30°C to +70°C
- **Operating peak voltage**  
225 V (not for purposes of high current and power installation)
- **Test voltage**  
core/core 500 V  
core/screen 2000 V
- **Insulation resistance**  
min. 100 MOhm x km
- **Mutual capacitance**  
max. 120 nF/km at 800 Hz  
(this values may be extended at 20% with a make-up up to 4 pairs)
- **Capacitance unbalance**  
max. 200 pF/100 m (20% of the values, but one value up to 400 pF is allowed)
- **Minimum bending radius**  
6x cable Ø
- **Radiation resistance**  
up to 100x10<sup>6</sup> cJ/kg (up to 100 Mrad)
- **Caloric load values**  
see Technical Informations

## Cable structure

- Bare copper-conductor, single-wire
- Core insulation halogen-free, cross-linked polymer HI1, flame retardant (E90 with special foil wrapping over conductor)
- Core identification with colour rings and ring-groups to DIN VDE 0815
- Cores twisted to pairs, each 4 pairs consist to unit, several units stranded to layers
- Units identified with numbered tape
- Core wrapping with special polyester and glass-fibre tape
- Screening with alu-laminated polyester tape and solid copper drain wire 0,8 mm Ø
- Outer sheath halogen-free, flame retardant to DIN VDE 0207 part 24, HM2
- Sheath colour red, RAL 3000 with imprint "BRANDMELDEKABEL"

## Tests

- Flame test acc. to DIN VDE 0482-332-3, BS 4066 part 3, DIN EN 60332-3, IEC 60332-3 (previously DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Smoke density acc. to DIN VDE 0482 part 1034-1+2, DIN EN 61034-1+2, IEC 61034-1+2, BS 7622 part 1+2 (previously DIN VDE 0472 part 816)

## Note

- **E 30 to E 90**  
Functionality (burning behaviour) is dependant on corresponding installation technique.
- **LSOH** = Low Smoke Zero Halogen

## Properties

- No fire propagation
- Low smoke density
- Not for purposes of high current and power installation as well as underground laying
- **FE 180: Insulation integrity** for 180 minutes. Tests acc. to DIN VDE 0472 part 814 ± IEC 60331. **Insulation integrity** under direct flame propagation for the test period of 180 minutes.
- **E 30: Functionality** of electrical cable systems for minimum 30 minutes. Test to DIN 4102 part 12. The **functionality** for 30 minutes assures when persons and animals are to be saved from a burning building. 30 minutes secures the functional performance of the fire warning and alarm systems, safety and spare lighting, passenger lifts with evacuation circuits, except the cables which are installed within the ladder shafts and engine rooms.
- **E 90: Functionality** of electrical cable systems for minimum 90 minutes. Test method to DIN 4102 part 12. The **functionality** for 90 minutes assures the functional performance of water-pressure-rising stations for the supply to avoid smoke and heat in safety-stairs and inner rooms, ladder shafts and engine rooms for fire brigade lifts, emergency lifts for sickbeds in hospitals and the fire brigade lifts.

## Application

Static screened installation cables for telecommunication purposes. The static screen prevents strong interference impulse. Suitable for fixed installation everywhere, where in case of fire human life and material assets are to be protected and a safety consciousness take a special significance, e. g. in industrial complexes, public buildings, hotels, airports, under ground railway networks, hospitals.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

### Functionality E 30 to E 90

| Part no. | No. pairs x cross-sec. mm | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km |   |
|----------|---------------------------|-----------------|---------------------|---------------------|---|
| 34091    | 2 x 2 x 0,8               | 7,4             | 25,0                | 74,0                | - |
| 34092    | 4 x 2 x 0,8               | 10,8            | 45,0                | 127,0               | - |
| 34093    | 8 x 2 x 0,8               | 16,9            | 85,0                | 300,0               | - |
| 34094    | 12 x 2 x 0,8              | 18,5            | 126,0               | 336,0               | - |
| 34095    | 16 x 2 x 0,8              | 20,1            | 166,0               | 426,0               | - |
| 34096    | 20 x 2 x 0,8              | 22,2            | 206,0               | 529,0               | - |
| 34097    | 32 x 2 x 0,8              | 29,1            | 326,0               | 859,0               | - |
| 34098    | 40 x 2 x 0,8              | 34,2            | 407,0               | 1094,0              | - |
| 34099    | 52 x 2 x 0,8              | 37,3            | 529,0               | 1280,0              | - |

### Functionality E 30

| Part no. | No. pairs x cross-sec. mm | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km |   |
|----------|---------------------------|-----------------|---------------------|---------------------|---|
| 34157    | 2 x 2 x 0,8               | 7,5             | 25,0                | 67,0                | - |
| 34158    | 4 x 2 x 0,8               | 9,3             | 45,0                | 103,0               | - |
| 34159    | 8 x 2 x 0,8               | 11,4            | 85,0                | 168,0               | - |
| 34160    | 12 x 2 x 0,8              | 13,0            | 126,0               | 237,0               | - |
| 34161    | 16 x 2 x 0,8              | 15,7            | 166,0               | 303,0               | - |
| 34162    | 20 x 2 x 0,8              | 16,5            | 206,0               | 361,0               | - |
| 34163    | 32 x 2 x 0,8              | 20,3            | 326,0               | 553,0               | - |
| 34164    | 40 x 2 x 0,8              | 23,4            | 407,0               | 699,0               | - |
| 34165    | 52 x 2 x 0,8              | 25,2            | 529,0               | 865,0               | - |

Dimensions and specifications may be changed without prior notice. (RQ02)

# JE-H(St)HRH Bd fire warning cable, FE 180/E 30 to E 90, halogen-free



## Technical data

- Special insulation for cores and outer sheath adapted to DIN VDE 0815.
- **Loop resistance**  
max. 73,2 Ohm/km
- **Temperature range**  
flexing -5°C to +50°C  
fixed installation -30°C to +70°C
- **Operating peakvoltage**  
max. 225 V (not for purposes of high current and power installation)
- **Test voltage**  
core/core 500 V  
core/screen 2000 V
- **Insulation resistance**  
min. 100 MOhm x km
- **Mutual capacitance**  
max. 120 nF/km at 800 Hz
- **Minimum bending radius**  
6x cable Ø
- **Caloric load values**  
see Technical Informations

## Cable structure

- Bare copper-conductor, single-wire
- Core insulation of cross-linked polymer, compound type HI1 with mica tape, flame retardant
- Core identification with colour rings and ring-groups to DIN VDE 0815
- Cores twisted to pairs, each 4 pairs consist to unit, several units stranded to layers
- Units identified with numbered tape
- Glass-fibre taped
- Screening with alu-laminated polyester tape
- solid copper drain wire 0,8 mm Ø
- Inner sheath, flame retardant polyolefin compound to DIN VDE 0207 part 24 HM3
- Galvanized steel wire braided screen
- Outer sheath of polyolefin compound type HM2 to DIN VDE 0207 part 24
- Outer sheath red (RAL 3000) with imprint "BRANDMELDEKABEL"

## Tests

- Flame test acc. to  
DIN VDE 0482-332-3, BS 4066 part 3,  
DIN EN 60332-3, IEC 60332-3 (previously  
DIN VDE 0472 part 804 test method C)
- Corrosiveness of combustion gases  
acc. to DIN VDE 0482 part 267,  
DIN EN 50267-2-2, IEC 60754-2  
(equivalent DIN VDE 0472 part 813)
- Smoke density acc. to DIN VDE 0482  
part 1034-1+2, DIN EN 61034-1+2,  
IEC 61034-1+2, BS 7622 part 1+2  
(previously DIN VDE 0472 part 816)

## Note

- **E 30 to E 90**  
Functionality is dependant on installation technique.
- **LSOH** = Low Smoke Zero Halogen

## Properties

- No fire propagation
- Low smoke density
- Not for purposes of high current and power installation as well as underground laying
- **FE 180: Insulation integrity** for 180 minutes. Tests acc.to DIN VDE 0472 part 814  $\Delta$  IEC 60331.  
**Insulation integrity** under direct flame propagation for the test period of 180 minutes.
- **E 30: Functionality** of electrical cable systems for minimum 30 minutes. Test to DIN 4102 part 12.  
The **functionality** for 30 minutes assures when persons and animals are to be saved from a burning building. 30 minutes secures the functional performance of the fire warning and alarm systems, safety and spare lighting, passenger lifts with evacuation circuits, except the cables which are installed within the ladder shafts and engine rooms.
- **E 90: Functionality** of electrical cable systems for minimum 90 minutes. Test method to DIN 4102 part 12.  
The **functionality** for 90 minutes assures the functional performance of water-pressure-rising stations for the supply to avoid smoke and heat in safety-stairs and inner rooms, ladder shafts and engine rooms for fire brigade lifts, emergency lifts for sickbeds in hospitals and the fire brigade lifts.

## Application

Wherever necessary to prevent high property value in case of fire damage to human and material. The static screen prevents strong interference impulse. Suitable for fixed installation everywhere, where in case of fire human life and material assets are to be protected and a safety consciousness take a special significance, e. g. in industrial complexes, public buildings, hotels, airports, under ground railway networks, hospitals.

CE= The product is conformed with the EC Low-Voltage Directive 2006/95/EC.

| Part no. | No.pairs x cross-sec. mm | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km |
|----------|--------------------------|-----------------|---------------------|---------------------|
| 34075    | 2 x 2 x 0,8              | 11,7            | 25,0                | 150,0               |
| 34076    | 4 x 2 x 0,8              | 15,7            | 45,0                | 275,0               |
| 34077    | 8 x 2 x 0,8              | 21,6            | 85,0                | 545,0               |
| 34078    | 12 x 2 x 0,8             | 23,8            | 126,0               | 602,0               |
| 34079    | 16 x 2 x 0,8             | 27,7            | 166,0               | 734,0               |

| Part no. | No.pairs x cross-sec. mm | Outer Ø app. mm | Cop. weight kg / km | Weight app. kg / km |
|----------|--------------------------|-----------------|---------------------|---------------------|
| 34080    | 20 x 2 x 0,8             | 28,9            | 206,0               | 870,0               |
| 34072    | 32 x 2 x 0,8             | 41,1            | 326,0               | 1360,0              |
| 34073    | 40 x 2 x 0,8             | 42,3            | 407,0               | 1800,0              |
| 34074    | 52 x 2 x 0,8             | 45,2            | 529,0               | 2038,0              |

Dimensions and specifications may be changed without prior notice. (RQ02)