

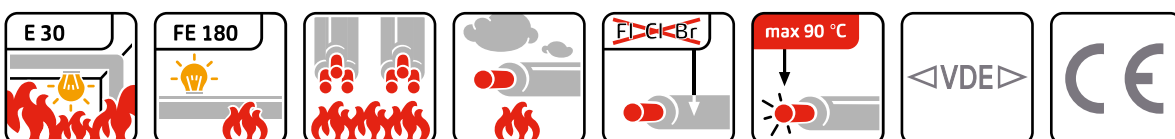
# FRNC power cable (N)HXH FE180/E30 acc. to VDE 0266



|  |  |
|--|--|
| <b>conductor material:</b>                 | bare copper                              |
| <b>conductor construction:</b>             | class 1, from 25 sqmm class 2            |
| <b>insulation:</b>                         | FRNC compound HI1                        |
| <b>sheathing material:</b>                 | FRNC-compound HM1                        |
| <b>colour of outer sheath:</b>             | orange                                   |
| <b>flame retardant:</b>                    | VDE 0482-266-2-4/IEC 60332-3-24 (Kat. C) |
| <b>smoke density:</b>                      | DIN EN 61034/IEC 61034                   |
| <b>halogen free:</b>                       | DIN EN 50267/IEC 60754                   |
| <b>fire resistance:</b>                    | FE 180 (IEC 60331)                       |
| <b>circuit integrity:</b>                  | E 30                                     |
| <b>maximum temperature at conductor:</b>   | 90 °C                                    |
| <b>max. operating temperature, fixed:</b>  | -5 - +70 °C                              |
| <b>bending radius, fixed installation:</b> | 12 x DA                                  |

|  | (N)HXH-O E30                  | (N)HXH-J E30                  |
|--|-------------------------------|-------------------------------|
| <b>nominal voltage U<sub>0</sub>:</b>                          | 600 V                         | 600 V                         |
| <b>nominal voltage U:</b>                                      | 1 kV                          | 1 kV                          |
| <b>maximum permitted operating voltage in 3-phase systems:</b> | 1,2 kV                        | 1,2 kV                        |
| <b>test voltage:</b>   | 4 kV                          | 4 kV                          |
| <b>core identification:</b>                                    | colours acc. VDE 0293 (HD308) | colours acc. VDE 0293 (HD308) |

**Application:** For installation in dry and wet rooms, also for direct bedding in concrete, but not for direct burial in ground and not for use in water. The cable has improved flame retardant and may be used in public buildings with high safety requirements. Cables are halogen free, low smoke density and are fire resistant according to VDE 0472 part 814 (180 min., = IEC 60331). Furthermore the cable passed the test of 30 min. circuit integrity according to DIN 4102 part 12 (E 30) for all so called standard-installation systems (ladder, tray and ceiling) and is suitable for installation in fire alarm systems, safety lightning and other emergency electrical supply systems according to VDE 0108. A special test certificate about the circuit integrity is issued by the "Amtlichen Materialprüfanstalt für das Bauwesen". For calculation of electrical systems with circuit integrity has to be considered that electrical resistance of copper conductors at 800 °C is approximately four times higher than at 20 °C and the current carrying capacity is reduced respectively.



The products and information presented here are for technical calculation only. They are subject to technical progress and in no way represent the ability of shipment. Outer diameters are approximately.

Table: Technical characteristics (N)HXH-O E30

| p/n    | part name               |    | R <sub>l</sub><br>[Ω/km] | I <sub>bl</sub><br>[A] | R <sub>bv</sub><br>[mm] | D <sub>A</sub><br>[mm] | Cu<br>[kg/km] | G<br>[kg/km] |
|--------|-------------------------|----|--------------------------|------------------------|-------------------------|------------------------|---------------|--------------|
| 011238 | NHXH-O E30 01X4 RE OR   | RE | 4,61                     | 44                     | 120                     | 6,9                    | 38            | 100          |
| 011240 | NHXH-O E30 01X6 RE OR   | RE | 3,08                     | 56                     | 135                     | 7,9                    | 58            | 120          |
| 011229 | NHXH-O E30 01X10 RE OR  | RE | 1,83                     | 77                     | 150                     | 8,1                    | 96            | 160          |
| 011232 | NHXH-O E30 01X16 OR     | RE | 1,15                     | 102                    | 180                     | 8,9                    | 154           | 200          |
| 011235 | NHXH-O E30 01X25 RM OR  | RM | 0,727                    | 138                    | 195                     | 10,9                   | 240           | 310          |
| 011237 | NHXH-O E30 01X35 RM OR  | RM | 0,524                    | 170                    | 225                     | 11,9                   | 336           | 410          |
| 011239 | NHXH-O E30 01X50 RM OR  | RM | 0,387                    | 207                    | 240                     | 12,9                   | 480           | 540          |
| 011241 | NHXH-O E30 01X70 RM OR  | RM | 0,268                    | 263                    | 270                     | 15,9                   | 672           | 740          |
| 011242 | NHXH-O E30 01X95 RM OR  | RM | 0,193                    | 325                    | 300                     | 17,9                   | 912           | 1020         |
| 011230 | NHXH-O E30 01X120 RM OR | RM | 0,153                    | 380                    | 330                     | 18,9                   | 1152          | 1380         |
| 011231 | NHXH-O E30 01X150 RM OR | RM | 0,124                    | 437                    | 360                     | 20,9                   | 1440          | 1560         |
| 011233 | NHXH-O E30 01X185 RM OR | RM | 0,0991                   | 507                    | 405                     | 23,9                   | 1776          | 1930         |
| 011234 | NHXH-O E30 01X240 RM OR | RM | 0,0754                   | 604                    | 450                     | 26,9                   | 2304          | 2540         |
| 011236 | NHXH-O E30 01X300 RM OR | RM | 0,0601                   | 697                    | 495                     | 32,9                   | 2880          | 3180         |
| 011243 | NHXH-O E30 02X1,5 RE OR | RE | 12,1                     | 24                     | 145,2                   | 10,2                   | 29            | 190          |
| 011246 | NHXH-O E30 02X2,5 RE OR | RE | 7,41                     | 32                     | 146,4                   | 10,9                   | 48            | 220          |
| 011248 | NHXH-O E30 02X4 RE OR   | RE | 4,61                     | 42                     | 158,4                   | 11,9                   | 77            | 270          |
| 011249 | NHXH-O E30 02X6 RE OR   | RE | 3,08                     | 53                     | 170,4                   | 12,8                   | 115           | 320          |
| 011244 | NHXH-O E30 02X10 RE OR  | RE | 1,83                     | 73                     | 196,8                   | 14,4                   | 192           | 430          |
| 011245 | NHXH-O E30 02X16 OR     | RE | 1,15                     | 97                     | 234                     | 17,3                   | 307           | 620          |
| 011247 | NHXH-O E30 02X25 RM OR  | RM | 0,727                    | 135                    | 267,6                   | 21,1                   | 480           | 900          |

Table: Technical characteristics (N)HXH-J E30

| p/n    | part name                   |    | R <sub>l</sub><br>[Ω/km] | I <sub>bl</sub><br>[A] | R <sub>bv</sub><br>[mm] | D <sub>A</sub><br>[mm] | Cu<br>[kg/km] | G<br>[kg/km] |
|--------|-----------------------------|----|--------------------------|------------------------|-------------------------|------------------------|---------------|--------------|
| 012034 | NHXH-J E30 01X185 OR        | RM | 0,0991                   |                        |                         | 23,9                   | 1776          | 1930         |
| 012198 | NHXH-J E30 01X240 RM OR     | RM | 0,0754                   |                        |                         | 26,9                   | 2304          | 2540         |
| 011044 | NHXH-J E30 03X1,5 RE OR     | RE | 12,1                     | 24                     | 156                     | 10,9                   | 43            | 210          |
| 011171 | NHXH-J E30 03X2,5 RE OR     | RE | 7,41                     | 32                     | 168                     | 11,9                   | 72            | 260          |
| 011172 | NHXH-J E30 03X4 RE OR       | RE | 4,61                     | 42                     | 180                     | 12,9                   | 115           | 320          |
| 011194 | NHXH-J E30 03X6 RE OR       | RE | 3,08                     | 53                     | 192                     | 13,9                   | 173           | 400          |
| 011182 | NHXH-J E30 03X10 RE OR      | RE | 1,83                     | 73                     | 216                     | 15,9                   | 288           | 550          |
| 011185 | NHXH-J E30 03X16 OR         | RE | 1,15                     | 97                     | 264                     | 17,9                   | 461           | 790          |
| 011251 | NHXH-J E30 03X25 RM OR      | RM | 0,727                    | 135                    | 300                     | 23,9                   | 720           | 1150         |
| 011253 | NHXH-J E30 03X35 RM OR      | RM | 0,524                    | 165                    | 324                     | 25,9                   | 1008          | 1490         |
| 011255 | NHXH-J E30 03X50 RM OR      | RM | 0,387                    | 201                    | 348                     | 28,9                   | 1440          | 1980         |
| 011257 | NHXH-J E30 03X70 RM OR      | RM | 0,268                    | 255                    | 396                     | 31,9                   | 2016          | 2830         |
| 011252 | NHXH-J E30 03X25/16 RM OR   | RM | 0,727                    | 135                    | 324                     | 23,4                   | 874           | 1500         |
| 011254 | NHXH-J E30 03X35/16 RM OR   | RM | 0,524                    | 165                    | 348                     | 26,9                   | 1162          | 1800         |
| 011256 | NHXH-J E30 03X50/25 RM OR   | RM | 0,387                    | 201                    | 432                     | 29,9                   | 1680          | 2600         |
| 011258 | NHXH-J E30 03X70/35 RM OR   | RM | 0,268                    | 255                    | 480                     | 34,9                   | 2352          | 3400         |
| 011186 | NHXH-J E30 03X95/50 RM OR   | RM | 0,193                    | 314                    | 552                     | 38,9                   | 3216          | 4600         |
| 011269 | NHXH-J E30 03X120/70 RM OR  | RM | 0,153                    | 364                    | 600                     | 42,9                   | 4128          | 5700         |
| 011270 | NHXH-J E30 03X150/70 RM OR  | RM | 0,124                    | 416                    | 648                     | 46,9                   | 4992          | 6800         |
| 011271 | NHXH-J E30 03X185/95 RM OR  | RM | 0,0991                   | 480                    | 720                     | 52,9                   | 6240          | 8500         |
| 011272 | NHXH-J E30 03X240/120 RM OR | RM | 0,0754                   | 565                    | 756                     | 58,8                   | 8064          | 11000        |

| p/n    | part name               |    | R <sub>l</sub><br>[Ω/km] | I <sub>bl</sub><br>[A] | R <sub>bv</sub><br>[mm] | D <sub>A</sub><br>[mm] | Cu<br>[kg/km] | G<br>[kg/km] |
|--------|-------------------------|----|--------------------------|------------------------|-------------------------|------------------------|---------------|--------------|
| 011188 | NHXH-J E30 04X1,5 RE OR | RE | 12,1                     | 24                     | 180                     | 11,9                   | 58            | 240          |
| 011045 | NHXH-J E30 04X2,5 RE OR | RE | 7,41                     | 32                     | 192                     | 12,9                   | 96            | 300          |
| 011217 | NHXH-J E30 04X4 RE OR   | RE | 4,61                     | 42                     | 204                     | 13,9                   | 154           | 390          |
| 011218 | NHXH-J E30 04X6 RE OR   | RE | 3,08                     | 53                     | 228                     | 14,9                   | 230           | 490          |
| 011219 | NHXH-J E30 04X10 RE OR  | RE | 1,83                     | 73                     | 252                     | 16,9                   | 384           | 670          |
| 011220 | NHXH-J E30 04X16 OR     | RE | 1,15                     | 97                     | 300                     | 19,9                   | 614           | 950          |
| 011221 | NHXH-J E30 04X25 RM OR  | RM | 0,727                    | 135                    | 312                     | 24,9                   | 960           | 1430         |
| 011189 | NHXH-J E30 04X35 RM OR  | RM | 0,524                    | 165                    | 348                     | 27,9                   | 1344          | 1890         |
| 011222 | NHXH-J E30 04X50 RM OR  | RM | 0,387                    | 201                    | 408                     | 31,9                   | 1920          | 2510         |
| 011196 | NHXH-J E30 04X70 RM OR  | RM | 0,268                    | 255                    | 456                     | 36,9                   | 2688          | 3650         |
| 011261 | NHXH-J E30 04X95 RM OR  | RM | 0,193                    | 314                    | 528                     | 40,9                   | 3648          | 4750         |
| 011259 | NHXH-J E30 04X120 RM OR | RM | 0,153                    | 364                    | 576                     | 44,9                   | 4608          | 5910         |
| 011260 | NHXH-J E30 04X150 RM OR | RM | 0,124                    | 416                    | 624                     | 49,9                   | 5760          | 7240         |
| 013794 | NHXH-J E30 04X185 RM OR | RM |                          |                        |                         | 59,8                   | 7104          | 9704         |
| 011190 | NHXH-J E30 05X1,5 RE OR | RE | 12,1                     | 24                     | 216                     | 12,9                   | 72            | 280          |
| 011046 | NHXH-J E30 05X2,5 RE OR | RE | 7,41                     | 32                     | 228                     | 13,9                   | 120           | 354          |
| 011192 | NHXH-J E30 05X4 RE OR   | RE | 4,61                     | 42                     | 192                     | 14,9                   | 192           | 450          |
| 011193 | NHXH-J E30 05X6 RE OR   | RE | 3,08                     | 53                     | 264                     | 16,9                   | 288           | 570          |
| 011173 | NHXH-J E30 05X10 RE OR  | RE | 1,83                     | 73                     | 300                     | 18,9                   | 480           | 820          |
| 011195 | NHXH-J E30 05X16 OR     | RE | 1,15                     | 97                     | 324                     | 22,9                   | 768           | 1140         |
| 011262 | NHXH-J E30 05X25 RM OR  | RM | 0,727                    | 135                    | 372                     | 26,6                   | 1200          | 1710         |
| 012469 | NHXH-J E30 05X35 OR     | RM | 0,524                    | 165                    |                         | 30,5                   | 1680          | 2384         |
| 011047 | NHXH-J E30 07X1,5 RE OR | RE | 12,1                     | 24                     | 192                     | 13,9                   | 101           | 330          |
| 013127 | NHXH-J E30 10X1,5 RE OR | RE | 12,1                     |                        |                         | 18                     | 144           | 580          |
| 011214 | NHXH-J E30 12X1,5 RE OR | RE | 12,1                     | 24                     | 246                     | 18,9                   | 173           | 500          |
| 011263 | NHXH-J E30 19X1,5 RE OR | RE | 12,1                     | 24                     | 288                     | 21,9                   | 274           | 720          |
| 011265 | NHXH-J E30 24X1,5 RE OR | RE | 12,1                     | 24                     | 336                     | 24,9                   | 346           | 890          |
| 011267 | NHXH-J E30 30X1,5 RE OR | RE | 12,1                     | 24                     | 372                     | 25,9                   | 432           | 1090         |
| 011223 | NHXH-J E30 07X2,5 RE OR | RE | 7,41                     | 32                     | 216                     | 14,9                   | 168           | 430          |
| 012838 | NHXH-J E30 10X2,5 RE OR | RE | 7,41                     | 32                     |                         | 18                     | 240           | 522          |
| 011180 | NHXH-J E30 12X2,5 RE OR | RE | 7,41                     | 32                     | 276                     | 21,9                   | 288           | 650          |
| 013662 | NHXH-J E30 14X2,5       | RE | 7,41                     | 32                     | 260                     | 21,6                   | 336           | 676          |
| 011264 | NHXH-J E30 19X2,5 RE OR | RE | 7,41                     | 32                     | 312                     | 23,9                   | 456           | 950          |
| 011266 | NHXH-J E30 24X2,5 RE OR | RE | 7,41                     | 32                     | 366                     | 26,9                   | 576           | 1210         |
| 011268 | NHXH-J E30 30X2,5 RE OR | RE | 7,41                     | 32                     | 390                     | 28,9                   | 720           | 1470         |

|     |                                    |
|-----|------------------------------------|
| RI  | conductor resistance               |
| Ibl | ampacity (in air) (30°C)           |
| Rbv | bending radius, fixed installation |
| DA  | outer diameter                     |
| Cu  | copper weight (ger)                |
| G   | weight                             |