

FRHF control

Control cable FRHF

450/750 V



Application

Fire-resistant control cable for fixed installations indoors and outdoors. Not to be laid in soil nor directly in cast concrete. For locations where safety requires the operation of alarm, control, signalling and energy circuits also during a fire. The conductor insulation must be protected against UV-radiation. Installations must be in accordance with national regulations and rules of installations. No requirement for CPR-classification.

Design

| | |
|------------------------------------------------|----------------------------------------------|
| Standards | SFS 7516 |
| Product Environmental Profile (PEP/EPD) | PEP NXNS-00707-V01.01-EN |
| Conductor | Circular solid copper, EN/IEC 60228 class 1 |
| Insulation | Cross-linked polyethylene XLPE and mica-tape |
| Core Identification | Black, with white numbers |
| Inner covering | Extruded filling compound |
| Oversheath | UV-protected polyolefin compound , Orange |

Temperature limits

| | |
|---------------------------------------------------|-----|
| Max. conductor temperature °C | 70 |
| Max. cond. temp. short circuit max. 5 s °C | 160 |
| Min. cable temperature during operation °C | -40 |
| Min. cable temperature during handling °C | -15 |
| Min. cable temperature during transport °C | -40 |

Additional information

IEC 60331-21 Fire-resistant, 180 min.
IEC 60331-1, -2 EN 50200, EN 50362 Fire-resistant with shock, 90 min.
EN/IEC 60332-3 Flame retardant in a bunch
EN/IEC 61034 Low smoke density
EN/IEC 60754 Halogen-free, non-corrosive

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| Technical information | 7x1,5 | 12x1,5 | 19x1,5 | 27x1,5 | 7x2,5 | 12x2,5 | 19x2,5 | 27x2,5 |
|-----------------------------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Product code | 1145581 | 1145585 | 1145587 | 1145591 | 1145596 | 1145598 | 1145599 | 1145607 |
| Nominal cable diameter mm | 14 | 18 | 22 | 26 | 15 | 20 | 23 | 28 |
| Nominal cable weight kg/km | 281 | 461 | 673 | 928 | 389 | 601 | 880 | 1235 |
| Nominal weight of copper kg/km | 94 | 162 | 257 | 365 | 151 | 262 | 412 | 589 |
| Nominal diameter of conductor mm | 1,3 | 1,3 | 1,3 | 1,3 | 1,7 | 1,7 | 1,7 | 1,7 |
| Nominal Insulation thickness mm | 0,7 | 0,7 | 0,7 | 0,7 | 0,7 | 0,7 | 0,7 | 0,7 |
| Nominal thickness of oversheath mm | 1,5 | 1,5 | 1,5 | 1,6 | 1,5 | 1,5 | 1,6 | 1,7 |
| Fire load | | | | | | | | |
| Fire load MJ/m | 3,283 | 5,244 | 7,580 | 10,395 | 4,363 | 6,655 | 9,871 | 13,559 |
| Fire load kWh/m | 0,912 | 1,457 | 2,106 | 2,888 | 1,212 | 1,849 | 2,742 | 3,766 |
| Maximum forces during installation when pulling by | | | | | | | | |
| Max. pulling force by pulling-eye kN | 0,5 | 0,9 | 1,4 | 2,0 | 0,8 | 1,5 | 2,3 | 3,3 |
| Max. pulling force by pulling-stocking kN | 0,2 | 0,3 | 0,5 | 0,8 | 0,3 | 0,6 | 0,9 | 1,3 |
| Minimum bending radii | | | | | | | | |
| Minimum bending radius, handling mm | 164 | 216 | 262 | 308 | 184 | 234 | 278 | 335 |
| Minimum bending radius, final bending mm | 115 | 151 | 183 | 216 | 129 | 164 | 194 | 234 |
| Minimum bending radii | | | | | | | | |
| During handling and installation, cable cm | 16 | 22 | 26 | 31 | 18 | 23 | 28 | 33 |
| In final installation, cable cm | 11 | 15 | 18 | 22 | 13 | 16 | 19 | 23 |
| DC resistance | | | | | | | | |
| Max. DC resistance of conductor at 20 °C Ω/km | 12,1 | 12,1 | 12,1 | 12,1 | 7,41 | 7,41 | 7,41 | 7,41 |
| Environmental information | | | | | | | | |
| (A1-A3) GWP emission kgCO2e/km | 888 | 1499 | 2264 | 3186 | 1238 | 2003 | 3013 | 4298 |
| GWP emissions calculation standard | EN15804:2012 + A2:2019 | EN15804:2012 + A2:2019 | EN15804:2012 + A2:2019 | EN15804:2012 + A2:2019 | EN15804:2012 + A2:2019 | EN15804:2012 + A2:2019 | EN15804:2012 + A2:2019 | EN15804:2012 + A2:2019 |

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| STANDARD PACKAGES | 7x1,5 | 12x1,5 | 19x1,5 | 27x1,5 | 7x2,5 | 12x2,5 | 19x2,5 | 27x2,5 |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Product code | 1145581 | 1145585 | 1145587 | 1145591 | 1145596 | 1145598 | 1145599 | 1145607 |
| GTIN code | 6410004128824 | 6410004128862 | 6410004128879 | 6410004128855 | 6410004128923 | 6410004128930 | 6410004128947 | 6410004128954 |
| Package | 500 K8 | 1000 K12 | 1000 K16 | 500 K14 | 500 K9 | 500 K12 | 500 K14 | 500 K14 |
| Product code | 1145581 | 1145585 | 1145587 | | | | | |
| GTIN code | 6410004128800 | 6410004128831 | 6410004128848 | | | | | |
| Package | 1000 K10 | 500 K10 | 500 K12 | | | | | |