N2XCH-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 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 2XI1 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 ≙ 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 mm².
- **LS0H** = Low Smoke Zero Halogen

Application

Everywhere, where in case of fire human life and material assets are to be protected and safety conciousness 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 masonary 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. mm²	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. mm²	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 ▸

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Part no.	No.cores x cross-sec. mm²	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. mm²	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)