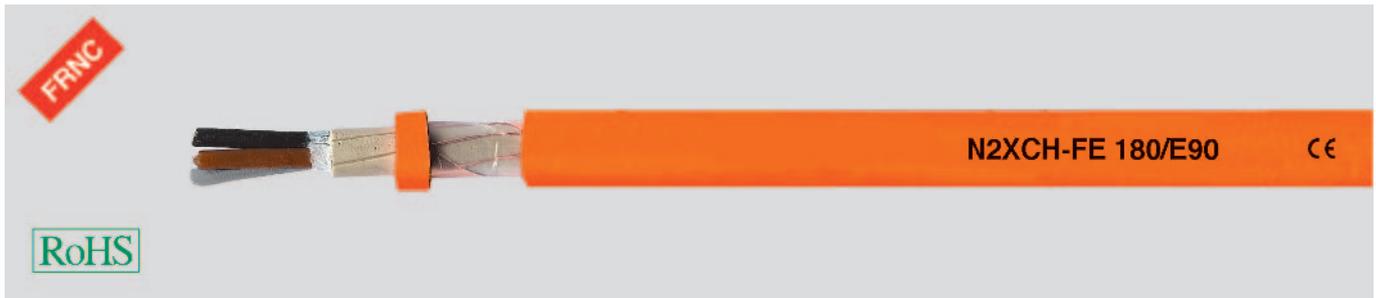


# N2XCH-FE 180/E 90 security cable, halogen-free, 0,6/1 kV, with improved fire characteristics



## Technical data

- Halogen-free security cable with improved characteristics in the case of fire to DIN VDE 0266
- **Insulation integrity**  
180 minutes to DIN VDE 0472 part 814
- **Functionality**  
90 minutes to DIN VDE 4102 part 12
- **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**  
approx. 12x cable  $\varnothing$
- **Radiation resistance**  
up to  $200 \times 10^6$  cJ/kg (up to 200 Mrad)
- **Caloric load values**  
see Technical Informations
- **Tests**  
Flame test to DIN VDE 0482 part 266-2/  
HD 405.3, BS 4066 part 3/ EN 50266-2/  
IEC 60332-3 (equivalent DIN VDE 0472  
part 804 test method C)  
Corrosiveness of combustion gases  
according to DIN VDE 0482 part 267/  
EN 50267-2-2/ IEC 60754-2 (equivalent  
DIN VDE 0472 part 813)  
Halogen-free according to DIN VDE 0482  
part 267/ EN 50267-2-1/ IEC 60754-1  
(equivalent DIN VDE 0472 part 815)  
Smoke density according to DIN VDE 0482  
part 1034-1+2, HD 606, DIN EN 61034-1+2/  
IEC 61034-1+2, BS 7622 part 1+2 (equivalent  
DIN VDE 0472 part 816)  
Insulation integrity under flame  
propagation to VDE 0472 part 814 cong;  
IEC 60331  
Burning behaviour in fire (functionality) of  
the complete cable system to DIN 4102  
part 12 (90 minutes)

## Cable construction

- Bare copper conductor, solid or stranded,  
to DIN VDE 0295 cl. 1 and cl. 2, BS 6360 cl. 1  
or 2, IEC 60228 cl. 1 or 2, HD 383
- Core with double insulation:  
Flame retardant MICA-tapeover conductor  
Core insulation with cross-linked  
polyethylene, compound type 2X11 to  
DIN VDE 0276 part 604
- Cores colour coding 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 jacket of thermoplastic halogen-free  
polyolefine, compound type HM4 to  
DIN VDE 0276 part 604, flame retardant
- Colour orange
- **LSOH** = Low Smoke Zero Halogen-free.

## Properties

- Halogen-free; no evolution of corrosive and  
toxic gases
- Flame retardant
- 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 to DIN VDE 0472  
part 814  $\triangle$  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 solid core;  
rm = stranded core.
- AWG sizes are approximate equivalent  
values. The actual cross-section is in mm<sup>2</sup>.

## 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. Additionally valid also DIN VDE 0298 part 1 and 2. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

**CE** = The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Part No.	No. cores x cross-sec. mm <sup>2</sup>	Outer $\varnothing$ ca. mm	Cop. weight kg / km	Weight ca. kg / km	AWG-No.	Part No.	No. cores x cross-sec. mm <sup>2</sup>	Outer $\varnothing$ ca. mm	Cop. weight kg / km	Weight ca. 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	1
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

Dimensions and specifications may be changed without prior notice.

Continuation ▶