

# 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 Ø  
multi-core 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
- 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>.
- **LS0H** = 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. J type	O type	No. cores x cross-sec. mm <sup>2</sup>	Outer Ø app. mm	Cop. weight kg / km	Weight app. 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. J type	O type	No. cores x cross-sec. mm <sup>2</sup>	Outer Ø app. mm	Cop. weight kg / km	Weight app. 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

Continuation ►

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

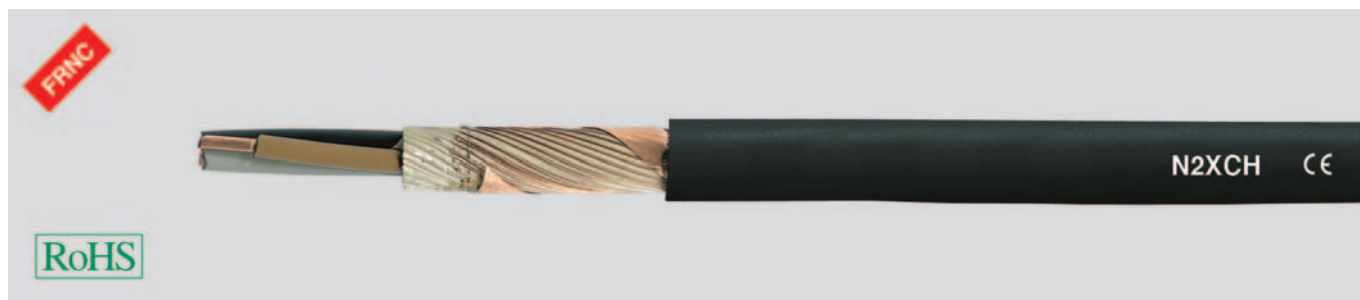
Part no. J type	O type	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
53121	53269	3 x 1,5 re	13,0	43,0	220,0	16
53122	53270	3 x 2,5 re	14,0	72,0	280,0	14
53123	53271	3 x 4 re	15,0	115,0	350,0	12
53124	53272	3 x 6 re	16,0	173,0	420,0	10
53125	53273	3 x 10 re	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. J type	O type	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. 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  $\varnothing$
- **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
- 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.
53200	2 x 1,5 / 1,5 re	12,0	53,0	250,0	16
53201	2 x 2,5 / 2,5 re	13,0	81,0	280,0	14
53202	2 x 4 / 4 re	14,0	122,0	320,0	12
53203	2 x 6 / 6 re	15,0	183,0	400,0	10
53204	2 x 10 / 10 re	16,0	311,0	560,0	8
53205	2 x 16 / 16 re	19,1	490,0	780,0	6
53206	3 x 1,5 / 1,5 re	13,0	67,0	250,0	16
53207	3 x 2,5 / 2,5 re	14,0	104,0	320,0	14
53208	3 x 4 / 4 re	16,5	161,0	400,0	12
53209	3 x 6 / 6 re	18,0	242,0	500,0	10
53210	3 x 10 / 10 re	20,0	408,0	750,0	8
53211	3 x 16 / 16 re	22,5	643,0	1000,0	6
53212	3 x 25 / 25 re	27,0	902,0	1600,0	4
53213	3 x 35 / 35 re	27,5	1190,0	1900,0	2
53214	3 x 50 / 25 sm	32,3	1723,0	2400,0	1
53215	3 x 70 / 35 sm	35,6	2410,0	3060,0	2/0
53216	3 x 95 / 50 sm	39,0	3296,0	4200,0	3/0
53217	3 x 120 / 70 sm	42,0	4236,0	5207,0	4/0
53218	3 x 150 / 70 sm	43,5	5100,0	5700,0	300 kcmil
53219	3 x 185 / 95 sm	47,4	6383,0	7150,0	350 kcmil
53220	3 x 240 / 120 sm	53,5	8240,0	9250,0	500 kcmil
53221	4 x 1,5 / 1,5 re	13,5	81,0	300,0	16
53222	4 x 2,5 / 2,5 re	14,5	129,0	380,0	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.
53223	4 x 4 / 4 re	17,5	202,0	480,0	12
53224	4 x 6 / 6 re	19,0	297,0	600,0	10
53225	4 x 10 / 10 re	21,5	504,0	850,0	8
53226	4 x 16 / 16 re	24,5	797,0	1200,0	6
53227	4 x 25 / 16 rm	29,0	1142,0	1800,0	4
53228	4 x 35 / 16 rm	29,5	1528,0	2100,0	2
53229	4 x 50 / 25 sm	32,5	2203,0	2800,0	1
53230	4 x 70 / 35 sm	38,0	3082,0	3800,0	2/0
53231	4 x 95 / 50 sm	43,5	4208,0	5100,0	3/0
53758	4 x 120 / 70 sm	50,5	5388,0	6556,0	4/0
53759	4 x 150 / 70 sm	52,1	6540,0	7600,0	300 kcmil
53760	4 x 185 / 95 sm	57,2	8159,0	9370,0	350 kcmil
53761	4 x 240 / 120 sm	62,6	10546,0	11611,0	500 kcmil
53232	7 x 1,5 / 2,5 re	15,0	132,0	320,0	16
53239	7 x 2,5 / 2,5 re	15,5	200,0	400,0	14
53246	7 x 4 / 4 re	18,1	316,0	580,0	12
53233	10 x 1,5 / 2,5 re	17,2	177,0	420,0	16
53240	10 x 2,5 / 4 re	18,9	287,0	550,0	14
53234	12 x 1,5 / 2,5 re	18,4	204,0	460,0	16
53241	12 x 2,5 / 4 re	19,2	335,0	610,0	14
53247	12 x 4 / 6 re	22,6	528,0	910,0	12
53235	16 x 1,5 / 4 re	20,0	275,0	686,0	16
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

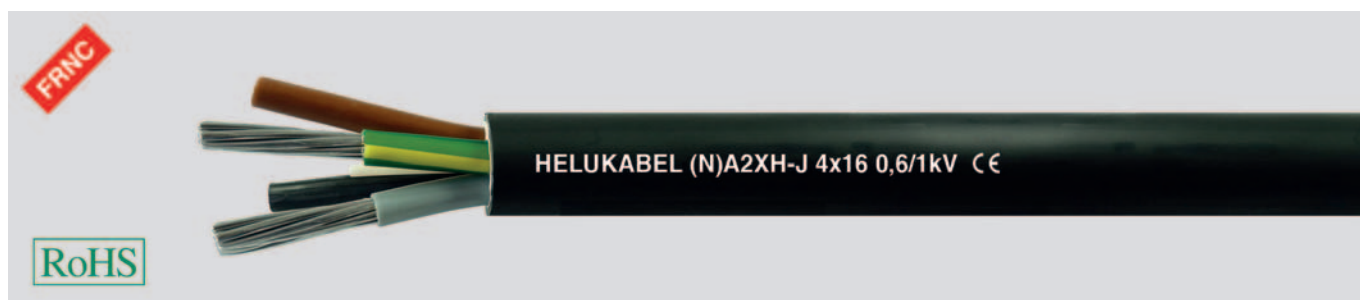


Part no.	No. cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
53236	21 x 1,5 / 6 re	22,6	370,0	766,0	16
53243	21 x 2,5 / 6 re	25,2	572,0	1015,0	14
53237	24 x 1,5 / 6 re	23,2	412,0	800,0	16
53244	24 x 2,5 / 10 re	26,1	695,0	1100,0	14
53238	30 x 1,5 / 6 re	24,3	500,0	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<sub>0</sub>/U 0,6/1 kV
- **Test voltage** 4 kV
- **Minimum bending radius**  
single-core 15x cable Ø  
multi-core 12x cable Ø
- **Radiation resistance**  
up to 100x10<sup>6</sup> 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, 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**

- 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>.
- **LS0H** = 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.

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

Part no. J type	O type	No.cores x cross-sec. mm <sup>2</sup>	Outer Ø app. mm	Alu weight kg / km	Weight app. 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. J type	O type	No.cores x cross-sec. mm <sup>2</sup>	Outer Ø app. mm	Alu weight kg / km	Weight app. 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. J type	O type	No.cores x cross-sec. mm <sup>2</sup>	Outer Ø app. mm	Alu weight kg / km	Weight app. 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. J type	O type	No.cores x cross-sec. mm <sup>2</sup>	Outer Ø app. mm	Alu weight kg / km	Weight app. 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  $200 \times 10^6$  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 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  $\Delta$  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>.
- **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.
52058	1 x 4 re	8,0	38,0	155,0	12
52059	1 x 6 re	9,0	58,0	190,0	10
52060	1 x 10 re	10,0	96,0	215,0	8
52061	1 x 16 re	10,5	154,0	240,0	6
52062	1 x 25 rm	13,0	240,0	380,0	4

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.
52063	1 x 35 rm	14,0	336,0	460,0	2
52064	1 x 50 rm	15,5	480,0	590,0	1
52065	1 x 70 rm	17,5	672,0	820,0	2/0
52066	1 x 95 rm	19,5	912,0	1090,0	3/0
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. mm²	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. mm²	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 dJ/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>.
- **LS0H** = 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. 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)

# (N)HXH-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 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  $200 \times 10^6$  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 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>.
- **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. 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



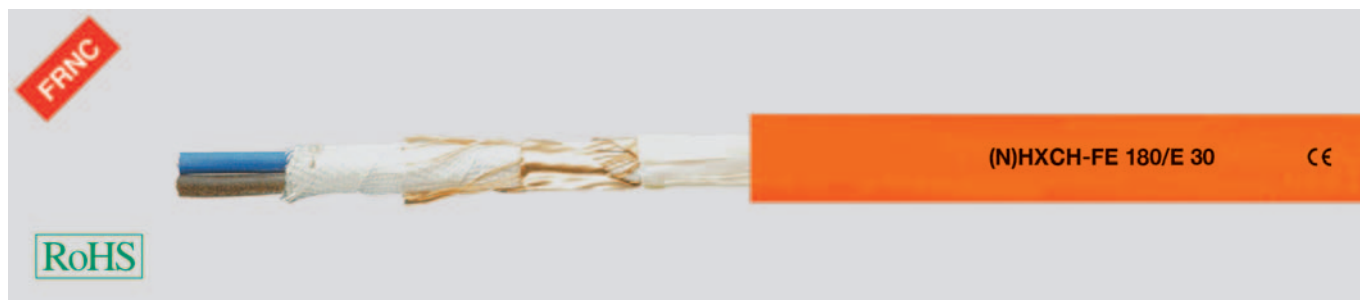
Part no.	No. cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
52714	2 x 2,5 re	12,5	48,0	290,0	14
52715	2 x 4 re	13,5	77,0	345,0	12
52716	2 x 6 re	14,5	115,0	410,0	10
52717	2 x 10 re	16,0	192,0	540,0	8
52718	2 x 16 rm	18,0	307,0	720,0	6
52719	2 x 25 rm	21,0	480,0	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. mm²	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 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 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 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 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.
52900	2 x 1,5 / 1,5 re	13,0	52,0	220,0	16
52901	2 x 2,5 / 2,5 re	13,5	80,0	385,0	14
52902	2 x 4 / 4 re	14,5	123,0	470,0	10
52903	2 x 6 / 6 re	16,0	182,0	550,0	10
52904	2 x 10 / 10 re	18,0	312,0	730,0	8
52905	3 x 1,5 / 1,5 re	13,5	66,0	380,0	16
52906	3 x 2,5 / 2,5 re	14,5	104,0	430,0	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.
52907	3 x 4 / 4 re	15,5	161,0	530,0	12
52908	3 x 6 / 6 re	16,5	240,0	630,0	10
52909	3 x 10 / 10 re	18,5	408,0	850,0	8
52910	3 x 16 / 16 rm	20,5	643,0	1150,0	6
52911	3 x 25 / 16 rm	24,0	902,0	1700,0	4
52912	3 x 35 / 16 rm	26,5	1190,0	2150,0	2
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. mm²	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. mm²	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 Ø
- **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 2XI1 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 Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
52534	1 x 16 rm	11,5	154,0	250,0	6
52535	1 x 25 rm	13,0	240,0	360,0	4
52536	1 x 35 rm	14,0	336,0	460,0	2
52537	1 x 50 rm	15,5	480,0	610,0	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.
52538	1 x 70 rm	17,5	672,0	840,0	2/0
52539	1 x 95 rm	19,5	912,0	1120,0	3/0
52540	1 x 120 rm	21,5	1152,0	1390,0	4/0
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. mm²	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. mm²	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 Ø
- **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 Ø 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
52772	3 x 2,5 / 2,5 re	17,5	104,0	400,0	14
52773	3 x 4 / 4 re	18,5	161,0	480,0	12
52774	3 x 6 / 6 re	20,0	240,0	600,0	10
52775	3 x 10 / 10 rm	22,0	408,0	840,0	8

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.
52776	3 x 16 / 16 rm	24,5	643,0	1130,0	6
52777	3 x 25 / 16 rm	28,0	902,0	1560,0	4
52778	3 x 35 / 16 rm	30,5	1190,0	1960,0	2
52779	3 x 50 / 25 rm	34,0	1723,0	2610,0	1
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. mm²	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. mm²	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  $200 \times 10^6$  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 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. mm²	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. mm²	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  $200 \times 10^6$  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 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.
59028	2 x 2,5 / 2,5 re	16,0	80,0	390,0	14
53032	3 x 1,5 / 1,5 re	16,9	66,0	380,0	16
53033	3 x 2,5 / 2,5 re	18,0	104,0	430,0	14
53034	3 x 4 / 4 re	19,0	161,0	530,0	12
53035	3 x 6 / 6 re	20,1	240,0	640,0	10
53036	3 x 10 / 10 re	22,0	408,0	850,0	8
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

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.
53041	3 x 70 / 35 rm	38,0	2410,0	3800,0	2/0
53042	3 x 95 / 50 rm	44,0	3296,0	5100,0	3/0
53043	3 x 120 / 70 rm	47,0	4236,0	6250,0	4/0
53044	3 x 150 / 70 rm	51,0	4992,0	6900,0	300 kcmil
53045	3 x 185 / 95 rm	56,0	6383,0	8550,0	350 kcmil
53046	3 x 240 / 120 rm	65,0	8242,0	11150,0	500 kcmil

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. mm²	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. mm²	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> J/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 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.  
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

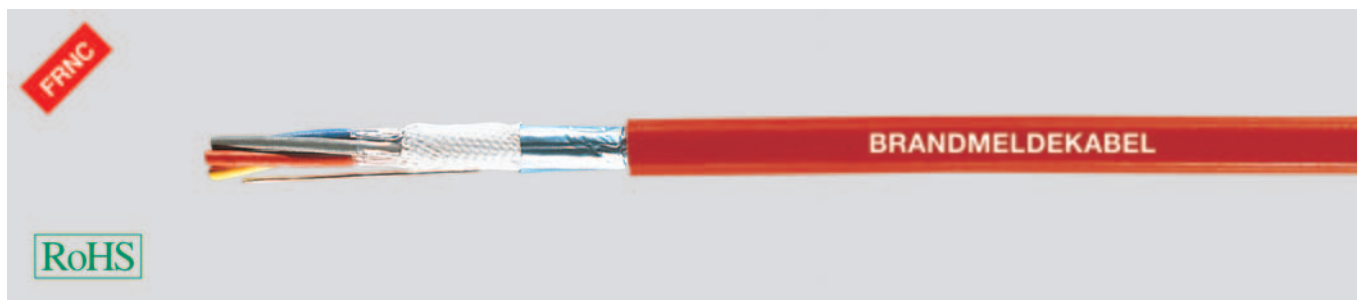
Part no.	No.pairs x cross-sec. mm	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	
34081	2 x 2 x 0,8	7,4	25,0	74,0	-
34082	4 x 2 x 0,8	10,8	45,0	127,0	-
34083	8 x 2 x 0,8	16,9	85,0	300,0	-
34084	12 x 2 x 0,8	18,5	126,0	336,0	-
34085	16 x 2 x 0,8	20,1	166,0	426,0	-
34086	20 x 2 x 0,8	22,2	206,0	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  $\Delta$  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

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

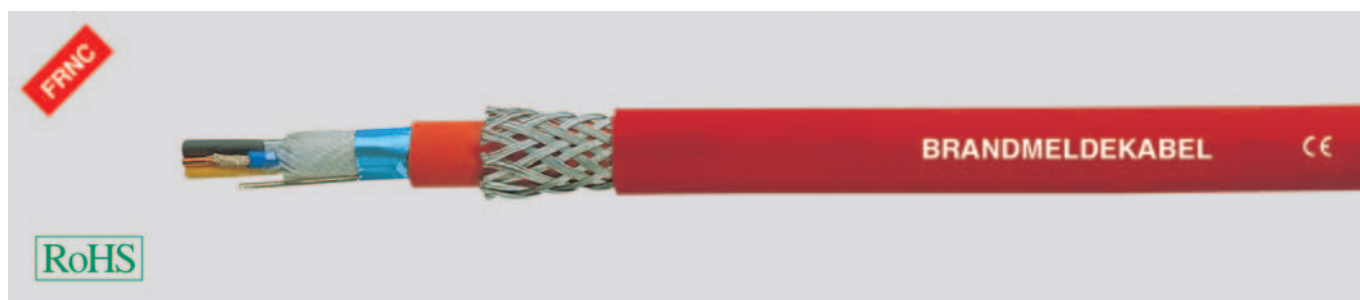
Part no.	No.pairs x cross-sec. mm	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	
34091	2 x 2 x 0,8	7,4	25,0	74,0	-
34092	4 x 2 x 0,8	10,8	45,0	127,0	-
34093	8 x 2 x 0,8	16,9	85,0	300,0	-
34094	12 x 2 x 0,8	18,5	126,0	336,0	-
34095	16 x 2 x 0,8	20,1	166,0	426,0	-
34096	20 x 2 x 0,8	22,2	206,0	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 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. 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)