



RoHS



I



III



U



E30-E90



MIN -15°C



+90°C



-40°C



(N)HXH FE180/E90 0.6/1 kV

DIN VDE 0266, DIN 4102-12

– Halogen-free low smoke fire resistant, security power cables



Applications:

Fire resistant security cables for installation everywhere where high safety requirements have a special significance e.g., in industrial complexes, power stations, public buildings, hotels, underground railway systems, hospitals etc.

Standard length cable packing: 500 or 1000m on drums. Other forms of packing and delivery are available on request

Construction

Conductors

Bare copper conductor, circular solid class 1 (RE) or stranded circular or circular compacted class 2 (RM) according to EN 60228

Insulation

Special cross-linked halogen-free fire resistant silicone compound

Inner covering

Special flame-retardant and halogen-free compound

Sheath

Thermoplastic halogen-free compound type HM4 according to DIN VDE 0276-604

Colour of sheath

Orange

According to DIN VDE 0293-308, HD 308 S2 or EN 50334

Core identification

(N)HXH-O FE180/E90

without protective conductor

NHXH-J FE180/E90

with protective conductor

1-core

Black

Green, yellow

2-core

Blue, brown

-

3-core

Brown, black, grey

Green-yellow, blue, brown

3-core*

Blue, brown, black

-

4-core

Blue, brown, black, grey

Green-yellow, brown, black, grey

4-core*

-

Green-yellow, blue, brown, black

5-core

Blue, brown, black, grey, black

Green-yellow, blue, brown, black, grey

more 5-core

Black with numbering

Green-yellow, others cores black with numbering

*For certain applications only.

Characteristic

Maximum conductor operating temperature

+90°C

Lowest ambient temperature for fixed installation

-40°C

Lowest installation temperature

-15°C

Maximum short-circuit conductor temperature

+250°C

Minimum bending radius

15D - for single core cable;
12D - for multicore cable (D - overall cable diameter)

Maximum permissible tensile stress with cable grip for Cu

50 N/mm²

Fire performance

Insulation integrity FE 180	DIN VDE 0472-814 (800 °C, 180 min.), IEC 60331-21
System integrity E90	DIN 4102-12 (90 min.)
Flame propagation	DIN EN 60332-1-2, DIN EN 60332-3-24
Smoke density	DIN EN 61034-2
Gases evolved during combustion	DIN EN 60754-2, pH ≥ 4,3 & conductivity ≤ 2,5 μSmm ⁻¹ DIN EN 60754-1, HCL ≤ 0,5%

Parameters

Number and cross-sectional area of conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20°C
n x mm²	mm	kg/km	Ω/km
1x1.5RE	6.4	60	12.1
1x2.5RE	6.7	72	7.41
1x4RE	7.2	91	4.61
1x6RE	7.7	113	3.08
1x10RE	8.5	157	1.83
1x16RE	9.6	219	1.15
1x16RM	10	229	1.15
1x25RM	11.7	335	0.727
1x35RM	12.8	434	0.524
1x5ORM	14.5	573	0.387
1x7ORM	15.8	775	0.268
1x95RM	18.6	1067	0.193
1x120RM	20	1308	0.153
1x150RM	22	1604	0.124
1x185RM	24.3	1987	0.0991
1x240RM	27.4	2561	0.0754
1x300RM	29.8	3178	0.0601
1x400RM	33.3	4082	0.0470
1x500RM	37.1	5180	0.0366
2x1.5RE	11.5	190	12.1
2x2.5RE	12.3	227	7.41
2x2.5RM	12.8	243	7.41
2x4RE	13.2	279	4.61
2x6RE	14.2	341	3.08
2x10RE	15.8	460	1.83
2x16RE	18.6	663	1.15
2x16RM	19.4	703	1.15
2x25RM	22.8	1016	0.727
3x1.5RE	12.1	215	12.1
3x2.5RE	12.9	262	7.41
3x4RE	13.9	327	4.61
3x6RE	14.9	406	3.08
3x10RE	16.6	560	1.83
3x16RE	19.6	814	1.15
3x16RM	20.5	858	1.15
3x25RM	24.1	1252	0.727
3x35RM	26.4	1604	0.524

Parameters

Number and cross-sectional area of conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20°C
n x mm²	mm	kg/km	Ω/km
3x50RM	30.1	2117	0.387
3x70RM	33.8	2881	0.268
3x95RM	39.5	3949	0.193
3x120RM	42.7	4813	0.153
3x150RM	47.1	5898	0.124
3x185RM	52	7282	0.0991
3x240RM	61.4	9668	0.0754
3x25RM+16RM	25.4	1435	0.727 / 1.15
3x35RM+16RM	27.3	1798	0.524 / 1.15
3x50RM+25RM	31.6	2429	0.387 / 0.727
3x70RM+35RM	35.3	3279	0.268 / 0.524
3x95RM+50RM	41.3	4508	0.193 / 0.387
3x120RM+70RM	45.1	5606	0.153 / 0.268
3x150RM+70RM	48.6	6665	0.124 / 0.268
3x185RM+95RM	54.3	8342	0.0991 / 0.193
3x240RM+120RM	61.2	10738	0.0754 / 0.153
4x1.5RE	13	251	12.1
4x2.5RE	13.9	308	7.41
4x4RE	15	390	4.61
4x6RE	16.2	490	3.08
4x10RE	18.1	685	1.83
4x16RE	21.3	996	1.15
4x16RM	22.3	1048	1.15
4x25RM	26.4	1549	0.727
4x35RM	28.9	2013	0.524
4x50RM	33.6	2707	0.387
4x70RM	37.3	3645	0.268
4x95RM	43.7	5003	0.193
4x120RM	47.6	6161	0.153
4x150RM	52.3	7518	0.124
4x185RM	58.2	9354	0.0991
4x240RM	65.6	12024	0.0754
4x300RM	71.3	14844	0.0601
4x25RM+16RM	28	1783	0.727 / 1.15
4x35RM+16RM	30.2	2235	0.524 / 1.15
4x50RM+25RM	35.6	3075	0.387 / 0.727
4x70RM+35RM	39.3	4109	0.268 / 0.524
4x120RM+70RM	50.5	7043	0.153 / 0.268
4x150RM+70RM	54.7	8426	0.124 / 0.268
4x185RM+95RM	61.4	10589	0.0991 / 0.193
4x240RM+120RM	68.8	13551	0.0754 / 0.153
5x1.5RE	14	297	12.1
5x2.5RE	15	368	7.41
5x4RE	16.3	469	4.61
5x6RE	17.6	593	3.08
5x10RE	19.7	834	1.83
5x16RE	23.2	1213	1.15
5x16RM	24.3	1276	1.15
5x25RM	28.9	1889	0.727
5x35RM	31.9	2455	0.524
5x50RM	37.3	3335	0.387
5x70RM	41.2	4477	0.268
5x95RM	48.6	6198	0.193

Parameters

Number and cross-sectional area of conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20°C
n x mm²	mm	kg/km	Ω/km
5x120RM	52.6	7575	0.153
5x150RM	58.4	9344	0.124
5x185RM	64.5	11538	0.0991
5x240RM	72.7	14835	0.0754
7x1.5RE*	15.1	356	12.1
7x2.5RE*	16.2	447	7.41
7x4RE*	17.6	578	4.61
7x4RM*	18.5	618	4.61
7x6RE*	18.7	722	3.08
7x6RM*	19.2	747	3.08
10x1.5RE*	18.8	504	12.1
30x1.5RE*	27.4	1143	12.1

*without approvals and certificate