

CPR  
B2ca

CE

RoHS

I

III

UV

MAX +70°C

TFKable

# FLAMEBLOCKER NHXMH 300/500V

DIN VDE 0250-214, (N) version based on DIN VDE 0250-214

– Halogen-free light sheathed cables with improved fire behaviour



## Applications:

Installation cables for industrial complexes, public buildings, hotels, airports, hospitals or industrial plants with high concentration of people and/or property. Usable in the open, in dry, damp and wet environments in the open and concealed, as well as in masonry and in concrete, not suitable for imbedding in solidified – or compressed – concrete

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

## Construction

### Conductors

Annealed copper solid class 1 or circular stranded conductor class 2 acc. to EN 60228

### Insulation

Cross-linked polyethylene XLPE type 2XII acc. to DIN VDE 0276-604

### Inner covering

Halogen-free not vulcanized rubber compound

### Sheath

Special halogen-free thermoplastic compound type HM2 acc. to DIN VDE 0250-214

### Colour of sheath:

Grey RAL 7035, other colours available on customer request

### Core identification

1-core

**NHXMH-J**  
Green-yellow

**NHXMH-O**  
Black

2-core

-

Blue, brown

3-core

Green-yellow, blue, brown

Brown, black, grey

3-core\*

Blue, brown, black

4-core

Green-yellow, brown, black, grey

Blue, brown, black, grey

4-core\*

Green-yellow, blue, brown, black

5-core

Green-yellow, blue, brown, black, grey

Blue, brown, black, grey, black

7 core and more

Green-yellow, other cores black with numbering

Black with white numbering

\*For certain applications only.

## Characteristic

### Maximum conductor operating temperature

+70°C

### Lowest ambient temperature for fixed installation

-40°C

### Lowest installation temperature

-5°C

### Maximum short-circuit conductor temperature

+250°C

### Minimum bending radius

10 x D single core cables, 6 x D multicore cables,  
D – overall diameter

### Test voltage

2000V

Important note: Other insulation colour as version (N)HXMH

## Fire performance

### Flame retardant

IEC 60332-1-2

### Flame propagation

IEC 60332-3-24 (SS 4241475 F4C)

### Gases evolved during combustion

BS EN 60754-2, EN 60754-2  
pH ≥ 4,3; conductivity ≤ 2,5 µS/mm  
BS EN 60754-1 HCL ≤ 0,5 %

### CPR – class reaction to fire (acc EN 50575)

B2ca-slb,d1,a1

## Approvals

VDE

## Parameters

Number and cross-sectional area of conductor	Minimum number of wires in conductor	Approximate overall diameter	Approximate net weight of cables	Maximum conductor resistance at temperature 20°C	Minimum insulation resistance at 70°C	Caloric load	CPR class reaction to fire
$n \times \text{mm}^2$	n	mm	kg/km	$\Omega/\text{km}$	$\Omega/\text{km}$	kWh/m	
1x6	1	7.5	108	3.08	0.006	0.26	B2ca-slb,d1,a1
1x10	1	7.5	132	1.83	0.005	0.33	B2ca-slb,d1,a1
1x16	6	9.2	211	1.15	0.004	0.4	B2ca-slb,d1,a1
1x25 (N)	6	10.3	298	0.727	0.004	0.55	B2ca-slb,d1,a1
2x1.5	1	8.7	118	12.1	0.008	0.44	B2ca-slb,d1,a1
2x2.5	1	9.5	149	7.41	0.007	0.5	B2ca-slb,d1,a1
2x4	1	10.8	204	4.61	0.006	0.64	B2ca-slb,d1,a1
2x6	1	11.8	260	3.08	0.006	0.73	B2ca-slb,d1,a1
2x10	1	13.3	359	1.83	0.005	0.91	B2ca-slb,d1,a1
2x16	6	16	543	1.15	0.004	1.2	B2ca-slb,d1,a1
2x25	6	19.4	812	0.727	0.004	1.85	B2ca-slb,d1,a1
3x1.5	1	9.1	134	12.1	0.008	0.46	B2ca-slb,d1,a1
3x2.5	1	9.9	174	7.41	0.007	0.55	B2ca-slb,d1,a1
3x4	1	11.3	241	4.61	0.006	0.68	B2ca-slb,d1,a1
3x6	1	12.8	326	3.08	0.006	0.85	B2ca-slb,d1,a1
3x10	1	14	445	1.83	0.005	0.97	B2ca-slb,d1,a1
3x16	6	17	678	1.15	0.004	1.29	B2ca-slb,d1,a1
3x25	6	21	1045	0.727	0.004	2.2	B2ca-slb,d1,a1
3x35	6	23.7	1399	0.524	0.003	2.64	B2ca-slb,d1,a1
4x1.5	1	9.7	156	12.1	0.008	0.52	B2ca-slb,d1,a1
4x2.5	1	10.6	206	7.41	0.007	0.61	B2ca-slb,d1,a1
4x4	1	12.6	301	4.61	0.006	0.83	B2ca-slb,d1,a1
4x6	1	13.8	393	3.08	0.006	0.94	B2ca-slb,d1,a1
4x10	1	15.3	549	1.83	0.005	1.09	B2ca-slb,d1,a1
4x16	6	18.6	841	1.15	0.004	1.46	B2ca-slb,d1,a1
4x25	6	23.3	1313	0.727	0.004	2.6	B2ca-slb,d1,a1
4x35	6	26	1755	0.524	0.003	3.15	B2ca-slb,d1,a1
5x1.5	1	10.4	182	12.1	0.008	0.59	B2ca-slb,d1,a1
5x2.5	1	11.4	242	7.41	0.007	0.7	B2ca-slb,d1,a1
5x4	1	12.6	319	4.61	0.006	0.85	B2ca-slb,d1,a1
5x6	1	13.9	428	3.08	0.006	0.98	B2ca-slb,d1,a1
5x10	1	16.8	671	1.83	0.005	1.32	B2ca-slb,d1,a1
5x16	6	20.7	1043	1.15	0.004	1.88	B2ca-slb,d1,a1
5x25	6	25.5	1608	0.727	0.004	3.2	B2ca-slb,d1,a1
5x35	6	28.6	2143	0.524	0.003	3.78	B2ca-slb,d1,a1
7x1.5	1	11.1	219	12.1	0.008	0.67	B2ca-slb,d1,a1
7x2.5	1	12.6	309	7.41	0.007	0.84	B2ca-slb,d1,a1

## Current ratings

Operating temperature at conductor 70°C; ambient air temperature 30°C

<b>Installation:</b> - in thermally insulated walls - in insulating tubes	Multicore sheathed cables in insulating tubes. in a thermally insulated walls		Multicore sheathed cables in insulating tubes. in a thermally insulated walls		Single or multicore sheathed cables on a wall		Multicore sheathed cables with a space of minimum 0.3 x diameter d to wall	
<b>Number of loaded cores</b>	2	3 <sup>1)</sup>	2	3 <sup>1)</sup>	2	3 <sup>1)</sup>	2	3 <sup>1)</sup>
<b>Cross-section. mm<sup>2</sup></b>	<b>Current ratings in Ampere (A)</b>							
1.5	15.5	13.0	16.5	15.0	19.5	17.5	22	18.5
2.5	18.5	17.5	23	20	27	24	30	25
4	25	23	30	27	36	32	40	34
6	32	29	38	34	46	41	51	43
10	43	39	52	46	63	57	70	60
16	57	52	69	62	85	76	94	80
25	75	68	90	80	112	96	119	101
35	92	83	111	99	138	119	148	126

Conversion factors for ambient temperature over 30°C

Ambient temperature, °C	30	35	40	45	50	55	60	65
<b>Conversion factors</b>	1.00	0.94	0.87	0.79	0.71	0.61	0.50	0.35

<sup>1)</sup> Conversion factors for multicore cable (≥ 5 cores)

Number of loaded cores	Conversion factors
5	0.75
7	0.65