

NHXCH FE180/PH120/E90 MICA

Fire resistant, halogen-free power cable with concentric conductor

LVD 2014/35/EU



CPR 305/2011



Fire resistant cables



industrial application



internal application



EN 60332-1-2



EN 60332-3-24



halogen-free
EN 60754



low smoke emission
EN 61034



FE180
insulation
resistance
to fire 180 min.



PH120 fire
integrity function



E90 fire
integrity function



sprinkler
zones*

Technical data:

Thermal parameters:

Temperature range:

fixed installation: -30 °C to 90 °C
min. installation temp: -5 °C
max. installation temp: 50 °C

Electrical parameters:

Permissible conductor operating temperature: 90 °C

Permissible conductor temperature during short circuit: 250 °C

Operating voltage: $U_0/U = 0,6/1$ kV

Test voltage: 4 kV

Conductor resistance (at 20 °C): acc. to EN 60288 cl. 1 and 2, IEC 60288 cl. 1 and 2

Mechanical parameters:

Minimum bending radius: $15 \times \varnothing$

Design:

Conductors:

bare copper conductor, solid (cl. 1) or stranded (cl. 2) according to EN 60228 and IEC 60228

Insulation:

mica tape wrapping and cross linked polymer HX11 acc. to DIN VDE 0266

Core colors:

Inner sheath:

Concentric conductor:

special halogen-free compound

copper wires over the inner sheath with helically applied copper tape

Outer sheath:

halogen-free polymer compound HM4 acc. to DIN VDE 207 p.24; colour: orange

Application:

Fire resistant power and control cables have E90 fire integrity function which means the assurance of power supply or control under fire conditions for 90 minutes. They are intended for use in buildings with increased fire safety requirements due to high concentration of people, material and cultural assets of high value (sky scrapers, hospitals, shopping centres, tunnels, museums, cinemas, theatres). Cables can be used for power supply or control (lighting, lifts, fire-fighting equipment, pumps). They can be used in fixed installations inside buildings. In case of outdoor application cables should be secured against UV radiation and the external factors. Cables with improved fire characteristic E90 must be installed on the supporting systems tested according to DIN 4102-12.

Tests:

Flame propagation test for a single insulated cable:

Flame propagation test for vertically-mounted bunched cables:

Test on corrosive gases emitted during burning:

Smoke density emission during burning:

Insulation resistance to long term fire exposure FE180:

Fire integrity function of cable support system E90:

Fire integrity function of cable installation (PH120):

*Water resistance under fire conditions:

EN 60332-1-2, IEC 60332-1-2, VDE 0482-332-1

EN 60332-3-24, IEC 60332-3-24, VDE 0482-332-3-24

EN 60754-2, IEC 60754-2, VDE 0482-754-2

EN 61034-2, IEC 61034-2, VDE 0482-1034-2

PN-IEC 60331-21, IEC 60331-21, VDE 0472-814

DIN 4102-12

EN 50200

EN 50200 Annex E (applies to cables with a diameter not exceeding 20 mm)

Cable characteristics:

- fire resistant (fire retardant, self extinguishing, flame retardant, without self-ignition properties)
- halogen-free
- flame retardant
- no corrosive gases
- low smoke emission
- increased insulation resistance (FE180)
- fire integrity function (E90)
- low fire load (calorific value)

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Fire resistant, halogen-free power cable with concentric conductor

Cat. no.	n x mm ²	Outer diameter* [mm]	Approximate cable weight [kg/km]
B64150	3x1,5RE/1,5	15,3	292,3
B64151	3x2,5RE/2,5	16,3	350,4
B64152	3x4RE/4	17,5	436,5
B64153	3x6RE/6	18,9	539,9
B64154	3x10RE/10	21,0	743,0
B64155	3x16RM/16	24,2	1097,8
B64156	3x25RM/16	27,9	1504,9
B64157	3x35RM/16	30,3	1891,2
B64158	3x50RM/25	35,9	2599,1
B64159	3x70RM/35	39,4	3382,3
B64160	3x95RM/50	44,4	4516,7
B64161	3x120RM/70	49,1	5598,1
B64162	3x150RM/70	54,4	6960,9
B64163	3x185RM/95	58,6	8463,6
B64164	3x240RM/120	66,5	10840,0
B64165	4x1,5RE/1,5	16,3	338,0
B64166	4x2,5RE/2,5	17,4	408,7
B64167	4x4RE/4	18,7	513,0
B64168	4x6RE/6	20,3	639,1
B64169	4x10RE/10	22,6	886,8
B64170	4x16RM/16	26,1	1320,7
B64171	4x25RM/16	30,5	1848,6
B64172	4x35RM/16	33,2	2338,9
B64173	4x50RM/25	39,3	3216,4
B64174	4x70RM/35	43,2	4197,7
B64175	4x95RM/50	49,3	5680,8
B64176	4x120RM/70	54,0	6949,5
B64177	4x150RM/70	59,5	8760,9
B64178	4x185RM/95	64,5	10634,1
B64179	4x240RM/120	73,3	13533,1
B64180	5x2,5RE/2,5	18,7	503,2
B64181	5x4RE/4	20,1	625,2
B64182	5x6RE/6	21,6	777,4
B64183	5x10RE/10	24,4	1077,0

Cat. no.	n x mm ²	Outer diameter* [mm]	Approximate cable weight [kg/km]
B64184	5x16RM/16	28,5	1582,4
B64185	5x25RM/16	33,4	2267,5
B64186	5x35RM/16	36,4	2866,1
B64187	5x50RM/25	42,5	3918,3
B64188	5x70RM/35	47,8	5202,0
B64189	5x95RM/50	54,1	7018,2
B64190	5x120RM/70	58,9	8698,5
B64191	5x150RM/70	65,6	10737,8
B64192	5x185RM/95	71,0	12993,2
B64193	7x1,5RE/2,5	18,8	463,9
B64194	7x2,5RE/2,5	20,0	561,5
B64195	7x4RE/4	21,5	714,2
B64196	7x10RE/10	25,9	1313,5
B64197	7x16RE/16	30,9	1967,0
B64198	7x25RE/16	36,7	2869,6
B64199	7x35RE/16	40,0	3611,7
B64200	7x50RE/25	46,7	4994,4
B64201	7x70RE/35	51,2	6532,0
B64202	10x1,5RE/2,5	22,6	609,3
B64203	10x2,5RE/4	24,3	757,2
B64204	10x4RE/6	26,4	967,4
B64205	12x1,5RE/2,5	23,2	678,3
B64206	12x2,5RE/4	25,0	851,0
B64207	12x4RE/6	27,2	1093,2
B64208	14x1,5RE/2,5	24,3	757,4
B64209	14x2,5RE/4	26,1	952,9
B64210	14x4RE/6	28,5	1237,9
B64211	19x1,5RE/4	26,8	946,1
B64212	19x2,5RE/6	29,1	1211,5
B64213	19x4RE/10	32,0	1609,8
B64214	24x1,5RE/6	31,3	1183,8
B64215	24x2,5RE/10	34,6	1576,9
B64216	30x1,5RE/6	33,4	1392,8
B64217	30x2,5RE/10	36,4	1859,4

RE - round conductor, single-wire
RM - round conductor, multi-wire

*Outer diameter tolerance: +/- 5%
Cable Factory BITNER reserves the right to modify specifications without prior notification
Note: on customer's request other cross sections or number of cores can be produced