

(N)HXH FE180/E90 CERAMIC



Fire resistant cables

Fire resistant, halogen free power cable



Technical data:

Thermal parameters:

Temperature range:
fixed installation: -30 °C to 90 °C
min. installation temp: -5 °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:
single core cables: 15 x Ø
multi core cables: 12 x Ø

Design:

Cores: bare copper conductor, solid (cl. 1) or stranded (cl. 2) according to EN 60228 and IEC 60228
Insulation: special ceramic silicone rubber
Core colors: acc. to information - chapter - Technical Data
Inner sheath: special halogen-free compound
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:	EN 60332-1-2, IEC 60332-1-2, VDE 0482-332-1
Flame propagation test for vertically-mounted bunched cables:	EN 60332-3-24, IEC 60332-3-24, VDE 0482-332-3-24
Test on corrosive gases emitted during burning:	EN 60754-2, IEC 60754-2, VDE 0482-754-2
Smoke density emission during burning:	EN 61034-2, IEC 61034-2, VDE 0482-1034-2
Insulation resistance to long term fire exposure FE180:	PN-IEC 60331-21, IEC 60331-21, VDE 0472-814
Fire integrity function of cable support system E90:	DIN 4102-12
Fire integrity function of cable installation (PH90):	EN 50200

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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cables without green-yellow core (N)HXH-O FE180/E90 CERAMIC

Cat. no.	n x mm ²	Outer diameter* [mm]	Approximate cable weight [kg/km]
B60200	1x1,5 RE	6,2	81
B60201	1x2,5 RE	6,5	94
B60202	1x4 RE	7,0	114
B60203	1x6 RE	7,5	138
B60204	1x10 RE	8,3	185
B60205	1x16 RM	9,6	274
B60206	1x25 RM	11,3	379
B60207	1x35 RM	12,4	484
B60208	1x50 RM	14,2	648
B60209	1x70 RM	15,6	853
B60210	1x95 RM	17,8	1144
B60211	1x120 RM	19,4	1373
B60212	1x150 RM	21,9	1755
B60213	1x185 RM	23,6	2125
B60214	1x240 RM	27,3	2671
B60285	1x300 RM	29,2	3234
B60215	2x1,5 RE	11,3	229
B60216	2x2,5 RE	12,1	268
B60217	2x4 RE	13,2	323
B60218	2x6 RE	14,2	388
B60219	2x10 RE	15,8	513
B60220	2x16 RM	18,6	753
B60221	2x25 RM	22,2	1040
B60286	2x35 RM	24,3	1319
B60287	2x50 RM	28,1	1781
B60288	2x70 RM	31,1	2300
B60289	2x95 RM	35,6	3066
B60290	2x120 RM	38,8	3700
B60300	3x1,5 RE	11,8	254
B60301	3x2,5 RE	12,6	302
B60302	3x4 RE	13,8	370
B60303	3x6 RE	14,9	453
B60304	3x10 RE	16,8	613
B60305	3x16 RM	19,6	910
B60306	3x25 RM	23,5	1277
B60307	3x35 RM	25,7	1641
B60308	3x50 RM	29,9	2254
B60309	3x70 RM	33,1	2920
B60310	3x95 RM	38,0	3922
B60311	3x120 RM	41,6	4759
B60312	3x150 RM	46,9	6092
B60313	3x185 RM	50,6	7320
B60314	3x240 RM	58,9	9441
B60315	4x1,5 RE	12,7	296
B60316	4x2,5 RE	13,6	357
B60317	4x4 RE	14,9	443
B60318	4x6 RE	16,1	548
B60319	4x10 RE	18,2	752

Cat. no.	n x mm ²	Outer diameter* [mm]	Approximate cable weight [kg/km]
B60320	4x16 RM	21,6	1126
B60321	4x25 RM	25,7	1596
B60322	4x35 RM	28,3	2074
B60323	4x50 RM	33,3	2847
B60324	4x70 RM	36,7	3707
B60325	4x95 RM	42,3	5026
B60326	4x120 RM	46,2	6069
B60327	4x150 RM	52,1	7837
B60328	4x185 RM	56,7	9428
B60329	4x240 RM	65,4	12059
B60330	5x1,5 RE	13,7	345
B60331	5x2,5 RE	14,9	419
B60332	5x4 RE	16,1	524
B60333	5x6 RE	17,6	653
B60334	5x10 RE	19,8	904
B60335	5x16 RM	23,6	1363
B60336	5x25 RM	28,3	1956
B60337	5x35 RM	31,5	2567
B60338	5x50 RM	36,9	3502
B60339	5x70 RM	40,6	4595
B60340	5x95 RM	46,9	6204
B60341	5x120 RM	51,2	7562
B60342	5x150 RM	58,3	9681
B60343	7x1,5 RE	14,9	404
B60344	7x2,5 RE	16,0	499
B60345	7x4 RE	17,6	633
B60346	10x1,5 RE	18,4	539
B60347	10x2,5 RE	19,9	670
B60348	10x4 RE	22,0	857
B60349	12x1,5 RE	18,9	603
B60350	12x2,5 RE	20,7	757
B60351	12x4 RE	22,6	976
B60352	14x1,5 RE	19,8	676
B60353	14x2,5 RE	21,6	853
B60354	14x4 RE	23,7	1107
B60355	19x1,5 RE	22,2	840
B60356	19x2,5 RE	24,0	1071
B60357	19x4 RE	26,3	1415
B60358	24x1,5 RE	25,8	1036
B60359	24x2,5 RE	28,1	1356
B60360	30x1,5 RE	27,2	1230
B60361	30x2,5 RE	29,7	1619
B60362	3x25+1x16RM	25,4	1527
B60363	3x35+1x16RM	28,3	1946
B60364	3x50+1x25RM	33,3	2688
B60365	3x70+1x35RM	36,7	3479
B60366	3x95+1x50RM	42,3	4686
B60367	3x120+1x70RM	47,2	5724

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cables with green-yellow core (N)HXH-J FE180/E90 CERAMIC

Cat. no.	n x mm ²	Outer diameter* [mm]	Approximate cable weight [kg/km]	Cat. no.	n x mm ²	Outer diameter* [mm]	Approximate cable weight [kg/km]
B60222	3x1,5 RE	11,8	254	B60256	5x10 RE	19,8	904
B60223	3x2,5 RE	12,6	302	B60257	5x16 RM	23,6	1363
B60224	3x4 RE	13,8	370	B60258	5x25 RM	28,3	1956
B60225	3x6 RE	14,9	453	B60259	5x35 RM	31,5	2567
B60226	3x10 RE	16,8	613	B60260	5x50 RM	36,9	3502
B60227	3x16 RM	19,6	910	B60261	5x70 RM	40,6	4595
B60228	3x25 RM	23,5	1277	B60262	5x95 RM	46,9	6204
B60229	3x35 RM	25,7	1641	B60263	5x120 RM	51,2	7562
B60230	3x50 RM	29,9	2254	B60264	5x150 RM	58,3	9681
B60231	3x70 RM	33,1	2920	B60266	7x1,5 RE	14,9	404
B60232	3x95 RM	38,0	3922	B60267	7x2,5 RE	16,0	499
B60233	3x120 RM	41,6	4759	B60283	7x4 RE	17,6	633
B60234	3x150 RM	46,9	6092	B60288	10x1,5 RE	18,4	539
B60235	3x185 RM	50,6	7320	B60269	10x2,5 RE	19,9	670
B60236	3x240 RM	58,9	9441	B60280	10x4 RE	22,0	857
B60237	4x1,5 RE	12,7	296	B60270	12x1,5 RE	18,9	603
B60238	4x2,5 RE	13,6	357	B60271	12x2,5 RE	20,7	757
B60239	4x4 RE	14,9	443	B60297	12x4 RE	22,6	976
B60240	4x6 RE	16,1	548	B60272	14x1,5 RE	19,8	676
B60241	4x10 RE	18,2	752	B60273	14x2,5 RE	21,6	853
B60242	4x16 RM	21,6	1126	B60298	14x4 RE	23,7	1107
B60243	4x25 RM	25,7	1596	B60274	19x1,5 RE	22,2	840
B60244	4x35 RM	28,3	2074	B60275	19x2,5 RE	24,0	1071
B60245	4x50 RM	33,3	2847	B60299	19x4 RE	26,3	1415
B60246	4x70 RM	36,7	3707	B60276	24x1,5 RE	25,8	1036
B60247	4x95 RM	42,3	5026	B60277	24x2,5 RE	28,1	1356
B60248	4x120 RM	46,2	6069	B60278	30x1,5 RE	27,2	1230
B60249	4x150 RM	52,1	7837	B60279	30x2,5 RE	29,7	1619
B60250	4x185 RM	56,7	9428	B60291	3x25+1x16RM	25,4	1527
B60251	4x240 RM	65,4	12059	B60292	3x35+1x16RM	28,3	1946
B60252	5x1,5 RE	13,7	345	B60293	3x50+1x25RM	33,3	2688
B60253	5x2,5 RE	14,9	419	B60294	3x70+1x35RM	36,7	3479
B60254	5x4 RE	16,1	524	B60295	3x95+1x50RM	42,3	4686
B60255	5x6 RE	17,6	653	B60296	3x120+1x70RM	47,2	5724

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