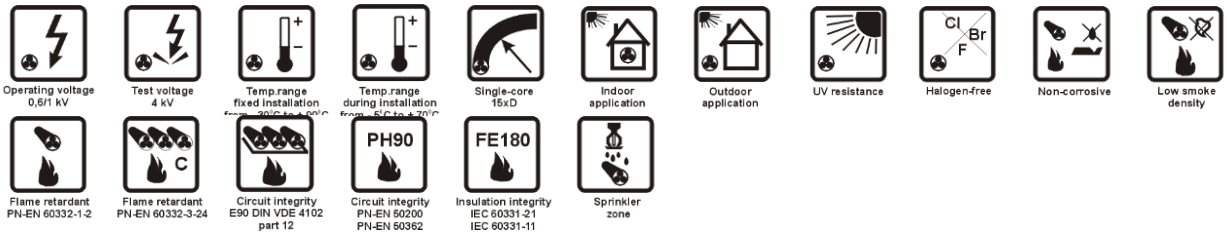
TECHNOFLAME NHXCH FE180 PH90/E90 0,6/1 kV

FIRE RESISTANT HALOGEN FREE POWER CABLES



APPLICATIONS

TECHNOFLAME NHXCH FE180 PH90/E90 0.6/1 kV fire resistant and halogen free power cables, are intended for power supply to fire protection equipment in objects of sharp fire protection requirements, particularly in fire alarm and fire automatic control systems.

The cables shall be applied in locations where, in case of fire, higher safety for human beings and expensive electronic equipment is required.

Functions of the cables are maintained – power is supplied to equipment which must operate in fire conditions and during fire fighting (e.g. water pumps in fire extinguishing systems, smoke removing fans, emergency lighting and elevators).

The cables are certified by Scientific and Research Centre for Fire Protection - National Research Institute (Centrum Naukowo-Badawcze Ochrony Przeciwpożarowej - PIB) at Józefów.

The cables are flame retardant and their smoke emission is low, emitted fumes are non toxic and non corrosive.

The cables are resistant to water in accordance with EN 50200 Annex E and can be used in fire protected rooms with fixed pressure water spraying fire extinguishing systems (**sprinkler zones**).

The cables are oil-resistant and designed for frequent contact with petroleum products, as in petrol stations and stores, where engine fuels and lubricants are pumped or handled.

The cables are suitable for fixed indoor and outdoor installations. Sheathing is UV radiation resistant. Laying cables in water or earth burial are only permitted if additional protection is used.

CONSTRUCTION

– bare annealed copper conductors meeting requirements of PN-EN 60228 standard,
  RE - single wire round conductor;
  RM - multiwire round conductor

– mica tape and halogen free cross-linked compound insulation – colours:
  up to 5 wires in accordance with PN-HD 308,
  above 5 wires black and white conductor number printed on it,

– insulated conductors laid-up into a cable core,

– inner covering made of halogen free compound,

– concentric conductor formed by bare copper wires with counter helix of copper tape over the inner sheath,

– concentric conductor wrapped in polyester tape,

– orange, cable sheath made of halogen free compound according to HD 604 S1 – HM4.

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CHARACTERISTICS

Conductor cross-section	mm²	1,5	2,5	4	6	10	16	25	35
DC conductor resistance at 20°C, maximum	Ω/km	12.1	7.41	4.61	3.08	1.83	1.15	0.727	0.524
Conductor cross-section	mm²	50	70	95	120	150	185	240	
DC conductor resistance at 20°C, maximum	Ω/km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	

Operating voltage	0.6/1 kV
Voltage test	4.0 kV rms
Insulation resistivity at 90°C, minimum	10^{11} Ω·cm
Inductance, approximate	0.7 mH/km
Conductor temperature limit	
in work conditions	+ 90°C
in short-circuit	+ 250°C
Corrosivity of emitted gases per PN-EN 60754-1, PN-EN 60754-2, IEC 60754-2	
pH,	>4.3
conductivity,	<2.5 µS/mm
Smoke density per PN-EN 61034-2, IEC 61034-2	
light transmittance, minimum	60%

Operating temperature range	
during operation	from -30 to +90°C
during installation	from -5 to +70°C
Minimum bending radius	15 x cable diameter
Cable combustibility	flame retardant
Circuit integrity *	
E90	DIN 4102-12
PH90	PN-EN 50200 or PN-EN IEC 60331-1
Insulation integrity FE180	IEC 60331-21; IEC 60331-11
Combustibility tests	PN-EN 60332-1-2, IEC 60332-1-2, PN-EN 60332-3-24, IEC 60332-3-24 (Cat. C)
Reference standards	CNBOP-PIB-KOT-2021/0311-3701 wyd.2, WT-TK-44
Class reaction to fire (according to PN-EN 13501-6)	B2ca-s1b,d0,a1

*Circuit integrity is dependent on installation method.

Cable installation - should be carried out on a certified cable fastening system, in accordance with the National Technical Assessments (KOT) issued for fastening manufacturers. Only certified cable fixing systems, tested according to DIN 4102 part 12, should be used.

The cable meets requirements of the low voltage directive 2014/35/EU

Product No.	Number of conductors x conductor cross-section	Cable outer diameter (appr.)	Copper index	Cable weight (appr.)	Fire load (appr.)	Class reaction to fire
	mm²	mm	kg/km	kg/km	kWh/m	
NHXCH FE180 PH90/E90 0,6/1 kV						
0700 069	2 x 1,5 RE/ 1,5	12.4	49.5	215	0.77	B2ca-s1b,d0,a1
0700 077	2 x 2,5 RE/ 2,5	13.4	78.3	265	0.87	B2ca-s1b,d0,a1
0700 070	2 x 4 RE/ 4	14.5	121.3	329	1.02	B2ca-s1b,d0,a1
0700 072	2 x 6 RE/ 6	16.1	179.1	421	1.15	B2ca-s1b,d0,a1
0700 078	2 x 10 RE/ 10	18.1	300.4	583	1.39	B2ca-s1b,d0,a1
0700 079	2 x 16 RE/ 16	19.9	473.1	813	1.72	B2ca-s1b,d0,a1
0700 080	2 x 25 RM/ 16	24.0	645.9	1134	2.44	B2ca-s1b,d0,a1
0700 081	2 x 35 RM/ 16	26.3	837.9	1407	2.89	B2ca-s1b,d0,a1
0700 082	2 x 50 RM/ 25	29.0	1212.3	1826	3.52	B2ca-s1b,d0,a1
0700 083	2 x 70 RM/ 35	34.1	1692.3	2580	4.65	B2ca-s1b,d0,a1
0700 084	2 x 95 RM/ 50	38.2	2316.3	3488	5.69	B2ca-s1b,d0,a1
0700 085	2 x 120 RM/ 70	41.9	2988.3	4277	6.82	B2ca-s1b,d0,a1
0700 122	2 x 150 RM/ 70	46.3	3564.3	5191	8.28	B2ca-s1b,d0,a1
0700 096	2 x 240 RM/120	56.2	5772.3	8246	12.42	B2ca-s1b,d0,a1
0700 014	3 x 1,5 RE/ 1,5	13.0	63.7	239	0.80	B2ca-s1b,d0,a1
0700 016	3 x 2,5 RE/ 2,5	14.0	102.3	297	0.90	B2ca-s1b,d0,a1
0700 071	3 x 4 RE/ 4	15.4	159.9	383	1.05	B2ca-s1b,d0,a1
0700 025	3 x 6 RE/ 6	16.8	236.5	481	1.19	B2ca-s1b,d0,a1
0700 073	3 x 10 RE/ 10	19.0	396.3	681	1.41	B2ca-s1b,d0,a1
0700 074	3 x 16 RM/ 16	21.9	626.8	994	1.74	B2ca-s1b,d0,a1
0700 018	3 x 25 RM/ 16	25.5	885.9	1368	2.52	B2ca-s1b,d0,a1
0700 075	3 x 35 RM/ 16	27.8	1173.9	1712	2.88	B2ca-s1b,d0,a1
0700 022	3 x 50 RM/ 25	30.9	1692.3	2283	3.57	B2ca-s1b,d0,a1
0700 023	3 x 70 RM/ 35	36.2	2364.2	3182	4.68	B2ca-s1b,d0,a1
0700 076	3 x 95 RM/ 50	40.0	3228.3	4323	5.55	B2ca-s1b,d0,a1
0700 086	3 x 120 RM/ 70	44.4	4140.3	5428	6.67	B2ca-s1b,d0,a1
0700 102	3 x 150 RM/ 70	48.9	5004.3	6440	8.25	B2ca-s1b,d0,a1
0700 117	3 x 185 RM/ 95	54.1	6252.3	8060	10.03	B2ca-s1b,d0,a1
0700 118	3 x 240 RM/120	59.9	8076.3	10360	12.28	B2ca-s1b,d0,a1
0700 003	4 x 1,5 RE/ 1,5	13.9	78.3	276	0.90	B2ca-s1b,d0,a1
0700 015	4 x 2,5 RE/ 2,5	15.2	126.3	352	1.04	B2ca-s1b,d0,a1
0700 011	4 x 4 RE/ 4	16.5	198.1	448	1.17	B2ca-s1b,d0,a1
0700 012	4 x 6 RE/ 6	17.7	294.1	549	1.32	B2ca-s1b,d0,a1
0700 013	4 x 10 RE/ 10	20.0	492.3	806	1.62	B2ca-s1b,d0,a1
0700 008	4 x 16 RM/ 16	23.7	780.3	1188	1.91	B2ca-s1b,d0,a1
0700 017	4 x 25 RM/ 16	27.8	1125.8	1668	2.79	B2ca-s1b,d0,a1
0700 009	4 x 35 RM/ 16	30.3	1509.9	2103	3.19	B2ca-s1b,d0,a1
0700 005	4 x 50 RM/ 25	34.2	2172.3	2846	4.10	B2ca-s1b,d0,a1
0700 024	4 x 70 RM/ 35	38.8	3036.3	3915	5.18	B2ca-s1b,d0,a1
0700 086	4 x 95 RM/ 50	44.4	4140.3	5428	6.42	B2ca-s1b,d0,a1
0700 087	4 x 120 RM/ 70	48.9	5292.3	6584	7.63	B2ca-s1b,d0,a1
0700 095	4 x 150 RM/ 70	53.4	6444.3	8029	9.48	B2ca-s1b,d0,a1
0700 101	4 x185 RM/ 95	59.9	8028.3	10110	11.81	B2ca-s1b,d0,a1
0700 103	4 x 240 RM/120	66.0	10380.3	12894	14.09	B2ca-s1b,d0,a1
0700 104	5 x 1,5 RE/ 1,5	15.1	92.7	325	0.53	B2ca-s1b,d0,a1
0700 030	5 x 2,5 RE/ 2,5	16.3	150.1	407	0.62	B2ca-s1b,d0,a1
0700 029	7 x 1,5 RE/ 2,5	16.4	131.1	393	1.19	B2ca-s1b,d0,a1
0700 088	7 x 2,5 RE/ 2,5	17.5	198.1	483	1.32	B2ca-s1b,d0,a1
0700 120	7 x 4 RE/ 4	18.7	305.1	613	0.85	B2ca-s1b,d0,a1

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Product No.	Number of conductors x conductor cross-section	Cable outer diameter (appr.)	Copper index	Cable weight (appr.)	Fire load (appr.)	Class reaction to fire
	mm^2	mm	kg/km	kg/km	kWh/m	
0700 028	10 x1,5 RE/ 2,5	20.1	180.3	548	1.76	B2ca-s1b,d0,a1
0700 114	10 x 2,5 RE/ 4	21.6	290.8	684	1.86	B2ca-s1b,d0,a1
0700 123	10 x 4 RE/ 6	23.7	453.9	896	2.11	B2ca-s1b,d0,a1
0700 089	12 x 1,5 RE/ 2,5	20.5	209.1	595	1.74	B2ca-s1b,d0,a1

Product No.	Number of conductors x conductor cross-section	Cable outer diameter (appr.)	Copper index	Cable weight (appr.)	Fire load (appr.)	Class reaction to fire
	mm^2	mm	kg/km	kg/km	kWh/m	
0700 090	12 x 2,5 RE/ 4	22.2	338.7	753	1.96	B2ca-s1b,d0,a1
0700 124	12 x 4 RE/ 6	24.4	530.7	996	2.23	B2ca-s1b,d0,a1

TECHNOKABEL S.A reserves the right to change specifications without prior notice.