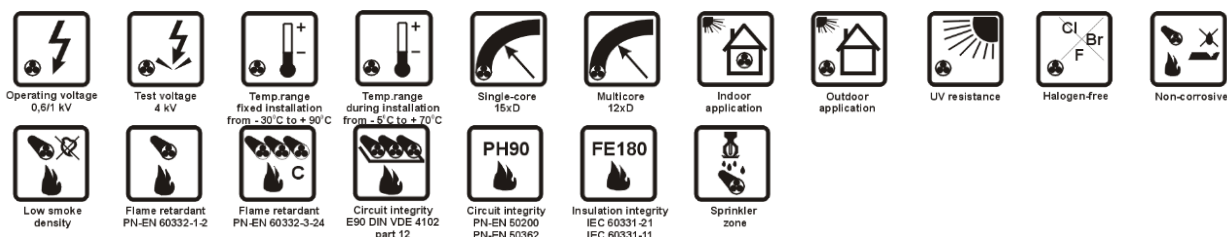


**TECHNOFLAME NHXH FE180 PH90/E90 0,6/1 kV,
TECHNOFLAME NHXH-J FE180 PH90/E90 0,6/1 kV**

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FIRE RESISTANT HALOGEN FREE POWER CABLES**APPLICATIONS**

TECHNOFLAME NHXH FE180 PH90/E90 0,6/1 kV and **TECHNOFLAME NHXH-J 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 (subway tunnels, hospitals, shopping centres, supermarkets, cinemas, theatres, stadiums and other public buildings).

Functions of the cables are maintained for 90 minutes – 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 Przeciwpowozarowej - PIB) at Józefów.

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

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** - class 1 single wire round conductor,
 - RM** - class 2 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,
 - green-yellow protective conductor in the outer layer in **TECHNOFLAME NHXH-J FE180 PH90/E90 0,6/1 kV** cable,
- insulated conductors laid-up into a cable core,
- inner covering made of halogen free compound,
- orange cable sheath made of halogen free compound type HM4 according to HD 604 S1.

TECHNOFLAME NHXH FE180 PH90/E90 0,6/1 kV, TECHNOFLAME NHXH-J FE180 PH90/E90 0,6/1 kV

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CHARACTERISTICS

Conductor cross-section	mm ²	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	mm ²	50	70	95	120	150	185	240	300
DC conductor resistance at 20°C, maximum	Ω/km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601

Operating voltage	0.6/1 kV	Operating temperature range	
Voltage test	4.0 kV rms	during operation	from -30 to +90°C
Insulation resistance at 90°C, minimum	10 ¹¹ Ω·cm	during installation	from -5 to +70°C
Inductance, approximate	0.7 mH/km	Minimum bending radius:	
Conductor temperature limit		single core cables	15 x cable diameter
in work conditions	+ 90°C	multi core cables	12 x cable diameter
in short-circuit	+ 250°C	Cable combustibility	fire resistant
Corrosivity of emitted gases per	PN-EN 60754-1, PN-EN 60754-2, IEC 60754-2	Combustibility tests	PN-EN 60332-1-2, IEC 60332-1-2 PN-EN 60332-3-24, IEC 60332-3-24 (cat. C)
pH,	>4.3	Circuit integrity *	DIN 4102-12
conductivity,	<2.5 μS/mm	E90	PN-EN 50200 or PN-EN IEC 60331-1
Smoke density per	PN-EN 61034-2, IEC 61034-2	PH90	IEC 60331-21, IEC 60331-11
light transmittance, minimum	80% for s1a	Insulation integrity FE180	IEC 60331-21, IEC 60331-11
		Reference standards	CNBOP-PIB-KOT-2021/0311-3701 wyd.2, WT-TK-44
		Class reaction to fire	B2ca-s1a,d0,a1 or Cca-s1a,d0,a1 or (according to PN-EN 13501-6) Dca-s2,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
	mm ²	mm	kg/km	kg/km	kWh/m	
NHXH FE180 PH90/E90 0,6/1 kV						
0699 100	1 x 1,5 RE	6.3	14.4	59	0.22	Cca-s1a,d0,a1
0699 199	1 x 2,5 RE	6.6	24.0	71	0.24	Cca-s1a,d0,a1
0699 200	1 x 4 RE	7.1	38.4	89	0.26	Cca-s1a,d0,a1
0699 076	1 x 6 RE	7.6	57.6	111	0.29	Cca-s1a,d0,a1
0699 104	1 x 10 RE	8.4	96.0	155	0.34	Cca-s1a,d0,a1
0699 077	1 x 16 RM	9.2	154.0	215	0.30	B2ca-s1a,d0,a1
0699 070	1 x 25 RM	10.9	240.0	325	0.41	B2ca-s1a,d0,a1
0699 045	1 x 35 RM	11.9	336.0	425	0.46	B2ca-s1a,d0,a1
0699 046	1 x 50 RM	13.3	480.0	560	0.55	B2ca-s1a,d0,a1
0699 047	1 x 70 RM	15.3	672.0	780	0.69	B2ca-s1a,d0,a1
0699 048	1 x 95 RM	17.0	912.0	1090	0.78	B2ca-s1a,d0,a1
0699 049	1 x 120 RM	18.7	1152.0	1290	0.90	B2ca-s1a,d0,a1
0699 050	1 x 150 RM	20.8	1440.0	1620	1.12	B2ca-s1a,d0,a1
0699 051	1 x 185 RM	23.0	1776.0	2000	1.31	B2ca-s1a,d0,a1
0699 052	1 x 240 RM	25.6	2304.0	2480	1.59	B2ca-s1a,d0,a1
0699 135	1 x 300 RM	27.6	2880.0	3010	1.80	B2ca-s1a,d0,a1
0699 013	2 x 1,5 RE	9.9	28.8	157	0.58	B2ca-s1a,d0,a1
0699 002	2 x 2,5 RE	10.7	48.0	193	0.66	B2ca-s1a,d0,a1
0699 176	2 x 4 RE	11.6	77.0	245	0.76	B2ca-s1a,d0,a1
0699 177	2 x 6 RE	12.6	115.0	305	0.88	B2ca-s1a,d0,a1
0699 129	2 x 10 RE	14.2	192.0	425	1.08	B2ca-s1a,d0,a1
0699 225	2 x 16 RM	16.9	307.0	602	1.40	B2ca-s1a,d0,a1
0699 132	2 x 25 RM	20.1	480.0	920	2.12	B2ca-s1a,d0,a1
0699 220	2 x 35 RM	22.4	672.0	1143	2.48	B2ca-s1a,d0,a1
0699 144	2 x 50 RM	25.1	960.0	1495	3.07	B2ca-s1a,d0,a1
0699 221	2 x 70 RM	29.0	1344.0	2069	4.05	B2ca-s1a,d0,a1
0699 145	2 x 95 RM	32.7	1824.0	2820	5.04	B2ca-s1a,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	
NHXH-J FE180 PH90/E90 0,6/1 kV						
0699 222	2 x 120 RM	36.3	2304.0	3420	6.22	B2ca-s1a,d0,a1
0699 223	2 x 150 RM	40.4	2880.0	4268	7.69	B2ca-s1a,d0,a1
0699 224	2 x 185 RM	45.0	3552.0	5306	9.50	B2ca-s1a,d0,a1
0699 183	2 x 240 RM	50.0	4608.0	6781	11.53	B2ca-s1a,d0,a1
0699 014	3 x 1,5 RE	10.5	43.2	178	0.60	B2ca-s1a,d0,a1
0699 015	3 x 2,5 RE	11.3	72.0	225	0.68	B2ca-s1a,d0,a1
0699 053	3 x 4 RE	12.3	115.0	290	0.78	B2ca-s1a,d0,a1
0699 054	3 x 6 RE	13.5	173.0	370	0.90	B2ca-s1a,d0,a1
0699 090	3 x 10 RE	15.1	288.0	530	1.13	B2ca-s1a,d0,a1
0699 069	3 x 16 RM	18.0	461.0	746	1.65	B2ca-s1a,d0,a1
0699 091	3 x 25 RM	21.6	720.0	1150	2.10	B2ca-s1a,d0,a1
0699 072	3 x 35 RM	23.9	1008.0	1500	2.48	B2ca-s1a,d0,a1
0699 073	3 x 50 RM	27.0	1440.0	1990	3.12	B2ca-s1a,d0,a1
0699 074	3 x 70 RM	31.2	2016.0	2760	4.05	B2ca-s1a,d0,a1
0699 134	3 x 95 RM	35.3	2736.0	3800	4.89	B2ca-s1a,d0,a1
0699 149	3 x 120 RM	39.0	3456.0	4550	5.92	B2ca-s1a,d0,a1
0699 201	3 x 150 RM	43.4	4320.0	5538	7.94	B2ca-s1a,d0,a1
0699 202	3 x 185 RM	48.3	5328.0	6886	9.64	B2ca-s1a,d0,a1
0699 203	3 x 240 RM	53.7	6912.0	8851	11.56	B2ca-s1a,d0,a1
0699 001	4 x 1,5 RE	11.4	58.0	215	0.69	B2ca-s1a,d0,a1
0699 055	4 x 2,5 RE	12.3	96.0	270	0.78	B2ca-s1a,d0,a1
0699 056	4 x 4 RE	13.4	154.0	355	0.89	B2ca-s1a,d0,a1
0699 020	4 x 6 RE	14.6	230.0	455	1.02	B2ca-s1a,d0,a1
0699 057	4 x 10 RE	16.7	384.0	660	1.28	B2ca-s1a,d0,a1
0699 012	4 x 16 RM	19.8	614.0	932	1.91	B2ca-s1a,d0,a1
0699 071	4 x 25 RM	23.9	960.0	1450	2.39	B2ca-s1a,d0,a1
0699 084	4 x 35 RM	26.6	1344.0	1910	2.88	B2ca-s1a,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	
0699 068	4 x 50 RM	29.9	1920.0	2520	3.54	B2ca-s1a,d0,a1
0699 085	4 x 70 RM	34.9	2688.0	3550	4.59	B2ca-s1a,d0,a1
0699 123	4 x 95 RM	39.3	3648.0	4900	5.62	B2ca-s1a,d0,a1
0699 110	4 x 120 RM	43.4	4608.0	5669	6.80	B2ca-s1a,d0,a1
0699 146	4 x 150 RM	48.3	5760.0	7084	8.73	B2ca-s1a,d0,a1
0699 181	4 x 185 RM	53.8	7104.0	8816	10.6	B2ca-s1a,d0,a1
0699 204	4 x 240 RM	59.8	9216.0	11352	12.7	B2ca-s1a,d0,a1
0699 058	5 x 1,5 RE	12.4	72.0	255	0.79	B2ca-s1a,d0,a1
0699 081	5 x 2,5 RE	13.4	120.0	325	0.90	B2ca-s1a,d0,a1
0699 059	5 x 4 RE	14.7	192.0	425	1.04	B2ca-s1a,d0,a1
0699 060	5 x 6 RE	16.2	288.0	555	1.22	B2ca-s1a,d0,a1
0699 021	5 x 10 RE	18.4	480.0	800	1.49	B2ca-s1a,d0,a1
0699 016	5 x 16 RM	21.9	768.0	1143	2.18	B2ca-s1a,d0,a1
0699 061	5 x 25 RM	26.5	1200.0	1780	2.87	B2ca-s1a,d0,a1
0699 017	5 x 35 RM	29.4	1680.0	2330	3.37	B2ca-s1a,d0,a1
0699 018	5 x 50 RM	33.2	2400.0	3150	4.23	B2ca-s1a,d0,a1
0699 075	5 x 70 RM	38.7	3360.0	4350	5.48	B2ca-s1a,d0,a1
0699 088	5 x 95 RM	43.7	4560.0	6000	6.70	B2ca-s1a,d0,a1
0699 141	5 x 120 RM	48.3	5760.0	7010	9.74	B2ca-s1a,d0,a1
0699 152	5 x 150 RM	53.7	7200.0	8755	11.6	B2ca-s1a,d0,a1
0699 147	5 x 185 RM	59.8	8880.0	10897	13.9	B2ca-s1a,d0,a1
0699 148	5 x 240 RM	66.5	11520.0	14037	16.45	B2ca-s1a,d0,a1
0699 003	7 x 1,5 RE	13.5	101.0	310	0.89	B2ca-s1a,d0,a1
0699 004	7 x 2,5 RE	14.6	168.0	400	1.01	B2ca-s1a,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	
0699 133	7 x 4,0 RE	16.2	269.0	535	1.19	B2ca-s1a,d0,a1
0699 197	7 x 6 RE	17.7	403.2	672	1.54	B2ca-s1a,d0,a1
0699 131	7 x 10 RE	20.1	672.0	982	1.91	B2ca-s1a,d0,a1
0699 219	7 x 16 RE	23.0	1075.0	1430	2.30	Dca-s2,d0,a1
0699 206	7 x 25 RM	29.1	1680.0	2209	3.50	Dca-s2,d0,a1
0699 097	10 x 1,5 RE	17.2	144.0	426	1.45	Dca-s2,d0,a1
0699 096	10 x 2,5 RE	18.7	240.0	550	1.66	Dca-s2,d0,a1
0699 217	10 x 4 RE	20.8	384.0	743	1.97	Dca-s2,d0,a1
0699 119	12 x 1,5 RE	17.8	173.0	474	1.39	Dca-s2,d0,a1
0699 150	12 x 2,5 RE	19.3	288.0	616	1.57	Dca-s2,d0,a1
0699 218	12 x 4 RE	21.5	461.0	840	2.11	Dca-s2,d0,a1
0699 109	16 x 1,5 RE	19.7	230.4	594	1.87	Dca-s2,d0,a1
0699 208	16 x 2,5 RE	21.7	384.0	792	2.18	Dca-s2,d0,a1
0699 211	16 x 4 RE	23.9	614.4	1070	2.52	Dca-s2,d0,a1
0699 128	19 x 1,5 RE	21.0	274.0	681	1.87	Dca-s2,d0,a1
0699 143	19 x 2,5 RE	22.9	456.0	898	2.11	Dca-s2,d0,a1
0699 212	19 x 4 RE	25.2	729.6	1219	2.87	Dca-s2,d0,a1
0699 118	24 x 1,5 RE	24.5	346.0	853	2.34	Dca-s2,d0,a1
0699 178	24 x 2,5 RE	27.0	576.0	1141	2.71	Dca-s2,d0,a1
0699 213	24 x 4 RE	29.8	921.6	1551	3.62	Dca-s2,d0,a1
0699 179	30 x 1,5 RE	26.2	432.0	1019	2.70	Dca-s2,d0,a1
0699 180	30 x 2,5 RE	28.6	720.0	1353	3.06	Dca-s2,d0,a1
0699 214	30 x 4 RE	31.8	1152.0	1870	4.20	Dca-s2,d0,a1

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