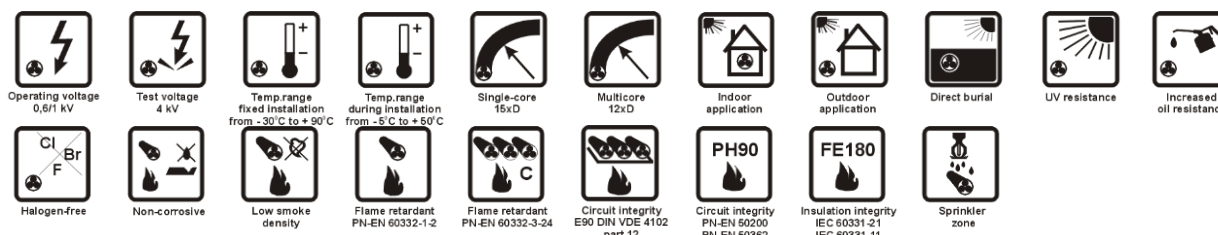


**TECHNOFLAME NHXHX FE180 PH90/E90 0,6/1 kV,
TECHNOFLAME NHXHX-J FE180 PH90/E90 0,6/1 kV**

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FIRE RESISTANT HALOGEN FREE POWER CABLES**APPLICATIONS**

TECHNOFLAME NHXHX FE180 PH90/E90 0,6/1 kV , TECHNOFLAME NHXHX-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.

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 also for direct earth burial. Cables are UV radiation resistant.

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 NHXHX-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 cross-linked halogen free compound.

TECHNOFLAME NHXHX FE180 PH90/E90 0,6/1 kV, TECHNOFLAME NHXHX-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			from -30 to +90°C				
Voltage test	4.0 kV rms	during operation			from -5 to +50°C				
Insulation resistance at 90°C, minimum	10 ¹¹ Ω·cm	during installation							
Inductance, approximate	0.7 mH/km	Minimum bending radius:			15 x cable diameter				
Conductor temperature limit in work conditions	+ 90°C	single core cables			12 x cable diameter				
Conductor temperature limit in short-circuit	+ 250°C	multi core cables							
Corrosivity of emitted gases per	PN-EN 60754-1, PN-EN 60754-2, IEC 60754-2	Cable combustibility			fire resistant				
pH, conductivity,	>4.3	Combustibility tests			PN-EN 60332-1-2, IEC 60332-1-2				
Smoke density per	<2.5 μS/mm	Circuit integrity *			PN-EN 60332-3-24, IEC 60332-3-24 (cat. C)				
light transmittance, minimum	80 % for s1a, 60 % for s1b,	E90			DIN 4102-12				
		PH90			PN-EN 50200, PN-EN 50362 or PN-EN IEC 60331-1				
		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 (according to PN-EN 13501-6)			B2ca-s1a,d2,a1 or B2ca-s1b,d0,a1 or Dca-s2,d1,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	
NHXHX FE180 PH90/E90 0,6/1 kV						
1391 090	1 x 16 RE	9.3	153.6	215	0.34	B2ca-s1a,d2,a1
1391 091	1 x 25 RM	11.3	240.0	320	0.45	B2ca-s1a,d2,a1
1391 082	1 x 35 RM	12.3	336.0	415	0.51	B2ca-s1a,d2,a1
1391 083	1 x 50 RM	13.7	480.0	547	0.59	B2ca-s1a,d2,a1
1391 084	1 x 70 RM	15.5	672.0	754	0.71	B2ca-s1a,d2,a1
1391 008	1 x 95 RM	17.4	912.0	1052	0.84	B2ca-s1a,d2,a1
1391 085	1 x 120 RM	19.3	1152.0	1261	1.00	B2ca-s1a,d2,a1
1391 086	1 x 150 RM	21.2	1440.0	1566	1.18	B2ca-s1a,d2,a1
1391 087	1 x 185 RM	23.6	1776.0	1949	1.44	B2ca-s1a,d2,a1
1391 014	1 x 240 RM	26.2	2304.0	2520	1.70	B2ca-s1a,d2,a1
1391 092	1 x 300 RM	28.4	2880.0	3064	1.96	B2ca-s1a,d2,a1
1391 088	2 x 1,5 RE	11.1	28.8	182	0.71	B2ca-s1b,d0,a1
1391 001	2 x 2,5 RE	11.9	48.0	220	0.81	B2ca-s1b,d0,a1
1391 094	2 x 4 RE	12.8	76.8	270	0.92	B2ca-s1b,d0,a1
1391 095	2 x 6 RE	13.8	115.2	333	1.05	B2ca-s1b,d0,a1
1391 096	2 x 10 RE	15.4	192.0	453	1.27	B2ca-s1b,d0,a1
1391 097	2 x 16 RE	17.2	307.2	615	1.54	B2ca-s1b,d0,a1
1391 098	2 x 25 RM	21.1	480.0	927	2.27	B2ca-s1b,d0,a1
1391 144	2 x 35 RM	23.2	672.0	1185	2.68	B2ca-s1b,d0,a1
1391 145	2 x 50 RM	25.9	960.0	1542	3.29	B2ca-s1b,d0,a1
1391 146	2 x 70 RM	29.8	1344.0	2121	4.30	B2ca-s1b,d0,a1
1391 147	2 x 95 RM	33.5	1824.0	2880	5.32	B2ca-s1b,d0,a1
1391 148	2 x 120 RM	37.3	2304.0	3503	6.61	B2ca-s1b,d0,a1
1391 149	2 x 150 RM	41.6	2880.0	4380	8.22	B2ca-s1b,d0,a1
1391 150	2 x 185 RM	46.2	3552.0	5433	10.10	B2ca-s1b,d0,a1
1391 135	2 x 240 RM	51.4	4608.0	6946	12.66	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	
NHXHX-J FE180 PH90/E90 0,6/1 kV						
1391 002	3 x 1,5 RE	11.7	43.2	205	0.75	B2ca-s1b,d0,a1
1391 005	3 x 2,5 RE	12.5	72.0	250	0.83	B2ca-s1b,d0,a1
1391 099	3 x 4 RE	13.5	115.2	315	0.95	B2ca-s1b,d0,a1
1391 007	3 x 6 RE	14.5	172.8	392	1.06	B2ca-s1b,d0,a1
1391 100	3 x 10 RE	16.3	288.0	549	1.29	B2ca-s1b,d0,a1
1391 107	3 x 16 RM	19.0	460.8	789	1.66	B2ca-s1b,d0,a1
1391 101	3 x 25 RM	22.4	720.0	1147	2.25	B2ca-s1b,d0,a1
1391 102	3 x 35 RM	24.7	1008.0	1486	2.64	B2ca-s1b,d0,a1
1391 108	3 x 50 RM	27.6	1440.0	1950	3.23	B2ca-s1b,d0,a1
1391 109	3 x 70 RM	32.0	2016.0	2719	4.26	B2ca-s1b,d0,a1
1391 110	3 x 95 RM	36.3	2736.0	3771	5.38	B2ca-s1b,d0,a1
1391 111	3 x 120 RM	40.0	3456.0	4522	6.45	B2ca-s1b,d0,a1
1391 151	3 x 150 RM	44.6	4320.0	5658	8.01	B2ca-s1b,d0,a1
1391 152	3 x 185 RM	49.5	5328.0	7019	9.78	B2ca-s1b,d0,a1
1391 153	3 x 240 RM	55.1	6912.0	9024	11.94	Dca-s2,d1,a1
1391 112	4 x 1,5 RE	12.6	57.6	241	0.84	B2ca-s1b,d0,a1
1391 113	4 x 2,5 RE	13.5	96.0	297	0.94	B2ca-s1b,d0,a1
1391 114	4 x 4 RE	14.6	153.6	378	1.06	B2ca-s1b,d0,a1
1391 115	4 x 6 RE	15.8	230.4	479	1.21	B2ca-s1b,d0,a1
1391 116	4 x 10 RE	17.7	384.0	673	1.44	B2ca-s1b,d0,a1
1391 117	4 x 16 RM	20.8	614.4	979	1.87	B2ca-s1b,d0,a1
1391 104	4 x 25 RM	24.7	960.0	1439	2.57	B2ca-s1b,d0,a1
1391 105	4 x 35 RM	27.2	1344.0	1868	2.99	B2ca-s1b,d0,a1
1391 118	4 x 50 RM	30.7	1920.0	2480	3.74	B2ca-s1b,d0,a1
1391 119	4 x 70 RM	35.9	2688.0	3500	5.09	B2ca-s1b,d0,a1
1391 106	4 x 95 RM	40.3	3648.0	4814	6.16	B2ca-s1b,d0,a1

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

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	
1391 154	4 x 120 RM	44.6	4608.0	5791	7.47	B2ca-s1b,d0,a1
1391 155	4 x 150 RM	49.5	5760.0	7220	9.15	B2ca-s1b,d0,a1
1391 156	4 x 185 RM	55.2	7104.0	8993	11.32	Dca-s2,d1,a1
1391 157	4 x 240 RM	61.4	9216.0	11573	13.75	Dca-s2,d1,a1
1391 003	5 x 1,5 RE	13.6	72.0	281	0.95	B2ca-s1b,d0,a1
1391 013	5 x 2,5 RE	14.6	120.0	350	1.07	B2ca-s1b,d0,a1
1391 012	5 x 4 RE	15.9	192.0	451	1.23	B2ca-s1b,d0,a1
1391 011	5 x 6 RE	17.2	288.0	573	1.39	B2ca-s1b,d0,a1
1391 010	5 x 10 RE	19.4	480.0	815	1.68	B2ca-s1b,d0,a1
1391 120	5 x 16 RM	22.7	768.0	1184	2.15	B2ca-s1b,d0,a1
1391 009	5 x 25 RM	27.1	1200.0	1751	2.98	B2ca-s1b,d0,a1
1391 006	5 x 35 RM	30.2	1680.0	2302	3.57	B2ca-s1b,d0,a1
1391 103	5 x 50 RM	34.0	2400.0	3052	4.43	B2ca-s1b,d0,a1
1391 121	5 x 70 RM	39.7	3360.0	4303	6.00	B2ca-s1b,d0,a1
1391 122	5 x 95 RM	44.9	4560.0	5960	7.41	B2ca-s1b,d0,a1
1391 158	5 x 120 RM	49.5	5760.0	7126	8.78	B2ca-s1b,d0,a1
1391 159	5 x 150 RM	55.1	7200.0	8932	11.44	Dca-s2,d1,a1
1391 160	5 x 185 RM	61.4	8880.0	11095	13.42	Dca-s2,d1,a1
1391 161	5 x 240 RM	68.3	11520.0	14287	16.29	Dca-s2,d1,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	
1391 004	7 x 1,5 RE	14.7	100.8	335	1.06	B2ca-s1b,d0,a1
1391 123	7 x 2,5 RE	15.8	168.0	423	1.19	B2ca-s1b,d0,a1
1391 124	7 x 4 RE	17.2	268.8	553	1.35	B2ca-s1b,d0,a1
1391 162	7 x 6 RE	18.7	403.2	714	1.52	B2ca-s1b,d0,a1
1391 163	7 x 10 RE	21.1	672.0	1030	1.82	B2ca-s1b,d0,a1
1391 164	7 x 16 RE	23.8	1075.2	1472	2.18	B2ca-s1b,d0,a1
1391 165	7 x 25 RM	29.9	1680.0	2255	3.25	B2ca-s1b,d0,a1
1391 125	12 x 1,5 RE	18.8	172.8	517	1.55	Dca-s2,d1,a1
1391 126	12 x 2,5 RE	20.3	288.0	662	1.73	Dca-s2,d1,a1
1391 127	14 x 1,5 RE	19.7	201.6	574	1.67	Dca-s2,d1,a1
1391 140	16 x 1,5 RE	20.7	230.4	641	2.10	Dca-s2,d1,a1
1391 128	19 x 1,5 RE	21.8	273.6	720	1.99	Dca-s2,d1,a1
1391 129	19 x 2,5 RE	23.7	456.0	940	2.24	Dca-s2,d1,a1
1391 130	24 x 1,5 RE	25.3	345.6	898	2.46	Dca-s2,d1,a1
1391 131	24 x 2,5 RE	27.6	576.0	1178	2.78	Dca-s2,d1,a1
1391 132	30 x 1,5 RE	26.8	432.0	1055	2.75	Dca-s2,d1,a1
1391 133	30 x 2,5 RE	29.4	720.0	1407	3.16	Dca-s2,d1,a1

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