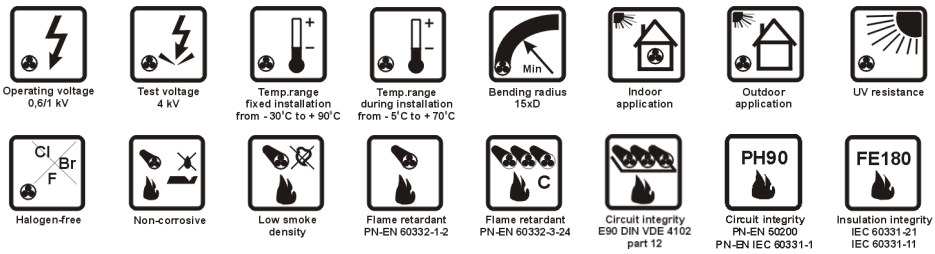
TECHNOFLAME
(N)HXCH FE180 PH90/E90 0,6/1 kV



APPLICATIONS

(N)HXCH 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 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 suitable for fixed indoor and outdoor installations. Sheathing is UV radiation resistant. Laying cables in water or direct 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,
- double special cross-linked silicone rubber 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 type HM4 according to HD 604 S1.

TECHNOKABEL®
Connecting since 1982

CHARACTERISTICS

Conductor cross-section	mm²	1.5	2.5	4	6	10	16	25	35	50
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	0.387

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 shall be used. Systems certified according to DIN 4102 part 12 are recommended.

Operating voltage Uo/U	0,6/1 kV
Voltage test	4 kV rms
Insulation resistance at 90°C, minimum	10^{11} Ω · cm
Inductance, approximate	0.7 mH/km
Conductor temperature limit	
in work conditions	+ 90°C
at short-circuit	+ 250°C
Operating temperature range	
during operation	from - 30 to + 90°C
during installation	from - 5 to + 70°C
Minimum bending radius	15 x cable diameter
Corrosivity of emitted gases per	very low, halogen free PN-EN 60754-1, PN-EN 60754-2, IEC 60754-2
pH	> 4.3
conductivity	< 2.5 µS/mm

Smoke density	low smokre density, PN-EN 61034-2, IEC 61034-2
Light transmittance, minimum	60-80 %
Cable combustibillity	fire resistant
Combustibillity tests	PN-EN 60332-1-2, IEC 60332-1-2, PN-EN 60332-3-24, IEC 60332-3-24,
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
Referance standards	CNBOP-PIB-KOT-2021/0311-3701 edition 3, WT-TK-44
Class reaction to fire (PN-EN 13501-6)	B2ca-s1b,d0,a1
KDWU declarations are available at	technokabel.com.pl

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

Product No.	Number of conductors x conductors 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	
1222 051	2 x 1,5 RE/ 1,5	12.0	49.3	198	0.73	B2ca-s1b,d0,a1
1222 055	2 x 2,5 RE/ 2,5	13.0	78.3	255	0.82	B2ca-s1b,d0,a1
1222 056	2 x 4 RE/ 4	14.1	121.5	319	0.92	B2ca-s1b,d0,a1
1222 057	2 x 6 RE/ 6	15.7	178.9	409	1.03	B2ca-s1b,d0,a1
1222 063	2 x 10 RE/ 10	17.7	294.3	573	1.23	B2ca-s1b,d0,a1
1222 054	2 x 16 RE/ 16	19.5	473.1	792	1.56	B2ca-s1b,d0,a1
1222 058	2 x 25 RM/ 16	23.6	646.0	1119	2.02	B2ca-s1b,d0,a1
1222 059	2 x 35 RM/ 16	25.9	837.9	1392	2.36	B2ca-s1b,d0,a1
1222 050	2 x 50 RM/ 25	29.0	1212.3	1866	3.01	B2ca-s1b,d0,a1
1222 005	3 x 1,5 RE/ 1,5	12.5	63.7	228	0.80	B2ca-s1b,d0,a1
1222 006	3 x 2,5 RE/ 2,5	13.5	102.3	285	0.90	B2ca-s1b,d0,a1
1222 007	3 x 4 RE/ 4	14.7	159.9	363	1.05	B2ca-s1b,d0,a1
1222 040	3 x 6 RE/ 6	16.4	236.7	472	1.11	B2ca-s1b,d0,a1
1222 041	3 x 10 RE/ 10	18.5	396.3	667	1.41	B2ca-s1b,d0,a1
1222 042	3 x 16 RE/ 16	20.7	626.7	952	1.83	B2ca-s1b,d0,a1
1222 043	3 x 25 RM/ 16	24.9	886.0	1348	2.38	B2ca-s1b,d0,a1
1222 046	3 x 35 RM/ 16	27.4	1173.9	1704	2.78	B2ca-s1b,d0,a1
1222 047	3 x 50 RM/ 25	30.9	1692.3	2306	3.44	B2ca-s1b,d0,a1
1222 003	4 x 1,5 RE/ 1,5	13.4	78.3	265	0.94	B2ca-s1b,d0,a1
1222 008	4 x 2,5 RE /2,5	14.5	126.3	334	1.04	B2ca-s1b,d0,a1

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	mm²	mm	kg/km	kg/km	kWh/m	
1222 009	4 x 4 RE/ 4	16.0	198.1	436	1.18	B2ca-s1b,d0,a1
1222 010	4 x 6 RE/ 6	17.6	294.3	559	1.25	B2ca-s1b,d0,a1
1222 011	4 x 10 RE/ 10	20.0	492.3	799	1.63	B2ca-s1b,d0,a1
1222 044	4 x 16 RE/ 16	22.4	780.4	1143	2.04	B2ca-s1b,d0,a1
1222 013	4 x 25 RM/ 16	27.3	1125.9	1654	2.84	B2ca-s1b,d0,a1
1222 014	4 x 35 RE/ 16	29.8	1509.9	2088	3.26	B2ca-s1b,d0,a1
1222 004	4 x 50 RM/ 25	34.2	2172.3	2872	4.19	B2ca-s1b,d0,a1
1222 053	5 x 1,5 RE/ 1,5	14.4	92.7	300	1.08	B2ca-s1b,d0,a1
1222 060	5 x 2,5 RE/ 2,5	15.8	150.1	397	1.17	B2ca-s1b,d0,a1
1222 048	7 x 1,5 RE/ 2,5	15.8	130.9	380	1.32	B2ca-s1b,d0,a1
1222 045	7 x 2,5 RE/ 2,5	16.9	198.3	470	1.40	B2ca-s1b,d0,a1
1222 064	7 x 4 RE/ 4	18.3	319.5	615	1.52	B2ca-s1b,d0,a1
1222 068	7 x 6 RE/ 6	20.0	473.1	798	1.78	B2ca-s1b,d0,a1
1222 065	10 x 1,5 RE/ 2,5	18.9	180.4	510	1.96	B2ca-s1b,d0,a1
1222 066	10 x 2,5 RE/ 4	20.8	290.7	665	2.10	B2ca-s1b,d0,a1
1222 067	10 x 4 RE/ 6	22.9	453.9	876	2.26	B2ca-s1b,d0,a1
1222 049	12 x 1,5 RE/ 2,5	19.4	209.2	558	2.15	B2ca-s1b,d0,a1
1222 015	12 x 2,5 RE/ 4	21.4	338.8	734	2.29	B2ca-s1b,d0,a1
1222 069	12 x 4 RE/ 6	23.5	530.7	973	2.33	B2ca-s1b,d0,a1