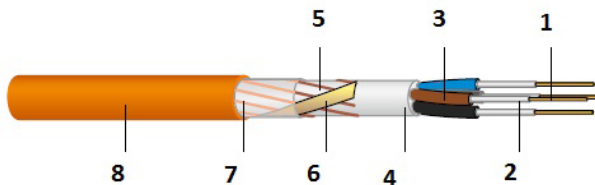


## (N)HXCH FE180 E30-E60 B2<sub>ca</sub>

Safety cable, 0.6/1kV, Keram

halogen-free, with improved fire characteristics,  
with reference to VDE 0266 and CENELEC HD 604 S1,  
circuit integrity (FE180) in accordance with VDE 0472-814, IEC 60331,  
System Circuit Integrity E30-E60\* in accordance with DIN 4102-12  
Reaction to fire according to EN 13501-6



- 1 Conductor: solid/stranded
- 2 Fire barrier: high-performance Keram compound
- 3 Insulation: cross-linked polymer, zero halogen
- 4 Filler: flame retardant, zero halogen
- 5 Concentric conductor: bare copper wire
- 6 Reinforcing helix: bare copper tape
- 7 Separator: plastic tape
- 8 Sheath: FRNC/LSZH



### Description

Cables with intrinsic fire resistance are installed in all areas that require special protection of people and equipment against fire and fire damages and where strict security requirements must be fulfilled. Suitable for indoor applications. For outdoor applications, protection must be provided against exposure to direct sunlight. The cable should only be laid directly in earth or water if a protective conduit is used. These cables correspond to the demands of System Circuit Integrity E30-E60\* in accordance with DIN 4102-12. System Circuit Integrity is guaranteed at an operating voltage up to 400V. Permitted operating temperature at conductor of +90°C.

### Application

For use in critical fire safety infrastructure (in compliance with VKF, ASTRA, Tunnels Directive, etc.), particularly in escape routes and emergency lines.

### Construction

Concentric conductor	Bare copper wires with reinforced helix
Conductor	Bare copper, solid or stranded, IEC 60228 and EN 60228 (VDE 0295)
Core colours	CENELEC HD 308 S2, VDE 0293
Filler	Flame retardant, halogen-free thermoplastic compound
Insulation	Double insulation, cross-linked, high-performance Keram special compound, VDE 0266 "HXI1"
Outer sheath colour	orange
Outer sheath material	Flame retardant Polyolefin compound, CENELEC HD 604 S1 and VDE 0276-604 "HM4"
Separator	Plastic tape

## General Properties

Circuit Integrity	E60
Installation temperature	-5 °C - +50 °C
Insulation integrity	FE 180
Operating temperature	-45 °C - +90 °C

## Electrical properties

Nominal voltage	0.6/1kV
Test voltage 50Hz	4,000 V

## Mechanical properties

Minimum bending during installation (multi core)	12 x D
Minimum bending during installation (single core)	15 x D
Minimum bending radius permanent (multi core)	12 x D
Minimum bending radius permanent (single core)	15 x D
Screened	No

## Standards

Circuit Integrity (FE180)	IEC 60331-11/-21 (180 minutes),VDE 0472-814 (FE180),IEC 60331-1 (120 minutes),IEC 60331-2 (120 minutes),EN 50200 (PH120 minutes),VDE 0482-200 (PH120),VDE 0482-362,AREI-RGIE Art.104-FR1
Reaction to fire (Euroclasses)	EN 13501-6: B2 <sub>ca</sub>
Zero halogen no corrosive gases	IEC 60754-1/-2, EN 60754-1/-2, VDE 0482-754-1/-2, AREI-RGIE Art.104-SA
Flame Propagation	IEC 60332-1-2, EN 60332-1-2, VDE 0482-332-1-2, AREI-RGIE Art.104-F1
Flame Spread	IEC 60332-3-22/-24 Cat. A/C, EN 60332-3-22/-24 Cat. A/C, VDE 0482-332-3-22/-24 Cat. A/C, AREI-RGIE Art.104-F2
Smoke Density	IEC 61034-1/-2, EN 61034-1/-2, VDE 0482-1034-1/-2, AREI-RGIE Art.104-SD
System circuit integrity	DIN 4102-12, AREI-RGIE Art.104-FR2

## Note

System Circuit Integrity is dependent on installation method.

## Versions

Material number	Product	Reaction To Fire	Outer sheath colour	Number of Cores	Diameter mm <sup>2</sup>	Outer sheath diameter [mm]	CU rate [kg/km]	Weight [kg/km]	Fire load [kWh/m]	Conductor	Construction	Packing unit
18694300BZ	(N)HXCH FE180 E30-E60 2 x 1.5/1.5	B2ca- s1a,d1,a1	orange	2	1.5/1.5	12.7	52	223	0.551	solid	LN	by the metre
18694400BZ	(N)HXCH FE180 E30-E60 2 x 2.5/2.5	B2ca- s1a,d1,a1	orange	2	2.5/2.5	13.5	80	270	0.612	solid	LN	by the metre
18723200BZ	(N)HXCH FE180 E30-E60 2 x 4/4	B2ca- s1a,d1,a1	orange	2	4/4	14.9	123	352	0.706	solid	LN	by the metre
18723400BZ	(N)HXCH FE180 E30-E60 2 x 6/6	B2ca- s1a,d1,a1	orange	2	6/6	16	182	432	0.79	solid	LN	by the metre



Material number	Product	Reaction To Fire	Outer sheath colour	Number of Cores	Diameter mm <sup>2</sup>	Outer sheath diameter [mm]	CU rate [kg/km]	Weight [kg/km]	Fire load [kWh/m]	Conductor	Construction	Packing unit
18694500BZ	(N)HXCH FE180 E30-E60 3 x 1.5/1.5	B2ca- s1a,d1,a1	orange	3	1.5/1.5	13.2	66	248	0.599	solid	3L	by the metre
18694600BZ	(N)HXCH FE180 E30-E60 3 x 2.5/2.5	B2ca- s1a,d1,a1	orange	3	2.5/2.5	14.1	104	305	0.784	solid	3L	by the metre
18723800BZ	(N)HXCH FE180 E30-E60 3 x 16/16	B2ca- s1a,d1,a1	orange	3	16/16	21.3	624.7	1,029	1.348	stranded	3L	by the metre
18723900BZ	(N)HXCH FE180 E30-E60 3 x 25/16	B2ca- s1a,d1,a1	orange	3	25/16	25	902	1,435	1.799	stranded	3L	by the metre
18724000BZ	(N)HXCH FE180 E30-E60 3 x 35/16	B2ca- s1a,d1,a1	orange	3	35/16	37.3	1,190	1,802	2.096	stranded	3L	by the metre
18724100BZ	(N)HXCH FE180 E30-E60 3 x 50/25	B2ca- s1a,d1,a1	orange	3	50/25	31.7	1,723	2,454	2.689	stranded	3L	by the metre
18724200BZ	(N)HXCH FE180 E30-E60 3 x 70/35	B2ca- s1a,d1,a1	orange	3	70/35	36	2,410	3,346	3.32	stranded	3L	by the metre
18698500BZ	(N)HXCH FE180 E30-E60 3 x 95/50	B2ca- s1a,d1,a1	orange	3	95/50	41.1	3,296	4,451	4.416	stranded	3L	by the metre
18698600BZ	(N)HXCH FE180 E30-E60 3 x 120/70	B2ca- s1a,d1,a1	orange	3	120/70	44.5	4,236	5,530	5.002	stranded	3L	by the metre
18698700BZ	(N)HXCH FE180 E30-E60 3 x 150/70	B2ca- s1a,d1,a1	orange	3	150/70	49.2	5,100	6,737	6.114	stranded	3L	by the metre
18698800BZ	(N)HXCH FE180 E30-E60 3 x 240/120	B2ca- s1a,d1,a1	orange	3	240/120	61.5	8,242	10,918	9.391	stranded	3L	by the metre
18694700BZ	(N)HXCH FE180 E30-E60 4 x 1.5/1.5	B2ca- s1a,d1,a1	orange	4	1.5/1.5	14.1	81	283	0.677	solid	3LN	by the metre
18694800BZ	(N)HXCH FE180 E30-E60 4 x 2.5/2.5	B2ca- s1a,d1,a1	orange	4	2.5/2.5	15.1	128	351	0.754	solid	3LN	by the metre
18694900BZ	(N)HXCH FE180 E30-E60 4 x 4/4	B2ca- s1a,d1,a1	orange	4	4/4	16.7	200	466	0.87	solid	3LN	by the metre
18695000BZ	(N)HXCH FE180 E30-E60 4 x 6/6	B2ca- s1a,d1,a1	orange	4	6/6	18.1	297	617	1.051	solid	3LN	by the metre
18695100BZ	(N)HXCH FE180 E30-E60 4 x 10/10	B2ca- s1a,d1,a1	orange	4	10/10	20.1	504	867	1.25	solid	3LN	by the metre
18698900BZ	(N)HXCH FE180 E30-E60 4 x 16/16	B2ca- s1a,d1,a1	orange	4	16/16	23.4	796	1,247	1.494	stranded	3LN	by the metre

Material number	Product	Reaction To Fire	Outer sheath colour	Number of Cores	Diameter mm <sup>2</sup>	Outer sheath diameter [mm]	CU rate [kg\ km]	Weight [kg\ km]	Fire load [kWh\m]	Conductor	Construction	Packing unit
18699000BZ	(N)HXCH FE180 E30-E60 4 x 25/16	B2ca- s1a,d1,a1	orange	4	25/16	27.2	1,142	1,744	2.106	stranded	3LN	by the metre
18699100BZ	(N)HXCH FE180 E30-E60 4 x 35/16	B2ca- s1a,d1,a1	orange	4	35/16	29.8	1,526	2,199	2.432	stranded	3LN	by the metre
18699200BZ	(N)HXCH FE180 E30-E60 4 x 50/25	B2ca- s1a,d1,a1	orange	4	50/25	34.8	2,203	3,029	3.298	stranded	3LN	by the metre
18699300BZ	(N)HXCH FE180 E30-E60 4 x 70/35	B2ca- s1a,d1,a1	orange	4	70/35	39.5	3,082	4,132	3.968	stranded	3LN	by the metre
18699400BZ	(N)HXCH FE180 E30-E60 4 x 95/50	B2ca- s1a,d1,a1	orange	4	95/50	45.2	4,208	5,509	5.298	stranded	3LN	by the metre
18699500BZ	(N)HXCH FE180 E30-E60 4 x 120/70	B2ca- s1a,d1,a1	orange	4	120/70	49.1	5,388	6,870	6.051	stranded	3LN	by the metre
18699600BZ	(N)HXCH FE180 E30-E60 4 x 150/70	B2ca- s1a,d1,a1	orange	4	150/70	54.3	6,540	8,407	6.971	stranded	3LN	by the metre
18699700BZ	(N)HXCH FE180 E30-E60 4 x 185/95	B2ca- s1a,d1,a1	orange	4	185/95	59.8	8,159	10,480	9.075	stranded	3LN	by the metre
18699800BZ	(N)HXCH FE180 E30-E60 4 x 240/120	B2ca- s1a,d1,a1	orange	4	240/120	67.9	10,546	13,611	11.41	stranded	3LN	by the metre

Additional dimensions available on request.

Subject to technical modification

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