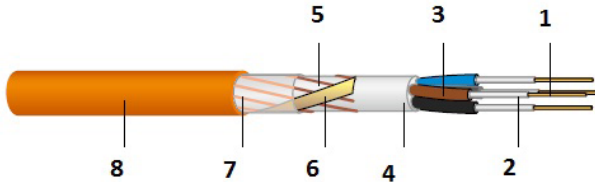


# (N)HXCH FE180 E90 B2<sub>ca</sub>

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 E90 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 E90\* 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.

Suitable according to VKF fire protection guideline in escape routes and in tunnels according to Astra guideline 13022.

## Application

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

## Construction

Conductor	Bare copper, solid or stranded, IEC 60228 and EN 60228 (VDE 0295)
Insulation	Double insulation, cross-linked, high-performance Keram special compound, VDE 0266 "HX11"
Core colours	CENELEC HD 308 S2, VDE 0293
Separator	Plastic tape
Filler	Halogen-free compound or plastic tape
Concentric conductor	Bare copper wires with reinforced helix
Outer sheath material	Flame retardant Polyolefin compound, CENELEC HD 604 S1 and VDE 0276-604 "HM4"
Outer sheath colour	orange

## General properties

Circuit Integrity	E90
Insulation integrity	FE 180
Installation temperature	-5 °C - +50 °C
Operating temperature	-45 °C - +90 °C

## Electrical properties

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

## Mechanical properties

Minimum bending during installation (multi core)	12 x D
Minimum bending radius permanent (multi core)	12 x D

## Standards

Insulation 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), AREI-RGIE Art.104-FR1
System circuit integrity	DIN 4102-12, VdS 3423 (Single-core more than 16.0 mm <sup>2</sup> ), AREI-RGIE Art.104-FR2
Reaction to fire (Euroclasses)	EN 13501-6: B2 <sub>ca</sub> , EN 50399
Smoke density	IEC 61034-1/-2, EN 61034-1/-2, VDE 0482-1034-1/-2, AREI-RGIE Art.104-SD
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, EN 60332-3-22/-24, VDE 0482-332-3-22/-24, AREI-RGIE Art.104-F2

## Note

System Circuit Integrity is dependent on installation method.

## Versions

Material number	Product	Reaction to fire	Outer sheath colour	Outer sheath diameter [mm]	CU rate [kg/km]	Weight [kg/km]	Fire load [kWh/m]	Conductor	Construction	Packing unit	GTIN / EAN
18607100BZ	(N)HXCH FE180 E90 3 x 1.5/1.5	B2ca-s1a,d1,a1	orange	13.2	66	246	0.599	solid	3L	by the metre	
18619500BZ	(N)HXCH FE180 E90 3 x 2.5/2.5	B2ca-s1a,d1,a1	orange	14.1	104	303	0.784	solid	3L	by the metre	
18619700BZ	(N)HXCH FE180 E90 3 x 4/4	B2ca-s1a,d1,a1	orange	15.6	161	400	0.771	solid	3L	by the metre	
18727800BZ	(N)HXCH FE180 E90 3 x 6/6	B2ca-s1a,d1,a1	orange	16.9	240	521	0.921	solid	3L	by the metre	
17241700BZ	(N)HXCH FE180 E90 3 x 35/16	B2ca-s1a,d1,a1	orange	29	1,190	1,941	2.267	stranded	3L	by the metre	
18740800BZ	(N)HXCH FE180 E90 3 x 50/25	B2ca-s1a,d1,a1	orange	32.5	1,723	2,545	2.729	stranded	3L	by the metre	
18740900BZ	(N)HXCH FE180 E90 3 x 70/35	B2ca-s1a,d1,a1	orange	37.6	2,410	3,536	3.542	stranded	3L	by the metre	
18741000BZ	(N)HXCH FE180 E90 3 x 95/50	B2ca-s1a,d1,a1	orange	41.9	3,296	4,598	4.285	stranded	3L	by the metre	
18741100BZ	(N)HXCH FE180 E90 3 x 120/70	B2ca-s1a,d1,a1	orange	45.3	4,236	5,688	5.112	stranded	3L	by the metre	
18741200BZ	(N)HXCH FE180 E90 3 x 150/70	B2ca-s1a,d1,a1	orange	50	5,100	6,911	5.889	stranded	3L	by the metre	

Material number	Product	Reaction to fire	Outer sheath colour	Outer sheath diameter [mm]	CU rate [kg/km]	Weight [kg/km]	Fire load [kWh/m]	Conductor	Construction	Packing unit	GTIN / EAN
18607200BZ	(N)HXCH FE180 E90 4 x 1.5/1.5	B2ca-s1a,d1,a1	orange	14.1	81	280	0.677	solid	3LN	by the metre	
18619600BZ	(N)HXCH FE180 E90 4 x 2.5/2.5	B2ca-s1a,d1,a1	orange	15.1	128	350	0.754	solid	3LN	by the metre	
18619800BZ	(N)HXCH FE180 E90 4 x 4/4	B2ca-s1a,d1,a1	orange	16.7	200	464	0.87	solid	3LN	by the metre	
18619900BZ	(N)HXCH FE180 E90 4 x 6/6	B2ca-s1a,d1,a1	orange	18.1	297	612	1.051	solid	3LN	by the metre	
18620000BZ	(N)HXCH FE180 E90 4 x 10/10	B2ca-s1a,d1,a1	orange	20.1	504	858	1.25	solid	3LN	by the metre	
18613100BZ	(N)HXCH FE180 E90 4 x 16/16	B2ca-s1a,d1,a1	orange	25.3	796	1,396	1.772	stranded	3LN	by the metre	
18613200BZ	(N)HXCH FE180 E90 4 x 25/16	B2ca-s1a,d1,a1	orange	28.9	1,142	1,895	2.568	stranded	3LN	by the metre	
18613300BZ	(N)HXCH FE180 E90 4 x 35/16	B2ca-s1a,d1,a1	orange	31.6	1,526	2,378	2.568	stranded	3LN	by the metre	
18613400BZ	(N)HXCH FE180 E90 4 x 50/25	B2ca-s1a,d1,a1	orange	36.7	2,203	3,245	3.374	stranded	3LN	by the metre	
18613500BZ	(N)HXCH FE180 E90 4 x 70/35	B2ca-s1a,d1,a1	orange	41.3	3,082	4,371	4.08	stranded	3LN	by the metre	
18613600BZ	(N)HXCH FE180 E90 4 x 95/50	B2ca-s1a,d1,a1	orange	46.4	4,208	5,731	5.179	stranded	3LN	by the metre	
18613700BZ	(N)HXCH FE180 E90 4 x 120/70	B2ca-s1a,d1,a1	orange	50.1	5,388	7,078	5.858	stranded	3LN	by the metre	
18613800BZ	(N)HXCH FE180 E90 4 x 150/70	B2ca-s1a,d1,a1	orange	55.3	6,540	8,631	7.11	stranded	3LN	by the metre	
18613900BZ	(N)HXCH FE180 E90 4 x 185/95	B2ca-s1a,d1,a1	orange	60.8	8,159	10,727	8.61	stranded	3LN	by the metre	
18614000BZ	(N)HXCH FE180 E90 4 x 240/120	B2ca-s1a,d1,a1	orange	69.2	10,546	13,949	10.885	stranded	3LN	by the metre	
18607302BZ	(N)HXCH FE180 E90 7 x 1.5/2.5	B2ca-s1b,d1,a1	orange	16.1	133	390	0.884	solid	7L	by the metre	
19109602BZ	(N)HXCH FE180 E90 7 x 2.5/2.5	B2ca-s1b,d1,a1	orange	17.3	200	484	0.994	solid	7L	by the metre	
18741502BZ	(N)HXCH FE180 E90 12 x 1.5/2.5	B2ca-s1b,d1,a1	orange	20.2	205.8	589	1.308	solid	12L	by the metre	

Additional dimensions available on request.

Subject to technical modification

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