5. INDUSTRIAL CABLES / 5.1 HALOGEN-FREE / LXKSE(FeZn)H-R

Halogen-free 1kV power cables

Application:

Power cables with resistance to flame propagation according to STN EN 60332-3-... (STN EN 50266-2-…), halogen-free, with low density of smoke according to STN EN 61034-2 and low corrosivity of combustion gases according to STN EN 50267-2-3. These are used for nominal voltage of 0,6/1 kV for fixed installation both in normal and moist environments (STN 33 2000-5-51). Cables can be used in the fire hazard conditions and can be installed on flammable material. They are UV stabilized, meet the requirements for use and installation in the free environment with UV light (Africa, Middle East, Latin America).

Cable construction:

- **Number of cores:** 1 - 32
- **Cable cores:** L - Cu or CuSn conductor cl. 5 (L2 - Cu or CuSn conductor cl. 2)
- **Nominal cross-section:** 0,75 mm^2 - 10 mm^2
- **Insulation:** cross-linked polyethylene
- halogen-free, flame-retarding filler is placed above the coiled cores
- **Shield construction:** braiding of CuSn wires of diameter 0,15 mm with a density of min. 85 % with CuSn stranded wire 0,5 mm^2
- **Filler:** halogen-free, flame-retardant material
- **Armouring:** braiding of FeZn wires of diameter 0,20 mm with a density of min. 75 %
- **Sheath cable:** halogen-free, flame-retardant material
- **Colour of sheath:** black or other if required, stabilized against UV radiation

Technical data:

- **Nominal voltage Uo/U (kV):** 0,6/1
- **Test voltage [kV]:** 2,5
- **Max. short-circuit temperature:** 90 °C
- **Operating temperature:** -30 °C to +90 °C
- **Min. temperature for laying:** +5 °C
- **Min. bending radius:** 15 x cable diameter

Marking:

- **Core identification:** Acc. to STN EN 60446
- **Letter code:**

position	letter	meaning
1.	L (L2)	Cu or CuSn conductor cl. 5 (L2 - Cu or CuSn conductor cl. 2)
2.	X	cross-linked polyethylene
3.	KS	shielded cable
4.	E	filler - halogen-free, flame-retardant material
5.	(FeZn)	armouring
6.	H	halogen-free, flame-retardant material
7.	R	cable is flame-retardant

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Aplication tables:

Type	Outer diameter (appr.)	Total weight (appr.)
	mm	kg/km
LXKSE(FeZn)H-R 2x1,0	11,8	200
LXKSE(FeZn)H-R 6x1,0	13,6	317
LXKSE(FeZn)H-R 8x1,0	13,8	346
LXKSE(FeZn)H-R 10x1,0	17,0	440
LXKSE(FeZn)H-R 16x1,0	19,0	573

Cross-section	Effective resistance of conductors (at 20 °C)	
	Cu cl. 5	CuSn cl.5
0,75 mm^2	26,0 Ω/km	26,7 Ω/km
1,0 mm^2	19,5 Ω/km	20,0 Ω/km
1,5 mm^2	13,3 Ω/km	13,7 Ω/km
2,5 mm^2	7,98 Ω/km	8,21 Ω/km
4,0 mm^2	4,95 Ω/km	5,09 Ω/km
6,0 mm^2	3,30 Ω/km	3,39 Ω/km
10,0 mm^2	1,91 Ω/km	1,95 Ω/km

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