TOXFREE® ZH N2XH flex

Halogen free (LSHF) power cable for public places.

ACCORDING TO: IEC 60502-1

100% Green Energy Cable Production

$B2_{ca}$

APPLICATION

Toxfree® ZH N2XH flex is a LSHF safety cable for fixed installations. In the event of fire, it does not emit toxic gases, nor does it give off corrosive gases, avoiding any possible damage to people or electronic equipment. For these reasons it is highly recommended for use in public places such as: hospitals, schools, museums, airports, bus terminals, shopping malls, offices, laboratories, etc.

CONSTRUCTION

Conductor

Electrolytic annealed copper conductor, class 5 (flexible) according to EN 60228 and IEC 60228.

Insulation

Cross-linked polyethylene insulation type XLPE according to IEC 60502-1.

The standard identification of insulated conductors according to HD 308 is the following:

1 x	Natural
2 x	Blue + Brown
3 G	Blue + Brown + Green/Yellow
3 x	Brown + Black + Grey
3 x+1 x	Brown + Black + Grey + Blue (reduced cross-section)
4 G	Brown + Black + Grey + Green/Yellow
4 x	Brown + Black + Grey + Blue
5 G	Brown + Black + Grey + Blue + Green/Yellow

Outer sheath

Low Smoke Halogen Free (LSHF) polyolefin outer sheath. Black colour.

CHARACTERISTICS

Electrical performance

Low voltage: 0,6/1 kV

Thermal performance

Maximum service temperature: 90°C.

Maximum short-circuit temperature: 250°C (max. 5 s).

Minimum service temperature: -40°C (fixed and protected installations).

Minimum installation and handling temperature: 0°C (on cable surface).

Fire performance

Flame non-propagation according to EN 60332-1 / IEC 60332-1.

Fire non-propagation according to EN 60332-3-24 / IEC 60332-3-24 and EN 50399.

Reaction to fire CPR: $B2_{ca}$-s1a,d1,a1 according to EN 50575.

LSHF (Low Smoke Halogen Free) according to EN 60754-1 / IEC 60754-1.

Low smoke emission according to EN 61034 / IEC 61034:

Light transmittance > 80%.

Low corrosive gases emission according to EN 60754-2 / IEC 60754-2.

Mechanical performance

Minimum bending radius: 5x cable diameter.

Impact resistance: AG2 Medium severity.

Environmental performance

Chemical & Oil resistance: acceptable.
UV Resistant according to EN 50618.
Water resistance: AD5 Jets.

Installation conditions

Open Air.
Buried.
In conduit.

STANDARDS / COMPLIANCE

According to

IEC 60502-1

Standards and approvals

KEMA-KEUR / CE

CPR (Construction Products Regulation)

$B2_{ca}$-s1a, d1, a1

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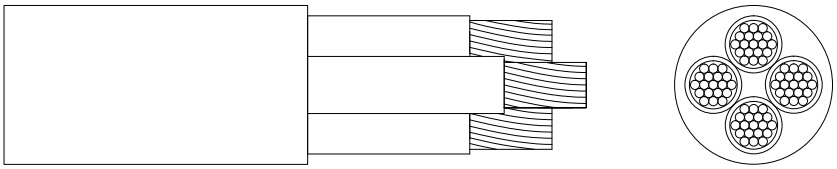
DIMENSIONS & ADMISSIBLE INTENSITIES



Cross-section (mm^2)	Diameter (mm)	Weight (kg/km)	Open air (A) [1]	Buried (A) [2]	Voltage drop (V/A · km) [3]
1 x 2,5	7,5	85	29	30	17,7
1 x 4	8,1	100	40	39	11,0
1 x 6	8,6	125	53	49	7,32
1 x 10	9,2	165	74	65	4,23
1 x 16	10,2	225	101	84	2,68
1 x 25	11,3	305	135	107	1,73
1 x 35	12,2	400	169	129	1,23
1 x 50	13,9	535	207	153	0,86
1 x 70	15,8	730	268	188	0,603
1 x 95	17,6	945	328	226	0,457
1 x 120	19,5	1.185	383	257	0,357
1 x 150	21,7	1.470	444	287	0,286
1 x 185	23,8	1.770	510	324	0,235
1 x 240	26,7	2.310	607	375	0,178
1 x 300	29,5	2.905	703	419	0,142
1 x 400	34,2	3.825	823	493	0,108
1 x 500	37,9	4.885	946	558	0,085
1 x 630	43,1	6.410	1.088	634	0,064
2 x 1,5	9,8	130	26	26	34,0
2 x 2,5	10,7	165	36	34	20,4
2 x 4	11,1	190	49	44	12,7
2 x 6	12,2	245	63	56	8,45
2 x 10	13,6	355	86	73	4,89
2 x 16	15,3	495	100	84	3,1
3 G 1,5	11,3	170	26	26	34,0
3 G 2,5	12,1	210	36	34	20,4
3 G 4	12,2	240	49	44	12,7
3 G 6	13,4	315	63	56	8,45
3 G 10	14,8	450	86	73	4,89
3 x 16	16,8	645	100	84	2,68
3 x 25	21,4	1.020	127	107	1,73
3 x 35	23,8	1.345	158	129	1,23
3 x 50	27,2	1.825	192	153	0,86
3 x 70	30,3	2.470	246	188	0,603
3 x 16 + 1 x 10	19,1	800	100	84	2,68
3 x 25 + 1 x 16	22,5	1.165	127	107	1,73
3 x 35 + 1 x 16	24,4	1.480	158	129	1,23
3 x 50 + 1 x 25	28,6	2.050	192	153	0,86
3 x 70 + 1 x 35	32,9	2.815	246	188	0,603
3 x 95 + 1 x 50	37,1	3.690	298	226	0,457
3 x 120 + 1 x 70	40,8	4.700	346	257	0,357
3 x 150 + 1 x 70	45,9	5.725	399	287	0,286
3 x 185 + 1 x 95	51,4	7.000	456	324	0,235
3 x 240 + 1 x 120	58,6	9.185	538	375	0,178
3 x 300	61	10.180	621	419	0,142
4 G 1,5	11,7	185	23	23	29,3

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Cross-section (mm²)	Diameter (mm)	Weight (kg/km)	Open air (A) [1]	Buried (A) [2]	Voltage drop (V/A · km) [3]
4 G 2,5	12,2	225	32	30	17,7
4 G 4	13,2	290	42	39	11,0
4 G 6	14,7	385	54	49	7,32
4 G 10	16,3	565	75	65	4,23
4 x 16	18,8	815	100	84	2,68
4 x 25	23,8	1.275	127	107	1,73
4 x 35	25,9	1.700	158	129	1,23
4 x 50	30,1	2.310	192	153	0,86
4 x 70	34,8	3.185	246	188	0,603
4 x 95	39,9	4.184	298	226	0,457
4 x 120	44,8	5.305	346	257	0,357
4 x 150	49,3	6.548	399	287	0,286
4 x 185	54,8	7.965	456	324	0,235
4 x 240	31,7	10.370	538	375	0,178
4 x 300	68,0	13.055	621	419	0,142
5 G 1,5	13,1	235	23	23	29,3
5 G 2,5	14,4	300	32	30	17,7
5 G 4	14,8	360	42	39	11,0
5 G 6	16,3	470	54	49	7,32
5 G 10	18,0	685	75	65	4,23
5 G 16	20,9	1.000	100	84	2,68
5 G 25	25,9	1.550	127	107	1,73
5 G 35	28,3	2.050	158	129	1,23
5 G 50	33,7	2.840	192	153	0,86
5 G 70	38,6	3.905	246	188	0,603
5 G 95	43,5	5.080	298	226	0,457
5 G 120	19,5	6.395	346	257	0,357
5 G 150	55,1	7.935	399	287	0,286
5 G 185	61,1	9.665	456	324	0,235
5 G 240	68,8	12.620	538	375	0,178

[1] Reference method F for single-core and method E for multicore cables according to IEC 60364-5-52 in open air at 30°C ambient temperature.

[2] Reference method D2 according to IEC 60364-5-52. Directly buried at 0,7 m depth with soil thermal resistivity of 2,5 K·m/W and 20°C of ground temperature.

[3] At maximum service temperature and cosφ=1.

For cables having 2 and 3 conductors up to 10 mm^2 it is supposed a single-phase circuit. For the rest of the cables, it is supposed a three-phase circuit.