TOXFREE® ZH
XZ1 (S) Al
Aluminium cable.

ACCORDING TO: UNE-HD 603-5X

100% Green Energy Cable Production

Eca

APPLICATION

Toxfree® ZH XZ1 (S) Aluminium cable is suitable for transport and distribution of electric power in low voltage networks. Security cable (S), no flame propagation and halogen free. These cables are suitable for indoor, outdoor and buried installations.

CONSTRUCTION

Conductor
Aluminium class 2 according to EN 60228 and IEC 60228.

Insulation
Cross-linked polyethylene type DIX 3 according to HD 603-1.
Natural colour.

Outer sheath
Polyolefin type DMO 1 according to HD 603-1.
Black colour.

CHARACTERISTICS

Electrical performance
Low voltage: 0,6/1 (1,2) kV AC.

Thermal performance
Maximum conductor temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -25°C.

Fire performance
Flame non-propagation according to EN 60332-1 / IEC 60332-1.
Reaction to fire CPR: Eca according to EN 50575.
Halogen free according to EN 60754-1 / IEC60754-1.
Low corrosive gases emission according to EN 60754-2 / IEC 60754-2.

Mechanical performance
Minimum bending radius: 15x cable diameter.
Impact resistance: AG2 Medium severity.
Abrasion resistant.

Environmental performance
Chemical & Oil resistance: Acceptable.
UV Resistant according to HD 603-1.
Water resistance: AD7 Immersion.

Installation conditions
Open Air.
Buried.
In conduit.

STANDARDS / COMPLIANCE

According to
UNE-HD 603-5X

Standards and approvals
AENOR / RoHS / CE

CPR (Construction Products Regulation)
Eca

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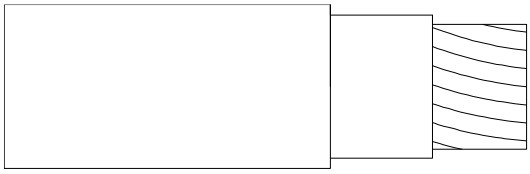
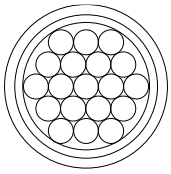
TOXFREE® ZH
XZ1 (S) AI

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 25	10,5	125	88	98	2,66
1 x 35	11,2	155	100	110	1,92
1 x 50	12,0	185	125	135	1,42
1 x 70	14,3	265	160	165	0,982
1 x 95	15,7	340	200	200	0,709
1 x 120	17,5	430	235	225	0,561
1 x 150	19,1	525	290	260	0,457
1 x 185	21,3	650	335	295	0,364
1 x 240	24,0	850	390	340	0,277
1 x 300	26,5	1.010	455	385	0,222
1 x 400	29,6	1.305	540	445	0,172
1 x 500	33,7	1.630	630	505	0,134
1 x 630	37,9	2.080	738	576	0,104

[1] Table A.1 according to UNE 211435-1 in open air at 40°C ambient temperature.
[2] Table A.1 according to UNE 211435-1. Directly buried at 0,7 m depth with soil thermal resistivity of 1,5 K·m/W and 25°C of ground temperature.
[3] At maximum conductor temperature and cosφ=1.
In all cases are supposed a three-phase circuit.

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SHORT-CIRCUIT CURRENT-CARRYING CAPACITIES

Time (s)	0,1	0,2	0,3	0,5	1	1,5	2	2,5	3
A/mm²	299	211	173	134	94	77	67	60	55

CORRECTION FACTORS FOR AIR TEMPERATURE

Air T. (°C)	20	25	30	35	40	45	50	55	60
Factor	1,18	1,14	1,10	1,05	1	0,95	0,89	0,84	0,77

CORRECTION FACTORS FOR GROUND TEMPERATURE

Ground T. (°C)	10	15	20	25	30	35	40	45	50
Factor	1,11	1,07	1,04	1	0,96	0,92	0,88	0,83	0,78

CORRECTION FACTORS FOR SOIL THERMAL RESISTIVITY

Direct buried cables						
0,8 K·m/W	0,9 K·m/W	1 K·m/W	1,5 K·m/W	2 K·m/W	2,5 K·m/W	3 K·m/W
1,29	1,23	1,18	1	0,88	0,80	0,73

Other correction factors (for grouping cables, for harmonic currents), that are not in this specification, can be applied. Further information can be found in UNE 211435-1.

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