X-VOLT® AL (-OL/-2OL) RHZ1 (AS)

Medium Voltage aluminium cable, XLPE insulation.

ACCORDING TO: IEC 60502-2 / UNE-HD 620-10E (type 10E-5)

C_{ca}

APPLICATION

X-VOLT® RHZ1 (AS) is a Medium Voltage aluminium cable halogen-free with low smoke emission and no fire propagation properties for fixed installations.
Suitable for transport and distribution of electric power in medium voltage networks.

CONSTRUCTION

Conductor
Aluminium class 2 according to EN 60228 and IEC 60228.
Optionally, with longitudinal water tightness (cable type -2OL).

Conductor screen
Screen over the conductor, made of thermosetting semiconductor material.

Insulation
Cross-linked polyethylene type XLPE according to IEC 60502-2 and type DIX3 according to HD 620-1, natural colour.
Cross linked in catenary line with nitrogen atmosphere through a triple layer extrusion process.

Insulation screen
Screen over the insulation, made of thermosetting and strippable semiconductor material.

Metallic screen
Copper wires and copper tape screen, with a minimum cross-section of 16mm^2.

Longitudinal water tightness
Hygroscopic tape completely covering the screen (cable type –OL and -2OL).

Filler
Additional fireproof polyolefin layer, halogen free.

Outer sheath
Polyolefin type ST12 according to IEC 60502-2 and type DMZ2 according to HD 620-1.
Red colour with two green stripes.
Other colours under request.

CHARACTERISTICS

Electrical performance
Medium Voltage: 6/10 (12) kV
12/20 (24) kV
18/30 (36) kV

Thermal performance
Maximum conductor temperature: 90°C.
Maximum short-circuit temperature: 250°C (max 5 s)
Minimum service temperature: -15°C.

Fire performance
Flame non-propagation according to EN 60332-1 / IEC 60332-1.
Fire non-propagation according to EN 50399.
Reaction to fire CPR: C_{ca}-s1b,d2,a1 according to EN 50575
Halogen free according to EN 60754-1 / IEC 60754-1.
Low corrosive gases emission according to EN 60754-2 / IEC 60754-2.
Low smoke emission according to EN 61034 / IEC 61034:
Light transmittance > 60%.

Mechanical performance
Minimum bending radius, fixed: 15x cable diameter.
Minimum vending radius during installation: 20x cable diameter.
Abrasion resistant.
Tear resistant.

Environmental performance
UV Resistant according to UNE 211605.
Water Resistance: AD6 Waves.

Installation conditions
Open Air.
Buried.
In conduit.

STANDARDS / COMPLIANCE

According to
IEC 60502-2 / UNE-HD 620-10E (type 10E-5)

Standards and approvals
AENOR

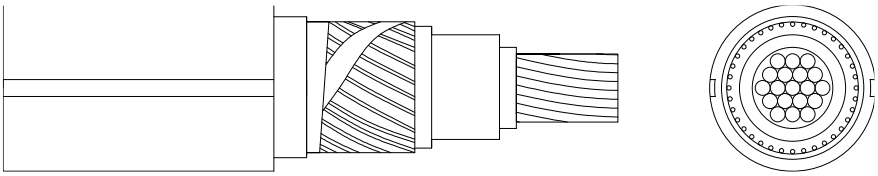
CPR (Construction Products Regulation)
C_{ca}-s1b,d2,a1

sales@topcable.com | www.topcable.com
© 2026 Top Cable - Version 14 – 20.07.2026 | Issued by APB

Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice. All renders, specifications and particulars of weights, size and dimensions contained in this documentation is indicative only and shall not be binding on Top Cable.

X-VOLT® AL (-OL/-2OL) RHZ1 (AS)

DIMENSIONS & ADMISSIBLE INTENSITIES



X-VOLT® RHZ1 (AS) 6/10 (12) kV

Cross-section (mm^2)	Screen (mm^2)	Conductor Diameter (mm)	Insulation Diameter (mm)	External Diameter (mm)	Weight (Kg/Km)	R max. 20°C (Ω/km)	X (Ω/km)	C (µF/km)	Open air (A) [1]	Buried (A) [2]
1 x 120 *	H16	12,9	20,7	35,4	1.550	0,253	0,123	0,347	324	252
1 x 150	H16	14,0	21,8	36,5	1.670	0,206	0,119	0,371	368	281
1 x 185 *	H16	15,5	23,3	38,0	1.835	0,164	0,116	0,402	424	317
1 x 240	H16	17,9	25,7	38,4	1.885	0,125	0,107	0,451	502	367
1 x 300 *	H16	20,2	28,0	40,7	2.130	0,100	0,103	0,499	577	414
1 x 400	H16	22,8	31,2	43,9	2.515	0,0778	0,100	0,564	673	470
1 x 500 *	H16	26,4	34,7	47,4	2.890	0,0605	0,096	0,636	777	542
1 x 630	H16	29,9	38,2	50,9	3.420	0,0469	0,093	0,708	895	615
1 x 630	H35	29,9	38,2	51,2	3.610	0,0469	0,093	0,708	895	615

X-VOLT® RHZ1 (AS) 12/20 (24) kV

Cross-section (mm^2)	Screen (mm^2)	Conductor Diameter (mm)	Insulation Diameter (mm)	External Diameter (mm)	Weight (Kg/Km)	R max. 20°C (Ω/km)	X (Ω/km)	C (µF/km)	Open air (A) [1]	Buried (A) [2]
1 x 70	H25	10,1	22,1	36,8	1.550	0,443	0,140	0,202	196	171
1 x 95	H16	11,2	23,2	37,9	1.680	0,320	0,136	0,215	280	221
1 x 120 *	H16	12,9	24,9	39,6	1.820	0,253	0,130	0,237	324	252
1 x 150	H16	14,0	26,0	40,7	1.945	0,206	0,126	0,252	368	281
1 x 185 *	H16	15,5	27,5	42,2	2.120	0,164	0,122	0,272	424	317
1 x 240	H16	17,9	29,9	42,6	2.165	0,125	0,113	0,302	502	367
1 x 300 *	H16	20,2	32,2	44,9	2.420	0,100	0,109	0,332	577	414
1 x 300 *	H25	20,2	32,2	44,9	2.510	0,100	0,109	0,332	577	414
1 x 400	H16	22,8	35,4	48,1	2.825	0,0778	0,106	0,373	673	470
1 x 400	H90	22,8	35,4	50,1	3.600	0,0778	0,109	0,373	673	470
1 x 630	H16	29,9	42,4	55,1	3.770	0,0469	0,098	0,462	895	615

* Cable based on UNE-HD 620-10E.

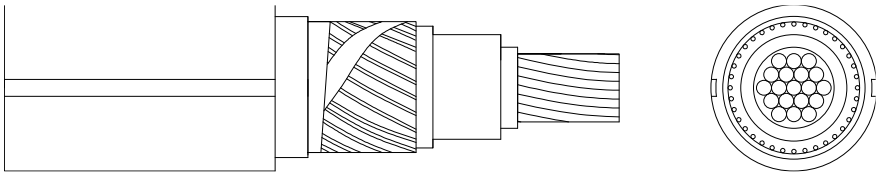
[1] Three single-core cables in open air at 30°C ambient temperature according to IEC 60502-2.
[2] Three single-core cables direct buried at 0,8 m depth with soil thermal resistivity of 1,5 K·m/W and 20°C of ground temperature according to IEC 60502-2.

Reactance (X) is calculated at 50 Hz and for three single-core cables (in triangle or trefoil formation).
Capacitance values (C) are calculated in base to dimensional items of the cables that are in this specification.
In all cases are supposed a three-phase circuit.

© 2026 Top Cable - Version 14 – 20.07.2026 | Issued by APB

Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice. All renders, specifications and particulars of weights, size and dimensions contained in this documentation is indicative only and shall not be binding on Top Cable.

X-VOLT® AL (-OL/-2OL) RHZ1 (AS)



X-VOLT® RHZ1 (AS) 18/30 (36) kV										
Cross-section (mm^2)	Screen (mm^2)	Conductor Diameter (mm)	Insulation Diameter (mm)	External Diameter (mm)	Weight (Kg/Km)	R max. 20°C (Ω/km)	X (Ω/km)	C (µF/km)	Open air (A) [1]	Buried (A) [2]
1 x 95	H16	11,2	28,1	42,8	2.010	0,320	0,144	0,165	280	221
1 x 150	H16	14,0	31,0	45,7	2.310	0,206	0,134	0,191	368	281
1 x 150	H25	14,0	31,0	45,7	2.395	0,206	0,134	0,191	368	281
1 x 185 *	H16	15,5	32,5	47,2	2.495	0,164	0,129	0,205	424	317
1 x 185 *	H25	15,5	32,5	47,2	2.580	0,164	0,129	0,205	424	317
1 x 240	H16	17,9	34,9	47,6	2.530	0,125	0,121	0,226	502	367
1 x 240	H25	17,9	34,9	47,6	2.615	0,125	0,121	0,226	502	367
1 x 300 *	H16	20,2	37,2	49,9	2.805	0,100	0,116	0,247	577	414
1 x 300 *	H25	20,2	37,2	49,9	2.895	0,100	0,116	0,247	577	414
1 x 400	H16	22,8	40,4	53,1	3.230	0,0778	0,112	0,275	673	470
1 x 400	H25	22,8	40,4	53,1	3.315	0,0778	0,112	0,275	673	470
1 x 500 *	H16	26,4	43,9	56,6	3.650	0,0605	0,107	0,306	777	542
1 x 500 *	H25	26,4	43,9	56,6	3.740	0,0605	0,107	0,306	777	542
1 x 630	H16	29,9	47,4	60,1	4.225	0,0469	0,103	0,337	895	615
1 x 630	H25	29,9	47,4	60,1	4.315	0,0469	0,103	0,337	895	615
1 x 1000 *	H16	38,4	56,7	69,4	5.810	0,0291	0,096	0,419	1.188	795

* Cable based on UNE-HD 620-10E.

[1] Three single-core cables in open air at 30°C ambient temperature according to IEC 60502-2.
[2] Three single-core cables direct buried at 0,8 m depth with soil thermal resistivity of 1,5 K·m/W and 20°C of ground temperature according to IEC 60502-2.

Reactance (X) is calculated at 50 Hz and for three single-core cables (in triangle or trefoil formation).
Capacitance values (C) are calculated in base to dimensional items of the cables that are in this specification.
In all cases are supposed a three-phase circuit.

© 2026 Top Cable - Version 14 – 20.07.2026 | Issued by APB

Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice. All renders, specifications and particulars of weights, size and dimensions contained in this documentation is indicative only and shall not be binding on Top Cable.

X-VOLT® AL (-OL/-2OL) RHZ1 (AS)

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	1,08	1,04	1	0,96	0,91	0,87	0,82	0,76	0,71

CORRECTION FACTORS FOR GROUND TEMPERATURE

Ground T. (°C)	10	15	20	25	30	35	40	45	50
Factor	1,07	1,04	1	0,96	0,93	0,89	0,85	0,80	0,76

CORRECTION FACTORS FOR SOIL THERMAL RESISTIVITY (calculated for 240 mm² cable)

Direct buried cables						
0,7 K·m/W	0,8 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
1,36	1,29	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 IEC 60502-2.

© 2026 Top Cable - Version 14 – 20.07.2026 | Issued by APB

Top Cable reserves the right to carry out any modification to the data sheets whatsoever without giving previous notice. All renders, specifications and particulars of weights, size and dimensions contained in this documentation is indicative only and shall not be binding on Top Cable.