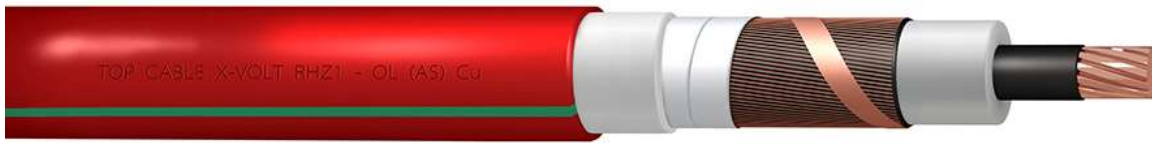


X-VOLT[®] CU (-OL/-2OL) RHZ1 (AS)

Medium Voltage copper cable, XLPE insulation.

ACCORDING TO: IEC 60502-2



C_{ca}

APPLICATION

X-VOLT[®] RHZ1 (AS) is a Medium Voltage copper 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

Electrolytic annealed copper, 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, 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 16mm².

Longitudinal water tightness

Hygroscopic tape completely covering the screen (cable type -OL and -2OL).

Filling

Additional fireproof polyolefin layer, halogen free.

Outer sheath

Polyolefin type ST12 according to IEC 60502-2.

Red colour with two green stripes.

Other colours under request.

CHARACTERISTICS



Electrical performance

Medium Voltage: 6/10 (12) kV
8,7/15 (17,5) 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 installation temperature: 0°C.
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 bending 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



Standards and approvals
AENOR

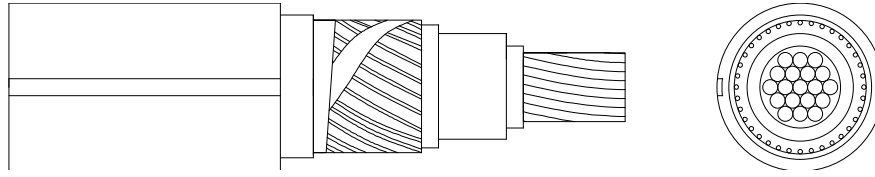


CPR (Construction Products Regulation)
C_{ca}-s1b, d2, a1



X-VOLT[®] CU (-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 50	H16	8,5	15,7	30,5	1.440	0,387	0,139	0,276	238	196
1 x 70	H16	10,0	17,2	32,0	1.700	0,268	0,132	0,310	296	239
1 x 95	H16	11,1	18,3	33,1	1.980	0,193	0,127	0,335	361	285
1 x 120	H16	12,8	20,0	34,8	2.250	0,153	0,121	0,373	417	323
1 x 150	H16	15,0	22,2	37,0	2.620	0,124	0,115	0,423	473	361
1 x 185	H16	15,7	22,9	37,7	3.000	0,0991	0,114	0,439	543	406
1 x 240	H16	18,1	25,3	38,1	3.335	0,0754	0,105	0,493	641	469
1 x 300	H16	20,2	27,4	40,2	3.810	0,0601	0,102	0,540	735	526
1 x 400	H16	23,0	30,4	43,2	4.980	0,0470	0,0987	0,608	845	590
1 x 630	H35	30,0	37,7	51,3	7.680	0,0283	0,0929	0,772	1.196	772

X-VOLT [®] RHZ1 (AS) 8,7/15 (17,5) 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	11,1	20,3	35,1	2.100	0,193	0,131	0,268	361	285
1 x 150	H16	15,0	24,2	39,0	2.750	0,124	0,119	0,335	473	361
1 x 185	H16	15,7	24,9	39,7	3.140	0,0991	0,117	0,347	543	406
1 x 240	H16	18,1	27,3	40,1	3.465	0,0754	0,109	0,388	641	469
1 x 300	H16	20,2	29,4	42,1	3.955	0,0601	0,105	0,424	735	526
1 x 400	H16	23,0	32,4	45,2	5.120	0,0470	0,102	0,475	845	590
1 x 630	H16	30,0	39,7	53,1	7.650	0,0283	0,0950	0,599	1.196	772

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 95	H16	11,1	22,1	36,9	2.210	0,193	0,134	0,230	361	285
1 x 120	H16	12,8	23,8	38,6	2.485	0,128	0,254	0,180	417	323
1 x 150	H16	15,0	26,0	40,8	2.875	0,124	0,122	0,285	473	361
1 x 185	H16	15,7	26,7	41,5	3.260	0,0991	0,120	0,295	543	406
1 x 240	H16	18,1	29,1	41,9	3.585	0,0754	0,112	0,329	641	469
1 x 240	H35	18,1	29,1	42,1	3.770	0,0754	0,112	0,329	641	469
1 x 300	H16	20,2	31,2	44,0	4.065	0,0601	0,108	0,359	735	526
1 x 400	H16	23,0	34,2	47,0	5.255	0,0470	0,107	0,401	845	590
1 x 500	H16	27,0	38,5	51,9	6.285	0,0366	0,100	0,461	1.002	670
1 x 630	H16	30,0	41,5	54,9	7.805	0,0283	0,0971	0,503	1.196	772
1 x 630	H35	30,0	41,5	55,1	8.000	0,0283	0,0974	0,503	1.196	772
1 x 630	H50	30,0	41,5	55,5	8.160	0,0283	0,0979	0,503	1.196	772

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.

X-VOLT[®] CU (-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 50	H16	8,5	24,1	38,9	1.945	0,387	0,155	0,149	238	196
1 x 70	H16	10,0	25,6	40,4	2.220	0,268	0,147	0,164	296	239
1 x 95	H16	11,1	26,7	41,4	2.515	0,193	0,142	0,175	361	285
1 x 120	H16	12,8	28,4	43,2	2.805	0,128	0,136	0,192	417	323
1 x 150	H16	15,0	30,6	45,4	3.205	0,124	0,129	0,214	473	361
1 x 240	H16	18,1	33,7	46,5	3.910	0,0754	0,118	0,244	641	469
1 x 300	H16	20,2	35,8	48,6	4.410	0,0601	0,114	0,264	735	526
1 x 400	H16	23,0	38,8	51,6	5.615	0,0470	0,107	0,319	845	590
1 x 500	H16	27,0	43,1	56,5	6.680	0,0366	0,106	0,335	1.002	670
1 x 630	H16	30,0	46,1	59,5	8.220	0,0283	0,102	0,364	1.196	772

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.

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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	452	320	261	202	143	117	101	90	83

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 400 mm² cable)

Direct buried cables						
0,5 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
1,37	1,30	1,19	1	0,88	0,79	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.