

X-VOLT® CU (-OL/-2OL) RHZ1

Medium Voltage copper cable, XLPE insulation.

ACCORDING TO: BS 7870-4.10



APPLICATION

X-VOLT® RHZ1 is a Medium Voltage copper cable halogen-free 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).

Internal semiconductor

Screen over the conductor, made of thermosetting semiconductor material.

Insulation

Cross-linked polyethylene type DIX 3 according to BS 7870-4.10, natural colour.

Cross linked in catenary line with nitrogen atmosphere through a triple layer extrusion process.

External semiconductor

Screen over the insulation, made of thermosetting and bonded semiconductor material.

Metallic screen

Copper wires and copper tape screen, with a minimum cross-section of 16mm².

Longitudinal sealing

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

Outer sheath

Polyethylene type DMP 5 according to BS 7870-4.10.

Red or black colour.

CHARACTERISTICS



Electrical performance

Medium Voltage: 6,35/11 (12) kV
19/33 (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

Halogen free according to EN 60754-1 / IEC 60754-1.
Low corrosive gases emission according to EN 60754-2 / IEC 60754-2.



Mechanical performance

Minimum bending radius during installation: 20x cable diameter.
Abrasion resistant.
Tear resistant.



Environmental performance

UV Resistant according to UNE 211605.
Water Resistance: AD7 Immersion.



Installation conditions

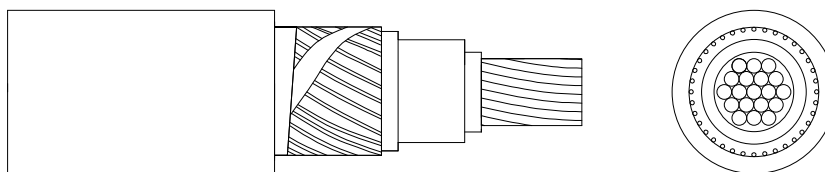
Open Air.
Buried.
In conduit.

STANDARDS / COMPLIANCE



According to
BS 7870-4.10

DIMENSIONS & ADMISSIBLE INTENSITIES



X-VOLT[®] RHZ1 6,35/11 (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 Direct (A) ²	Buried Duct (A) ³
1 x 70	35	10,0	17,6	24,0	1.265	0,268	0,114	0,319	296	239	227
1 x 120	35	12,8	20,4	27,0	1.760	0,153	0,106	0,382	417	323	308
1 x 185	35	15,7	23,3	30,1	2.460	0,0991	0,100	0,448	543	406	387
1 x 240	35	18,1	25,7	32,7	2.975	0,0754	0,0963	0,502	641	469	447
1 x 300	35	20,2	27,8	35,0	3.430	0,0601	0,0937	0,549	735	526	504
1 x 400	35	23,0	30,6	38,0	4.560	0,0470	0,0907	0,612	845	590	564
1 x 630	35	30,4	38,3	46,7	7.000	0,0283	0,0862	0,785	1.196	772	722

X-VOLT[®] RHZ1 19/33 (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 Direct (A) ²	Buried Duct (A) ³
1 x 95	35	11,1	27,1	34,3	1.900	0,193	0,130	0,179	361	285	271
1 x 185	35	15,7	31,7	39,1	2.885	0,0991	0,116	0,224	543	406	387
1 x 300	35	20,2	36,2	44,0	3.900	0,0601	0,108	0,268	735	526	504
1 x 400	35	23,0	39,0	47,0	5.055	0,0470	0,104	0,295	845	590	564
1 x 500	35	27,0	43,3	52,1	6.060	0,0366	0,100	0,337	1.002	670	646
1 x 630	35	30,4	46,7	55,7	7.590	0,0283	0,0972	0,370	1.196	772	722
1 x 800	35	36,4	53,3	62,5	9.430	0,0221	0,0932	0,433	1.332	875	834

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.

³ Three single-core tubed cables (one cable per tube) in mutual contact at a depth of 0,8 m, ground temperature of 20 °C, soil thermal resistivity of 1,5 K·m/W and thermal resistivity of the tube of 1,2 K·m/W 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.

SHORT-CIRCUIT CURRENT-CARRYING CAPACITIES

Time (s)	0,1	0,2	0,3	0,5	1	1,5	2	2,5	3
A/mm ²	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						
0,7 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
1,37	1,30	1,19	1	0,88	0,79	0,73

In buried ducts 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
1,25	1,21	1,14	1	0,90	0,83	0,77

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.