

TOXFREE® LSZH RZ1-K (AS) 1,8/3 kV

Flexible LSZH power cable, for public places.
ACCORDING TO: IEC 60502-1



B2_{ca}

APPLICATION

Toxfree® LSZH RZ1-K (AS) 1,8/3 kV is a LSHF safety cable. 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 centers, offices, laboratories, etc.

- Industrial use.
- Public places.

CONSTRUCTION

Conductor

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

Insulation

Cross-linked polyethylene type XLPE according to IEC 60502-1. The standard identification of insulated conductor according to HD 308 is the following:

1 x Natural







Outer sheath

Low smoke halogen free polyolefin, type ST8 according to IEC 60502-1.

Green colour.

Other colours available on request.

CHARACTERISTICS

-  **Electrical performance**
Low voltage: 1,8/3 (3,6) kV
-  **Thermal performance**
Maximum conductor 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.
-  **Fire performance**
Flame non-propagation according to IEC 60332-1 / EN 60332-1.
Fire non-propagation according to EN 60332-3 / IEC 60332-3 and EN 50399.
Reaction to fire CPR: B2_{ca}-s1a, d1, a1 according to EN 50575.
Low Smoke 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 > 80%.
-  **Mechanical performance**
Minimum bending radius during installation: 5x cable diameter.
Impact resistance: AG2 Medium severity.
-  **Environmental performance**
Chemical & Oil resistance: acceptable.
UV Resistant according to EN 50618.
Water resistance: AD8 Submersion.
-  **Installation conditions**
Open Air.
Buried.
In conduit.

STANDARDS / COMPLIANCE



According to
IEC 60502-1



Standards and approvals
RoHS / CE

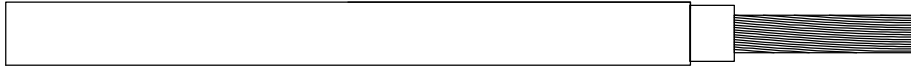


CPR (Construction Products Regulation)
B2_{ca}-s1a, d1, a1



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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 10	12,2	230	93	77	4,87
1 x 16	14,2	340	124	100	3,08
1 x 25	14,9	405	161	129	1,98
1 x 35	15,3	480	200	155	1,41
1 x 50	17,5	650	242	183	0,984
1 x 70	19,1	850	310	225	0,693
1 x 95	20,7	1.055	377	270	0,525
1 x 120	22,1	1.285	437	306	0,410
1 x 150	23,0	1.520	504	343	0,328
1 x 185	24,7	1.810	575	387	0,270
1 x 240	27,3	2.320	679	448	0,204
1 x 300	29,6	2.850	783	502	0,163
1 x 400	34,2	3.825	930	592	0,123
1 x 500	37,9	4.880	1.083	670	0,097
1 x 630	43,7	6.385	1.254	762	0,073

¹Reference method F according to IEC 60364-5-52 in open air at 30°C ambient temperature.

²Reference 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.

³At maximum conductor temperature and $\cos\phi=1$.

In all cases are supposed a single-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	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	0,8	0,76

CORRECTION FACTORS FOR SOIL THERMAL RESISTIVITY

Moisture degree of soil	Very damp	Slightly damp	Slightly dry	Dry	Very dry
Thermal Resist. (K·m/W)	1	1,5	2	2,5	3
Factor	1,50	1,28	1,12	1	0,90

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 60364-5-52.