



# D<sub>ca</sub>

## APPLICATION

Toxfree<sup>®</sup>ULTRA RZ1-K is an extra flexible low smoke halogen free cable for fixed installations. Suitable for installations where an enhanced flexibility is needed to aid swift installation into compact and restricted spaces.

## CONSTRUCTION

### Conductor

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

### Insulation

Flexible cross-linked polyethylene type XLPE according to IEC 60502-1.

Natural colour.

### Outer sheath

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

Black colour.

## CHARACTERISTICS



### Electrical performance

Low voltage: 0,6/1 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 50399.

Reaction to fire CPR: D<sub>ca</sub>-s1, d2, 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.



### Mechanical performance

Minimum bending radius: 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



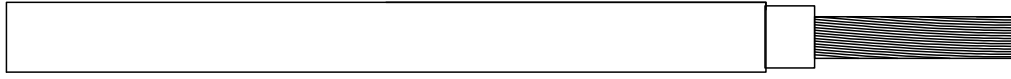
Standards and approvals  
RoHS / CE



CPR (Construction Products Regulation)  
D<sub>ca</sub> -s1, d2, a1



## DIMENSIONS & ADMISSIBLE INTENSITIES



Cross-section (mm <sup>2</sup> )	Diameter (mm)	Weight (kg/km)	Open air (A) <sup>1</sup>	Buried (A) <sup>2</sup>	Voltage drop (V/A · km) <sup>3</sup>
1 x 95	17,5	905	377	270	0,525
1 x 150	21,0	1.415	504	343	0,328
1 x 185	23,1	1.710	575	387	0,270
1 x 240	26,2	2.240	679	448	0,204
1 x 300	28,9	2.830	783	502	0,163
1 x 400	33,8	3.710	930	592	0,123
1 x 500	37,5	4.655	1.083	670	0,097

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

<sup>2</sup>Reference 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.

<sup>3</sup>At maximum service temperature and  $\cos\phi=1$ .

In all cases are supposed a single-phase circuit.

## SHORT-CIRCUIT CURRENT-CARRYING CAPACITIES

<b>Time (s)</b>	0,1	0,2	0,3	0,5	1	1,5	2	2,5	3
<b>A/mm<sup>2</sup></b>	452	320	261	202	143	117	101	90	83

## CORRECTION FACTORS FOR AIR TEMPERATURE

<b>Air T. (°C)</b>	20	25	30	35	40	45	50	55	60
<b>Factor</b>	1,08	1,04	1	0,96	0,91	0,87	0,82	0,76	0,71

## CORRECTION FACTORS FOR GROUND TEMPERATURE

<b>Ground T. (°C)</b>	10	15	20	25	30	35	40	45	50
<b>Factor</b>	1,07	1,04	1	0,96	0,93	0,89	0,85	0,8	0,76

## CORRECTION FACTORS FOR SOIL THERMAL RESISTIVITY

<b>Moisture degree of soil</b>	<b>Very damp</b>	<b>Slightly damp</b>	<b>Slightly dry</b>	<b>Dry</b>	<b>Very dry</b>
<b>Thermal Resist. (K·m/W)</b>	1	1,5	2	2,5	3
<b>Factor</b>	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.