RZ1-K Power Cable - 1.5mm² to 630mm²

Description

RZ-1 cable is a low voltage power distribution cable with a rating of 600/1000V. It is made in accordance with IEC 60502-1

The high flexibility of the RZ-1 Cable with its Class 5 Copper conductors makes cable it suitable for complex routes as are found in Datacentres and renewables installations. It can be buried or installed in conduit as well as outdoors without requiring additional protection as allowable by various local regulations.

The outer sheath of the RZ-1 cable is flame retardant PVC in accordance with EN 60332-1-2 and EN 60332-3-24 and the XLPE insulation provides an operating temperature range of -15°C to +90°C. RV-K is compliant to CPR . It is also available as a flexible PVC cable in our RV-K range

Key Features

Voltage Rating
600/1000 Volts

Minimum Bending Radius
5 x Overall Diameter

Flame Retardancy
BS EN/IEC 60332-3-10

Temperature Limits
Temperature Range: -15°C to +90°C

Core Colours

According to HD 308 S2,

Outer Sheath Colour: Green, Other colours available on request

Single-core: Green Yellow OR Black

2-core: Brown Blue

3-core: Green Yellow Brown Blue OR Black Brown Grey

4-core: Green Yellow Brown Black Grey OR Blue Brown Black Grey

5-core: Green Yellow Blue Brown Black Grey

Standards

- IEC 60502-1
- BS EN 60228
- IEC 60332-3-24
- IEC/EN 61034-1/2,
- BS EN/IEC 60332-1-2
- IEC/EN 60754-1/2

Construction

- **Conductor**: Class 5 Flexible stranded copper
- **Insulation**: Cross Linked polyethylene (XLPE)
- **Sheath**: Low Smoke Zero Halogen (LSZH)

QA Lab

Cleveland Cable Test & Training Lab
Our state-of-the-art cable testing facility ensures that every cable meets the highest standards of quality and compliance through continuous, rigorous testing. Where applicable, cables are independently tested and certified by BASEC to ensure full compliance.

CPR
Cleveland Cable Company is committed to compliance with the Construction Products Regulation (CPR). Where applicable, all cables manufactured after 1st July 2017 have been assessed in accordance with CPR requirements, with full supporting documentation available.

Our Sustainability Commitment

We are committed to the journey to Net Zero as a business partner, an employer and a community member.

By thinking and acting sustainably, we deliver excellent customer service while reducing carbon emissions in collaboration with our customers and suppliers.

ecovadis
Cleveland Cable Company has been independently assessed by EcoVadis, a globally recognised provider of business sustainability ratings. Our score places us among the top 35% of companies evaluated worldwide, reflecting our strong commitment to environmental, social, and ethical performance

RZ1-K Power Cable - 1.5mm² to 630mm² - Dimensions

Reference	Conductor Size (mm2)	No Of Cores	Max Resistance at 20°c (Ω/km)	Outside Diameter(mm)	Weight(Kg/Km)	Current Capacity in Air
RZ1K2X1.5	1.5	2	13.3	10.0	138	24
RZ1K3X1/5	1.5	3	13.3	10.5	158	24
RZ1K4X1/5	1.5	4	13.3	11.2	184	24
RZ1K5X1/5	1.5	5	13.3	12.0	211	24
RZ1K2X2.5	2.5	2	7.98	10.8	173	32
RZ1K3X2/5	2.5	3	7.98	11.3	203	32
RZ1K4X2/5	2.5	4	7.98	12.1	240	32
RZ1K5X2/5	2.5	5	7.98	13.0	279	32
RZ1K2X4	4	2	4.95	11.8	223	42
RZ1K3X4	4	3	4.95	12.4	268	42
RZ1K4X4	4	4	4.95	13.4	321	42
RZ1K5X4	4	5	4.95	14.4	377	42
RZ2K1X6	6	2	3.3	12.8	283	53
RZ1K3X6	6	3	3.30	13.5	347	53
RZ1K4X6	6	4	3.30	14.6	422	53
RZ1K5X6	6	5	3.30	15.7	500	53
RZ1K1X10	10	1	1.91	8.6	163	99
RZ1K2X10	10	2	1.91	14.4	192	74
RZ1K3X10	10	3	1.91	15.2	500	74
RZ1K4X10	10	4	1.91	16.5	616	74
RZ1K5X10	10	5	1.91	17.9	737	74
RZ1K1X16	16	1	1.210	9.5	230	131
RZ1K2X16	16	2	1.210	16.2	559	98
RZ1K3X16	16	3	1.21	17.1	718	98
RZ1K4X16	16	4	1.21	18.7	895	98
RZ1K5X16	16	5	1.21	20.3	1079	98
RZ1K1X25	25	1	0.780	11.0	336	177
RZ1K2X25	25	2	0.780	19.2	824	133
RZ1K3X25	25	3	0.780	20.4	1070	133
RZ1K4X25	25	4	0.780	22.3	1341	133
RZ1K5X25	25	5	0.780	24.4	1624	133
RZ1K1X35	35	1	0.554	12.1	445	217
RZ1K2X35	35	2	0.554	21.4	1087	162
RZ1K3X35	35	3	0.554	22.8	1427	162
RZ1K4X35	35	4	0.554	25.0	1797	162
RZ1K5X35	35	5	0.554	27.4	2184	162
RZ1K1X50	50	1	0.386	13.6	608	265

Reference	Conductor Size (mm2)	No Of Cores	Max Resistance at 20°c (Ω/km)	Outside Diameter(mm)	Weight(Kg/Km)	Current Capacity in Air
RZ1K2X50	50	2	0.386	24.4	1486	197
RZ1K3X50	50	3	0.386	25.2	1959	197
RZ1K4X50	50	4	0.386	28.0	2494	197
RZ1K5X50	50	5	0.386	31.8	3062	197
RZ1K1X70	70	1	0.272	15.2	821	336
RZ1K2X70	70	2	0.272	27.6	2001	250
RZ1K3X70	70	3	0.272	28.9	2676	250
RZ1K4X70	70	4	0.272	32.7	3420	250
RZ1K5X70	70	5	0.272	36.3	4192	250
RZ1K1X95	95	1	0.206	16.8	1080	415
RZ1K2X95	95	2	0.206	31.20	2650	308
RZ1K3X95	95	3	0.206	28.9	3543	308
RZ1K4X95	95	4	0.206	36.1	4529	308
RZ1K5X95	95	5	0.206	41.0	5585	308
RZ1K1X120	120	1	0.161	18.4	1342	485
RZ1K2X120	120	2	0.161	34.60	3308	359
RZ1K3X120	120	3	0.161	36.2	4435	359
RZ1K4X120	120	4	0.161	40.4	5692	359
RZ1K5X120	120	5	0.161	45.6	6993	359
RZ1K1X150	150	1	0.129	20.2	1660	557
RZ1K2X150	150	2	0.129	38.4	4110	412
RZ1K3X150	150	3	0.129	40.50	5539	412
RZ1K4X150	150	4	0.129	45.0	7124	412
RZ1K5X150	150	5	0.129	51.2	8733	412
RZ1K1X185	185	1	0.106	22.1	2029	646
RZ1K2X185	185	2	0.106	42.4	5043	475
RZ1K3X185	185	3	0.106	44.8	6803	475
RZ1K4X185	185	4	0.106	50.0	8772	475
RZ1K5X185	185	5	0.106	56.8	10754	475
RZ1K1X240	240	1	0.0801	24.5	2594	774
RZ1K2X240	240	2	0.0801	48.0	6512	564
RZ1K3X240	240	3	0.0801	50.3	8784	564
RZ1K4X240	240	4	0.0801	56.2	11267	564
RZ1K5X240	240	5	0.0801	63.6	13873	564
RZ1K1X300	300	1	0.0641	26.7	3206	901
RZ1K3X300	300	3	0.0641	55.5	10878	649
RZ1K4X300	300	4	0.0641	61.9	13962	649
RZ1K1X400	400	1	0.0486	30.4	4242	1060
RZ1K3X400	400	3	0.0486	64.9	14428	761

Reference	Conductor Size (mm2)	No Of Cores	Max Resistance at 20°c (Ω/km)	Outside Diameter(mm)	Weight(Kg/Km)	Current Capacity in Air
RZ1K4X400	400	4	0.0486	65.3	18389	761
RZ1K1X500	500	1	0.0384	33.7	6626	1252
RZ1K1X630	630	1	0.0287	37.4	8374	1486

Multi core non-armoured 90 °C and 180°C thermosetting insulated flexible cables with sheath Reproduced from BS7671:2018 Wiring Regulations

TABLE 4F2A

CURRENT-CARRYING CAPACITY (Amps)

Ambient temperature: 30 °C
Conductor operating temperature: 90 °C

Conductor cross sectional area	Single-phase AC or DC	Three-phase AC	Single-phase AC or DC
	1 x 2 core cable, with or without protective conductor	1 x 3 core, 4 core or 5 core cable	2 single-core cables, touching
(mm^2)	(A)	(A)	(A)
4	42	37	-
6	55	49	-
10	76	66	-
16	103	89	-
25	136	119	-
35	-	146	200
50	-	177	250
70	-	225	310
95	-	273	369
120	-	316	432
150	-	363	497
185	-	414	564
240	-	487	673
300	-	560	773
400	-	-	924
500	-	-	1062
630	-	-	1242

NOTES:

1 The current ratings tabulated are for cables in free air but may also be used for cables resting on a surface. If the cable is to be wound on a drum on load the ratings should be reduced in accordance with ***NOTE 2*** below and for cables which may be covered, ***NOTE 3 below.***

2 **Flexible cables wound on reeling drums**
The current ratings of cables used on reeling drums are to be reduced by the following factors:

a) Radial type drum
ventilated: 85 %
unventilated: 75 %

b) Ventilated cylindrical type drum
1 layer of cable: 85 %
2 layers of cable: 65 %
3 layers of cable: 45 %
4 layers of cable: 35 %

A radial type drum is one where spiral layers of cable are accommodated between closely spaced flanges; if fitted with solid flanges the ratings given above should be reduced and the drum is described as non-ventilated. If the flanges have suitable apertures the drum is described as ventilated.

A ventilated cylindrical cable drum is one where layers of cable are accommodated between widely spaced flanges and the drum and end flanges have suitable ventilating apertures.

3 Where cable may be covered over or coiled up whilst on load, or the air movement over the cable restricted, the current rating should be reduced.

It is not possible to specify the amount of reduction but the table of rating factors for reeling drums can be used as a guide.

4 For 180 °C cables, the rating factors for ambient temperature allow a conductor operating temperature up to 150 °C.
Consult the cable manufacturer for further information.

5 Where it is intended to connect the cables in this table to equipment or accessories designed to operate at a temperature lower than the maximum operating temperature of the cable, the cables should be rated at the maximum operating temperature of the equipment or accessory (see Regulation 512.1.5).

6 Where it is intended to group a cable in this table with other cables, the cable should be rated at the lowest of the maximum operating temperatures of any of the cables in the group (see Regulation 512.1.5).

Multi core non-armoured 90 °C and 180°C thermosetting insulated flexible cables with sheath Reproduced from BS7671:2018 Wiring Regulations

TABLE 4F2B

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature: 90 °C

Conductor cross-sectional area	Two-core cable or 2 x Single core cables DC	2 core cable, single-phase AC			1 x 3 core, 4 core or 5 core cable, three-phase AC			2 single-core cables, touching Single-phase AC*		
(mm^2)	(mV/Nm)	(mV/Nm)			(mV/Nm)			(mV/Nm)		
4	13.20	13.20			11.10			-		
6	8.50	8.50			7.40			-		
10	5.10	5.10			4.40			-		
16	3.20	3.20			2.70			-		
		r	x	z	r	x	z	r	x	z
25	2.03	2.03	0.175	2.04	1.73	0.150	1.73	-	-	-
35	1.420	-	-	-	1.22	0.150	1.23	1.44	0.21	1.46
50	1.000	-	-	-	0.91	0.145	0.93	1.00	0.21	1.02
70	0.710	-	-	-	0.62	0.140	0.64	0.71	0.20	0.73
95	0.540	-	-	-	0.47	0.135	0.49	0.54	0.195	0.57
120	0.420	-	-	-	0.37	0.135	0.39	0.42	0.190	0.46
150	0.340	-	-	-	0.29	0.130	0.32	0.34	0.190	0.39
185	0.270	-	-	-	0.24	0.130	0.27	0.27	0.190	0.33
240	0.210	-	-	-	0.188	0.130	0.23	0.210	0.185	0.28
300	0.167	-	-	-	0.147	0.125	0.195	0.173	0.180	0.25
400	0.127	-	-	-	-	-	-	0.132	0.175	0.22
500	0.100	-	-	-	-	-	-	0.107	0.170	0.20
630	0.074	-	-	-	-	-	-	0.085	0.170	0.190

NOTES:

1 The voltage drop figures given above are based on a conductor operating temperature of 90 °C and are therefore not accurate when the operating temperature is in excess of 90 C. In the case of the 180 °C cables with a conductor temperature of 150 °C the above resistive values should be increased by a factor of 1.2.

2 *A larger voltage drop will result if the cables are spaced.

THE INFORMATION CONTAINED WITHIN THIS DATASHEET IS FOR GUIDANCE ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE OR LIABILITY. WE BELIEVE THE INFORMATION IS CORRECT AT THE TIME OF PUBLICATION. PLEASE NOTE WHEN SELECTING CABLE ACCESSORIES THAT ACTUAL CABLE DIMENSIONS MAY VARY DUE TO MANUFACTURING TOLERANCES.