RV-K Cable 1.8/3kV

APPLICATION

Flexible cable for power transmission in low voltage fixed applications in permanent indoor and outdoor locations, protected or not, in industrial areas, buildings, and similar applications. These cables are distinguished by their flexibility and handling, which facilitate and save time in installation. AD8 rated for water resistance.

CHARACTERISTICS

Voltage Rating Uo/U (Um)
1.8/3 (3.6) kV

Voltage Test
6.5 kV a.c. (5 min.)

Temperature Rating
Minimum installation temperature: -10 °C (ambient and cable)
Operating temperature range: -40 °C to +90°C (fixed and protected installations)
Short-circuit temperature of the conductor 250 °C (t ≤ 5s)

Maximum pulling force over conductor (N)
Over conductors 50 x Section mm2 / over sheath: 5 x d2

CONSTRUCTION

Conductor
Class 5 flexible copper conductor

Insulation
XLPE (Cross-Linked Polyethylene) type DIX-3

Sheath
PVC (Polyvinyl Chloride) type DMV-18 according to HD 603 S1,and type ST2 according to IEC 60502-1

Sheath Colour
- Black

STANDARDS

IEC 60502-1, HD 603, IEC 60228
Flame retardant: UNE-EN 60332-1 / IEC 60332-1
Chemical and Oil resistance: Good
Impact resistance: AG2 (medium severity)
UV Resistant: acc UNE 211605
Water resistance: AD8 (submersion)

THE CABLE LAB®

AN ISO/IEC 17025 AND IECEE CBTL ACCREDITED FACILITY

Our world-class testing facility assures the quality and compliance of this cable through a continuous and rigorous testing regime.

SUSTAINABILITY COMMITMENT

We are on a journey to Net Zero.

We've committed to near-term emissions reductions and a net-zero target with the Science Based Targets initiative and we're a signatory to the United Nations Global Compact Sustainable Development Goals.

Learn more about embodied carbon and our carbon emissions reduction actions, our comprehensive recycling services, and wider ESG activities for sustainable operations at: www.elandcables.com/company/about-us/esg-sustainability

REGULATORY COMPLIANCE

This cable is compliant with European Regulation EN 50575, the Construction Products Regulation.

This cable meets the requirements of the Low Voltage Directive 2014/35/EU, the RoHS Directive 2015/65/EU and Reach Directive EC 1907/2006. RoHS compliance has been tested and confirmed by The Cable Lab®.

ELAND CABLES

DIMENSIONAL & MECHANICAL CHARACTERISTICS

ELAND PART NO.	NO. OF CORES	NOMINAL CROSS SECTIONAL AREA mm²	NOMINAL CONDUCTOR DIAMETER mm	NOMINAL INSULATION THICKNESS mm	NOMINAL DIAMETER OVER INSULATION mm	NOMINAL SHEATH THICKNESS mm	NOMINAL OUTER SHEATH DIAMETER mm	NOMINAL WEIGHT kg/km	MINIMUM BENDING RADIUS mm	
									During Installation	After Installation
A9R01050/3KV	1	50	8.8	2.0	12.8	1.4	15.6	575	156	125
A9R01070/3KV	1	70	10.3	2.0	14.3	1.5	17.3	747	173	138
A9R01095/3KV	1	95	11.8	2.0	15.8	1.6	19.0	991	190	152
A9R01120/3KV	1	120	13.8	2.0	17.8	1.7	21.2	1214	212	170
A9R01150/3KV	1	150	15.0	2.0	19.0	1.7	22.4	1456	224	179
A9R01185/3KV	1	185	16.5	2.0	20.5	1.8	24.1	1761	241	193
A9R01240/3KV	1	240	19.1	2.0	23.1	1.9	26.9	2270	269	215
A9R01300/3KV	1	300	21.6	2.0	25.6	2.0	29.6	2803	294	235
A9R01400/3KV	1	400	26.6	2.0	30.6	2.1	34.8	3637	348	278
A9R01500/3KV	1	500	29.0	2.2	33.4	2.2	37.8	5089	378	302
A9R01630/3KV	1	630	33.6	2.4	38.4	2.4	43.2	6730	432	346

ELECTRICAL CHARACTERISTICS

NOMINAL CROSS SECTIONAL AREA mm²	MAXIMUM DC RESISTANCE CONDUCTOR 20oC ohms/km	CURRENT CARRYING CAPACITY - TREFOIL (Amps)			CURRENT CARRYING CAPACITY - 2 LOADED CORES (Amps)			VOLTAGE DROP SINGLE CORE mV/A/m
		In Air at 30°C	In Ducts in Earth at 20°C	Direct Buried at 20°C	In Air at 30°C	In Ducts in Earth at 20°C	Direct Buried at 20°C	
1.5	13.3	23	21	23	23	25	27	27.263
2.5	7.98	32	28	30	32	33	35	16.403
4	4.95	42	36	39	42	43	46	10.210
6	3.30	54	44	49	54	53	58	6.835
10	1.91	75	58	65	75	71	77	3.993
16	1.21	100	75	84	100	91	100	2.561
25	0.78	135	96	107	161	116	129	1.458
35	0.554	169	115	129	200	139	155	1.057
50	0.386	207	135	153	242	164	183	0.759
70	0.272	268	167	188	310	203	225	0.556
95	0.206	328	197	226	377	239	270	0.438
120	0.161	383	223	257	437	271	306	0.358
150	0.129	444	251	287	504	306	343	0.302
185	0.106	510	281	324	575	343	387	0.262
240	0,0801	607	324	375	679	395	448	0.215
300	0.0641	703	365	419	783	446	502	0.193
400	0.0486	823	-	-	940	-	-	0.164
500	0.0384	946	-	-	1083	-	-	0.146

- In Air current ratings in accordance with IEC 60364-5-52 table B.52.12 installation method F.
- In Ducts in Ground the maximum current rating is in accordance to IEC 60364-5-52, table B.52.5 / B52.3 installation method D1.
- In Ground the maximum current rating is in accordance to IEC 60364-5-52, table B.52.5 / B52.3 installation method D2.

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CORRECTION FACTORS

Correction factor for ambient ground temperatures other than 20 °C to be applied to the current-carrying capacities for cables in ducts in the ground

GROUND TEMPERATURE °C	INSULATION XLPE FACTOR
10	1.07
15	1.04
20	1.00
25	0.96
30	0.93
35	0.89
40	0.85
45	0.80
50	0.76
55	0.71
60	0.65

Correction factor for cables buried direct in the ground or in buried ducts for soil thermal resistivities other than 2.5 K - m/W to be applied to the current-carrying capacities for reference method D The correction factors are applicable to ducts buried at depths of up to 0.8 m.

Thermal Resistivity K – m/W	0.5	0.7	1	1.5	2	2.5	3
Correction factor for cables in buried ducts	1.28	1.20	1.18	1.1	1.05	1	0.96
Correction factor for direct buried cables	1.88	1.62	1.50	1.28	1.12	1	0.90

Note 1: The correction factors given have been averaged over the range of conductor sizes and types of installation included in Tables B.52.2 to B.52.5. The overall accuracy of correction factors is within ±5 %.

Note 2: The correction factors are applicable to cables drawn into buried ducts; for cables laid direct in the ground the correction factors for thermal resistivities less than 2.5 K - m/W will be higher. Where more precise values are required, they may be calculated by methods given in the IEC 60287 series.

Note 3: It is assumed that the soil properties are uniform. No allowance had been made for the possibility of moisture migration which can lead to a region of high thermal resistivity around the cable. If partial drying out of the soil is foreseen,