ELAND® CABLES

FG7H1OAR - 3.6/6kV and 6/10kV Cable

Eland Product Group: **A7K**

APPLICATION

Flexible cable for energy supply to MV equipment, in tunnelling and underground mining applications. Suitable for indoor and outdoor application.

CONSTRUCTION

Phase Conductor
Class 5 copper conductor according to IEC 60228

Insulation
HEPR (Hard Ethylene Propylene Rubber), Type G7

Semi-Conductive Layers
Semi-conductive tape over the conductor and inner and outer semi-conductive rubber layer on the insulation

Protective Earth Conductor
Individual copper wire braid

Control Conductor
Class 5 tinned copper conductor according to IEC 60228

Central Filler
Rubber compound on a textile polyester support

Inner Sheath
PVC (Polyvinyl Chloride), Rz quality

Armour
Steel wire braid over the inner sheath

Outer Sheath
PVC (Polyvinyl Chloride), Rz quality

CABLE STANDARDS

Generally to IEC 60502-2, BS EN/IEC 60332-1-2

The electrical and dimensional properties of this product are measured by the Technical and Quality Assurance department at the Eland Cables laboratory. Cable performance in respect of conductor resistance, construction quality (workmanship), dimensional consistency, and other parameters are verified to published standards and approved product drawings. Conformance to RoHS (Restriction of the use of Hazardous Substances) is determined and confirmed.

CHARACTERISTICS

Voltage Rating (Uo/U)
3.6/6kV
6/10kV

Test Voltage
3.6/6kV: 12.5kV
6/10kV: 21kV

Maximum Short Circuit Temperature
+250°C

Ambient Temperature
Fixed: -40°C to +80°C
Flexed: +5°C to +80°C

Minimum Bending Radius
Fixed: 6 x overall diameter
Flexed: 10 x overall diameter

Maximum Tensile Load*
15N/mm^2

Sheath Colour
● Red

Note
*Referred to the total phase conductors cross section
LSZH version available on request

ISSUE NO 01-03-2014

DIMENSIONS

ELAND PART NO.	VOLTAGE kV	NO. OF CORES (PHASE + EARTH)	NOMINAL CROSS SECTIONAL AREA mm²		CONDUCTOR DIAMETER mm	MINIMUM OVERALL DIAMETER mm	MAXIMUM OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	MAXIMUM TENSILE LOAD N
			Phase Conductor	Control Conductor					
A7K06KV1025RD	3.6/6	3+3	25	2.5ST	6.1	36.3	40.2	2250	1125
A7K06KV1035RD	3.6/6	3+3	35	2.5ST	7.2	38.8	43.0	3200	1575
A7K06KV1050RD	3.6/6	3+3	50	2.5ST	8.9	42.5	47.0	3860	2250
A7K06KV1070RD	3.6/6	3+3	70	2.5ST	10.6	46.1	50.8	4630	3150
A7K06KV1095RD	3.6/6	3+3	95	2.5ST	12.3	49.9	55.0	5680	4275
A7K06KV1120RD	3.6/6	3+3	120	2.5ST	13.8	56.8	62.5	7010	5400
A7K06KV1150RD	3.6/6	3+3	150	2.5ST	15.5	57.8	63.5	7910	6750
A7K06KV1185RD	3.6/6	3+3	185	2.5ST	17.0	61.2	67.1	9060	8325
A7K10KV1025RD	6/10	3+3	25	2.5ST	6.1	36.3	40.8	2290	1125
A7K10KV1035RD	6/10	3+3	35	2.5ST	7.2	38.8	43.6	3240	1575
A7K10KV1050RD	6/10	3+3	50	2.5ST	8.9	42.5	47.6	3900	2250
A7K10KV1070RD	6/10	3+3	70	2.5ST	10.6	46.1	51.4	4670	3150
A7K10KV1095RD	6/10	3+3	95	2.5ST	12.3	49.9	55.6	5720	4275
A7K10KV1120RD	6/10	3+3	120	2.5ST	13.8	56.8	63.2	7050	5400
A7K10KV1150RD	6/10	3+3	150	2.5ST	15.5	57.8	64.2	7950	6750
A7K10KV1185RD	6/10	3+3	185	2.5ST	17.0	61.2	67.8	9100	8325

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm²	LAYING ON THE FLOOR Amps	FREE IN AIR Amps	REELED						
			1 Layer Amps	2 Layer Amps	3 Layer Amps	4 Layer Amps	5 Layer Amps	6 Layer Amps	7 Layer Amps
25	131	138	105	80	64	55	50	35	29
35	162	170	130	99	79	68	62	44	36
50	202	212	162	123	99	85	77	55	44
70	250	263	200	153	123	105	95	68	55
95	301	316	241	184	147	126	114	81	66
120	352	370	282	215	172	148	134	95	77
150	404	424	323	246	198	170	154	109	89
185	461	484	369	281	226	194	175	124	101

Ambient temperature of 30°C

Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm²	POWER FACTOR			
	0.7	0.8	0.9	1
25	1.29	1.45	1.60	1.71
35	0.95	1.06	1.16	1.23
50	0.69	0.77	0.83	0.87
70	0.51	0.56	0.60	0.61
95	0.41	0.45	0.47	0.47
120	0.34	0.36	0.38	0.36
150	0.29	0.31	0.32	0.29
185	0.25	0.27	0.27	0.24

ISSUE NO 01-03-2014

UK T 020 7241 8787 | F 020 7241 8700 | sales@elandcables.com | www.elandcables.com
International T +44 20 7241 8740 | F +44 20 7241 8700 | international@elandcables.com

DE-RATING FACTORS

AMBIENT TEMPERATURE	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C
DE-RATING FACTOR	1.15	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	0.50	0.41

ISSUE NO 01-03-2014