

(N)3GHSSYCY 3.6/6kV and 6/10kV Cable



Eland Product Group: **A7F**

APPLICATION

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

CONSTRUCTION

Phase Conductor

Class 5 copper conductor according to VDE 0295 (IEC 60228)

Insulation

Rubber compound Type 3GI3 according to VDE 0207 Part 20

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 screen

Control Conductor

Class 5 tinned copper according to VDE 0295 (IEC 60228)

Central Filler

Rubber compound on a textile polyester support

First Inner Sheath

PVC (Polyvinyl Chloride) Type YM5

Monitoring Conductor

Copper wire

Second Inner Sheath

PVC (Polyvinyl Chloride) Type YM5

Armour

Steel wire braid over the second inner sheath

Outer Sheath

PVC (Polyvinyl Chloride) Type YM5

CABLE STANDARDS

Generally to VDE 0250 Part 605, VDE 0295, 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 (U_o/U)

3.6/6kV
6/10kV

Test Voltage

3.6/6kV: 11kV
6/10kV: 17kV

Maximum Short Circuit Temperature

+250°C

Maximum Working Temperature on the Conductor

+90°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/mm²

Sheath Colour

● Red

Note

*Referred to the total phase conductors cross section

DIMENSIONS

ELAND PART NO.	VOLTAGE kV	NO. OF CORES (PHASE + EARTH + CONTROL+ÜL)	NOMINAL CROSS SECTIONAL AREA mm ²			CONDUCTOR DIAMETER mm	MINIMUM OVERALL DIAMETER mm	MAXIMUM OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	MAXIMUM TENSILE LOAD N
			Phase Conductor	Earth Conductor	Control Conductor					
A7F06KV1025RD	3.6/6	3+3+3+ÜL	25	25/3E	2.5ST	6.1	47.2	52.1	4160	1125
A7F06KV1035RD	3.6/6	3+3+3+ÜL	35	25/3E	2.5ST	7.2	49	54	4610	1575
A7F06KV1050RD	3.6/6	3+3+3+ÜL	50	25/3E	2.5ST	8.9	52.5	57.8	5340	2250
A7F06KV1070RD	3.6/6	3+3+3+ÜL	70	35/3E	2.5ST	10.6	56.1	61.6	6410	3150
A7F06KV1095RD	3.6/6	3+3+3+ÜL	95	50/3E	2.5ST	12.3	60.3	66.2	7650	4275
A7F06KV1120RD	3.6/6	3+3+3+ÜL	120	70/3E	2.5ST	13.8	63.8	70	9040	5400
A7F06KV1150RD	3.6/6	3+3+3+ÜL	150	70/3E	2.5ST	15.5	67.2	73.7	10190	6750
A7F10KV1025RD	6/10	3+3+3+ÜL	25	25/3E	2.5ST	6.1	47.2	52.7	4200	1125
A7F10KV1035RD	6/10	3+3+3+ÜL	35	25/3E	2.5ST	7.2	49	54.6	4650	1575
A7F10KV1050RD	6/10	3+3+3+ÜL	50	25/3E	2.5ST	8.9	52.5	58.4	5380	2250
A7F10KV1070RD	6/10	3+3+3+ÜL	70	35/3E	2.5ST	10.6	56.1	62.2	6450	3150
A7F10KV1095RD	6/10	3+3+3+ÜL	95	50/3E	2.5ST	12.3	60.3	66.8	7690	4275
A7F10KV1120RD	6/10	3+3+3+ÜL	120	70/3E	2.5ST	13.8	63.8	70.7	9080	5400
A7F10KV1150RD	6/10	3+3+3+ÜL	150	70/3E	2.5ST	15.5	67.2	74.4	10230	6750

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm ²	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

Ambient temperature of 30°C

Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm ²	POWER FACTOR			
	0.7	0.8	0.9	1
25	1.29	1.45	1.6	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	0.6	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

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