

(N)3GHSSYCY 8.7/15kV and 12/20kV 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 wire screen

Control Conductor

Class 5 tinned copper conductor 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 (U₀/U)

8.7/15kV
12/20kV

Test Voltage

8.7/15kV: 24kV
12/20kV: 29kV

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					
A7F15KV1025RD	8.7/15	3+3+3+ÜL	25	25/3E	2.5ST	6.1	50.5	55.6	4530	1125
A7F15KV1035RD	8.7/15	3+3+3+ÜL	35	25/3E	2.5ST	7.2	52.3	57.6	5000	1575
A7F15KV1050RD	8.7/15	3+3+3+ÜL	50	25/3E	2.5ST	8.9	55.8	61.3	5740	2250
A7F15KV1070RD	8.7/15	3+3+3+ÜL	70	35/3E	2.5ST	10.6	59.3	65.2	6840	3150
A7F15KV1095RD	8.7/15	3+3+3+ÜL	95	50/3E	2.5ST	12.3	62.8	68.9	8020	4275
A7F15KV1120RD	8.7/15	3+3+3+ÜL	120	70/3E	2.5ST	13.8	66.2	72.6	9270	5400
A7F20KV1025RD	12/20	3+3+3+ÜL	25	25/3E	2.5ST	6.1	52.9	58.2	4820	1125
A7F20KV1035RD	12/20	3+3+3+ÜL	35	25/3E	2.5ST	7.2	54.7	60.2	5290	1575
A7F20KV1050RD	12/20	3+3+3+ÜL	50	25/3E	2.5ST	8.9	58.3	64	6120	2250
A7F20KV1070RD	12/20	3+3+3+ÜL	70	35/3E	2.5ST	10.6	61.7	67.8	7210	3150
A7F20KV1095RD	12/20	3+3+3+ÜL	95	50/3E	2.5ST	12.3	65.2	71.5	8410	4275
A7F20KV1120RD	12/20	3+3+3+ÜL	120	70/3E	2.5ST	13.8	68.7	75.3	9700	5400

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm ²	LAYING ON THE FLOOR Amps	REELED						
		1 Layer Amps	2 Layer Amps	3 Layer Amps	4 Layer Amps	5 Layer Amps	6 Layer Amps	7 Layer Amps
25	139	111	85	68	58	53	38	31
35	172	138	105	84	72	65	46	38
50	216	173	132	106	91	82	58	48
70	265	212	162	130	111	101	72	58
95	319	255	195	156	134	121	86	70
120	371	297	226	182	156	141	100	82

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

The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.