ELAND® CABLES

(N)3GHSSHCH 8.7/15kV and 12/20kV Cable

Eland Product Group: **A7FL**

APPLICATION

Flexible cable for energy supply to MV equipment in tunnelling and underground mining applications. Low smoke zero halogen (LSZH) sheathed version. 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
LSZH (Low Smoke Zero Halogen) Type M1 according to EN 50363

Monitoring Conductor
Copper wire screen, over the first inner sheath

Second Inner Sheath
LSZH (Low Smoke Zero Halogen) Type M1 according to EN 50363

Armour
Steel wire braid over the second inner sheath

Outer Sheath
LSZH (Low Smoke Zero Halogen) Type M1 according to EN 50363

CABLE STANDARDS

Generally to VDE 0250 Part 605, VDE 0295, BS EN/IEC 60332-1-2, BS EN/IEC 60811-2-1, IEC 60754-1, IEC 60754-2

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)
8.7/15kV
12/20kV

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

Maximum Short Circuit Temperature
+250°C

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

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

Maximum Tensile Load*
15N/mm^2

Sheath Colour
● Black

Note
*Referred to the total phase conductors cross section

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DIMENSIONS

ELAND PART NO.	VOLTAGE kV	NO. OF CORES (PHASE + EARTH + CONTROL+ÜL)	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	Earth Conductor	Control Conductor					
A7FLS15KV1025BK	8.7/15	3+3+3+ÜL	25	25/3E	2.5ST	6.1	50.5	55.6	4030	1125
A7FLS15KV1035BK	8.7/15	3+3+3+ÜL	35	25/3E	2.5ST	7.2	52.3	57.6	4480	1575
A7FLS15KV1050BK	8.7/15	3+3+3+ÜL	50	25/3E	2.5ST	8.9	55.8	61.3	5210	2250
A7FLS15KV1070BK	8.7/15	3+3+3+ÜL	70	35/3E	2.5ST	10.6	59.3	65.2	6230	3150
A7FLS15KV1095BK	8.7/15	3+3+3+ÜL	95	50/3E	2.5ST	12.3	62.8	68.9	7350	4275
A7FLS15KV1120BK	8.7/15	3+3+3+ÜL	120	70/3E	2.5ST	13.8	66.2	72.6	8540	5400
A7FLS20KV1025BK	12/20	3+3+3+ÜL	25	25/3E	2.5ST	6.1	52.9	58.2	4330	1125
A7FLS20KV1035BK	12/20	3+3+3+ÜL	35	25/3E	2.5ST	7.2	54.7	60.2	4780	1575
A7FLS20KV1050BK	12/20	3+3+3+ÜL	50	25/3E	2.5ST	8.9	58.3	64	5540	2250
A7FLS20KV1070BK	12/20	3+3+3+ÜL	70	35/3E	2.5ST	10.6	61.7	67.8	6570	3150
A7FLS20KV1095BK	12/20	3+3+3+ÜL	95	50/3E	2.5ST	12.3	65.2	71.5	7690	4275
A7FLS20KV1120BK	12/20	3+3+3+ÜL	120	70/3E	2.5ST	13.8	68.7	75.3	8920	5400

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm²	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
150	428	342	261	210	180	163	116	94

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	1.6	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

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