ELAND® CABLES

(N)TSCGECECWÖU 3.6/6kV and 6/10kV ZH Cable

Eland Product Group: **A7HZ**

APPLICATION

Flexible cable suitable for reeling drums of tunnel boring machines and generally for tunnel applications. Suitable for indoor and outdoor applications. Halogen-free sheathed version.

CONSTRUCTION

Phase Conductor
Class 5 tinned 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
Semi-conductive compound on a textile polyester support

Inner Sheath
Halogen-free compound

Monitoring Conductor
Copper wire screen over the inner sheath

Outer Sheath
Halogen-free PUR (Polyurethane)

CABLE STANDARDS

Generally to VDE 0250 Part 813, VDE 0295,
BS EN/IEC 60332-1-2, IEC 60754-1, IEC 60754-2,
BS EN/IEC 60811-2-1

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: 11kV
6/10kV: 17kV

Maximum Short Circuit Temperature
+250°C

Ambient Temperature
Fixed: -50°C to +80°C
Flexed: -25°C to +80°C

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

Maximum Torsional Stress
±25°/m

Maximum Tensile Load*
15N/mm²

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					
A7HZ06KV1025BK	3.6/6	3+3+3+ÜL	25	25/3E	2.5ST	6.8	45.4	48.8	2960	1125
A7HZ06KV1035BK	3.6/6	3+3+3+ÜL	35	25/3E	2.5ST	7.8	46.9	50.4	3340	1575
A7HZ06KV1050BK	3.6/6	3+3+3+ÜL	50	25/3E	2.5ST	9.4	50	53.6	3990	2250
A7HZ06KV1070BK	3.6/6	3+3+3+ÜL	70	35/3E	2.5ST	11.2	55.6	59.4	5180	3150
A7HZ06KV1095BK	3.6/6	3+3+3+ÜL	95	50/3E	2.5ST	12.7	59.9	63.9	6370	4275
A7HZ06KV1120BK	3.6/6	3+3+3+ÜL	120	70/3E	2.5ST	14.4	64	68.4	7730	5400
A7HZ10KV1025BK	6/10	3+3+3+ÜL	25	25/3E	2.5ST	6.8	45.4	49.4	3000	1125
A7HZ10KV1035BK	6/10	3+3+3+ÜL	35	25/3E	2.5ST	7.8	46.9	51	3380	1575
A7HZ10KV1050BK	6/10	3+3+3+ÜL	50	25/3E	2.5ST	9.4	50	54.2	4030	2250
A7HZ10KV1070BK	6/10	3+3+3+ÜL	70	35/3E	2.5ST	11.2	55.6	60	5220	3150
A7HZ10KV1095BK	6/10	3+3+3+ÜL	95	50/3E	2.5ST	12.7	59.9	64.5	6410	4275
A7HZ10KV1120BK	6/10	3+3+3+ÜL	120	70/3E	2.5ST	14.4	64	69.1	7770	5400

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

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

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

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