

(N)TSCGECECWÖU 8.7/15kV and 12/20kV 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 (U₀/U)

8.7/15kV

12/20kV

Test Voltage

8.7/15kV: 24kV

12/20kV: 29kV

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

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					
A7HZ15KV1025BK	8.7/15	3+3+3+ÜL	25	25/3E	2.5ST	6.8	48	51.5	3540	1125
A7HZ15KV1035BK	8.7/15	3+3+3+ÜL	35	25/3E	2.5ST	7.8	49.5	53.1	3930	1575
A7HZ15KV1050BK	8.7/15	3+3+3+ÜL	50	25/3E	2.5ST	9.4	54.4	58.2	4810	2250
A7HZ15KV1070BK	8.7/15	3+3+3+ÜL	70	35/3E	2.5ST	11.2	58.2	62.2	5880	3150
A7HZ15KV1095BK	8.7/15	3+3+3+ÜL	95	50/3E	2.5ST	12.7	61.4	65.7	6950	4275
A7HZ20KV1025BK	12/20	3+3+3+ÜL	25	25/3E	2.5ST	6.8	50.5	54.1	3800	1125
A7HZ20KV1035BK	12/20	3+3+3+ÜL	35	25/3E	2.5ST	7.8	52.3	56	4190	1575
A7HZ20KV1050BK	12/20	3+3+3+ÜL	50	25/3E	2.5ST	9.4	57.5	61.4	5120	2250
A7HZ20KV1070BK	12/20	3+3+3+ÜL	70	35/3E	2.5ST	11.2	61	65.3	6200	3150
A7HZ20KV1095BK	12/20	3+3+3+ÜL	95	50/3E	2.5ST	12.7	66.4	70.9	7550	4275

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

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

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