

(N)TSCGECEWÖU - 8.7/15kV and 12/20kV Submersible Cable



Eland Product Group: **A7HS**

APPLICATION

Flexible supply cable for use in permanent immersion in salty and brackish water up to 300 metres under high mechanical stresses used in applications such as pumps, dredges and floating docks. It is suitable for trailing operations of opencast mining equipment. Suitable for indoor and outdoor applications.

CABLE STANDARDS

Generally to VDE 0250 Part 813, VDE 0295, BS EN/IEC 60332-1-2, BS EN/IEC 60811-2-1, HD22.16



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.

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 braid

Central Filler

Rubber compound on a textile polyester support

Inner Sheath

EPR rubber compound with water proofing Type GM1b according to VDE 0207 Part 21

Outer Sheath

CM rubber compound water proofing Type 5GM3 according to VDE 0207 Part 21

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 Permissible Water Temperature

+40°C

Ambient Temperature

Fixed: -40°C to +80°C
Flexed: -25°C to +60°C

Minimum Bending Radius

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

Submersible

300mtr

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)	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					
A7HS15KV1025BK	8.7/15	3+3	25	25/3E	6.8	49.4	51.2	3430	1125
A7HS15KV1035BK	8.7/15	3+3	35	25/3E	7.8	50.9	52.7	3800	1575
A7HS15KV1050BK	8.7/15	3+3	50	25/3E	9.4	55.8	57.6	4700	2250
A7HS15KV1070BK	8.7/15	3+3	70	35/3E	11.2	59.6	61.4	5670	3150
A7HS15KV1095BK	8.7/15	3+3	95	50/3E	12.7	63.3	65.6	6830	4257
A7HS15KV1120BK	8.7/15	3+3	120	70/3E	14.4	69.8	72.2	8520	5400
A7HS20KV1025BK	12/20	3+3	25	25/3E	6.8	55.9	57.7	4160	1125
A7HS20KV1035BK	12/20	3+3	35	25/3E	7.8	57.3	59.1	4560	1575
A7HS20KV1050BK	12/20	3+3	50	25/3E	9.4	60.5	62.3	5300	2250
A7HS20KV1070BK	12/20	3+3	70	35/3E	11.2	66.1	67.9	6580	3150
A7HS20KV1095BK	12/20	3+3	95	50/3E	12.7	69.8	72.2	7740	4257

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

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