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

Eland Product Group: **A7HR**

APPLICATION

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

CONSTRUCTION

Phase Conductor
Class 5 tinned copper conductor according to VDE 0295 (IEC 60228)[1]

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

Earth Conductor
Class 5 tinned copper conductor according to VDE 0295 (IEC 60228)[1]

Central Filler
Semi-conductive compound on a textile polyester support

Inner Sheath
EPR rubber compound 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

Note
[1]Special construction for higher flexibility

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.

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

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

Maximum Tensile Load[2]
20N/mm^2

Sheath Colour
● Black

Note
[2]Referred to the total phase conductors cross section

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DIMENSIONS

ELAND PART NO.	VOLTAGE kV	NO. OF CORES (PHASE + EARTH)	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					
A7HR15KV1025BK	8.7/15	3+3	25	25/3	6.8	47.3	49	3310	1500
A7HR15KV1035BK	8.7/15	3+3	35	25/3	7.8	48.8	50.6	3680	2100
A7HR15KV1050BK	8.7/15	3+3	50	25/3	9.4	53.7	55.5	4580	3000
A7HR15KV1070BK	8.7/15	3+3	70	35/3	11.2	57.5	59.3	5600	4200
A7HR15KV1095BK	8.7/15	3+3	95	50/3	12.7	60.8	63.1	6550	5700
A7HR15KV1120BK	8.7/15	3+3	120	70/3	14.4	66.4	68.7	8130	7200
A7HR15KV1150BK	8.7/15	3+3	150	70/3	16.3	71	73.4	9460	9000
A7HR15KV1185BK	8.7/15	3+3	185	95/3	17.6	73.1	75.5	10700	11100
A7HR20KV1025BK	12/20	3+3	25	25/3	6.8	52	53.8	3830	1500
A7HR20KV1035BK	12/20	3+3	35	25/3	7.8	55.2	57	4440	2100
A7HR20KV1050BK	12/20	3+3	50	25/3	9.4	58.4	60.2	5170	3000
A7HR20KV1070BK	12/20	3+3	70	35/3	11.2	62.1	64.4	6250	4200
A7HR20KV1095BK	12/20	3+3	95	50/3	12.7	67.2	69.5	7480	5700
A7HR20KV1120BK	12/20	3+3	120	70/3	14.4	71	73.4	8840	7200

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
185	488	390	298	239	205	185	132	107

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
185	0.25	0.27	0.27	0.24

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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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