

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



Eland Product Group: **A7HC**

APPLICATION

Flexible cable for energy supply to heavy mobile equipment such as drag lines, shovels, dredges, drills under extreme mechanical stresses and abrasion during trailing operation in opencast mines. 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

Rubber compound Type Gm1b/5GM5 according to VDE 0207 Part 21

Anti-Torsion Braid

Polyester braid between the inner and outer sheath

Outer Sheath

Abrasion resistant rubber compound Type 5GM5 according to VDE 0207 Part 21

Note

¹Special 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



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: -40°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 Load²

20N/mm²

Sheath Colour

● Yellow

Note

²Referred 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					
A7HC15KV1025YW	8.7/15	3+3	25	25/3	6.8	44.7	46.4	2800	1500
A7HC15KV1035YW	8.7/15	3+3	35	25/3	7.8	46.2	47.9	3160	2100
A7HC15KV1050YW	8.7/15	3+3	50	25/3	9.4	49.4	51.2	3960	3000
A7HC15KV1070YW	8.7/15	3+3	70	35/3	11.2	55	56.8	5020	4200
A7HC15KV1095YW	8.7/15	3+3	95	50/3	12.7	58.4	60.2	5840	5700
A7HC15KV1120YW	8.7/15	3+3	120	70/3	14.4	63.9	66.2	7420	7200
A7HC15KV1150YW	8.7/15	3+3	150	70/3	16.3	68.5	70.9	8620	9000
A7HC20KV1025YW	12/20	3+3	25	25/3	6.8	47.3	49	3340	1500
A7HC20KV1035YW	12/20	3+3	35	25/3	7.8	48.8	50.6	3690	2100
A7HC20KV1050YW	12/20	3+3	50	25/3	9.4	53.7	55.5	4640	3000
A7HC20KV1070YW	12/20	3+3	70	35/3	11.2	57.5	59.3	5720	4200
A7HC20KV1095YW	12/20	3+3	95	50/3	12.7	60.8	63.1	6660	5700
A7HC20KV1120YW	12/20	3+3	120	70/3	14.4	66.4	68.7	8200	7200

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
150	428	342	261	210	180	163	116	94

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
150	0.29	0.31	0.32	0.29

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

The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.