

# (N)TSCGECEWÖU

## 1.8/3kV, 3.6/6kV and 6/10kV ATB Cable (Ground Check Conductor)

Eland Product Group: **A7HG**

### APPLICATION

Flexible cable for the energy supply to heavy mobile equipment such as drag lines, shovels, dredges and drills, under extreme mechanical stresses and abrasion during trailing operation in opencast mines. Special construction with additional ground check conductor. Suitable for indoor and outdoor applications.

### 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 from 3.6/6kV

#### Earth Conductors

Individual copper braid  
2 x copper earth conductors  
1 x copper checking earth wiring conductor

#### Central Filler

Rubber compound on a textile polyester support

#### Inner Sheath

Abrasion resistant rubber compound Type 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

### 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 (U<sub>0</sub>/U)

1.8/3kV  
3.6/6kV  
6/10kV

#### Test Voltage

1.8/3kV: 6kV  
3.6/6kV: 11kV  
6/10kV: 17kV

#### 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 Tensile Load\*

15N/mm<sup>2</sup>

#### Sheath Colour

● Yellow

Note

\*Referred to the total phase conductors cross section

## DIMENSIONS

ELAND PART NO.	VOLTAGE kV	NO. OF CORES (PHASE + EARTH + GROUND CHECK CONDUCTOR)	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>			CONDUCTOR DIAMETER mm	MINIMUM OVERALL DIAMETER mm	MAXIMUM OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	MAXIMUM TENSILE LOAD N
			Phase Conductor	Earth Conductor	Ground Check Conductor					
A7HG03KV025YW	1.8/3	3+2+1	25	25/2	10	6.8	38.2	42.3	2530	1125
A7HG03KV035YW	1.8/3	3+2+1	35	25/2	10	7.8	39.7	44	2930	1575
A7HG03KV050YW	1.8/3	3+2+1	50	25/2	10	9.4	42.7	47.2	3540	2250
A7HG03KV070YW	1.8/3	3+2+1	70	35/2	10	11.2	48.1	53	4730	3150
A7HG03KV095YW	1.8/3	3+2+1	95	50/2	10	12.7	53	58.3	5930	4257
A7HG03KV120YW	1.8/3	3+2+1	120	70/2	10	14.4	57.4	63.1	7270	5400
A7HG03KV150YW	1.8/3	3+2+1	150	70/2	10	16.3	63.8	70	8920	6750
A7HG03KV185YW	1.8/3	3+2+1	185	95/2	10	17.6	65.6	71.9	10220	8325
A7HG06KV025YW	3.6/6	3+2+1	25	25/2	10	6.8	45.4	50.1	3300	1125
A7HG06KV035YW	3.6/6	3+2+1	35	25/2	10	7.8	46.7	51.5	3710	1575
A7HG06KV050YW	3.6/6	3+2+1	50	25/2	10	9.4	51.5	56.7	4600	2250
A7HG06KV070YW	3.6/6	3+2+1	70	35/2	10	11.2	55.2	60.7	5710	3150
A7HG06KV095YW	3.6/6	3+2+1	95	50/2	10	12.7	58.9	64.8	6820	4257
A7HG06KV120YW	3.6/6	3+2+1	120	70/2	10	14.4	65.1	71.4	8540	5400
A7HG06KV150YW	3.6/6	3+2+1	150	70/2	10	16.3	69.9	76.3	9890	6750
A7HG10KV025YW	6/10	3+2+1	25	25/2	10	6.8	48.1	53	3640	1125
A7HG10KV035YW	6/10	3+2+1	35	25/2	10	7.8	49.5	54.6	4070	1575
A7HG10KV050YW	6/10	3+2+1	50	25/2	10	9.4	54.2	59.7	4980	2250
A7HG10KV070YW	6/10	3+2+1	70	35/2	10	11.2	57.9	63.6	6070	3150
A7HG10KV095YW	6/10	3+2+1	95	50/2	10	12.7	61.6	67.7	7280	4257
A7HG10KV120YW	6/10	3+2+1	120	25/2	10	14.4	67.9	74.4	9070	5400

## ELECTRICAL CHARACTERISTICS

## Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	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
150	404	424	323	246	198	170	154	109	89
185	461	484	369	281	226	194	175	124	101

Ambient temperature of 30°C

## Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	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

## 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