

**ELAND<sup>®</sup>  
CABLES**

# (N)TSCGECEWÖU 8.7/15kV and 12/20kV 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

### 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>o</sub>/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 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					
A7HG15KV025YW	8.7/15	3+2+1	25	25/2	10	6.8	53.9	59.3	4490	1125
A7HG15KV035YW	8.7/15	3+2+1	35	25/2	10	7.8	55.3	60.8	4920	1575
A7HG15KV050YW	8.7/15	3+2+1	50	25/2	10	9.4	58.5	64.2	5700	2250
A7HG15KV070YW	8.7/15	3+2+1	70	35/2	10	11.2	64.2	70.5	7200	3150
A7HG15KV095YW	8.7/15	3+2+1	95	50/2	10	12.7	67.9	74.4	8480	4257
A7HG20KV025YW	12/20	3+2+1	25	25/2	10	6.8	58.2	63.9	5110	1125
A7HG20KV035YW	12/20	3+2+1	35	25/2	10	7.8	59.8	65.7	5580	1575
A7HG20KV050YW	12/20	3+2+1	50	25/2	10	9.4	64.6	70.9	6550	2250
A7HG20KV070YW	12/20	3+2+1	70	35/2	10	11.2	68.3	74.8	7800	3150

## Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>	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 <sup>2</sup>	POWER FACTOR			
	0.7	0.8	0.9	1
25	1.29	1.45	1.60	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	0.60	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