

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



Eland Product Group: **A7HA**

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. 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

Protective Earth Conductor

Individual copper wire braid

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

Note

*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



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

Minimum Bending Radius

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

Maximum Tensile Load*

15N/mm²

Sheath Colour

● Yellow

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 | | | | | |
| A7HA15KV1025YW | 8.7/15 | 3+3 | 25 | 25/3E | 6.8 | 46.9 | 48.6 | 3180 | 1125 |
| A7HA15KV1035YW | 8.7/15 | 3+3 | 35 | 25/3E | 7.8 | 48.3 | 50 | 3570 | 1575 |
| A7HA15KV1050YW | 8.7/15 | 3+3 | 50 | 25/3E | 9.4 | 53.3 | 55.1 | 4420 | 2250 |
| A7HA15KV1070YW | 8.7/15 | 3+3 | 70 | 35/3E | 11.2 | 57.1 | 58.9 | 5410 | 3150 |
| A7HA15KV1095YW | 8.7/15 | 3+3 | 95 | 50/3E | 12.7 | 60.8 | 63.1 | 6500 | 4257 |
| A7HA15KV1120YW | 8.7/15 | 3+3 | 120 | 70/3E | 14.4 | 67.2 | 69.5 | 8150 | 5400 |
| A7HA20KV1025YW | 12/20 | 3+3 | 25 | 25/3E | 6.8 | 49.4 | 51.2 | 3450 | 1125 |
| A7HA20KV1035YW | 12/20 | 3+3 | 35 | 25/3E | 7.8 | 50.9 | 52.7 | 3820 | 1575 |
| A7HA20KV1050YW | 12/20 | 3+3 | 50 | 25/3E | 9.4 | 55.8 | 57.6 | 4720 | 2250 |
| A7HA20KV1070YW | 12/20 | 3+3 | 70 | 35/3E | 11.2 | 59.6 | 61.4 | 5690 | 3150 |
| A7HA20KV1095YW | 12/20 | 3+3 | 95 | 50/3E | 12.7 | 63.3 | 65.6 | 6860 | 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 |

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.