

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



Eland Product Group: **A7HX**

## 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 operations in opencast mines. Halogen-free polyurethane sheathed version. Suitable for indoor and outdoor applications.

## CONSTRUCTION

### Phase Conductor

Class 5 tinned copper conductor according to VDE 0295 (IEC 60228)<sup>1</sup>

### 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)<sup>1</sup>

### Central Filler

Semi-conductive compound on a textile polyester support

### Inner Sheath

Halogen-free polyurethane

### Anti-Torsion Braid

Polyester braid between the inner and outer sheath

### Outer Sheath

Halogen-free polyurethane

### Note

<sup>1</sup>Available with reflecting tape and transparent outer sheath without textile braid on request

## CABLE STANDARDS

Generally to VDE 0250 Part 813, VDE 0295, BS EN/IEC 60332-1-2, IEC 60754-1, IEC 60754-2, 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)

8.7/15kV

12/20kV

### Test Voltage

8.7/15kV: 24kV

12/20kV: 29kV

### Maximum Short Circuit Temperature

+250°C

### Ambient Temperature

Fixed: -50°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 Load<sup>2</sup>

20N/mm<sup>2</sup>

### Sheath Colour

● Yellow

### Note

<sup>2</sup>Referred to the total phase conductors cross section

## DIMENSIONS

ELAND PART NO.	VOLTAGE kV	NO. OF CORES (PHASE + EARTH)	NOMINAL CROSS SECTIONAL AREA mm <sup>2</sup>		NOMINAL CONDUCTOR DIAMETER mm	MINIMUM OVERALL DIAMETER mm	MAXIMUM OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km	MAXIMUM TENSILE LOAD N
			Phase Conductor	Earth Conductor					
A7HX15KV1025YW	8.7/15	3+3	25	25/3	6.8	40.7	42.4	2580	1500
A7HX15KV1035YW	8.7/15	3+3	35	25/3	7.8	42.2	43.9	2930	2100
A7HX15KV1050YW	8.7/15	3+3	50	25/3	9.4	45.4	47.1	3560	3000
A7HX15KV1070YW	8.7/15	3+3	70	35/3	11.2	49.2	51	4510	4200
A7HX15KV1095YW	8.7/15	3+3	95	50/3	12.7	52.6	54.4	5360	5700
A7HX15KV1120YW	8.7/15	3+3	120	70/3	14.4	57.2	59	6690	7200
A7HX15KV1150YW	8.7/15	3+3	150	70/3	16.3	61.7	64	7910	9000
A7HX15KV1185YW	8.7/15	3+3	185	95/3	17.6	63.8	66.1	9110	11100
A7HX20KV1025YW	12/20	3+3	25	25/3	6.8	43.3	45	2810	1500
A7HX20KV1035YW	12/20	3+3	35	25/3	7.8	44.8	46.5	3160	2100
A7HX20KV1050YW	12/20	3+3	50	25/3	9.4	47.9	49.6	3810	3000
A7HX20KV1070YW	12/20	3+3	70	35/3	11.2	51.7	53.5	4780	4200
A7HX20KV1095YW	12/20	3+3	95	50/3	12.7	55.1	56.9	5660	5700
A7HX20KV1120YW	12/20	3+3	120	70/3	14.4	59.6	61.9	7020	7200
A7HX20KV1150YW	12/20	3+3	150	70/3	16.3	64.2	66.5	8250	9000
A7HX20KV1185YW	12/20	3+3	185	95/3	17.6	66.3	68.6	9460	11100

## ELECTRICAL CHARACTERISTICS

### 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
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 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