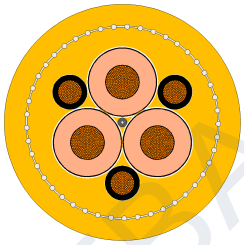
TEBAOFLEX CABLE

DATA SHEET

Mining&Industrial cable

(N)TSCGEWÖU-ZH

8.7/15 kV and 12/20 kV halogen-free reeling cable



APPLICATION

Flexible cable for the energy supply to heavy mobile equipment such as draglines, shovels, dredges, drills and other moving machinery operating under extreme mechanical stress and abrasion in opencast mines. Halogen-free polyurethane sheathed version suitable for indoor and outdoor applications.

CONSTRUCTION

Component	Description
Phase conductor	Class 5 tinned copper conductor
Insulation	Rubber compound
Semi-conductive layers	Semi-conductive tape over the conductor, plus inner and outer semi-conductive rubber layers on the insulation
Earth conductor	Class 5 tinned copper conductor
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
Sheath colour	Yellow

CHARACTERISTICS

- Halogen-free medium-voltage trailing and reeling cable for opencast mining equipment.
- Maximum torsional stress of +/-25 degrees per metre.
- Flame retardant according to IEC/EN 60332-1-2.
- Halogen-free polyurethane sheath for demanding operating conditions.

OPERATING CHARACTERISTICS

Parameter	Value
Voltage rating Uo/U	8.7/15 kV; 12/20 kV
Test voltage	24 kV for 8.7/15 kV; 29 kV for 12/20 kV
Ambient temperature	Fixed -50 °C to +90 °C; flexed -25 °C to +90 °C
Minimum bending radius	6 x overall diameter fixed; 10 x overall diameter flexed
Maximum torsional stress	+/-25°/m

STANDARDS

Parameter	Value
Cable standards	VDE 0250 Part 813, HD 22.16, VDE 0295, EN 60228
Flame retardant	IEC/EN 60332-1-2
Halogen free	IEC/EN 60754-1/2
Regulatory compliance	RoHS Directive ; REACH EC

PACKING

Standard length cable packing on drums; other packing and delivery forms available on request.

TECHNICAL DATA

DIMENSIONS

Values are technical parameters only. Cable dimensions may vary due to manufacturing tolerances.

Voltage kV	Cores	Phase mm2	Earth mm2	Cond. dia. mm	Min OD mm	Max OD mm	Tensile N	Weight kg/km
8.7/15	3+3	25	25/3E	6.8	40.7	42.4	1500	2580
8.7/15	3+3	35	25/3E	7.8	42.2	43.9	2100	2930
8.7/15	3+3	50	25/3E	9.4	45.4	47.1	3000	3560
8.7/15	3+3	70	35/3E	11.2	49.2	51.0	4200	4510
8.7/15	3+3	95	50/3E	12.7	52.6	54.4	5700	5360
8.7/15	3+3	120	70/3E	14.4	57.2	59.0	7200	6690
8.7/15	3+3	150	70/3E	16.3	61.7	64.0	9000	7910
8.7/15	3+3	185	95/3E	17.6	63.8	66.1	11100	9110
12/20	3+3	25	25/3E	6.8	43.3	45.0	1500	2810
12/20	3+3	35	25/3E	7.8	44.8	46.5	2100	3160
12/20	3+3	50	25/3E	9.4	47.9	49.6	3000	3810
12/20	3+3	70	35/3E	11.2	51.7	53.5	4200	4780
12/20	3+3	95	50/3E	12.7	55.1	56.9	5700	5660
12/20	3+3	120	70/3E	14.4	59.6	61.9	7200	7020
12/20	3+3	150	70/3E	16.3	64.2	66.5	9000	8250
12/20	3+3	185	95/3E	17.6	66.3	68.6	11100	9460

CURRENT CARRYING CAPACITY

Area mm2	Floor A	1 layer	2 layer	3 layer	4 layer	5 layer	6 layer	7 layer
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

Area mm2	PF 0.7	PF 0.8	PF 0.9	PF 1.0
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

ELECTRICAL DATA

DE-RATING FACTORS

Ambient temp.	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

NOTES

- Current carrying capacity values are stated for the operating conditions shown above.
- Cable dimensions may vary due to manufacturing tolerances.

CERTIFICATIONS