



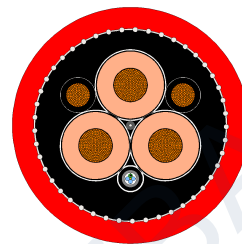
TEBAOFLEX CABLE

DATA SHEET

Mining&Industrial cable

(N)TSCGEWÖU FO

3.6/6 kV and 6/10 kV fibre optic reeling cable



APPLICATION

Flexible reeling cable with integrated fibre optic cores for high and extreme mechanical stresses, including torsional stress, deflection into different planes and high reeling speed. Suitable for indoor and outdoor applications where medium-voltage power and data transmission are required.

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
Fibre optics	50/125 multimode, 62.5/125 multimode and 9/125 singlemode options; rubber compound over twisted cores
Central filler	Semi-conductive compound on a textile polyester support
Inner sheath	Rubber compound
Anti-torsion braid	Polyester braid between the inner and outer sheath
Outer sheath	Rubber compound
Sheath colour	Red

CHARACTERISTICS

- Integrated fibre optic cores for combined power and data transmission.
- Designed for reeling duty under high mechanical and torsional stress.
- Suitable for fixed and flexed operation with 6 x / 10 x bending radius.
- Flame retardant according to IEC/EN 60332-1-2.

OPERATING CHARACTERISTICS

Parameter	Value
Voltage rating U ₀ /U	3.6/6 kV; 6/10 kV
Test voltage	11 kV for 3.6/6 kV; 17 kV for 6/10 kV
Fixed ambient temperature	-40 °C to +90 °C
Flexed ambient temperature	-25 °C to +90 °C
Maximum short circuit temperature	+250 °C
Minimum bending radius	6 x overall diameter fixed; 10 x overall diameter flexed

STANDARDS

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

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
3.6/6 kV								
3.6/6	3 + 2 + FO	25	25/2E	6.8	44.7	47.6	1500	2820
3.6/6	3 + 2 + FO	35	25/2E	7.8	46.6	49.5	2100	3190
3.6/6	3 + 2 + FO	50	25/2E	9.4	49.9	52.9	3000	3990
3.6/6	3 + 2 + FO	70	35/2E	11.2	55.5	58.5	4200	5070
3.6/6	3 + 2 + FO	95	50/2E	12.7	58.9	61.9	5700	5900
3.6/6	3 + 2 + FO	120	70/2E	14.4	64.4	68.3	7200	7490
3.6/6	3 + 2 + FO	150	70/2E	16.3	68.5	72.5	9000	8710
6/10 kV								
6/10	3 + 2 + FO	25	25/2E	6.8	47.3	50.3	1500	3370
6/10	3 + 2 + FO	35	25/2E	7.8	48.8	51.8	2100	3730
6/10	3 + 2 + FO	50	25/2E	9.4	53.7	56.7	3000	4680
6/10	3 + 2 + FO	70	35/2E	11.2	57.5	60.5	4200	5770
6/10	3 + 2 + FO	95	50/2E	12.7	60.8	64.7	5700	6720
6/10	3 + 2 + FO	120	70/2E	14.4	66.4	70.4	7200	8280

CURRENT CARRYING CAPACITY

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

Ambient temperature of 30 °C.

ELECTRICAL DATA

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

FIBRE OPTICS

Fibre	Att. 850 dB/km	Att. 1300 dB/km	BW 850 MHz*km	BW 1300 MHz*km	Numerical aperture	Att. 1310 dB/km	Att. 1550 dB/km	Disp. 1285-1300	Disp. 1550
50/125	<= 2.5	<= 0.7	>= 200	>= 500	0.200 +/- 0.015	-	-	-	-
62.5/125	<= 3.0	<= 0.7	>= 200	>= 500	0.275 +/- 0.015	-	-	-	-
9/125	-	-	-	-	-	<= 0.35	<= 0.24	<= 3	<= 18

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

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

CERTIFICATIONS

