



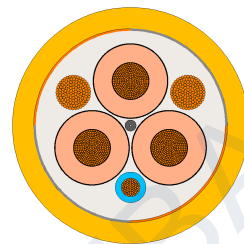
TEBAOFLEX CABLE

DATA SHEET

Mining&Industrialcable

(N)TSCGEH3S

3.6/6 kV and 6/10 kV luminescent trailing cable



APPLICATION

Luminescent medium-voltage trailing cable for power supply to large mobile equipment in opencast mines, including shovels, draglines and other moving machinery. Designed for applications where the cable must remain visible in the dark to support personnel and equipment safety, with a robust sheath suitable for fully flexible operation at very low temperatures.

CONSTRUCTION

Component	Description
Conductor	Tinned copper, finely stranded class 5 conductor according to IEC 60228 / DIN VDE 0295
PE conductor	Tinned copper, finely stranded class 5, with semiconductive special rubber compound
Insulation	EPR rubber compound, 3GI3 type
Electrical field control	Inner and outer semiconductive rubber layers; cold-strippable outer layer
Pilot conductor	Tinned copper, finely stranded class 5, with EPR insulation
Illuminating element	Special electroluminescent string for high visibility and low power consumption
Core arrangement	Cores laid up around a semiconductive central filler with aramid yarns
Outer sheath	Transparent PUR compound
Outer sheath colour	Orange

CHARACTERISTICS

- Visible in dark working conditions with 360° luminescent irradiation.
- Extremely robust sheath against abrasion and tearing.
- Flame retardant according to EN/IEC 60332-1-2.
- Oil resistant according to EN/IEC 60811-404.
- Weather, ozone and moisture resistant for unrestricted outdoor use.
- Suitable for fully flexible operation down to -50 °C.

OPERATING CHARACTERISTICS

Parameter	Value
Rated voltage U_0/U	3.6/6 kV; 6/10 kV
Max. operating voltage AC	4.2/7.2 kV; 6.9/12 kV
Max. operating voltage DC	5.4/10.8 kV; 9/18 kV
AC test voltage, main cores	11 kV for 3.6/6 kV; 17 kV for 6/10 kV
Luminescent voltage	Max. 125 V AC
Luminescent frequency	Max. 2000 Hz
Luminescent current absorption	~ 15 A/km
Luminescent heat development	None
Luminescent light homogeneity	> 95%
Max. conductor temperature	+90 °C
Max. short circuit temperature	+250 °C
Ambient temperature	Fixed -50 °C to +90 °C; fully flexible -50 °C to +90 °C
Max. tensile load on conductor	25 N/mm ²
Minimum bending radius	According to DIN VDE 0298 part 3; S-type direction changes 20 x OD

STANDARDS

Parameter	Value
Cable standard	Based on DIN VDE 0250-813
Conductor standard	IEC 60228 / DIN VDE 0295
Fire performance	EN/IEC 60332-1-2
Oil resistance	EN/IEC 60811-404

TECHNICAL DATA

DIMENSIONS AND ELECTRICAL PARAMETERS

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

Voltage kV	Cross section	Cond. dia. mm	Min OD mm	Max OD mm	Bend radius mm	Weight kg/km	Tensile N	Res. Ω/km	Ind. mH/km	Current A	Short kA
3.6/6 kV											
3.6/6	3x35+2x16+16	7.5	46.2	49.7	746	3200	2625	0.565	0.34	162	5.01
3.6/6	3x50+2x16+16	9	49.3	53.8	807	3800	3750	0.393	0.32	202	7.15
3.6/6	3x70+2x25+16	10.6	54.6	59.1	887	4900	5250	0.277	0.30	250	10.01
3.6/6	3x95+2x25+16	12.6	58.9	63.4	951	5750	7125	0.210	0.29	301	13.59
3.6/6	3x120+2x35+16	14.8	65.5	70	1050	7250	9000	0.164	0.28	352	17.16
3.6/6	3x150+2x35+16	16	68.8	72.4	1086	8350	11250	0.132	0.27	404	21.45
3.6/6	3x185+2x50+16	17.7	71.7	76.2	1143	9850	13875	0.108	0.27	461	26.46
3.6/6	3x240+2x70+16	20.3	79.1	83.6	1254	12500	18000	0.0817	0.26	540	34.32
6/10 kV											
6/10	3x35+2x16+16	7.5	51	55.5	833	3465	2625	0.565	0.35	162	5.01
6/10	3x50+2x16+16	9	52	56	840	4280	3750	0.393	0.33	202	7.15
6/10	3x70+2x25+16	10.6	56.3	60.8	912	5360	5250	0.277	0.31	250	10.01
6/10	3x95+2x25+16	12.6	60.6	65.1	977	6495	7125	0.210	0.30	301	13.59
6/10	3x120+2x35+16	14.8	67.2	71.7	1076	7660	9000	0.164	0.29	352	17.16
6/10	3x150+2x35+16	16	69.6	74.1	1112	8685	11250	0.132	0.28	404	21.45
6/10	3x185+2x50+16	17.7	73.4	77.9	1169	10460	13875	0.108	0.27	461	26.46
6/10	3x240+2x70+16	20.3	80.8	85.3	1280	12890	18000	0.0817	0.26	540	34.32

Nominal current carrying capacity is stated for rubber cables laid on a surface at 30 °C ambient temperature.

CERTIFICATIONS



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