



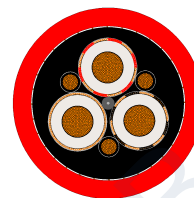
TEBAOFLEX CABLE

DATA SHEET

Mining&Industrial cable

(N)TSCGECWÖU - TBM

Medium voltage tunneling cable for tunnel boring machines



APPLICATION

Suitable as reeling power supply cable for tunnel boring machines and for underground mine tunnel construction applications.

CABLE STRUCTURE

Component	Description
Conductors	Flexible tinned electrolytic copper conductor, DIN VDE 0295 class 5
Insulation	3GI3 type EPR compound
Electrical field control	Inner and outer semiconductive rubber layers
Control core	Tinned copper conductor with semiconductive layer
Protective-earth conductor	Tinned copper / textile braiding combined cores around each power core
Core identification	Main cores natural with black semiconductive rubber; control cores black
Lay up	Three main conductors laid up with three control cores in the outer interstice
Inner sheath monitoring	GM1b type EPR compound
Monitoring conductor	Overall concentric lay of copper wire spinning
Outer sheath	5GM5 type elastomer compound, red

CHARACTERISTICS

- Ozone resistant.
- Cold resistant.
- Tear resistant.
- UV resistant.
- Weather resistant.
- Moisture resistant.
- REACH compliant.
- Designed for TBM reeling applications.

OPERATING CHARACTERISTICS

Parameter	Value
Rated voltage	3.6/6 kV, 6/10 kV, 8.7/15 kV, 12/20 kV, 18/30 kV
AC test voltage	11 kV, 17 kV, 24 kV, 29 kV, 43 kV
Max. operating voltage AC	4.2/7.2 kV, 6.9/12 kV, 10.4/18 kV, 13.9/24 kV, 20.8/36 kV
Max. operating voltage DC	5.4/10.8 kV, 9/18 kV, 13.5/27 kV, 18/36 kV, 27/54 kV
Min. bending radius	According to DIN VDE 0298 part 3
Current carrying capacity	According to DIN VDE 0298 part 4
Working temperature, fixed	-40 °C to +90 °C

PRODUCTION AND TEST STANDARDS

Parameter	Value
Construction	Based on DIN VDE 0250-813
General requirements	DIN VDE 0250-1
Guide to use	DIN VDE 0298-3
Electrical tests	DIN VDE 0472-501, 503, 508
Non-electrical tests	DIN VDE 0472-401, 402, 602, 303, 615
Fire behavior	VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1
Oil resistance	HD/EN/IEC 60811-2-1, DIN VDE 0473-811-2-1

TECHNICAL DATA

DIMENSIONS AND ELECTRICAL CHARACTERISTICS

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

Voltage	Cross section mm ²	Overall diameter min - max mm	Approx. weight kg/km
3.6/6 kV			
3.6/6 kV	3 x 25 + 3 x 16/3E + 3 x 2.5 ST + 6ÜL KON	42.2 - 45.4	2770
3.6/6 kV	3 x 35 + 3 x 25/3E + 3 x 2.5 ST + 6ÜL KON	46.8 - 50.0	3200
3.6/6 kV	3 x 50 + 3 x 25/3E + 3 x 2.5 ST + 6ÜL KON	50.1 - 53.2	4040
3.6/6 kV	3 x 70 + 3 x 35/3E + 3 x 2.5 ST + 6ÜL KON	54.6 - 57.7	5035
3.6/6 kV	3 x 95 + 3 x 50/3E + 3 x 2.5 ST + 6ÜL KON	56.4 - 60.5	6270
3.6/6 kV	3 x 120 + 3 x 70/3E + 3 x 2.5 ST + 6ÜL KON	64.0 - 68.0	7400
6/10 kV			
6/10 kV	3 x 25 + 3 x 16/3E + 3 x 2.5 ST + 6ÜL KON	45.5 - 48.2	2975
6/10 kV	3 x 35 + 3 x 25/3E + 3 x 2.5 ST + 6ÜL KON	47.8 - 51.0	3420
6/10 kV	3 x 50 + 3 x 25/3E + 3 x 2.5 ST + 6ÜL KON	50.7 - 54.9	4260
6/10 kV	3 x 70 + 3 x 35/3E + 3 x 2.5 ST + 6ÜL KON	57.2 - 61.4	5270
6/10 kV	3 x 95 + 3 x 50/3E + 3 x 2.5 ST + 6ÜL KON	61.1 - 65.3	6540
6/10 kV	3 x 120 + 3 x 70/3E + 3 x 2.5 ST + 6ÜL KON	65.1 - 69.3	7840
12/20 kV			
12/20 kV	3 x 25 + 3 x 16/3E + 3 x 2.5 ST + 6ÜL KON	51.1 - 55.3	3600
12/20 kV	3 x 35 + 3 x 25/3E + 3 x 2.5 ST + 6ÜL KON	54.0 - 58.2	4140
12/20 kV	3 x 50 + 3 x 25/3E + 3 x 2.5 ST + 6ÜL KON	59.4 - 63.6	5030
12/20 kV	3 x 70 + 3 x 35/3E + 3 x 2.5 ST + 6ÜL KON	64.2 - 68.4	6200
12/20 kV	3 x 95 + 3 x 50/3E + 3 x 2.5 ST + 6ÜL KON	69.2 - 73.8	7520
12/20 kV	3 x 120 + 3 x 70/3E + 3 x 2.5 ST + 6ÜL KON	73.6 - 77.8	8740

RATINGS

- Rated voltages shown include 3.6/6 kV, 6/10 kV and 12/20 kV dimensional ranges.
- Working temperature: fixed -40 °C to +90 °C; mobile -25 °C to +90 °C.
- Minimum bending radius according to DIN VDE 0298 part 3.
- Current carrying capacity according to DIN VDE 0298 part 4.
- Maximum tensile load: 15 N/mm².
- Max. torsion: 25 deg/m; travel speed: max. 30 m/min; direction change: 20 x D.

CERTIFICATIONS



TEBAOFLEX CABLE