



Medium-voltage reeling & TBM cables

(N)TSCGECECWÖU (3.6/6–12/20 kV)

(N)TSCGECECWÖU MV TBM & Mining Reeling Cable

3.6/6 to 12/20 kV TBM reeling cable with EC screened control cores & ÜL monitor



DIN VDE 0250-813

3.6/6–12/20 kV · 25–150 mm²

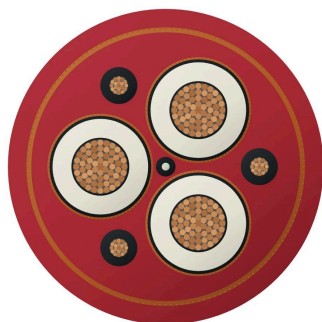
EC Screened Control + ÜL Monitor

Application

DIN VDE 0250-813 (N)TSCGECECWÖU medium-voltage reeling cable (3.6/6 to 12/20 kV, 25–150 mm²) for tunnel boring machines (TBMs) and mining drums, combining 3GI3 EPR phase cores, individually screened control cores (EC) and an overall ÜL monitoring screen.

Typical uses: Tunnel boring machine (TBM) reeling drums, Underground hard-rock & metro tunnelling, Subsurface mine drift & ramp development, Mobile MV underground switchgear skids, Halogen-free urban infrastructure tunnels

Construction



Cross-section, not to scale

1	Phase conductor	DIN VDE 0295 · EN 60228
2	Inner semiconductive layer	DIN VDE 0250-813
3	Core insulation	DIN VDE 0207-20
4	Outer semiconductive layer	DIN VDE 0250-813
5	Phase protective earth screen (CE)	DIN VDE 0250-813
6	Screened control cores (EC)	DIN VDE 0250-813
7	Central cradle filler	DIN VDE 0250-813
8	Inner sheath	DIN VDE 0250-813
9	Monitoring conductor (ÜL)	DIN VDE 0250-813
10	Outer sheath	DIN VDE 0250-813

Technical data

Typical values

Rated voltage U₀/U 3.6/6 kV · 6/10 kV · 8.7/15 kV · 12/20 kV

Screened control & monitor 3 × 2.5 mm² individually Cu-screened control cores (EC) + concentric Cu monitoring screen (ÜL) over inner sheath

Ambient temperature range Flexed –25 to +90 °C · Fixed –40 to +90 °C (5GM5 red) or –50 to +90 °C (ZH PUR black)

Max. tensile & torsional load 15 N/mm² phase copper load (1,125–6,750 N) · ±25 %/m max torsional stress

Tunnel environment durability Oil, ozone, moisture and rock-abrasion resistant for indoor and outdoor TBM reeling

AC test voltage 11 kV (3.6/6 kV) · 17 kV (6/10 kV) · 24 kV (8.7/15 kV) · 29 kV (12/20 kV)

Max. conductor temperature +90 °C continuous · +250 °C short-circuit

Min. bending radius 6 × D fixed installation · 10 × D dynamic flexing & reeling

Flame & halogen performance Flame retardant to IEC/EN 60332-1-2 · ZH PUR variant halogen-free to IEC/EN 60754-1/2

Standards DIN VDE 0250-813 · DIN VDE 0295 · EN 60228

Sizes

26 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Designation (N)TSC GECECWÖU	Voltage kV	Phase mm ²	Earth mm ²	Cond. Ø mm	Min. OD mm	Max. OD mm	Max. pull N	Mass ≈ kg/km	Floor 30°C A	Air 30°C A	1-Layer A	2-Layer A	3-Layer A	V-Drop PF 0.8 V/A·km
☐ 3.6/6 kV · 3×25 + 3×25/3E + 3×2.5ST + ÜL	3.6/6	25	25/3E	6.8	45.4	48.8	1,125	2,960	131	138	105	80	64	1.45
☐ 3.6/6 kV · 3×35 + 3×25/3E + 3×2.5ST + ÜL	3.6/6	35	25/3E	7.8	46.9	50.4	1,575	3,340	162	170	130	99	79	1.06
☐ 3.6/6 kV · 3×50 + 3×25/3E + 3×2.5ST + ÜL	3.6/6	50	25/3E	9.4	50.0	53.6	2,250	3,990	202	212	162	123	99	0.77
☐ 3.6/6 kV · 3×70 + 3×35/3E + 3×2.5ST + ÜL	3.6/6	70	35/3E	11.2	55.6	59.4	3,150	5,180	250	263	200	153	123	0.56
☐ 3.6/6 kV · 3×95 + 3×50/3E + 3×2.5ST + ÜL	3.6/6	95	50/3E	12.7	59.9	63.9	4,275	6,370	301	316	241	184	147	0.45
☐ 3.6/6 kV · 3×120 + 3×70/3E + 3×2.5ST + ÜL	3.6/6	120	70/3E	14.4	64.0	68.4	5,400	7,730	352	370	282	215	172	0.36
☐ 3.6/6 kV · 3×150 + 3×70/3E + 3×2.5ST + ÜL	3.6/6	150	70/3E	16.0	68.2	72.8	6,750	8,990	404	424	323	246	197	0.32
☐ 6/10 kV · 3×25 + 3×25/3E + 3×2.5ST + ÜL	6/10	25	25/3E	6.8	45.4	49.4	1,125	3,000	131	138	105	80	64	1.45
☐ 6/10 kV · 3×35 + 3×25/3E + 3×2.5ST + ÜL	6/10	35	25/3E	7.8	46.9	51.0	1,575	3,380	162	170	130	99	79	1.06
☐ 6/10 kV · 3×50 + 3×25/3E + 3×2.5ST + ÜL	6/10	50	25/3E	9.4	50.0	54.2	2,250	4,030	202	212	162	123	99	0.77
☐ 6/10 kV · 3×70 + 3×35/3E + 3×2.5ST + ÜL	6/10	70	35/3E	11.2	55.6	60.0	3,150	5,220	250	263	200	153	123	0.56
☐ 6/10 kV · 3×95 + 3×50/3E + 3×2.5ST + ÜL	6/10	95	50/3E	12.7	59.9	64.5	4,275	6,410	301	316	241	184	147	0.45
☐ 6/10 kV · 3×120 + 3×70/3E + 3×2.5ST + ÜL	6/10	120	70/3E	14.4	64.0	69.1	5,400	7,770	352	370	282	215	172	0.36
☐ 6/10 kV · 3×150 + 3×70/3E + 3×2.5ST + ÜL	6/10	150	70/3E	16.0	68.2	73.5	6,750	9,030	404	424	323	246	197	0.32
☐ 8.7/15 kV · 3×25 + 3×25/3E + 3×2.5ST + ÜL	8.7/15	25	25/3E	6.8	48.0	51.5	1,125	3,540	139	146	111	85	68	1.45
☐ 8.7/15 kV · 3×35 + 3×25/3E + 3×2.5ST + ÜL	8.7/15	35	25/3E	7.8	49.5	53.1	1,575	3,930	172	181	138	105	84	1.06
☐ 8.7/15 kV · 3×50 + 3×25/3E + 3×2.5ST + ÜL	8.7/15	50	25/3E	9.4	54.4	58.2	2,250	4,810	216	227	173	132	106	0.77
☐ 8.7/15 kV · 3×70 + 3×35/3E + 3×2.5ST + ÜL	8.7/15	70	35/3E	11.2	58.2	62.2	3,150	5,880	265	278	212	162	130	0.56
☐ 8.7/15 kV · 3×95 + 3×50/3E + 3×2.5ST + ÜL	8.7/15	95	50/3E	12.7	61.4	65.7	4,275	6,950	319	335	255	195	156	0.45
☐ 8.7/15 kV · 3×150 + 3×70/3E + 3×2.5ST + ÜL	8.7/15	150	70/3E	16.0	70.6	75.3	6,750	9,620	428	449	342	261	209	0.32
☐ 12/20 kV · 3×25 + 3×25/3E + 3×2.5ST + ÜL	12/20	25	25/3E	6.8	50.5	54.1	1,125	3,800	139	146	111	85	68	1.45
☐ 12/20 kV · 3×35 + 3×25/3E + 3×2.5ST + ÜL	12/20	35	25/3E	7.8	52.3	56.0	1,575	4,190	172	181	138	105	84	1.06
☐ 12/20 kV · 3×50 + 3×25/3E + 3×2.5ST + ÜL	12/20	50	25/3E	9.4	57.5	61.4	2,250	5,120	216	227	173	132	106	0.77
☐ 12/20 kV · 3×70 + 3×35/3E + 3×2.5ST + ÜL	12/20	70	35/3E	11.2	61.0	65.3	3,150	6,200	265	278	212	162	130	0.56
☐ 12/20 kV · 3×95 + 3×50/3E + 3×2.5ST + ÜL	12/20	95	50/3E	12.7	66.4	70.9	4,275	7,550	319	335	255	195	156	0.45
☐ 12/20 kV · 3×150 + 3×70/3E + 3×2.5ST + ÜL	12/20	150	70/3E	16.0	73.2	78.0	6,750	10,050	428	449	342	261	209	0.32

– All rows include 3 × 2.5 mm² individually screened control cores (2.5ST) plus an overall concentric copper wire monitoring screen (ÜL) over the inner sheath.

– For 4, 5, 6 and 7 drum layers on 3.6/6 & 6/10 kV: multiply 1-layer current by 0.52 (4L), 0.48 (5L) and 0.33 (6–7L). Ambient derating: 1.15 (10 °C), 1.08 (20 °C), 1.00 (30 °C), 0.91 (40 °C), 0.82 (50 °C), 0.71 (60 °C).

ZH Halogen-Free PUR Black Series

22 sizes

Designation (N)TSCGECECWÖU ZH	Voltage kV	Phase mm ²	Earth mm ²	Cond. Ø mm	Min. OD mm	Max. OD mm	Max. pull N	Mass ≈ kg/km	Floor 30°C A	1-Layer A	2-Layer A	3-Layer A	V-Drop PF 0.8 V/A·km
3.6/6 kV · 3×25 + 3×25/3E + 3×2.5ST + ÜL	3.6/6	25	25/3E	6.8	45.4	48.8	1,125	2,960	131	105	80	64	1.45
3.6/6 kV · 3×35 + 3×25/3E + 3×2.5ST + ÜL	3.6/6	35	25/3E	7.8	46.9	50.4	1,575	3,340	162	130	99	79	1.06
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3.6/6 kV · 3×70 + 3×35/3E + 3×2.5ST + ÜL	3.6/6	70	35/3E	11.2	55.6	59.4	3,150	5,180	250	200	153	123	0.56
3.6/6 kV · 3×95 + 3×50/3E + 3×2.5ST + ÜL	3.6/6	95	50/3E	12.7	59.9	63.9	4,275	6,370	301	241	184	147	0.45
3.6/6 kV · 3×120 + 3×70/3E + 3×2.5ST + ÜL	3.6/6	120	70/3E	14.4	64.0	68.4	5,400	7,730	352	282	215	172	0.36
6/10 kV · 3×25 + 3×25/3E + 3×2.5ST + ÜL	6/10	25	25/3E	6.8	45.4	49.4	1,125	3,000	131	105	80	64	1.45
6/10 kV · 3×35 + 3×25/3E + 3×2.5ST + ÜL	6/10	35	25/3E	7.8	46.9	51.0	1,575	3,380	162	130	99	79	1.06
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12/20 kV · 3×95 + 3×50/3E + 3×2.5ST + ÜL	12/20	95	50/3E	12.7	66.4	70.9	4,275	7,550	319	255	195	156	0.45

– Halogen-free (ZH) variant substitutes a halogen-free inner sheath and black polyurethane (PUR) outer sheath meeting IEC/EN 60754-1/2 and cold fixed rating down to -50 °C.

Standards and approvals

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

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Typical values for this cable type, based on DIN VDE 0250-813 · IEC 60228 Class 5. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.