subsea ROV umbilical, AUV tether & sonar tow cable

Tunneling & Seabed Cutter Umbilical

Heavy-Duty Tunneling & Seabed Cutter Umbilical

DIN VDE 0250-814 / DNV · 3.6/6 kV (0.6/1 kV) · Subsea rov umbilical, auv tether &



DIN VDE 0250-814 / DNV | **3.6/6 kV (0.6/1 kV) (-30 to +90 °C)** | **Subsea / Marine Outer Protective She**

Application

Heavy-Duty Tunneling & Seabed Cutter Umbilical featuring single-mode / multi-mode optical unit and subsea / marine outer protective sheath (DIN VDE 0250-814 / DNV, 3.6/6 kV (0.6/1 kV), -30 to +90 °C, min. bend radius 8 × OD).

Typical uses: Work-Class & Observation ROV Umbilicals and TMS Tethers, Offshore Aquaculture Net Cleaners & Subsea Cage Inspection, AUV, Ocean Glider & Expendable Spool-Payoff Micro-Tethers, USV Towed Sonar Arrays, Seabed Crawlers & Subsea Trenchers

Construction





Cross-section, not to scale

1. Single-Mode / Multi-Mode Optical Unit
2. Power & Control Copper Conductors
3. Subsea / Marine Outer Protective Sheath

Technical data

Typical values

Rated voltage / operating system	3.6/6 kV (0.6/1 kV) (DIN VDE 0250-814 Heavy-Duty Tunneling & Seabed Cutter Electro-Optical Standard)
Primary dielectric / optical buffer	Power & Control Copper Conductors — Stranded copper conductors with High-modulus ethylene-propylene rubber (HEPR) insulation
Hydrostatic & thermal cycling endurance	Verified cold-bend and wet dielectric stability across −30…+90 °C per DIN VDE 0250-814 Heavy-Duty Tunneling & Seabed Cutter Electro-Optical Standard
Outer jacket / sheath protection	Subsea / Marine Outer Protective Sheath — Black hydrolysis- & abrasion-resistant marine Polyurethane (PUR) outer sheath
Reinforcement / screen / bedding layer	Power & Control Copper Conductors — Stranded copper conductors with High-modulus ethylene-propylene rubber (HEPR) insulation
Hydrostatic pressure & water blocking	Radial and longitudinal water-blocking integrity verified per DIN VDE 0250-814 Heavy-Duty Tunneling & Seabed Cutter Electro-Optical Standard
Standards	DIN VDE 0250-814 Heavy-Duty Tunneling & Seabed Cutter Electro-Optical Standard
Core / conductor construction	Single-Mode / Multi-Mode Optical Unit — Hermetic stainless-steel tube / tight-buffered optical unit
Continuous operating temperature	−30…+90 °C (submerged seawater & topside deck service)
Storage & transport temperature	−40…+80 °C on export wooden/steel cable drum
Minimum bending radius	8 × OD
Seawater, hydrolysis & oil resistance	Resistant to permanent seawater immersion, hydrolysis, hydraulic oil and bio-fouling per DIN VDE 0250-814 Heavy-Duty Tunneling & Seabed Cutter Electro-Optical Standard
RoHS & REACH compliance	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant

Sizes

3 standard constructions

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

Order designation	Configuration	Core / stranding	Outer Ø ≈ mm	Net weight ≈ kg/km	Max. pulling kN ≈	Min. bend R mm
Tunneling & Seabed Cutter Umbilical Construction Schedule (−30…+90 °C) 3 sizes						
☐ **Tunneling Hybrid 4G2.5+FO**	**4G2.5 mm² Power + 4×SM + 2×2×0.5**	**Class 5 SnCu + Aramid Braid + Subsea PUR**	**14.6**	**285**	**18.0**	**90**
☐ **Tunneling Hybrid 4G6+FO**	**4G6.0 mm² Power + 4×SM/MM + 4×2×0.5**	**Class 5 SnCu + Aramid Braid + Subsea PUR**	**19.2**	**540**	**32.0**	**120**
☐ **Tunneling Hybrid 4G16+FO**	**4G16 mm² Power + 8×SM/MM + 4×2×0.75**	**Class 5 SnCu + Heavy Aramid + Subsea PUR**	**26.5**	**1,120**	**55.0**	**165**

– Custom core counts, optical fiber channels, wet-mate terminations and continuous winch lengths available per DIN VDE 0250-814 Heavy-Duty Tunneling & Seabed Cutter Electro-Optical Standard.

Electrical, optical & thermal parameters

3 sizes

Configuration	Max. DC R_{20} Ω/km	Rating / Impedance / Load	Operating temp.
4G2.5 mm² Power + 4×SM + 2×2×0.5	**7.98**	**3.6/6 kV (0.6/1 kV) · 18 kN Tensile**	**−30…+90 °C**
4G6.0 mm² Power + 4×SM/MM + 4×2×0.5	**3.30**	**3.6/6 kV (0.6/1 kV) · 32 kN Tensile**	**−30…+90 °C**
4G16 mm² Power + 8×SM/MM + 4×2×0.75	**1.21**	**3.6/6 kV (0.6/1 kV) · 55 kN Tensile**	**−30…+90 °C**

– Every production length undergoes routine conductor DC resistance / OTDR optical attenuation, AC dielectric and dimensional verification.

Standards and approvals

- DIN VDE 0250-814 / DNV Compliant
- EN 10204 3.1 Factory Test Certificate
- CE, RoHS 2 (2011/65/EU) & REACH

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.

WhatsApp / phone
+86 185 9591 3361

Email
info@tebaoflex.com

Web
tebaoflex.com/cables/heavy-duty-tunneling-seabed-cutter-umbilical

Typical values for this cable type, based on DIN VDE 0250-814 Heavy-Duty Tunneling & Seabed Cutter Electro-Optical Standard. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.