subsea ROV umbilical, AUV tether & sonar tow cable

Subsea ROV Umbilical & Tether Cable

DNV-ST-E402 / ISO 13628-5 · 1.8/3 kV – 3.3 kV · Subsea rov umbilical, auv tether &



DNV-ST-E402 / ISO 13628-5 | 1.8/3 kV – 3.3 kV (-40 to +80 °C) | Double Torque-Balanced Steel Wire Ar

Application

Subsea ROV Umbilical & Tether Cable featuring single-mode / multi-mode optical unit and double torque-balanced steel wire armour (DNV-ST-E402 / ISO 13628-5, 1.8/3 kV – 3.3 kV, -40 to +80 °C, min. bend radius 10 × 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. Aramid / LCP Braided Strength Member
4. Double Torque-Balanced Steel Wire Armour

Technical data

Typical values

Rated voltage / operating system	1.8/3 kV – 3.3 kV (DNV-ST-E402 & ISO 13628-5 Subsea ROV Umbilical & Excursion Tether Standard)	**Core / conductor construction**	Single-Mode / Multi-Mode Optical Unit — Hermetic stainless-steel tube / tight-buffered optical unit
Primary dielectric / optical buffer	Power & Control Copper Conductors — Stranded copper conductors with Cross-linked polyethylene (XLPE) insulation	**Continuous operating temperature**	−40…+80 °C (submerged seawater & topside deck service)
Hydrostatic & thermal cycling endurance	Verified cold-bend and wet dielectric stability across −40…+80 °C per DNV-ST-E402 & ISO 13628-5 Subsea ROV Umbilical & Excursion Tether Standard	**Storage & transport temperature**	−40…+80 °C on export wooden/steel cable drum
Outer jacket / sheath protection	Double Torque-Balanced Steel Wire Armour — Contra-helical high-tensile galvanized steel wire armour	**Minimum bending radius**	10 × OD
Reinforcement / screen / bedding layer	Aramid / LCP Braided Strength Member — High-tenacity synthetic fiber braid absorbing dynamic tension	**Seawater, hydrolysis & oil resistance**	Resistant to permanent seawater immersion, hydrolysis, hydraulic oil and bio-fouling per DNV-ST-E402 & ISO 13628-5 Subsea ROV Umbilical & Excursion Tether Standard
Hydrostatic pressure & water blocking	Radial and longitudinal water-blocking integrity verified per DNV-ST-E402 & ISO 13628-5 Subsea ROV Umbilical & Excursion Tether Standard	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	DNV-ST-E402 & ISO 13628-5 Subsea ROV Umbilical & Excursion Tether Standard		

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
Subsea ROV Umbilical & Tether Construction Schedule (−40…+80 °C) 3 sizes						
☐ **Subsea ROV Umbilical 3×6 + 4×SM + 2TP**	**3×6 mm² Power + 4×SM Fiber + 2×2×0.75**	**SnCu + Gel Tube + Contra-Helical GSWA**	**20.8**	**1,280**	**115.0**	**250**
☐ **Subsea ROV Umbilical 3×10 + 6×SM + 4TP**	**3×10 mm² Power + 6×SM Fiber + 4×2×0.75**	**SnCu + SS Tube + Double Steel Armour**	**25.4**	**1,890**	**185.0**	**305**
☐ **Subsea ROV Umbilical 3×16 + 8×SM/MM**	**3×16 mm² Power + 8×SM/MM + 3×2×1.0**	**SnCu + SS Tube + Heavy GSWA Pack**	**30.2**	**2,680**	**260.0**	**365**

– Custom core counts, optical fiber channels, wet-mate terminations and continuous winch lengths available per DNV-ST-E402 & ISO 13628-5 Subsea ROV Umbilical & Excursion Tether Standard.

Electrical, optical & thermal parameters

3 sizes

Configuration	Max. DC R_{20} Ω/km	Rating / Impedance / Load	Operating temp.
3×6 mm² Power + 4×SM Fiber + 2×2×0.75	**3.30**	**1.8/3 kV – 3.3 kV · 115 kN MBS**	**−40…+80 °C**
3×10 mm² Power + 6×SM Fiber + 4×2×0.75	**1.91**	**1.8/3 kV – 3.3 kV · 185 kN MBS**	**−40…+80 °C**
3×16 mm² Power + 8×SM/MM + 3×2×1.0	**1.21**	**1.8/3 kV – 3.3 kV · 260 kN MBS**	**−40…+80 °C**

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

Standards and approvals

- DNV-ST-E402 / ISO 13628-5 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/subsea-subsea-rov-umbilical-tether-cable

Typical values for this cable type, based on DNV-ST-E402 & ISO 13628-5 Subsea ROV Umbilical & Excursion Tether Standard. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.