subsea ROV umbilical, AUV tether & sonar tow cable

ROV Illuminated Buoyant Tether

ROV Neutrally Buoyant Illuminated Tether

DNV-ST-E402 / IEC 60794 · 600 V · Subsea rov umbilical, auv tether & sonar tow cable



DNV-ST-E402 / IEC 60794 | 600 V (-30 to +80 °C) | Subsea / Marine Outer Protective She

Application

ROV Neutrally Buoyant Illuminated Tether featuring single-mode / multi-mode optical unit and subsea / marine outer protective sheath (DNV-ST-E402 / IEC 60794, 600 V, -30 to +80 °C, min. bend radius 6 × 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. Subsea / Marine Outer Protective Sheath

Technical data

Typical values

Rated voltage / operating system	600 V (DNV-ST-E402 ROV Neutrally Buoyant Illuminated Optical-Power Tether Standard)
Primary dielectric / optical buffer	Power & Control Copper Conductors — Stranded copper conductors with Low-capacitance cellular Foam-Skin PE insulation
Hydrostatic & thermal cycling endurance	Verified cold-bend and wet dielectric stability across −30…+80 °C per DNV-ST-E402 ROV Neutrally Buoyant Illuminated Optical-Power Tether Standard
Outer jacket / sheath protection	Subsea / Marine Outer Protective Sheath — Black neutrally buoyant cellular foamed Polyurethane (Foamed PUR) outer sheath
Reinforcement / screen / bedding layer	Aramid / LCP Braided Strength Member — High-tenacity synthetic fiber braid absorbing dynamic tension
Hydrostatic pressure & water blocking	Radial and longitudinal water-blocking integrity verified per DNV-ST-E402 ROV Neutrally Buoyant Illuminated Optical-Power Tether Standard
Standards	DNV-ST-E402 ROV Neutrally Buoyant Illuminated Optical-Power Tether Standard
Core / conductor construction	Single-Mode / Multi-Mode Optical Unit — Hermetic stainless-steel tube / tight-buffered optical unit
Continuous operating temperature	−30…+80 °C (submerged seawater & topside deck service)
Storage & transport temperature	−40…+80 °C on export wooden/steel cable drum
Minimum bending radius	6 × OD
Seawater, hydrolysis & oil resistance	Resistant to permanent seawater immersion, hydrolysis, hydraulic oil and bio-fouling per DNV-ST-E402 ROV Neutrally Buoyant Illuminated Optical-Power Tether 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
ROV Illuminated Buoyant Tether Construction Schedule (−30…+80 °C) 3 sizes						
☐ **ROV Illuminated Buoyant Tether Buoyant Ø9.5**	**2×1.5 mm² + 2×SM Fiber + 1×TP**	**SnCu + G.657.A2 + Aramid + Foamed PUR**	**9.5**	**92**	**6.5**	**60**
☐ **ROV Illuminated Buoyant Tether Buoyant Ø13.2**	**4×2.5 mm² + 4×SM Fiber + 2×TP**	**SnCu + G.657.A2 + Aramid/LCP + Foamed PUR**	**13.2**	**168**	**14.0**	**80**
☐ **ROV Illuminated Buoyant Tether Buoyant Ø17.8**	**3×6.0 mm² + 6×SM/MM + 4×TP**	**SnCu + Optical Unit + Synthetic Braid**	**17.8**	**315**	**28.0**	**110**

– Custom core counts, optical fiber channels, wet-mate terminations and continuous winch lengths available per DNV-ST-E402 ROV Neutrally Buoyant Illuminated Optical-Power Tether Standard.

Electrical, optical & thermal parameters

3 sizes

Configuration	Max. DC R_{20} Ω/km	Rating / Impedance / Load	Operating temp.
2×1.5 mm² + 2×SM Fiber + 1×TP	**13.30**	**600 V · SG ≈ 1.01**	**−30…+80 °C**
4×2.5 mm² + 4×SM Fiber + 2×TP	**7.98**	**600 V · SG ≈ 1.02**	**−30…+80 °C**
3×6.0 mm² + 6×SM/MM + 4×TP	**3.30**	**600 V · SG ≈ 1.02**	**−30…+80 °C**

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

Standards and approvals

- DNV-ST-E402 / IEC 60794 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/rov-neutrally-buoyant-illuminated-tether

Typical values for this cable type, based on DNV-ST-E402 ROV Neutrally Buoyant Illuminated Optical-Power 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.