subsea ROV umbilical, AUV tether & sonar tow cable

# Subsea Buoyant ROV/Cleaner Umbilical

## Subsea Neutrally Buoyant ROV & Net Cleaner Umbilical

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




DNV-ST-E402 / IEC 60794 | 600 V (-40 to +80 °C) | Subsea / Marine Outer Protective She

## Application

Subsea Neutrally Buoyant ROV & Net Cleaner Umbilical featuring optical fiber & 75-ohm coaxial units and subsea / marine outer protective sheath (DNV-ST-E402 / IEC 60794, 600 V, -40 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. Optical Fiber & 75-Ohm Coaxial Units
2. Flexible Copper Power & Control Cores
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 Neutrally Buoyant ROV & Net Cleaner Umbilical Specification) | **Core / conductor construction** | Optical Fiber & 75-Ohm Coaxial Units — Central stainless-steel optical tube + shielded coaxial video core |
| **Primary dielectric / optical buffer** | Flexible Copper Power & Control Cores — 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 Neutrally Buoyant ROV & Net Cleaner Umbilical Specification | **Storage & transport temperature** | −40…+80 °C on export wooden/steel cable drum |
| **Outer jacket / sheath protection** | Subsea / Marine Outer Protective Sheath — Black neutrally buoyant cellular foamed Polyurethane (Foamed PUR) outer sheath | **Minimum bending radius** | 6 × 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 Neutrally Buoyant ROV & Net Cleaner Umbilical Specification |
| **Hydrostatic pressure & water blocking** | Radial and longitudinal water-blocking integrity verified per DNV-ST-E402 Neutrally Buoyant ROV & Net Cleaner Umbilical Specification | **RoHS & REACH compliance** | RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant |
| **Standards** | DNV-ST-E402 Neutrally Buoyant ROV & Net Cleaner Umbilical Specification | | |

## 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 Buoyant ROV/Cleaner Umbilical Construction Schedule (−40…+80 °C)** 3 sizes | | | | | | |
| ☐ **Subsea Buoyant ROV 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** |
| ☐ **Subsea Buoyant ROV 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** |
| ☐ **Subsea Buoyant ROV 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 Neutrally Buoyant ROV & Net Cleaner Umbilical Specification.

## 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** | **−40…+80 °C** |
| **4×2.5 mm² + 4×SM Fiber + 2×TP** | **7.98** | **600 V · SG ≈ 1.02** | **−40…+80 °C** |
| **3×6.0 mm² + 6×SM/MM + 4×TP** | **3.30** | **600 V · SG ≈ 1.02** | **−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 / 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/subsea-neutrally-buoyant-rov-net-cleaner-umbilical**

Typical values for this cable type, based on DNV-ST-E402 Neutrally Buoyant ROV & Net Cleaner Umbilical Specification. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.