subsea umbilical, ROV tether & oceanographic tow cable

# RT0168 / RT0173

## 1.0–3.3 kV Scientific ROV & Subsea Junction Box Electr

RT0168 / RT0173 Subsea EO · 1.0 kV – 3.3 kV · Subsea umbilical, rov tether &




**RT0168 / RT0173 Subsea EO** | **1.0 kV – 3.3 kV (-30 to +80 °C)** | **Wear-Resistant Polymer Outer Sheath**

## Application

RT0168 / RT0173 1.0–3.3 kV Scientific ROV & Subsea Junction Box Electro-Optical Umbilical (130 kN) (RT0168 / RT0173 Subsea EO) engineered for 1.0 kV – 3.3 kV service across -30 to +80 °C (min. bend radius 10 × OD).

**Typical uses:** Oceanographic CTD, ADCP & Deep-Tow Surveys, Work-Class & Observation ROV / AUV Systems, Side-Scan Sonar, SAS & Towed Hydrophone Arrays, Marine 2D/3D/UHR Seismic Streamers & OBC

## Construction






Cross-section, not to scale

1. FIST Stainless-Steel Optical Unit (6-12F
2. Multi-Gauge Power & Signal Cores (6—12C)
3. High-Tensile Armour Layer (100-130 kN)
4. Wear-Resistant Polymer Outer Sheath

## Technical data

Typical values

| | | | |
|---|---|---|---|
| **Rated voltage / transmission duty** | 1.0 kV – 3.3 kV (RT0168 / RT0173 (Ø 27–35 mm, 100–130 kN MBL) 1.0–3.3 kV Subsea EO Umbilical Specification) | **Core / conductor construction** | FIST Stainless-Steel Optical Unit (6-12F) — Central hermetic stainless-steel tube with SM/MM optical fibers |
| **Primary dielectric / buffering** | Multi-Gauge Power & Signal Cores (6—12C) — 0.5 mm² to 6.0 mm² stranded copper conductors with polyolefin insulation | **Continuous operating temperature** | −30...+80 °C (subsea & offshore duty) |
| **Hydrostatic & thermal stability** | Verified thermal and hydrostatic stability per RT0168 / RT0173 (Ø 27–35 mm, 100–130 kN MBL) 1.0–3.3 kV Subsea EO Umbilical Specification | **Storage & transport temperature** | −40...+80 °C on export wooden/steel winch reel |
| **Outer protection / armouring** | Wear-Resistant Polymer Outer Sheath — High-visibility yellow abrasion-resistant jacket (Ø 27-35 mm) | **Minimum bending radius** | 10 × OD |
| **Armour, strength member & mechanical duty** | High-Tensile Armour Layer (100-130 kN) — Load-bearing armour engineered for deep-sea deployment | **Seawater, hydrostatic & hydrolysis resistance** | Engineered for continuous seawater immersion, pressure cycling and hydrolysis resistance per RT0168 / RT0173 (Ø 27–35 mm, 100–130 kN MBL) 1.0–3.3 kV Subsea EO Umbilical Specification |
| **Oil, drilling mud & abrasion resistance** | Resistant to marine hydraulic oils, salt mist, winch sheave wear and seabed abrasion per RT0168 / RT0173 (Ø 27–35 mm, 100–130 kN MBL) 1.0–3.3 kV Subsea EO Umbilical Specification | **RoHS & REACH compliance** | RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant |
| **Standards** | RT0168 / RT0173 (Ø 27–35 mm, 100–130 kN MBL) 1.0–3.3 kV Subsea EO 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 | Breaking / tensile kN ≈ | Min. bend R mm |
|---|---|---|---|---|---|---|
| **RT0168 / RT0173 Construction Schedule (−30...+80 °C)** 3 sizes | | | | | | |
| ☐ RT0168 Config A | 3×25–50 mm² (or 3P+FO Composite) | Compacted / Class 5 Cu/SnCu + FO | 32.0 | 1,850 | 85.0 | 380 |
| ☐ RT0168 Config B | 3×95–150 mm² (or Heavy EOM) | Compacted / Class 5 Cu/SnCu + FO | 48.5 | 4,280 | 130.0 | 580 |
| ☐ RT0168 Config C | 3×240–400 mm² (or Trunk HV/MV) | Compacted Cu + Lead/Armour + FO | 78.0 | 9,650 | 210.0 | 950 |

– Custom core cross-sections, pair/fibre counts, armour breaking loads and continuous winch/seabed lengths available per RT0168 / RT0173 (Ø 27–35 mm, 100–130 kN MBL) 1.0–3.3 kV Subsea EO Umbilical Specification.

## Electrical, optical & thermal parameters

3 sizes

| Configuration | Max. DC $R_{20}$ / Atten. Ω/km or dB/km | Rating / Impedance | Operating temp. |
|---|---|---|---|
| 3×25–50 mm² (or 3P+FO Composite) | 0.49 | 1.0 kV – 3.3 kV (Subsea/MV) | −30...+80 °C |
| 3×95–150 mm² (or Heavy EOM) | 0.19 | 1.0 kV – 3.3 kV (Subsea/MV) | −30...+80 °C |
| 3×240–400 mm² (or Trunk HV/MV) | 0.07 | 1.0 kV – 3.3 kV (Trunk/HV) | −30...+80 °C |

– Every production length undergoes routine conductor DC resistance, high-voltage dielectric or OTDR continuity and dimensional verification.

## Standards and approvals

- RT0168 / RT0173 Subsea EO 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/rt0168-rt0173-subsea-eo-umbilical**

Typical values for this cable type, based on RT0168 / RT0173 (Ø 27–35 mm, 100–130 kN MBL) 1.0–3.3 kV Subsea EO 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.