subsea ROV umbilical, AUV tether & sonar tow cable

# RM0047 Deep-Sea EO Umbilical

## RM0047 Deep-Sea Electro-Optical Umbilical

DNV-ST-E402 / ISO 13628-5 · 3.3 kV · Subsea rov umbilical, auv tether & sonar tow cable

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




## Application

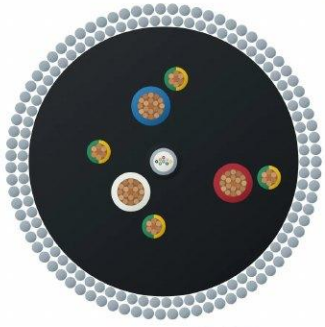
RM0047 Deep-Sea Electro-Optical Umbilical featuring single-mode / multi-mode optical unit and double torque-balanced steel wire armour (DNV-ST-E402 / ISO 13628-5, 3.3 kV, -40 to +80 °C, min. bend radius 12 × OD).

**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



TEBAOFLEX RM0047 DEEP-SEA ELECTRO-OPTICAL UMBILICAL



Cross-section, not to scale

1. Single-Mode / Multi-Mode Optical Unit
2. Power & Control Copper Conductors
3. Double Torque-Balanced Steel Wire Armour

## Technical data

Typical values

| | | | |
|---|---|---|---|
| **Rated voltage / operating system** | 3.3 kV (DNV-ST-E402 RM0047 Deep-Sea Electro-Optical Armored Umbilical 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 RM0047 Deep-Sea Electro-Optical Armored Umbilical 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** | 12 × OD |
| **Reinforcement / screen / bedding layer** | Power & Control Copper Conductors — Stranded copper conductors with Cross-linked polyethylene (XLPE) insulation | **Seawater, hydrolysis & oil resistance** | Resistant to permanent seawater immersion, hydrolysis, hydraulic oil and bio-fouling per DNV-ST-E402 RM0047 Deep-Sea Electro-Optical Armored Umbilical Standard |
| **Hydrostatic pressure & water blocking** | Radial and longitudinal water-blocking integrity verified per DNV-ST-E402 RM0047 Deep-Sea Electro-Optical Armored Umbilical Standard | **RoHS & REACH compliance** | RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant |
| **Standards** | DNV-ST-E402 RM0047 Deep-Sea Electro-Optical Armored Umbilical 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 |
|---|---|---|---|---|---|---|
| **RM0047 Deep-Sea EO Umbilical Construction Schedule (−40…+80 °C)** 3 sizes | | | | | | |
| ☐ **RM0047 Deep-Sea EO 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 |
| ☐ **RM0047 Deep-Sea EO 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 |
| ☐ **RM0047 Deep-Sea EO 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 RM0047 Deep-Sea Electro-Optical Armored Umbilical 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 | 3.3 kV · 115 kN MBS | −40…+80 °C |
| 3×10 mm² Power + 6×SM Fiber + 4×2×0.75 | 1.91 | 3.3 kV · 185 kN MBS | −40…+80 °C |
| 3×16 mm² Power + 8×SM/MM + 3×2×1.0 | 1.21 | 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/rm0047-deep-sea-electro-optical-umbilical**

Typical values for this cable type, based on DNV-ST-E402 RM0047 Deep-Sea Electro-Optical Armored Umbilical Standard. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.