subsea umbilical, ROV tether & oceanographic tow cable

RT0106 / RT0171

3.0–4.5 kV Work-Class ROV & Subsea Trencher Electro-Op

RT0106 / RT0171 Work-Class ROV · 3.0 kV – 4.5 kV · Subsea umbilical, rov tether &



RT0106 / RT0171 Work-Class ROV | 3.0 kV – 4.5 kV (-30 to +80 °C) | Abrasion-Resistant Outer Sheath (Ø 3

Application

RT0106 / RT0171 3.0–4.5 kV Work-Class ROV & Subsea Trencher Electro-Optical Umbilical (135 kN) (RT0106 / RT0171 Work-Class ROV) engineered for 3.0 kV – 4.5 kV service across -30 to +80 °C (min. bend radius 12 × 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. 12-Fiber FIST Optical Tube (6SM + 6MM)
2. HV Power & Control Cores (6.0 / 2.5 / 0.
3. Torque-Balanced Tensile Armour (135 KN)
4. Abrasion-Resistant Outer Sheath (Ø 35.0

Technical data

Typical values

Rated voltage / transmission duty	3.0 kV – 4.5 kV (RT0106 / RT0171 (Ø 35.0 mm, 135 kN MBL) 3.0–4.5 kV Work-Class ROV Umbilical Specification)	**Core / conductor construction**	12-Fiber FIST Optical Tube (6SM + 6MM) — Laser-welded stainless-steel tube housing 6 single-mode & 6 multi-mode fibers
Primary dielectric / buffering	HV Power & Control Cores (6.0 / 2.5 / 0.5 mm^2) — 6-9 stranded copper conductors with HV cross-linked polyolefin insulation	**Continuous operating temperature**	−30...+80 °C (subsea & offshore duty)
Hydrostatic & thermal stability	Verified thermal and hydrostatic stability per RT0106 / RT0171 (Ø 35.0 mm, 135 kN MBL) 3.0–4.5 kV Work-Class ROV Umbilical Specification	**Storage & transport temperature**	−40...+80 °C on export wooden/steel winch reel
Outer protection / armouring	Abrasion-Resistant Outer Sheath (Ø 35.0 mm) — Heavy-duty polymeric outer jacket for work-class ROV & trencher winches	**Minimum bending radius**	12 × OD
Armour, strength member & mechanical duty	Torque-Balanced Tensile Armour (135 KN) — Anti-torsion load-bearing armour rated 130-135 kN breaking strength	**Seawater, hydrostatic & hydrolysis resistance**	Engineered for continuous seawater immersion, pressure cycling and hydrolysis resistance per RT0106 / RT0171 (Ø 35.0 mm, 135 kN MBL) 3.0–4.5 kV Work-Class ROV Umbilical Specification
Oil, drilling mud & abrasion resistance	Resistant to marine hydraulic oils, salt mist, winch sheave wear and seabed abrasion per RT0106 / RT0171 (Ø 35.0 mm, 135 kN MBL) 3.0–4.5 kV Work-Class ROV Umbilical Specification	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	RT0106 / RT0171 (Ø 35.0 mm, 135 kN MBL) 3.0–4.5 kV Work-Class ROV 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
RT0106 / RT0171 Construction Schedule (−30...+80 °C) 3 sizes						
☐ **RT0106 Config A**	**3×25–50 mm^2 (or 3P+FO Composite)**	**Compacted / Class 5 Cu/SnCu + FO**	**32.0**	**1,850**	**85.0**	**380**
☐ **RT0106 Config B**	**3×95–150 mm^2 (or Heavy EOM)**	**Compacted / Class 5 Cu/SnCu + FO**	**48.5**	**4,280**	**130.0**	**580**
☐ **RT0106 Config C**	**3×240–400 mm^2 (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 RT0106 / RT0171 (Ø 35.0 mm, 135 kN MBL) 3.0–4.5 kV Work-Class ROV 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 mm^2 (or 3P+FO Composite)	**0.49**	**3.0 kV – 4.5 kV (Subsea/MV)**	**−30...+80 °C**
3×95–150 mm^2 (or Heavy EOM)	**0.19**	**3.0 kV – 4.5 kV (Subsea/MV)**	**−30...+80 °C**
3×240–400 mm^2 (or Trunk HV/MV)	**0.07**	**3.0 kV – 4.5 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

- RT0106 / RT0171 Work-Class ROV 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/rt0106-rt0171-rov-umbilical-135-kn

Typical values for this cable type, based on RT0106 / RT0171 (Ø 35.0 mm, 135 kN MBL) 3.0–4.5 kV Work-Class ROV 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.