submarine & offshore armoured optical cable

URC-1 Submarine FO

URC-1 Up to 96F Steel-Vault & Copper-Tube Deep-Sea Repeatered/Unrepeat

ITU-T G.972 / URC-1 Submarine · Optical · Submarine & offshore armoured optical cable



ITU-T G.972 / URC-1 Submarine | Optical (-20 to +70 °C) | MDPE / HDPE Insulating Outer Sheath

Application

URC-1 Up to 96F Steel-Vault & Copper-Tube Deep-Sea Repeatered/Unrepeatered Submarine Optical Cable (ITU-T G.972 / URC-1 Submarine) engineered for Optical service across -20 to +70 °C (min. bend radius 20 × OD).

Typical uses: Submarine Telecom & Cabled Ocean Observatories, Island, Coastal & Inter-Platform Subsea Optical Links, Offshore Platform & FPSO Fire-Safe Optical Backbones, Tactical Marine & Harsh-Environment Optical Deployment

Construction





Cross-section, not to scale

1. Central Stainless-Steel Tube (Up to 96×S
2. Galvanized Steel Arch-Vault Armour
3. Continuous Copper Power Conductor Tube
4. MDPE / HDPE Insulating Outer Sheath

Technical data

Typical values

Rated voltage / transmission duty	Optical (ITU-T G.972 URC-1 Deep-Sea Steel-Vault & Copper-Tube Submarine Fiber Optic Specification)	**Core / conductor construction**	Central Stainless-Steel Tube (Up to 96×SMF) — Hermetically sealed stainless-steel tube housing single-mode fibers
Primary dielectric / buffering	Galvanized Steel Arch-Vault Armour — High-tensile interlocking galvanized steel wire pressure vault	**Continuous operating temperature**	−20…+70 °C (subsea & offshore duty)
Hydrostatic & thermal stability	Verified thermal and hydrostatic stability per ITU-T G.972 URC-1 Deep-Sea Steel-Vault & Copper-Tube Submarine Fiber Optic Specification	**Storage & transport temperature**	−40…+80 °C on export wooden/steel winch reel
Outer protection / armouring	MDPE / HDPE Insulating Outer Sheath — High-density polyethylene outer jacket for deep-sea deployment	**Minimum bending radius**	20 × OD
Armour, strength member & mechanical duty	Continuous Copper Power Conductor Tube — Swaged seamless copper tube for submarine power feeding	**Seawater, hydrostatic & hydrolysis resistance**	Engineered for continuous seawater immersion, pressure cycling and hydrolysis resistance per ITU-T G.972 URC-1 Deep-Sea Steel-Vault & Copper-Tube Submarine Fiber Optic Specification
Oil, drilling mud & abrasion resistance	Resistant to marine hydraulic oils, salt mist, winch sheave wear and seabed abrasion per ITU-T G.972 URC-1 Deep-Sea Steel-Vault & Copper-Tube Submarine Fiber Optic Specification	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	ITU-T G.972 URC-1 Deep-Sea Steel-Vault & Copper-Tube Submarine Fiber Optic 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
URC-1 Submarine FO Construction Schedule (−20…+70 °C) 3 sizes						
☐ **URC-1 Submarine FO 4–12F EOM/Sub**	4–12 × ITU-T G.652D / G.654E SM (+ Power)	Laser-welded SS FIMT + Steel/Aramid Armour	8.2	260	48.0	125
☐ **URC-1 Submarine FO 24–48F EOM/Sub**	24–48 × ITU-T G.652D / G.654E SM (+ Power)	Laser-welded SS FIMT + Contra-Helical Steel	17.5	680	120.0	260
☐ **URC-1 Submarine FO 96–192F Trunk**	96–192 × ITU-T G.654E / G.652D Submarine	SS Tube + Steel Vault + Cu Tube + DA Armour	28.0	1,650	300.0	420

– Custom core cross-sections, pair/fibre counts, armour breaking loads and continuous winch/seabed lengths available per ITU-T G.972 URC-1 Deep-Sea Steel-Vault & Copper-Tube Submarine Fiber Optic Specification.

Electrical, optical & thermal parameters

3 sizes

Configuration	Max. DC R_{20} / Atten. Ω/km or dB/km	Rating / Impedance	Operating temp.
4–12 × ITU-T G.652D / G.654E SM (+ Power)	0.35	≤0.35 dB/km @ 1310 nm	−20…+70 °C
24–48 × ITU-T G.652D / G.654E SM (+ Power)	0.21	≤0.21 dB/km @ 1550 nm	−20…+70 °C
96–192 × ITU-T G.654E / G.652D Submarine	0.18	≤0.18 dB/km @ 1550 nm	−20…+70 °C

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

Standards and approvals

- ITU-T G.972 / URC-1 Submarine 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/urc-1-submarine-fiber-optic-cable

Typical values for this cable type, based on ITU-T G.972 URC-1 Deep-Sea Steel-Vault & Copper-Tube Submarine Fiber Optic Specification. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.