submarine aquaculture, shore power & shipboard power cable

Submarine EO Marine Ranch Cable

Submarine Electro-Optical Composite Ranch Cable

IEC 60502-2 / CIGRE TB 490 · 8.7/15 kV (0.6/1 kV) · Submarine aquaculture, shore power



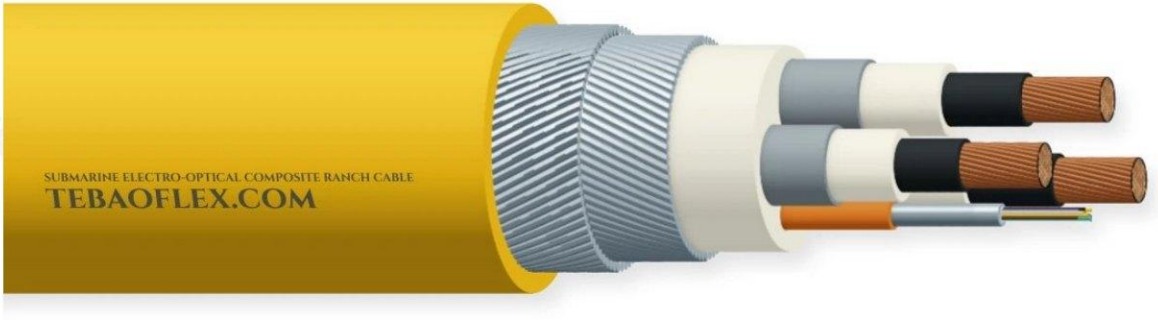
IEC 60502-2 / CIGRE TB 490 | **8.7/15 kV (0.6/1 kV) (-20 to +90 °C)** | **Double Torque-Balanced Steel Wire Ar**

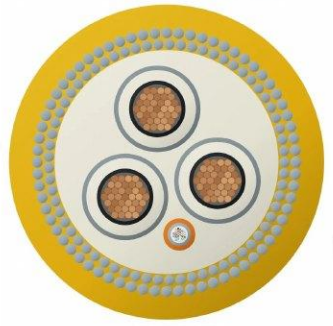
Application

Submarine Electro-Optical Composite Ranch Cable featuring single-mode / multi-mode optical unit and double torque-balanced steel wire armour (IEC 60502-2 / CIGRE TB 490, 8.7/15 kV (0.6/1 kV), -20 to +90 °C, min. bend radius 15 × OD).

Typical uses: Submarine Electro-Optical Marine Ranch & Island Grids, NEK 400-8-820 / NS 9415 Floating Fish Farm Power Distribution, Aquaculture Workboats, Live-Fish Carriers & Offshore Vessels, Port Marina & Fishing Harbour Shore Power Connections

Construction





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	8.7/15 kV (0.6/1 kV) (IEC 60502-2 & CIGRE TB 490 Submarine Electro-Optical Marine Ranch 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**	−20…+90 °C (submerged seawater & topside deck service)
Hydrostatic & thermal cycling endurance	Verified cold-bend and wet dielectric stability across −20…+90 °C per IEC 60502-2 & CIGRE TB 490 Submarine Electro-Optical Marine Ranch 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**	15 × 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 IEC 60502-2 & CIGRE TB 490 Submarine Electro-Optical Marine Ranch Standard
Hydrostatic pressure & water blocking	Radial and longitudinal water-blocking integrity verified per IEC 60502-2 & CIGRE TB 490 Submarine Electro-Optical Marine Ranch Standard	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	IEC 60502-2 & CIGRE TB 490 Submarine Electro-Optical Marine Ranch 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
Submarine EO Marine Ranch Cable Construction Schedule (−20…+90 °C) 3 sizes						
☐ **Submarine EO Marine Ranch Cable 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**
☐ **Submarine EO Marine Ranch Cable 3×10 + 6×SM + 4T**	**3×10 mm² Power + 6×SM Fiber + 4×2×0.75**	**SnCu + SS Tube + Double Steel Armour**	**25.4**	**1,890**	**185.0**	**305**
☐ **Submarine EO Marine Ranch Cable 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 IEC 60502-2 & CIGRE TB 490 Submarine Electro-Optical Marine Ranch 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**	**8.7/15 kV (0.6/1 kV) · 115 kN MBS**	**−20…+90 °C**
3×10 mm² Power + 6×SM Fiber + 4×2×0.75	**1.91**	**8.7/15 kV (0.6/1 kV) · 185 kN MBS**	**−20…+90 °C**
3×16 mm² Power + 8×SM/MM + 3×2×1.0	**1.21**	**8.7/15 kV (0.6/1 kV) · 260 kN MBS**	**−20…+90 °C**

– Every production length undergoes routine conductor DC resistance / OTDR optical attenuation, AC dielectric and dimensional verification.

Standards and approvals

- IEC 60502-2 / CIGRE TB 490 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
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Email
info@tebaoflex.com

Web
tebaoflex.com/cables/submarine-electro-optical-composite-ranch-cable

Typical values for this cable type, based on IEC 60502-2 & CIGRE TB 490 Submarine Electro-Optical Marine Ranch Standard. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.