submarine & offshore power composite cable

3-Core 33–220kV Submarine

33–220 kV AC 3-Core XLPE Lead-Sheathed Steel-Armoured Submarine Power

IEC 60840 / IEC 62067 / CIGRE TB 490 · 33 kV – 220 kV · Submarine & offshore power



IEC 60840 / IEC 62067 / CIGRE TB 490 | 33 kV – 220 kV (-20 to +90 °C) | Galvanized Steel Armour & PP Outer S

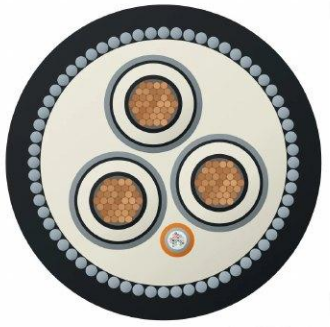
Application

33–220 kV AC 3-Core XLPE Lead-Sheathed Steel-Armoured Submarine Power & Optical Composite Cable (IEC 60840 / IEC 62067 / CIGRE TB 490) engineered for 33 kV – 220 kV service across -20 to +90 °C (min. bend radius 15 × OD).

Typical uses: Offshore Wind Inter-Array & Export Submarine Links, Subsea Island & Platform HV/MV Power Interconnects, Offshore Oil & Gas Drilling Rigs & FPSOs, Commercial Vessels, Polar Ships & Marine Propulsion

Construction





Cross-section, not to scale

1. 33-220 kV XLPE Phase Cores (3 Cores)
2. Lead-Alloy Radial Water-Barrier Sheath
3. Interstitial Optical Fiber Composite Uni
4. Galvanized Steel Armour & PP Outer Servi

Technical data

Typical values

Rated voltage / transmission duty	33 kV – 220 kV (IEC 60840 / IEC 62067 & CIGRE TB 490 33–220 kV 3-Core XLPE Submarine Composite Specification)	**Core / conductor construction**	33-220 kV XLPE Phase Cores (3 Cores) — Compacted copper conductor + triple-extruded XLPE + semi-con screens
Primary dielectric / buffering	Lead-Alloy Radial Water-Barrier Sheath — Extruded lead-alloy metallic sheath on each phase core	**Continuous operating temperature**	−20…+90 °C (subsea & offshore duty)
Hydrostatic & thermal stability	Verified thermal and hydrostatic stability per IEC 60840 / IEC 62067 & CIGRE TB 490 33–220 kV 3-Core XLPE Submarine Composite Specification	**Storage & transport temperature**	−40…+80 °C on export wooden/steel winch reel
Outer protection / armouring	Galvanized Steel Armour & PP Outer Serving — Heavy galvanized steel wire armour + polypropylene roving serving	**Minimum bending radius**	15 × OD
Armour, strength member & mechanical duty	Interstitial Optical Fiber Composite Unit — Stainless-steel tube optical unit integrated in core interstice	**Seawater, hydrostatic & hydrolysis resistance**	Engineered for continuous seawater immersion, pressure cycling and hydrolysis resistance per IEC 60840 / IEC 62067 & CIGRE TB 490 33–220 kV 3-Core XLPE Submarine Composite Specification
Oil, drilling mud & abrasion resistance	Resistant to marine hydraulic oils, salt mist, winch sheave wear and seabed abrasion per IEC 60840 / IEC 62067 & CIGRE TB 490 33–220 kV 3-Core XLPE Submarine Composite Specification	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	IEC 60840 / IEC 62067 & CIGRE TB 490 33–220 kV 3-Core XLPE Submarine Composite 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
3-Core 33–220kV Submarine Construction Schedule (−20…+90 °C) 3 sizes						
☐ 3-Core 33–220kV Submarine Config A	3×25–50 mm² (or 3P+FO Composite)	Compacted / Class 5 Cu/SnCu + FO	32.0	1,850	85.0	380
☐ 3-Core 33–220kV Submarine Config B	3×95–150 mm² (or Heavy EOM)	Compacted / Class 5 Cu/SnCu + FO	48.5	4,280	130.0	580
☐ 3-Core 33–220kV Submarine 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 IEC 60840 / IEC 62067 & CIGRE TB 490 33–220 kV 3-Core XLPE Submarine Composite 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	33 kV – 220 kV (Subsea/MV)	−20…+90 °C
3×95–150 mm² (or Heavy EOM)	0.19	33 kV – 220 kV (Subsea/MV)	−20…+90 °C
3×240–400 mm² (or Trunk HV/MV)	0.07	33 kV – 220 kV (Trunk/HV)	−20…+90 °C

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

Standards and approvals

- IEC 60840 / IEC 62067 / 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
+86 185 9591 3361

Email
info@tebaoflex.com

Web
tebaoflex.com/cables/3-core-xlpe-submarine-composite-cable-33-220kv

Typical values for this cable type, based on IEC 60840 / IEC 62067 & CIGRE TB 490 33–220 kV 3-Core XLPE Submarine Composite Specification. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.