Double-armoured subsea electro-optical umbilical

FEVE 1.8/3 kV

Armoured Subsea Umbilical Cable

IEC 60502-1 / ISO 13628-5 · 1.8/3 (3.6) kV · Contra-helically armoured subsea

IEC 60502-1 / ISO 13628-5 | 1.8/3 (3.6) kV | Double Steel Armour

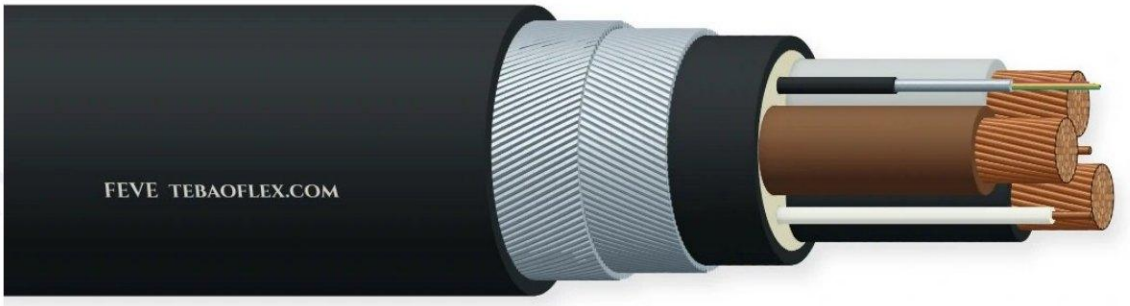


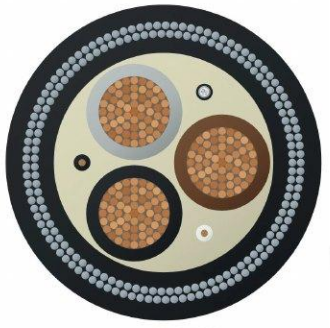
Application

FEVE 1.8/3 (3.6) kV heavy-duty subsea electro-optical umbilical and towed-system cable integrating 3 medium-voltage XLPE power conductors, metallic-tube single-mode optical fibre elements, torque-balanced double galvanized steel wire.

Typical uses: Subsea ROV, AUV & Towed Array Systems, Offshore Oil, Gas & Subsea Production Umbilicals, Oceanographic Mooring & Deep-Water Telemetry, Naval Defence, Hydrographic & Sonar Arrays

Construction





Cross-section, not to scale

1	Stranded Copper Power & Pilot Conductors	IEC 60502-1 / ISO 13628-5 / DNV-ST-E402
2	Polyethylene (PE / XLPE) Power & Pilot Insulation	IEC 60502-1 / ISO 13628-5 / DNV-ST-E402
3	Laser-Welded Stainless Steel Optical Tube (12F SM)	IEC 60502-1 / ISO 13628-5 / DNV-ST-E402
4	Petrolatum-Filled Interstices & PE Inner Sheath	IEC 60502-1 / ISO 13628-5 / DNV-ST-E402
5	Contra-Helical Double Galvanized Steel Wire Armour (DWA)	IEC 60502-1 / ISO 13628-5 / DNV-ST-E402
6	High-Density Polyethylene (HDPE) Subsea Outer Sheath	IEC 60502-1 / ISO 13628-5 / DNV-ST-E402

Technical data

Typical values

Rated voltage / transmission duty	1.8/3 (3.6) kV (IEC 60502-1 / ISO 13628-5 / DNV-ST-E402)	**Core / conductor construction**	Stranded Copper Power & Pilot Conductors — Three compacted circular stranded copper phase conductors (3 x 70–240 mm²) plus two 1.5 mm² copper pilot/monitoring cores
Primary dielectric / buffering	Polyethylene (PE / XLPE) Power & Pilot Insulation — Extruded heavy-wall polyethylene insulation on phase cores (Brown, Black, Grey, 1.8/3 (3.6) kV) and pilot cores	**Continuous operating temperature**	−40…+90 °C (subsea immersion & marine deck service)
Storage & transport temperature	−40…+80 °C on marine export reel	**Outer protection / armouring**	High-Density Polyethylene (HDPE) Subsea Outer Sheath — Abrasion- and UV-resistant black high-density polyethylene (HDPE) outer serving for seabed laying and shore landings
Minimum bending radius	12–20 × OD	**Hydrostatic depth rating**	Up to 6,000 m water depth (60 MPa hydrostatic pressure)
Seawater, hydrolysis & oil resistance	Continuous seawater immersion, hydraulic fluids and marine UV per IEC 60502-1 / ISO 13628-5 / DNV-ST-E402	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	IEC 60502-1 / ISO 13628-5 / DNV-ST-E402		

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	Weight in air ≈ kg/km	Breaking load kN ≈	Min. bend R mm
FEVE 1.8/3 kV Subsea Construction Schedule (−40…+90 °C) 3 sizes						
☐ **FEVE 1.8/3 kV 3×10 mm² + 12 FO**	3 × 10 mm² + 12 × SM FO	Class 5 Cu + FIMT	28.5	1,680	145.0	345
☐ **FEVE 1.8/3 kV 3×16 mm² + 12 FO**	3 × 16 mm² + 12 × SM FO	Class 5 Cu + FIMT	31.8	2,120	185.0	385
☐ **FEVE 1.8/3 kV 3×25 mm² + 12 FO**	3 × 25 mm² + 12 × SM FO	Class 5 Cu + FIMT	35.4	2,690	230.0	425

– Custom core counts, optical fibre counts, armour wire grades and factory-moulded subsea terminations available per IEC 60502-1 / ISO 13628-5 / DNV-ST-E402.

Electrical, optical & thermal parameters

3 sizes

Configuration	Max. DC R_{20} / Atten. Ω/km or dB/km	Rating / Impedance	Operating temp.
3 × 10 mm² + 12 × SM FO	1.95	1.8/3 (3.6) kV / 65 A	−40…+90 °C
3 × 16 mm² + 12 × SM FO	1.24	1.8/3 (3.6) kV / 88 A	−40…+90 °C
3 × 25 mm² + 12 × SM FO	0.80	1.8/3 (3.6) kV / 115 A	−40…+90 °C

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

Standards and approvals

- 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/feve-1-8-3kv-double-armoured-subsea-electro-optical-power-cable

Typical values for this cable type, based on IEC 60502-1 / ISO 13628-5 / DNV-ST-E402. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.