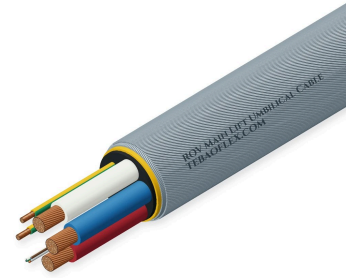




Subsea electro-optical lift umbilical

ROV Main Lift Umbilical Cable

Torque-balanced contra-helically armoured HV electro-optical ROV main lift umbilical



ISO 13628-5

3.0–4.5 kV

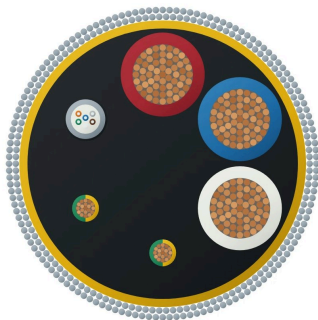
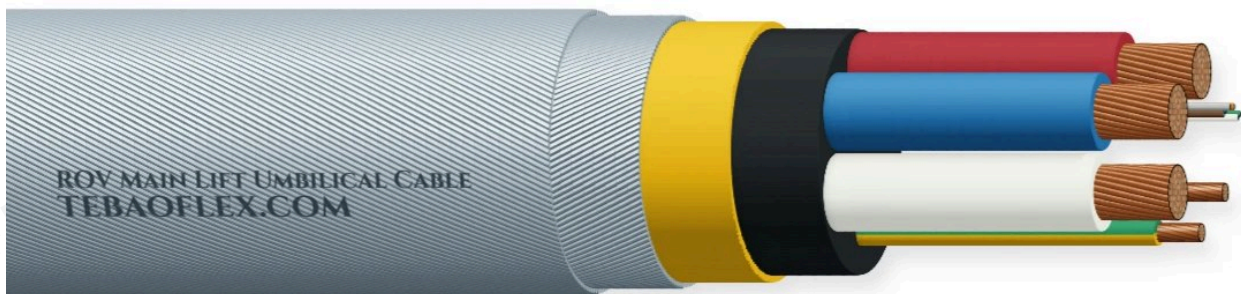
Up to 6,000 m

Application

Engineered for work-class ROV and TMS launch-and-recovery systems (LARS) to 6,000 m depth, combining 3.0–4.5 kV power triads, laser-welded FIMT optical tubes and multi-layer GIPS contra-helical steel wire armour per ISO 13628-5.

Typical uses: Work-Class ROV Operations, Subsea Construction & IMR, Deepwater Drilling Support, Offshore Wind Subsea Trenching, Oceanographic Salvage

Construction



Cross-section, not to scale

- 1 HV power & signal conductors
- 2 Optical FIMT unit
- 3 HV dielectric insulation
- 4 Core & pair shields
- 5 Water-blocked inner bedding
- 6 Contra-helical lift armour

Technical data

Typical values

Rated power voltage	1.8/3.0 kV or 2.6/4.5 kV AC	Control & auxiliary voltage	600/1000 V AC
AC routine test voltage	6.5 kV – 9.5 kV AC (5 min)	Insulation resistance	≥ 1,000 MΩ·km at 20 °C
Conductor stranding	IEC 60228 Class 5 tinned copper	Dynamic subsea operating	–20 °C to +60 °C (in seawater)
Deck winch operation	–30 °C to +75 °C (in air)	Max. conductor temperature	+90 °C continuous (HEPR/XLPE)
Short-circuit rating	+250 °C (5 s duration)	Design water depth	3,000 m standard · up to 6,000 m ultra-deep
Safe working load (SWL)	35 kN to 170 kN (safety factor 5:1)	Min. breaking load (MBL)	180 kN to 850 kN
Min. bend radius (dynamic)	15 × OD over LARS traction/A-frame sheave	Min. bend radius (storage)	10 × OD on winch drum core
Torsional balance	≤ ±2°/m across 10–50 % MBL	Fibre type	ITU-T G.652.D / G.657.A1 SM & OM3 MM
Fibre count	6, 12, 18 or 24 fibres in 316L FIMT	Attenuation (1310 / 1550 nm)	≤ 0.36 dB/km / ≤ 0.22 dB/km
FIMT hydrostatic collapse	≥ 75 MPa (316L laser-welded tube)	Hydrostatic water blocking	100 % void-filled elastomeric matrix
Corrosion protection	Heavy galvanised GIPS + sacrificial zinc/polymer matrix	Hydraulic & winch oil	IEC 60811-404 IRM 902/903 resistant
Flame retardance	IEC 60332-1-2 (inner polymeric sheath)	Standards	ISO 13628-5 / API Spec 17E

Sizes

13 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Power + Signal + Optical	Power V kV	Nominal OD mm	Weight in air kg/km	Weight in sea kg/km	SWL kN	MBL kN	Min. sheave R mm
3.0 kV Work-Class ROV Lift Umbilicals 7 sizes								
☐ RMU-30-3X4-12FO	3×4.0 + 3×2×0.75 + 12FO	3.0	20.8	1,480	1,120	40	200	312
☐ RMU-30-3X6-12FO	3×6.0 + 4×2×0.75 + 12FO	3.0	23.5	1,920	1,460	52	260	353
☐ RMU-30-3X10-12FO	3×10 + 4×2×1.0 + 12FO	3.0	26.8	2,540	1,940	68	340	402
☐ RMU-30-3X10-18FO-JK	3×10 + 6×2×1.0 + 18FO (Jacketed)	3.0	29.4	2,780	2,050	72	360	441
☐ RMU-30-3X16-12FO	3×16 + 4×2×1.0 + 12FO	3.0	30.2	3,280	2,520	85	425	453
☐ RMU-30-3X25-18FO	3×25 + 6×2×1.0 + 18FO	3.0	34.6	4,320	3,340	110	550	519
☐ RMU-30-3X35-18FO	3×35 + 6×2×1.5 + 18FO	3.0	38.4	5,380	4,160	130	650	576
4.5 kV Heavy Trenching & Deepwater ROV Umbilicals 6 sizes								
☐ RMU-45-3X10-18FO	3×10 + 4×2×1.0 + 18FO	4.5	29.8	3,120	2,380	80	400	447
☐ RMU-45-3X16-18FO	3×16 + 6×2×1.0 + 18FO	4.5	33.4	3,950	3,020	100	500	501
☐ RMU-45-3X25-24FO	3×25 + 6×2×1.0 + 24FO	4.5	37.8	4,980	3,820	125	625	567
☐ RMU-45-3X35-24FO	3×35 + 8×2×1.5 + 24FO	4.5	41.6	6,120	4,720	145	725	624
☐ RMU-45-3X50-24FO	3×50 + 8×2×1.5 + 24FO	4.5	45.8	7,450	5,760	170	850	687
☐ RMU-45-3X16-24FO-6000M	3×16 + 4×2×1.0 + 24FO (3-Layer Armour)	4.5	36.2	4,890	3,810	135	675	543

- SWL is based on a dynamic offshore LARS safety factor of 5:1 against nominal minimum breaking load (MBL).
- Weight in seawater is calculated at 1,025 kg/m³ nominal seawater density.

Standards and approvals

- ✓ ISO 13628-5 / API Spec 17E Compliant
- ✓ DNV-ST-E402 Subsea LARS Witnessed Option

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/rov-main-lift-umbilical-cable



Typical values for this cable type, based on ISO 13628-5 / API Spec 17E / 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.