6 to 63 MPa hermetically sealed submarine outboard cable

# SMPVG-100 / SMPEVG-100 & KVDN-630

## (6–63 MPa) Hermetic Submarine Cable

TU 16.K71-106 / 63 MPa · 0.6/1 kV · 6 to 63 mpa hermetically sealed submarine outboard



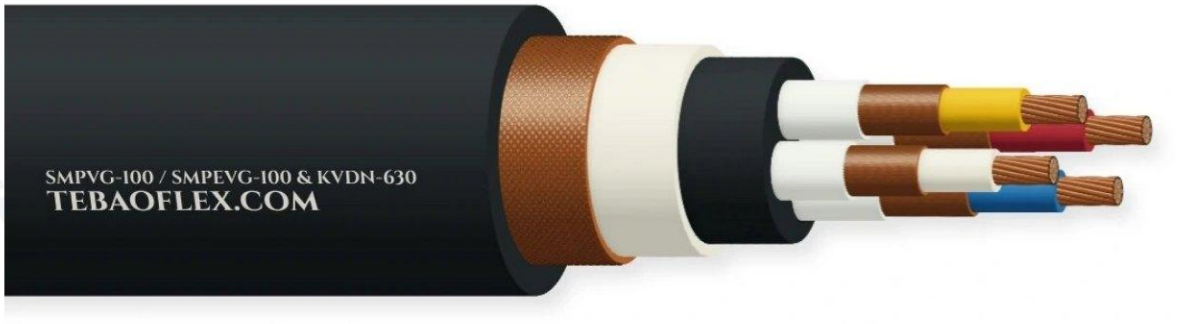

6 MPa / 10 MPa / 63 MPa | 1,000 V AC / 1,500 V DC | Hermetic Outboard Seal

## Application

SMPVG-100 / SMPEVG-100 & KVDN-630 (6–63 MPa) Hermetic Submarine Cable (TU 16.K71-106-90 & TU 0293-002 (6–63 MPa) Hermetic Submarine) engineered for 0.6/1 kV service across -40 to +70 °C (min. bend radius 10 × OD).

**Typical uses:** Naval Shipboard & Submarine Outboard, Offshore Cathodic Protection (ICCP), Underwater Welding & Nuclear Pools, Deep-Well & Seabed Pump Feeders

## Construction






Cross-section, not to scale

1. Hermetically Sealed Conductors
2. HDPE / Rubber Core Insulation
3. Individual Copper Screen & PE Sheath
4. 10–63 MPa Hermetic Interstice Compound
5. Inner Sheath, Overall Braid & Jacket

## Technical data

Typical values

| | | | |
|---|---|---|---|
| **Rated voltage / transmission duty** | 0.6/1 kV (TU 16.K71-106-90 & TU 0293-002 (6–63 MPa) Hermetic Submarine) | **Core / conductor construction** | Hermetically Sealed Conductors — Class 3/4 stranded copper with inter-strand longitudinal pressure sealant |
| **Primary dielectric / buffering** | HDPE / Rubber Core Insulation — High-density polyethylene (СМПВГ/СМПЭВГ, up to 5 kV AC) or rubber (КВДН) | **Continuous operating temperature** | −40…+70 °C (subsea, marine & submersible duty) |
| **Short-circuit / peak thermal rating** | Verified thermal stability per TU 16.K71-106-90 & TU 0293-002 (6–63 MPa) Hermetic Submarine | **Storage & transport temperature** | −40…+80 °C on export wooden/steel drum |
| **Outer protection / armouring** | Inner Sheath, Overall Braid & Jacket — Inner sheath + copper braid shield + oil/seawater-resistant FR-PVC or PCP jacket | **Minimum bending radius** | 10 × OD |
| **Hydrostatic, tensile & crush duty** | 10–63 MPa Hermetic Interstice Compound — High-pressure elastomeric sealing compound injected into 100% of cable voids | **Hydrostatic pressure & water blocking** | Engineered for continuous submersion and hydrostatic integrity per TU 16.K71-106-90 & TU 0293-002 (6–63 MPa) Hermetic Submarine |
| **Seawater, oil & chemical resistance** | Resistant to seawater hydrolysis, hydraulic oils and abrasion per TU 16.K71-106-90 & TU 0293-002 (6–63 MPa) Hermetic Submarine | **RoHS & REACH compliance** | RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant |
| **Standards** | TU 16.K71-106-90 & TU 0293-002 (6–63 MPa) Hermetic Submarine | | |

## 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 | Tensile rating kN ≈ | Min. bend R mm |
|---|---|---|---|---|---|---|
| **SMPVG-100 / SMPEVG-100 & KVDN-630 Construction Schedule (−40…+70 °C)** 3 sizes | | | | | | |
| ☐ **SMPVG-100 Config A (Compact)** | 4×2×24 AWG + 2×18 AWG (or 4C) | Stranded tinned Cu (IEC 60228 / ASTM) | 10.4 | 155 | 4.5 | 85 |
| ☐ **SMPVG-100 Config B (Standard)** | 4×2×20 AWG + 4×16 AWG (or 8C) | Stranded tinned Cu (IEC 60228 / ASTM) | 13.3 | 265 | 9.6 | 110 |
| ☐ **SMPVG-100 Config C (Heavy Hybrid)** | 8×2×20 AWG + 4×12 AWG (or 12C) | Stranded tinned Cu (IEC 60228 / ASTM) | 16.6 | 420 | 18.5 | 140 |

– Custom core cross-sections, pair/fibre counts, armour grades and factory drum lengths available per TU 16.K71-106-90 & TU 0293-002 (6–63 MPa) Hermetic Submarine.

## Electrical, optical & thermal parameters

3 sizes

| Configuration | Max. DC $R_{20}$ / Atten. Ω/km or dB/km | Rating / Impedance | Operating temp. |
|---|---|---|---|
| 4×2×24 AWG + 2×18 AWG (or 4C) | 28.40 | 0.6/1 kV (45–100 Ω data) | −40…+70 °C |
| 4×2×20 AWG + 4×16 AWG (or 8C) | 10.70 | 0.6/1 kV (45–100 Ω data) | −40…+70 °C |
| 8×2×20 AWG + 4×12 AWG (or 12C) | 5.40 | 0.6/1 kV (High-Power Hybrid) | −40…+70 °C |

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

## Standards and approvals

- TU 16.K71-106 / 63 MPa 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/smpvg-100-smpevg-100-kvdn-630**

Typical values for this cable type, based on TU 16.K71-106-90 & TU 0293-002 (6–63 MPa) Hermetic Submarine. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.