submersible water-quality, CTD & ocean sensor cable

# TCS Stock Subsea Instrumentation

## Cable




DNV-ST-E402 / MIL-DTL-24643 · 600 V · Submersible water-quality, ctd & ocean sensor cable

DNV-ST-E402 / MIL-DTL-24643 | 600 V (-40 to +80 °C) | Subsea / Marine Outer Protective She

## Application

TCS Stock Subsea Instrumentation Cable featuring stranded copper twisted pairs (4×2) and subsea / marine outer protective sheath (DNV-ST-E402 / MIL-DTL-24643, 600 V, -40 to +80 °C, min. bend radius 6 × OD).

**Typical uses:** Aquaculture Dissolved Oxygen (DO), pH & Salinity Monitoring, Vented Hydrostatic Water-Level & Borehole Pressure Probes, Oceanographic CTD Rosettes, Current Meters & Mooring Buoys, Recirculating Aquaculture (RAS) & Wastewater Sensor Networks

## Construction






Cross-section, not to scale

1. Stranded Copper Twisted Pairs (4×2)
2. 100% Al/PET Foil Electrostatic Shield
3. Subsea / Marine Outer Protective Sheath

## Technical data

Typical values

| | | | |
|---|---|---|---|
| **Rated voltage / operating system** | 600 V (DNV-ST-E402 TCS Stock Subsea Shielded Instrumentation Cable Specification) | **Core / conductor construction** | Stranded Copper Twisted Pairs (4×2) — Twisted pairs with Cross-linked polyethylene (XLPE) insulation |
| **Primary dielectric / optical buffer** | 100% Al/PET Foil Electrostatic Shield — Laminated aluminum-polyester foil tape with drain wire | **Continuous operating temperature** | −40…+80 °C (submerged seawater & topside deck service) |
| **Hydrostatic & thermal cycling endurance** | Verified cold-bend and wet dielectric stability across −40…+80 °C per DNV-ST-E402 TCS Stock Subsea Shielded Instrumentation Cable Specification | **Storage & transport temperature** | −40…+80 °C on export wooden/steel cable drum |
| **Outer jacket / sheath protection** | Subsea / Marine Outer Protective Sheath — Black hydrolysis- & abrasion-resistant marine Polyurethane (PUR) outer sheath | **Minimum bending radius** | 6 × OD |
| **Reinforcement / screen / bedding layer** | 100% Al/PET Foil Electrostatic Shield — Laminated aluminum-polyester foil tape with drain wire | **Seawater, hydrolysis & oil resistance** | Resistant to permanent seawater immersion, hydrolysis, hydraulic oil and bio-fouling per DNV-ST-E402 TCS Stock Subsea Shielded Instrumentation Cable Specification |
| **Hydrostatic pressure & water blocking** | Radial and longitudinal water-blocking integrity verified per DNV-ST-E402 TCS Stock Subsea Shielded Instrumentation Cable Specification | **RoHS & REACH compliance** | RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant |
| **Standards** | DNV-ST-E402 TCS Stock Subsea Shielded Instrumentation Cable 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 | Max. pulling kN ≈ | Min. bend R mm |
|---|---|---|---|---|---|---|
| **TCS Stock Subsea Instrumentation Construction Schedule (−40…+80 °C)** 3 sizes | | | | | | |
| ☐ **TCS Stock Subsea Instrumentation 2×2×0.50 mm²** | 2 × 2 × 0.50 mm² (20 AWG) + Vent/Drain | Stranded SnCu + Foil/TCWB + Subsea PUR | 8.4 | 98 | 2.5 | 50 |
| ☐ **TCS Stock Subsea Instrumentation 4×2×0.50 + 2×1.** | 4 × 2 × 0.50 + 2 × 1.5 mm² Hybrid | Stranded SnCu + Individual/Overall Shield | 11.8 | 195 | 5.2 | 70 |
| ☐ **TCS Stock Subsea Instrumentation 4×2×0.75 + 4×2.** | 4 × 2 × 0.75 + 4 × 2.5 mm² Subsea | Stranded SnCu + Aramid/Armour + PUR | 15.2 | 360 | 12.0 | 95 |

– Custom core counts, optical fiber channels, wet-mate terminations and continuous winch lengths available per DNV-ST-E402 TCS Stock Subsea Shielded Instrumentation Cable Specification.

## Electrical, optical & thermal parameters

3 sizes

| Configuration | Max. DC $R_{20}$ Ω/km | Rating / Impedance / Load | Operating temp. |
|---|---|---|---|
| 2 × 2 × 0.50 mm² (20 AWG) + Vent/Drain | 39.00 | 600 V (4–20 mA / DO) | −40…+80 °C |
| 4 × 2 × 0.50 + 2 × 1.5 mm² Hybrid | 39.00 | 600 V (CTD / Multi-Sensor) | −40…+80 °C |
| 4 × 2 × 0.75 + 4 × 2.5 mm² Subsea | 26.00 | 600 V (ROV / Camera / LED) | −40…+80 °C |

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

## Standards and approvals

- DNV-ST-E402 / MIL-DTL-24643 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/tcs-stock-subsea-instrumentation-cable**


Typical values for this cable type, based on DNV-ST-E402 TCS Stock Subsea Shielded Instrumentation Cable Specification. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.