subsea pipeline direct electrical heating (DEH) cable

DEH 12–36kV Pipeline

DEH 12–36 kV AC Single-Core Subsea Pipeline Direct Electrical Heating

DNV-RP-F104 / IEC 60502-2 DEH · 12 kV – 36 kV · Subsea pipeline direct electrical



DNV-RP-F104 / IEC 60502-2 DEH | **12 kV – 36 kV (-20 to +90 °C)** | **Non-Magnetic Stainless-Steel / Coppe**

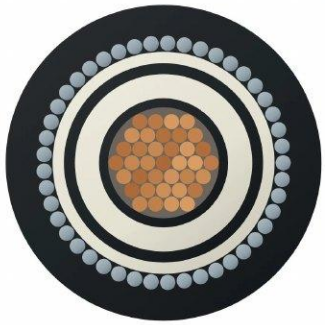
Application

DEH 12–36 kV AC Single-Core Subsea Pipeline Direct Electrical Heating Dynamic & Static Piggyback Cable (DNV-RP-F104 / IEC 60502-2 DEH) engineered for 12 kV – 36 kV service across -20 to +90 °C (min. bend radius 15 × OD).

Typical uses: Subsea Oil & Gas Flowline Hydrate Prevention, Deepwater Tieback Direct Electrical Heating (DEH), FPSO & Semi-Submersible Dynamic DEH Risers, Subsea Wax & Flow Assurance Systems

Construction





Cross-section, not to scale

1. Large-Section Flexible Copper Conductor
2. 12-36 kV Triple-Extruded XLPE Insulation
3. Semi-Conducting Polyethylene (PE) Sheath
4. Non-Magnetic Stainless-Steel / Copper Ar

Technical data

Typical values

Rated voltage / transmission duty	12 kV – 36 kV (DNV-RP-F104 & IEC 60502-2 12–36 kV Subsea Pipeline Direct Electrical Heating Specification)	**Core / conductor construction**	Large-Section Flexible Copper Conductor (1/C) — High-current stranded copper core for pipeline electrical heating
Primary dielectric / buffering	12-36 kV Triple-Extruded XLPE Insulation — Conductor screen + HV XLPE dielectric + insulation screen	**Continuous operating temperature**	−20...+90 °C (subsea & offshore duty)
Hydrostatic & thermal stability	Verified thermal and hydrostatic stability per DNV-RP-F104 & IEC 60502-2 12–36 kV Subsea Pipeline Direct Electrical Heating Specification	**Storage & transport temperature**	−40...+80 °C on export wooden/steel winch reel
Outer protection / armouring	Non-Magnetic Stainless-Steel / Copper Armour — Low-loss non-magnetic wire armour for single-core AC operation	**Minimum bending radius**	15 × OD
Armour, strength member & mechanical duty	Semi-Conducting Polyethylene (PE) Sheath — Extruded semi-conducting PE jacket allowing capacitive seawater transfer	**Seawater, hydrostatic & hydrolysis resistance**	Engineered for continuous seawater immersion, pressure cycling and hydrolysis resistance per DNV-RP-F104 & IEC 60502-2 12–36 kV Subsea Pipeline Direct Electrical Heating Specification
Oil, drilling mud & abrasion resistance	Resistant to marine hydraulic oils, salt mist, winch sheave wear and seabed abrasion per DNV-RP-F104 & IEC 60502-2 12–36 kV Subsea Pipeline Direct Electrical Heating Specification	**RoHS & REACH compliance**	RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant
Standards	DNV-RP-F104 & IEC 60502-2 12–36 kV Subsea Pipeline Direct Electrical Heating 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
DEH 12–36kV Pipeline Construction Schedule (−20...+90 °C) 3 sizes						
☐ **DEH 12–36kV Pipeline Config A**	**3×25–50 mm² (or 3P+FO Composite)**	**Compacted / Class 5 Cu/SnCu + FO**	**32.0**	**1,850**	**85.0**	**380**
☐ **DEH 12–36kV Pipeline Config B**	**3×95–150 mm² (or Heavy EOM)**	**Compacted / Class 5 Cu/SnCu + FO**	**48.5**	**4,280**	**130.0**	**580**
☐ **DEH 12–36kV Pipeline 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 DNV-RP-F104 & IEC 60502-2 12–36 kV Subsea Pipeline Direct Electrical Heating 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**	**12 kV – 36 kV (Subsea/MV)**	**−20...+90 °C**
3×95–150 mm² (or Heavy EOM)	**0.19**	**12 kV – 36 kV (Subsea/MV)**	**−20...+90 °C**
3×240–400 mm² (or Trunk HV/MV)	**0.07**	**12 kV – 36 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

- DNV-RP-F104 / IEC 60502-2 DEH 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/deh-12-36kv-subsea-pipeline-heating-cable

Typical values for this cable type, based on DNV-RP-F104 & IEC 60502-2 12–36 kV Subsea Pipeline Direct Electrical Heating Specification. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.