



NACE SP0169 ECTFE/HMWPE CP cable

ECTFE-HMWPE Cathodic Protection Cable

600 V DC dual-layer ECTFE fluoropolymer + HMWPE deep-anode cathodic protection cable



NACE SP0169 · 600 V DC ICCP

ECTFE Fluoropolymer + HMWPE

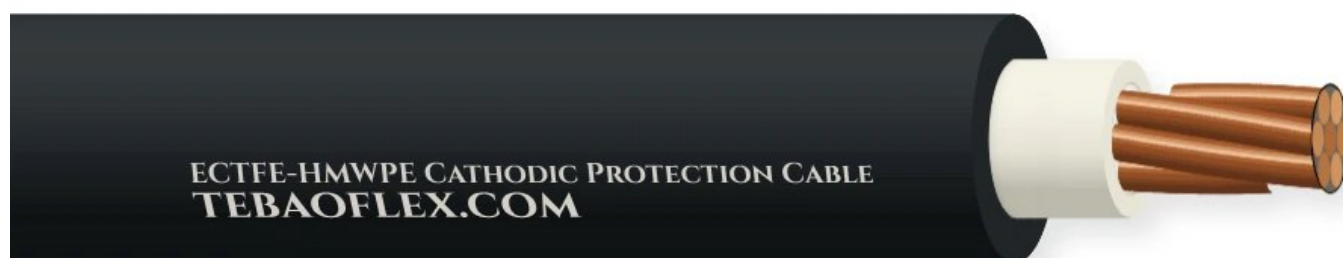
Nascent Chlorine (Cl₂) & Brine Proof

Application

Severe-duty Impressed Current Cathodic Protection (ICCP) deep-anode bed lead cable (ECTFE-HMWPE) built to NACE SP0169, ASTM D3275 and ASTM D1248 with a 20–30 mil (0.51–0.76 mm) nascent-chlorine-impervious ECTFE fluoropolymer primary insulation and a 65.

Typical uses: Deep-Well ICCP Pipeline Anode Groundbeds, Tank Farm & Refinery Subsurface Cathodic Protection, Brackish, Saline & Marine Jetty Anode Beds, Water & Gas Transmission Steel Pipeline Networks

Construction



Cross-section, not to scale

- 1 Concentric-lay stranded bare (or tinned) copper
- 2 Primary ECTFE fluoropolymer chlorine barrier
- 3 Heavy-duty HMWPE outer mechanical jacket

Technical data

Typical values

Rated operating voltage 600 V DC / AC continuous

Insulation resistance @ 20 °C $\geq 5,000 \text{ M}\Omega\cdot\text{km}$

Thermal cycling & overload stability Verified thermal ageing and short-circuit withstand per standard

Tensile strength & elongation at break ECTFE $\geq 40 \text{ MPa}$ ($\geq 200 \%$ elong.) · HMWPE $\geq 19 \text{ MPa}$ ($\geq 600 \%$ elong.)

Nascent chlorine (Cl_2), bromine & HCl Zero stress-cracking or oxidative degradation in pH < 1 chlorine-saturated

Standards NACE SP0169 (AMPP), ASTM D3275, ASTM D1248, ASTM B8 & ICEA S-95-658

Dielectric spark & water-immersion test 10 kV AC dry spark test + 5.0 kV AC water-immersion dielectric test

Continuous operating temperature $-40 \text{ }^\circ\text{C}$ to $+75 \text{ }^\circ\text{C}$ (limited by outer HMWPE; ECTFE core rated to $+150 \text{ }^\circ\text{C}$)

Nominal insulation / jacket wall 0.51 mm (20 mil) ECTFE + 1.65 mm (65 mil) HMWPE (#8-#2 AWG)

Minimum bending radius $8 \times \text{OD}$ (borehole lowering) · $6 \times \text{OD}$ (fixed)

Environmental stress-crack resistance $F_0 > 1,000$ hours per ASTM D1693 Condition C

Sizes

6 standard constructions

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

Order designation	AWG / Metric	Rating	Outer $\varnothing \approx$ mm	Copper kg/km	Weight $\approx$ kg/km	Max. DC cur. A	Min. bend R mm
600 V DC Dual-Layer ECTFE / HMWPE Deep-Anode CP Cables 6 sizes							
☐ ECTFE/HMWPE 1×8 AWG	8 AWG (8.37 mm ²) · 7W	600 V DC	8.8	75	118	55	70
☐ ECTFE/HMWPE 1×6 AWG	6 AWG (13.3 mm ²) · 7W	600 V DC	9.8	119	168	75	78
☐ ECTFE/HMWPE 1×4 AWG	4 AWG (21.2 mm ²) · 7W	600 V DC	11.3	189	248	95	90
☐ ECTFE/HMWPE 1×2 AWG	2 AWG (33.6 mm ²) · 7W	600 V DC	13.0	300	372	130	104
☐ ECTFE/HMWPE 1×1 AWG	1 AWG (42.4 mm ²) · 19W	600 V DC	14.5	379	465	150	116
☐ ECTFE/HMWPE 1×1/0 AWG	1/0 AWG (53.5 mm ²) · 19W	600 V DC	15.6	478	575	175	125

– In ICCP anode leads, conductor sizing is governed by allowable loop DC voltage drop (R_{DC}) rather than thermal ampacity.

Standards and approvals

- ✓ NACE SP0169 / AMPP Deep-Anode ICCP Compliant
- ✓ ASTM D3275 (ECTFE) & ASTM D1248 (HMWPE) Certified
- ✓ 100 % Pinhole-Free Tank HV Dielectric Tested

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/ectfe-hmwpe-dual-layer-chlorine-resistant-cathodic-protection-cable



Typical values for this cable type, based on NACE SP0169 / ASTM D3275 / ASTM D1248 / UL 83. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.