High-temperature wire

Flare Stack Ignition Cable

High-Temperature High-Voltage Flare Stack Ignition Cable

+450 °C / 15–25 kV high-energy flare stack pilot ignition cable with Ni-Cu / Nickel core



API 537 Flare Ignition | 15 to 25 kV Pulse | +450 °C / +540 °C Peak

Application

High-temperature high-voltage flare stack ignition cable combining a 27 % nickel-plated copper or pure Nickel 200 core, phlogopite mica thermal barrier, HV dielectric, and E-glass or SS316L stainless-steel armour braid for +450 °C (+540 °C peak) flare tips.

Typical uses: Refinery & Petrochemical Flares, Offshore Oil & Gas Platforms, LNG Terminals & Gas Plants, Biogas & Landfill Flare Systems, Steelmill Blast-Furnace Bleeders

Construction





Cross-section, not to scale

1. High-temp nickel-clad / pure nickel core
2. HV composite silicone / PTFE wall
3. Phlogopite mica dielectric wrap
4. Heat-treated E-glass thermal jacket
5. Outer sheath

Technical data

Typical values

High-voltage ignition rating	15 kV to 25 kV peak (HEI / spark pulse)	Continuous AC rms rating	3000 V to 10,000 V AC rms
Dielectric breakdown voltage	≥ 35 kV DC (dry) · ≥ 20 kV (wet)	Spark test voltage	25 kV AC rms in-line
Continuous operating temp.	-60 °C to +450 °C (upper stack zone)	Radiant flare peak temp.	+540 °C (+1000 °F) intermittent
Mica barrier survival temp.	+800 °C inorganic dielectric retention	Conductor gauges	16, 14, 12, 10, 8 AWG (1.3 to 8.4 mm²)
Min. bending radius (fixed)	8 × overall cable diameter	Min. bending radius (pulling)	12 × overall cable diameter
Flame propagation	IEEE 383 / UL 1581 VW-1 / IEC 60332-1-2	Steam & condensate resistance	Fluoropolymer/silicone core resists steam
Sour gas & salt spray	Ni-Cu + SS316L resists H2S and marine air	Standards	API Standard 537 pilot ignition practice

Sizes

8 standard constructions

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

Order designation	Cross-section / size	Conductor build	Wall ≈ mm	Outer Ø ≈ mm	Metal kg/km	Weight ≈ kg/km	Min. bend R fixed mm
Standard Thermo-Trex Flare Stack Cable configurations 8 sizes							
☐ Flare-HV 1×16 AWG GL (15 kV)	16 AWG (1.31 mm²)	19×0.30 mm 27% Ni-Cu	2.20	6.80	13.0	64.0	41
☐ Flare-HV 1×14 AWG GL (20 kV)	14 AWG (2.08 mm²)	19×0.37 mm 27% Ni-Cu	2.50	7.80	20.5	86.0	47
☐ Flare-HV 1×12 AWG GL (25 kV)	12 AWG (3.31 mm²)	19×0.47 mm 27% Ni-Cu	2.80	9.00	32.5	118.0	54
☐ Flare-HV 1×10 AWG GL (25 kV)	10 AWG (5.26 mm²)	37×0.43 mm 27% Ni-Cu	3.00	10.20	51.5	156.0	61
☐ Flare-HV 1×14 AWG SS316 (20 kV)	14 AWG (2.08 mm²)	19×0.37 mm 27% Ni-Cu	2.80	8.60	20.5	128.0	52
☐ Flare-HV 1×12 AWG SS316 (25 kV)	12 AWG (3.31 mm²)	19×0.47 mm 27% Ni-Cu	3.10	9.80	32.5	168.0	59
☐ Flare-HV 1×10 AWG SS316 (25 kV)	10 AWG (5.26 mm²)	37×0.43 mm Pure Ni	3.30	11.00	51.5	215.0	66
☐ Flare-HV 2×14 AWG SS316 (15 kV)	2×14 AWG (2.08 mm²)	19×0.37 mm 27% Ni-Cu	3.00	13.80	41.0	265.0	83

– Outer diameters and weights are nominal engineering values for Thermo-Trex Flare Stack Cable subject to standard manufacturing tolerances per API 537 / IEEE 383 / UL 1581 VW-1.

Electrical & rating data

8 sizes

Configuration	Max. DC R @ 20 °C Ω/km	Primary rating (A or kV)	Derated / AC rating	Dielectric test V AC rms
Flare-HV 1×16 AWG GL (15 kV) (16 AWG (1.31 mm²))	14.90	15.0	7.0	25,000
Flare-HV 1×14 AWG GL (20 kV) (14 AWG (2.08 mm²))	9.40	20.0	9.0	30,000
Flare-HV 1×12 AWG GL (25 kV) (12 AWG (3.31 mm²))	5.90	25.0	11.0	35,000
Flare-HV 1×10 AWG GL (25 kV) (10 AWG (5.26 mm²))	3.70	25.0	11.0	35,000
Flare-HV 1×14 AWG SS316 (20 kV) (14 AWG (2.08 mm²))	9.40	20.0	9.0	30,000
Flare-HV 1×12 AWG SS316 (25 kV) (12 AWG (3.31 mm²))	5.90	25.0	11.0	35,000
Flare-HV 1×10 AWG SS316 (25 kV) (10 AWG (5.26 mm²))	19.20	25.0	11.0	35,000
Flare-HV 2×14 AWG SS316 (15 kV) (2×14 AWG (2.08 mm²))	9.40	15.0	7.0	25,000

– Electrical resistance at +20 °C and dielectric withstand voltages verified per API 537 / IEEE 383 / UL 1581 VW-1.

Standards and approvals

- API 537 / IEEE 383 / UL 1581 VW-1
- CE (2014/35/EU) & RoHS 3 (2015/863/EU) Compliant
- REACH SVHC & Halogen/Asbestos Compliance Verified

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/high-temperature-high-voltage-flare-stack-ignition-cable

Typical values for this cable type, based on API 537 / IEEE 383 / UL 1581 VW-1. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.