



Industrial heating & heat-tracing cables

Mineral-Insulated Heating Cable

300/500 V & 600 V MgO-insulated metal-sheathed heating cable up to +600/+800 °C



Alloy 825 / SS 316L / MgO

300/500 V & 600 V · 270 W/m

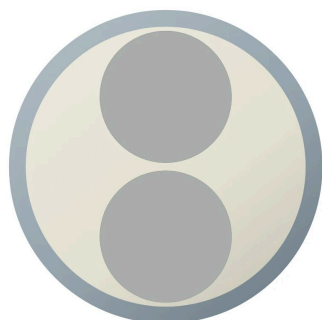
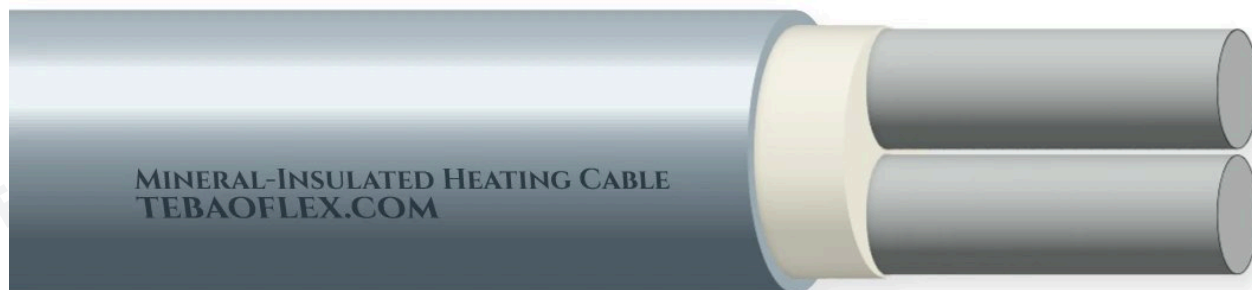
Maintain +600 °C · Exp +800 °C

Application

High-temperature mineral-insulated (MI) metal-sheathed series heating cable to IEC/IEEE 60079-30-1, IEC 60800 and IEEE 515, pairing 1 or 2 resistance cores with compacted MgO inside a seamless Alloy 825, Inconel 600 or SS 316L sheath up.

Typical uses: Refinery delayed cokers, hydrocrackers & bitumen lines, Superheated steam headers, turbines & boiler blowdown, Concentrated solar power (CSP) & nuclear molten-salt loops, Petrochemical pyrolysis, catalytic reformer & reactor piping, ESP ash hoppers, flue-gas ducts & sulphur recovery units, LNG cryogenic spill-pan & flare-header protection

Construction



Cross-section, not to scale

1	Solid resistance heating conductor(s)	IEC 60079-30-1 / IEEE 515
2	Compacted high-purity magnesium oxide (MgO)	IEC 60800 / ASTM E235
3	Seamless drawn metallic earth & barrier tube	IEC 60079-30-1 / IEEE 515
4	Annealed bright metal surface (or optional polymer jacket)	IEC 60079-30-1

Technical data

Typical values

Rated voltage	300/500 Vac & 600 Vac (1-core and 2-core)	Resistance range	0.0028 to 28.0 Ω/m at +20 °C (±10 % tol.)
Dielectric withstand	2.0 to 2.5 kV AC RMS for 1 min (core-sheath)	Insulation resistance	≥ 1,000 MΩ at 1,000 Vdc (sealed factory unit)
Max. maintain temp.	Up to +600 °C (Alloy 825 / Inconel 600)	Max. sheath exposure	+650 °C (SS 316L) · +800 °C (Alloy 825 / 600)
Linear watt density	Up to 200–270 W/m (depending on pipe T)	Min. installation T	–60 °C (down to –196 °C cryogenic service)
Cable outer diameter	3.2 mm to 9.5 mm seamless annealed metal tube	Min. bending radius	6 × cable OD (hand-formable annealed sheath)
Impact & crush resistance	Exceeds 7 J impact & 2,000 N crush load	Hot-to-cold junction	Factory-brazed / laser-welded cold transition
Fire & flammability	100 % non-combustible inorganic metal + MgO	Stress-corrosion cracking	Alloy 825 (42% Ni) immune to chloride SCC
Chemical & oil resistance	Seamless alloy tube resists acids, H ₂ S & oils	Radiation resistance	Inorganic MgO + alloy withstands > 10 ⁷ Gy
Standards	IEC 60079-30-1, IEC 60800, IEEE 515, ASTM E235		

Sizes

16 standard constructions

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

MI cable designation	Rated Vac	Cores count	Res. @20°C Ω/m	Conductor alloy	Sheath alloy	Max exp. °C	Cable OD mm	Mass ≈ kg/km
☐ MIQ-1C-825-0.003 · 600 V	600 Vac	1C	0.003	Copper	Alloy 825	800	6.4	155
☐ MIQ-1C-825-0.006 · 600 V	600 Vac	1C	0.006	Copper	Alloy 825	800	5.5	112
☐ MIQ-1C-825-0.015 · 600 V	600 Vac	1C	0.015	Copper	Alloy 825	800	4.8	82
☐ MIQ-1C-825-0.040 · 600 V	600 Vac	1C	0.040	CuNi Alloy	Alloy 825	800	4.6	76
☐ MIQ-1C-825-0.100 · 600 V	600 Vac	1C	0.100	CuNi Alloy	Alloy 825	800	4.3	66
☐ MIQ-1C-825-0.250 · 600 V	600 Vac	1C	0.250	CuNi44	Alloy 825	800	4.3	65
☐ MIQ-1C-825-0.650 · 600 V	600 Vac	1C	0.650	CuNi44	Alloy 825	800	4.0	56
☐ MIQ-1C-825-1.600 · 600 V	600 Vac	1C	1.600	NiCr 80/20	Alloy 825	800	3.7	48
☐ MIQ-1C-825-4.000 · 500 V	500 Vac	1C	4.000	NiCr 80/20	Alloy 825	800	3.2	36
☐ MIQ-2C-825-0.030 · 600 V	600 Vac	2C	0.030	Copper	Alloy 825	800	8.2	225
☐ MIQ-2C-825-0.080 · 600 V	600 Vac	2C	0.080	CuNi Alloy	Alloy 825	800	7.3	178
☐ MIQ-2C-825-0.200 · 600 V	600 Vac	2C	0.200	CuNi Alloy	Alloy 825	800	6.4	138
☐ MIQ-2C-825-0.500 · 600 V	600 Vac	2C	0.500	CuNi44	Alloy 825	800	5.8	112
☐ MIQ-2C-316L-1.250 · 500 V	500 Vac	2C	1.250	CuNi44	SS 316L	650	5.2	90
☐ MIQ-2C-825-3.600 · 500 V	500 Vac	2C	3.600	NiCr 80/20	Alloy 825	800	4.9	80
☐ MIQ-2C-825-11.500 · 500 V	500 Vac	2C	11.500	NiCr 80/20	Alloy 825	800	4.0	54

– All sizes are available in Alloy 825 (UNS N08825), Inconel 600 (UNS N06600), SS 316L (UNS S31603) or CuNi 70/30 sheath; 2C resistance is loop resistance per metre.

Sheath alloy temperature, watt density & corrosion selection

5 sizes

Sheath alloy · UNS	Max maintain °C	Max exposure °C	Max output W/m	Chloride SCC immunity	Primary industrial environment
Alloy 825 (UNS N08825)	600	800	270	Immune (42% Ni)	Refineries, chlorides, sour gas, acids & superheated steam
Inconel 600 (UNS N06600)	600	800	270	Immune (72% Ni)	Extreme oxidation, nuclear, molten salt & furnace piping
Stainless Steel 316L (UNS S31603)	500	650	200	Moderate (avoid Cl ⁻)	General high-temperature steam, chemical & process vessels

Sheath alloy - UNS	Max maintain °C	Max exposure °C	Max output W/m	Chloride SCC immunity	Primary industrial environment
Cupro-Nickel 70/30 (UNS C71500)	300	400	150	High	Seawater, marine decks & medium-temperature process lines
Alloy 825 / 316L + FEP Jacket	150	205	100	Immune	Buried culverts, caustic washdown & wet chemical trenches

– Alloy 825 (UNS N08825) is recommended over SS 304/316L wherever thermal insulation may become wet and leach trace chlorides onto the hot sheath.

Standards and approvals

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

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Email

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Web

tebaoflex.com/cables/mineral-insulated-heating-cable



Typical values for this cable type, based on IEC/IEEE 60079-30-1, IEC 60800 & IEEE 515. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.