

MI

Mineral Insulated High Temperature

- Constant Output
- Impact Resistant, Heavy Duty Alloy 825 Sheath
- Exposure Temperature to 1100°F (593°C)
- Any Design Voltage Up to 600 Volt
- High Watt Densities Available
- Industrial Freeze Protection
- Suitable for Hazardous Areas, Div. 1 and Div. 2
- Single and Two Conductor Cables Available

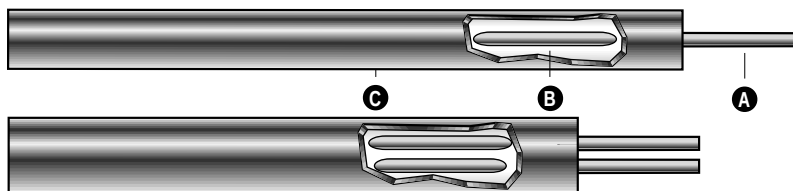
Description

MI mineral insulated heating cable is ideal for rugged industrial pipe tracing applications. Its tough outer sheath of Alloy 825 resists damage during installation and provides a reliable electrical ground for safe operation. MI cable will not burn or support combustion. All materials are inorganic and will not deteriorate with age.

MI cable is made with either one or two conductors, insulated with compacted magnesium oxide for high dielectric strength. Cable assemblies are custom made at the factory to meet your specific needs.

Applications

- Tank Heating
- High Temperature Process Maintenance
- Long, Single Circuit Runs
- Cryogenic Applications
- Freeze Protection



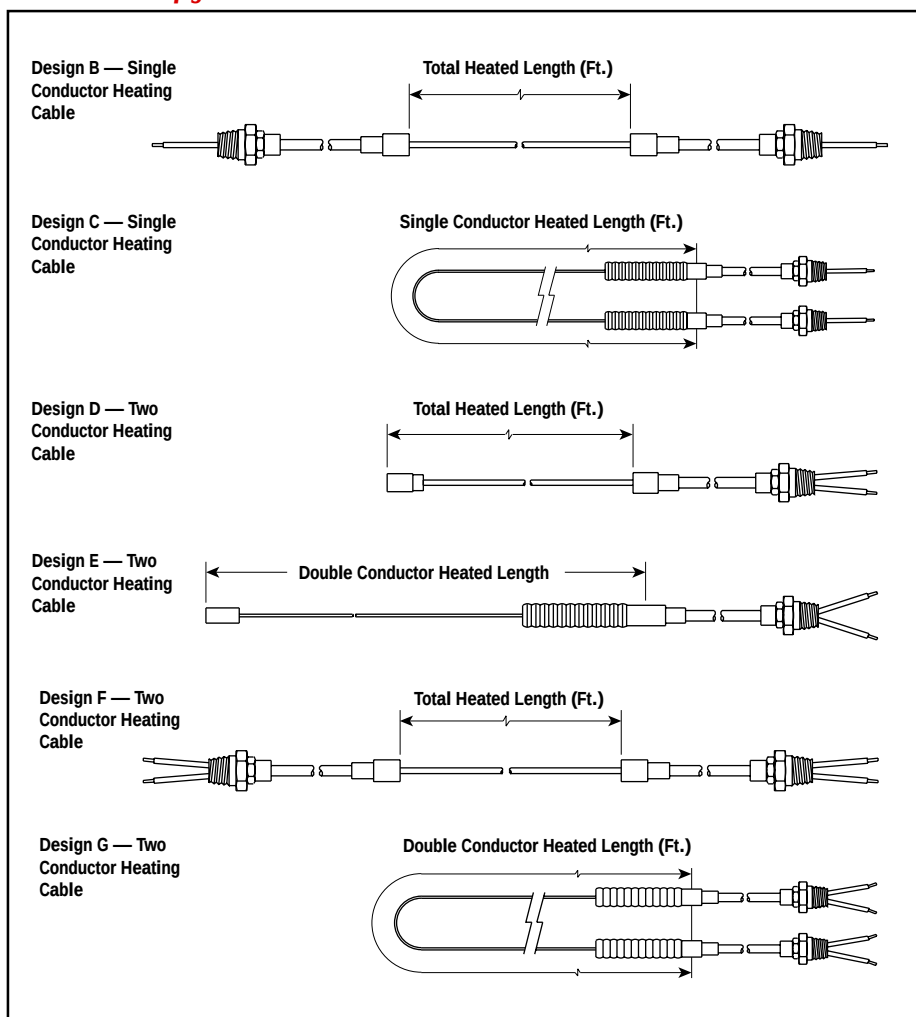
Features

- Mechanically Rugged Design
- Fire Resistant
- Alloy Features High Corrosion Resistance
- Long Circuit Lengths
- Built to Customer Design Specifications
- Series Wiring for Long Lengths
- Includes 10" Pigtails for Wiring Connections.

Construction

- A Resistance Wire** — One or two resistance wires.
- B Insulation** — High grade densely compacted mineral insulation.
- C Sheath** — Heavy Duty Alloy 825 Metallic Sheath.

Cable Set Configurations



Note — Standard cable sets include 3 feet non-heating cable with 10" pigtails, brazed to customer specified length of MI heating cable. Gland fittings are 1/2" NPT (metric also available).

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Mineral Insulated High Temperature (cont'd.)

High Temperature

For applications with maintenance or exposure temperatures of 400°F or above, cable set configuration C, E or G should be used. These configurations include a 12" transition fitting to reduce the temperature at the hot-to-cold joint. The transition fitting should be positioned outside the thermal insulation to provide long and reliable service life. Contact the Chromalox surface heating group for assistance with the design of high temperature applications.

Cable Design for Pipes

Step 1 — Heater Design

Determine heater design to use. Design D is usually the most convenient design using two conductor cable.

Step 2 — Heat Loss (W/Ft.) Use the value calculated from Technical section - Heat Loss Calculations, Pipe & Tank Tracing.

Step 3 — Cable Length (L)

Use the length calculated from Application & Selections Guidelines in this section.

Step 4 — Supply Voltage Available (V)

Determine what voltage is available. When different voltages are available, it provides multiple cable choices which may result in a more accurate design.

Step 5 — Calculate Resistance per Foot (R/Ft.)

$$R/Ft. = \frac{V^2}{W/Ft. \times L^2}$$

Step 6 — Select the Proper R/Ft. Rating

Choose a cable having equal or the next lower resistance per foot value from Ordering Information Table, next page.

Step 7 — Calculate Actual W/Ft. and total wattage (W)

$$W/Ft. = \frac{V^2}{R/Ft. \times L^2}$$

$$W = W/Ft. \times L$$

Step 8 — Determine Current Draw (I)

$$I = \frac{W}{V}$$

Step 9 — Select Heater Single or Double Conductor Cold Lead Length

The cold lead length is determined by the customer or by using a nominal 3 feet. All cold leads are #12 AWG with 40 Amp maximum current capacity.

Step 10 — Convert Design to a Model Number

Ordering Information

To Order —
Complete the Model Number using the Matrix provided.

If applicable, specify hazardous location classifications.

Model Mineral Insulated High Temperature							
B	MI Heater Set Design						
	Code						
	K012	MI Heater Cable Catalog Reference					
		Code					
		328 Ft.	Heater Set Length in Feet (±1%)				
			Code				
			4878W	Heater Set Wattage			
				Code			
				240V	Operating Voltage		
					Code		
					36"	Cold Lead Length	
						Code	
						12	Pigtail AWG
B	K012	328 Ft.	4878W	240V	36"	12	Typical Model Number



More Information
is Available Online
on Heat Trace.

Bookmark Your Browser to
www.chromalox.com
and Select **Manuals**.

Heating Cable

MI

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Temperature (*cont'd.*)

Ordering Information

MI Cable Reference	Nominal Cable Resistance 25°C (Ohms/Ft.)	Approx. Cable Diameter (In.)	Max. Recommended W/Ft. of Cable when strapped to an Insulated Metal Pipe at;				
			40°F	100°F	200°F	300°F	400°F
Single Conductor Cable — Alloy Sheath — 600 Volt Max.							
K009 ¹	0.029	0.187	46	40	28	17	10
K012 ¹	0.036	0.187	46	40	28	17	10
K017	0.052	0.187	46	40	28	17	10
K025	0.076	0.187	46	40	28	17	10
K030	0.091	0.187	46	40	28	17	10
K043	0.131	0.187	46	40	28	17	10
K060	0.182	0.187	46	40	28	17	10
K095	0.289	0.187	46	40	28	17	10
K130	0.396	0.187	46	40	28	17	10
K185	0.563	0.187	46	40	28	17	10
K260	0.792	0.187	46	40	28	17	10
K330	1.00	0.187	46	40	28	17	10
K470	1.43	0.187	46	40	28	17	10
K655	2.00	0.187	46	40	28	17	10
K935	2.85	0.187	46	40	28	17	10
K1315	4.00	0.187	46	40	28	17	10
Two Conductor Cable — Alloy Sheath — 300 Volt Max.							
H011 ¹	0.033	0.187	46	40	28	17	10
H013 ¹	0.039	0.187	46	40	28	17	10
H069	0.210	0.187	46	40	28	17	10
H100	0.30	0.187	46	40	28	17	10
H125	0.38	0.187	46	40	28	17	10
H195	0.59	0.187	46	40	28	17	10
H255	0.78	0.187	46	40	28	17	10
H400	1.22	0.187	46	40	28	17	10
H550	1.68	0.187	46	40	28	17	10
H670	2.04	0.187	46	40	28	17	10
H990	3.02	0.187	46	40	28	17	10
H1400	4.27	0.187	46	40	28	17	10
H1950	5.94	0.187	46	40	28	17	10
H2850	8.69	0.187	46	40	28	17	10
H3600	10.97	0.187	46	40	28	17	10
H5910	18.01	0.187	46	40	28	17	10
Two Conductor Cable — Alloy Sheath — 600 Volt Max.							
B006 ¹	0.021	0.312	50	50	41	28	17
B014 ¹	0.042	0.312	50	50	41	28	17
B023	0.070	0.312	50	50	41	28	17
B034	0.103	0.312	50	50	41	28	17
B050	0.152	0.312	50	50	41	28	17
B085	0.259	0.312	50	50	41	28	17
B120	0.365	0.312	50	50	41	28	17
B190	0.579	0.312	50	50	41	28	17
B260	0.80	0.312	50	50	41	28	17
B370	1.12	0.312	50	50	41	28	17
B520	1.58	0.312	50	50	41	28	17
B660	2.00	0.312	50	50	41	28	17
B940	2.87	0.312	50	50	41	28	17
B1310	4.00	0.312	50	50	41	28	17
B1870	5.70	0.312	50	50	41	28	17
1. Multiply resistance by 1.15 for maintaining temperatures to 300°F; multiply by 1.23 for maintaining temperatures over 300°F.							

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Insulated