

MI-CABLE

sheath material

One of the many Mi-cable advantages is the protection to the thermoelements afforded by the metal sheath. For long service life, only contaminant free sheathing of known chemical and physical composition is used. All finished Mi-cable is annealed to remove contaminants, and meets ASTM specifications where applicable.

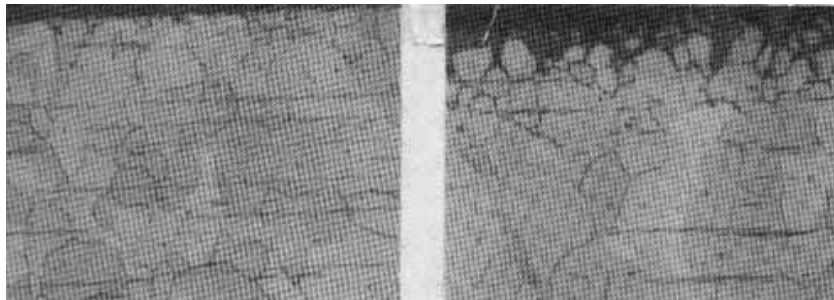


Chart I

Ordering symbol	Sheath material	Max. temp. (cont. service, air)	Melting range	Application notes
Mi-304	SS 304	1750 °F	2550-2650 °F	The general purpose austenitic stainless steel. Subject to carbide precipitation in the 900 to 1600 °F range. Corrosion resistant in the annealed condition. Not affected by sterilizing solutions, foodstuffs, most dyestuffs, organic and many inorganic chemicals.
Mi-310	SS 310	2100 °F	2550-2650 °F	Very high elevated temperature strength and scale resistance. Superior to 304 in many high temperature applications. Good resistance to carburizing and reducing environments. Subject to carbide precipitation in the 900 to 1600 °F range.
Mi-316	SS 316	1650 °F	2500-2550 °F	Higher corrosion resistance than type 304. High creep strength. Withstands sulfuric acid compounds, resists tendency to pit in phosphoric and acetic acids. Subject to carbide precipitation in the 800 to 1500 °F range.
Mi-347	SS 347	1600 °F	2550-2600 °F	Columbium stabilized grade intended to prevent harmful precipitation of chromium carbides and the resulting susceptibility to intergranular corrosion. For corrosion conditions and intermittent heating and cooling applications between 800 °F and 1500 °F.
Mi-1600	Inconel* 600	2100 °F	2500-2600 °F	Good in severely corrosive environments at elevated temperatures. High hot-strength and resistance to progressive oxidation and fatigue. Non magnetic. Use in sulfur free atmosphere.
Mi-HX	Hastelloy** X	2200 °F	2350 °F	Nickel, chromium iron and molybdenum alloy.
Mi-P 10 R	platinum 10% rhodium	2500 °F	3370 °F approx.	Addition of rhodium increases service temperature, strength and corrosion resistance.
Mi-TA	tantalum	not recommended	5425 °F	Useful to 4000 °F in inert gas or in a vacuum.

Other materials that can be made into tubing can be used for sheath material.

* Trademark, International Nickel Co., Inc.

** Trademark, Union Carbide Corp.

Diameter: Select a thermocouple diameter from the chart II. Larger sizes generally yield longest life and greater strength; smaller sizes have faster response. Sizes shown are for two wire construction only. Duplex and other special constructions are available. Contact your local TE representative or write Thermo Electric in the Netherlands for details.

Chart II ordering symbol	nominal od (inches)	o.d. tolerances		conductor size		min. insulation thickness (inches)	min. sheath thickness (inches)	max. length (feet)
		+	-	nom. (AWG)	min. (inches)			
125	1/25 (.040)	.0015	.001	36	.005	.004	.006	50
116	1/16 (.0625)	.0015	.001	30	.010	.005	.009	100
332	3/32 (.094)	.002	.002	26	.015	.006	.010	100
18	1/8 (.125)	.0015	.001	24	.020	.012	.012	100
316	3/16 (.1875)	.0015	.001	20	.031	.022	.020	50
14	1/4 (.250)	.002	.002	18	.040	.025	.028	50
516	5/16 (.3125)	.003	.002	15	.057	.030	.037	49
38	3/8 (.375)	.003	.002	14	.064	.035	.045	36
716	7/16 (.4375)	.005	.005	12	.077	.040	.050	28