

STANDARD INSULATED BASE METAL THERMOCOUPLE WIRE

The following four pages give the details of the standard insulated thermocouple wires generally available for stock delivery. All of these wires are selected and matched to meet the Standards Limits of Error of ASTM/ANSI E230 given on page 1 of this catalog section. If the closer accuracy of the Special Limits of Error wire is desired, then special limit wires can be selected and matched. To order, change the fourth figure of the catalog number to the next higher "even" digit (example: K20-1-305 becomes K20-2-305). With the aid of the wire temperature limit tables from page 1 and the tabulated wire insulation data below, thermocouple wire can be selected to meet most industrial process requirements. When conditions call for other than the listed standard wires, special wires and insulations can be made to fulfill application requirements in minimum amounts of 2,000 feet. Complete process requirements and specifications should accompany quotation requests.

Thermocouple Wire Types, Construction and Characteristics

Standard Fiberglass Insulations

SINGLE CONDUCTOR			DUPLEX CONDUCTOR		TEMP RATING ^[1]		PHYSICAL PROPERTIES			
Type	Insulation (Inches)	Impregnation	Insulation (Inches)	Impregnation	Continuous	ASTM/ANSI Sgl. Reading	Color Coded	Abrasion Resistance	Moisture Resistance	Notes
302	Double Glass Braid 0.12 Wall	Modified Resin	Glass Braid 0.006	Modified Resin	482 °C [900 °F]	538 °C [1000 °F]	Yes	Good	Good	Impregnation retained to 204 °C [400 °F]
304	Glass Braid 0.006	Modified Resin	Glass Braid 0.006	Modified Resin	482 °C [900 °F]	538 °C [1000 °F]	Yes	Fair	Good	Impregnation retained to 204 °C [400 °F]
305	Double Glass Wrap 0.005	High Temp. Varnish	Glass Braid 0.006	Modified Resin	482 °C [900 °F]	538 °C [1000 °F]	Yes	Fair	Good	Impregnation retained to 204 °C [400 °F]
306	Glass Braid 0.006	None	Glass Braid 0.006	None	482 °C [900 °F]	538 °C [1000 °F]	No	Fair	Fair	Heat treated
307	Teflon® TFE Tape (not fused) 0.004 TFE Coated Glass, 0.006	None	Teflon® Coated Glass Braid	None	482 °C [900 °F]	538 °C [1000 °F]	Yes	Good	Excellent	Teflon® good to 316 °C [600 °F]
313	Glass Braid 0.008	Modified Resin	Glass Braid 0.006	Modified Resin	482 °C [900 °F]	538 °C [1000 °F]	Yes	Good	Good	Impregnation retained to 204 °C [400 °F]
315	Glass Braid 0.008	Modified Resin	None Twisted	None	482 °C [900 °F]	538 °C [1000 °F]	Yes	Good	Good	Impregnation retained to 204 °C [400 °F]
317	Heavy Glass Braid	High Temp. Varnish	None Twisted	None	482 °C [900 °F]	538 °C [1000 °F]	Yes	Good	Good	Impregnation retained to 204 °C [400 °F]

High Temperature Fiberglass Insulations

SINGLE CONDUCTOR			DUPLEX CONDUCTOR		TEMP RATING*		PHYSICAL PROPERTIES			
Type	Insulation (Inches)	Impregnation	Insulation (Inches)	Impregnation	Continuous	ASTM/ANSI Sgl. Reading	Color Coded	Abrasion Resistance	Moisture Resistance	Notes
309	Hi-Temp. Glass Braid 0.012	None	Hi-Temp. Glass Braid 0.012	Modified Resin	704 °C [1300 °F]	871 °C [1600 °F]	[2]	Good	Fair	Impregnation retained to 204 °C [400 °F]
311	Hi-Temp. Glass Braid 0.012	None	Hi-Temp. Glass Braid 0.012	Light Lacquer	704 °C [1300 °F]	871 °C [1600 °F]	No	Fair	Fair	Coating retained to 149 °C [300 °F]
314	Hi-Temp. Glass Braid 0.008	High Temp. Varnish	None Twisted	None	704 °C [1300 °F]	871 °C [1600 °F]	Yes	Good	Good	Impregnation retained to 204 °C [400 °F]
321	High Temp. Glass Braid	High Temp. Varnish	High Temp. Glass Braid	High Temp. Varnish	704 °C [1300 °F]	871 °C [1600 °F]	Yes	Good	Good	Impregnation retained to 204 °C [400 °F]

[1] Thermocouple extension grade wire is only calibrated up to 204 °C [400 °F]

[2] Both Legs Have Tracer