

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 one 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 one 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 with minimum purchases. Complete process requirements and specifications should accompany quotation requests.

Thermocouple Wire Types, Construction and Characteristics**Standard Fiberglass Insulations**

| SINGLE CONDUCTOR | | | DUPLEX CONDUCTOR | | TEMP. RATING | | PHYSICAL PROPERTIES | | | |
|------------------|--|--------------------|------------------------|----------------|-----------------|------------------------|---------------------|---------------------|---------------------|--|
| Type | Insulation (Inches) | Impregnation | Insulation (Inches) | Impregnation | Continuous | ASTM/ANSI Sgl. Reading | Color-Code | 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 | TFE tape (not fused) 0.004 TFE coated glass, 0.006 | None | TFE coated glass braid | None | 482 °C [900 °F] | 538 °C [1000 °F] | Yes | Good | Excellent | TFE 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-Code | Abrasion-Resistance | Moisture-Resistance | Notes |
| 309 | High-temp. glass braid 0.012 | None | High-temp. glass braid 0.012 | Modified resin | 704 °C [1300 °F] | 871 °C [1600 °F] | Tracer | Good | Fair | Impregnation retained to 204 °C [400 °F] |
| 311 | High-temp. glass braid 0.012 | None | High-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 | High-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] |