

Specifications



| THERMOCOUPLE SPECIFICATIONS | | | |
|-----------------------------|---|---------------------------------------|---------------------|
| TC TYPE | TEMPERATURE RANGE | | ACCURACY |
| | F | C | |
| J | 0 TO 530 530 to 1400 | -17 TO 277 277 to 760 | 2 DEGREES F 3/8% |
| K | 0 TO 530 530 TO 2300 | -17 TO 277 277 TO 1260 | 2 DEGREES F 3/8% |
| T | -300 TO -75 -75 TO 200 200 TO 700 | -184 TO -60 -60 TO 93 93 TO 371 | 1% 3/4% 3/8% |
| E | 0 to 600 600 to 1600 | -17 TO 315 315 TO 871 | 3 DEGREES F 1/2% |

Thermocouple Specifications

Daily Thermetrics has experience with virtually all thermocouple types. Our experienced Engineers will be happy in answering any question in regards to the best thermocouple type for a specific application.

Consistency: All thermocouple wire per installation will be from the same lot of material and will be annealed in the same heat-treating cycle.

Junction Heat Treat: All thermocouple junctions will be heat treated after fabrication.

Response Time: 15 Seconds (defined as 66.7% reading of a step change).

Junctions: Ungrounded and Isolated

Insulation: 99.4% pure Magnesium Oxide.

Compaction Ratio: 88 to 92%. This exceeds the 70% compaction ratio on standard thermocouples.

Marking of Points: All points are marked by two weld beads that are 1.5" on each side of the sensing point.

Points are marked with a weld bead

**Patent #6,550,963 &
6,599,011
Patent Pending in
Europe and Canada**



THERMOCOUPLE SPECIFICATIONS

| NUMBER OF POINTS | OUTSIDE DIAMETER | | WALL THICKNESS | | WIRE DIAMETER | | WIRE GAUGE |
|---------------------|---------------------|------|-------------------|------|------------------|------|---------------|
| | INCHES | MM | INCHES | MM | INCHES | MM | |
| | 4 | .375 | 9.50 | .078 | 2.00 | .032 | .810 |
| 4 | .281 | 7.10 | .025 | 6.64 | .032 | .810 | 20 |
| 9 | .500 | 12.7 | .078 | 2.00 | .032 | .810 | 20 |
| 9 | .400 | 10.1 | .040 | .760 | .032 | .810 | 20 |
| 11 | .250 | 6.30 | .022 | .560 | .020 | .500 | 24 |

Sheath Materials

Daily Thermetrics has experience in a variety of materials, some of which are listed below. Our experience engineers are available to help select materials for your specific application.

304 SS: Good to 1600°F (871°C) and has good resistance to oxidation and corrosion. This is a good general-purpose stainless steel.

310 SS: Good to 2100°F (1150°C) and is suitable for Sulfur bearing atmospheres. Good resistance to oxidation to 2000°F.

316 SS: Good to 1650°F (900°C) and has higher corrosion resistance than 304 SS. Good in Sulfuric acid compounds.

347 and 321 SS: Good to 1600°F (871°C) and is Columbium stabilized to prevent carbide precipitation found in 304, 316 and 310 SS between 800°F and 1500°F. Excellent for Hydrotreaters and Hydrocrackers. CatTracker generally

Sheath Length: We have units running that are over 120 feet (40 meters)

Bending Radius: May be bent in 1-inch (25mm) radius without affecting junction or internal integrity.

Thermal Transfer: Temperature reading is not affected by temperature gradient on sheath 2 inches (50 mm) from junction in flowing atmosphere.

Pressure Rating: Dependent on sheath thickness and flange connection. 10,000 psi (690 bar) is possible