

Information on Thermocouples

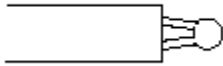
Definitions

Thermocouple Probes are composed of two dissimilar metals, joined to produce a voltage when the applied (measured) temperature differs from the reference temperature.

Thermocouple Thermometers measure, amplify, linearize, and display the proportional voltage signal generated by the thermocouple probe.

Thermocouple Probe Junction Types

Sheaths with small diameters have faster response times; sheaths with larger diameters have longer life and are better for measuring higher temperatures.



Exposed Junction has the fastest response time—ideal for measuring rapid temperature changes. Clear coating on most models provides a humidity barrier for the thermocouple. Do not use with corrosive fluids or atmospheres.



Ungrounded Junction has a welded junction insulated from the protective sheath and is electrically isolated. Longer response time; use for conductive solutions or where isolation of the measuring circuitry is required.



Grounded Junction has a junction welded to tip of sheath. Wires are completely sealed from contaminants. Good response time.

Probe Sheath Materials

INCONEL® 600 Sheath are ideal for severely corrosive environments and at elevated temperatures. Resists progressive oxidation. Maximum operating temperatures: continuous—2100°F, intermittent—2500°F.

304 SS Sheath are for general purpose use, are corrosion-resistant, and good for food service and biological applications. Maximum operating temperatures: continuous—1650°F, intermittent—2550°F.

316 SS Sheath have higher corrosion resistance than 304 SS. Withstands some strong acids. Maximum operating temperatures: continuous—1650°F, intermittent—2500°F.

SS Sheath with Coating of TEFLON® PFA with grounded junction is ideal with corrosive liquids and atmospheres. Longer response time. Temperatures to 500° F (260°C).

TEFLON® is a registered trademark of DuPont.

