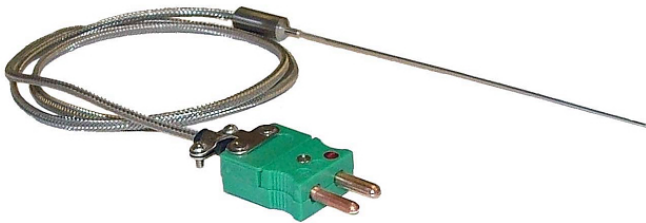


# Composite Platinum Bendable Tube Thermocouples

Vulcan Electric Composite Platinum Bendable Tube Thermocouples offer an excellent alternative when an extra long probe is required with only a short section of the tube exposed to the extreme heat sensing environment. The design incorporates a protective Platinum sheath tube located at the sensing end of the thermocouple assembly in combination with an adjoining second sheath tube that extends to the termination. A proprietary welding process is utilized to produce a seamless transition between the two adjoining sheath materials. An example of a common Composite Thermocouple construction is a Platinum/10% Rhodium alloy at the sensing end transitioned to a nickel alloy sheath. In addition to the unique composite metal sheath construction, the conductors are insulated with premium grade, highly compacted 99.4% magnesium oxide powder, providing a durable and robust assembly with the additional benefit of flexibility and bendability. Most of the thermocouples are fabricated in precious metals calibrations with the most common consisting of type R, S, or B. Base metal types K and N are also available. Manufactured tube diameters range from .032" to .188" with optional metric sizes available. We also offer reduced diameter tips. Thermocouples junction options include grounded and ungrounded types.



## Typical Construction

Thermocouple Tube Diameters .032" to .188"
Thermocouple Platinum Types R, S, or B
Grounded or Ungrounded Thermocouple Junction
High Temperature Termination Plugs
Protective Braid Over Leads
Platinum/Rhodium 10% or 20% Protective Sheath

## Features

Robust Seamless Transition Between Tubes
Platinum Protective Tip for High Temperature Environments
Premium Grade Compacted MgO Insulation
Bendable Small Diameter Thermocouple Tube
Wide Selection of Tube Compositions
Optional Reduced Diameter Tips Available

## Benefits

High Accuracy Temperature Measurement and Repeatability
Robust Construction for Longevity
Sensing Tips Designed for Optimum Performance
Tube Can Be Formed to Fit Application Shapes
Significant Savings Compared to Full Length Platinum Tube
Recycleable as a Partial Trade-In for New Thermocouples

## Application Examples

Gas Turbine Combustion Discharge
Glass Melting and Working
Crystal Growth
Refractory Erosion Monitoring
Research and Development Projects
Jet Engine Test Cells

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