

# Calibrating and testing thermocouple sensors



Thermocouples are common in industry because they are inexpensive and cover a wide temperature range.

They should be tested during commissioning and again when removed from a process to verify that tolerances were met. Additionally, thermocouples may be tested at regular calibration intervals and when suspected of failing to meet their performance specifications.

Often thermocouples need to be calibrated prior to use for mapping a temperature controlled enclosure, or they have to be calibrated for use as a temperature standard.

Due to the unique characteristics of thermocouples, they are best calibrated in situ (in place) by comparison to a temperature standard. However, in situations where that is not practical, it is necessary to remove the thermocouple and place it in a precision temperature source such as a dry-well.

## Suggested test tools



9144 Field  
Metrology Well  
See pg 17



9100S Handheld  
Dry-Well  
See pg 17



9150  
Thermocouple  
Furnace  
See pg 19



6102 Micro-Bath  
Thermometer  
Calibrator  
See pg 19