

Surface Mounted Temperature Sensors for Composite Component Testing

APPLICATION



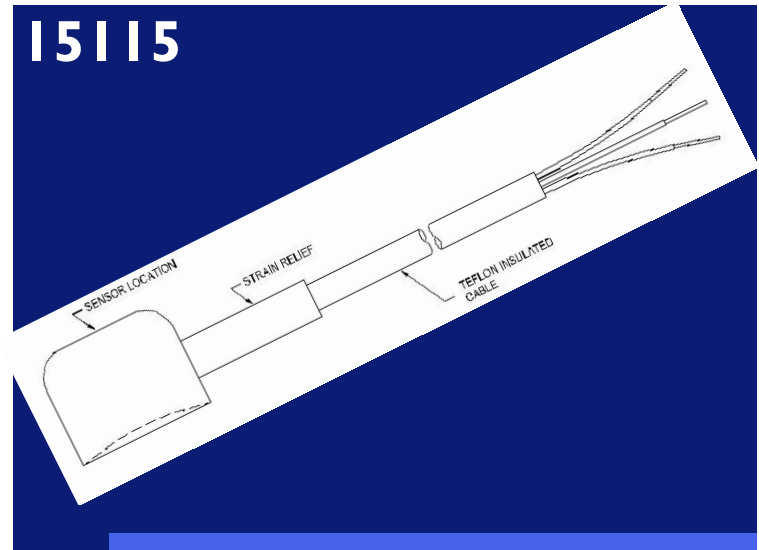
A composites manufacturer makes structural components for spacecraft and satellites. Since the components must perform in the harsh environment of space, they must thoroughly tested to meet the temperature extremes encountered there. Many composite components are very long and are tested in a large environmental chamber. It is crucial to the testing that the entire part is subjected to the same temperature. Temperature sensors are needed multiple locations to ensure the entire component is at the desired temperature.

CHALLENGE



The temperature sensor must be easily mounted to the surface of the component without permanent mounting hardware. The temperature measurement must measure the temperature of the component and not of the air surrounding the component. A surface mount sensor was required but the sensor must be able to measure the temperature on one side of the sensor and not the other. The temperature sensor must also be able to withstand the extreme temperature range of -200 to 150C.

15115



Surface Mount

Temperature Sensor

SOLUTION



Burns Engineering manufactures a wide variety of temperature sensors for surface mount applications. Only the 15115 met the requirements for ease of installation and asymmetric surface temperature measurement. This unique design has the sensing element mounted to the bottom of a thimble-like housing. The element is then thermally isolated from ambient air with insulating material and epoxy sealed for moisture resistance. The sensors could simply be clamped or weighted to the component surface for easy setup.