



Glass Sealing

Temperature Measurement of Glass through Flame for Sealing Applications

Q

Question

How can the correct bonding temperature be ensured while heating glass with a flame?

A

Answer

Situation Analysis

Accurate temperature measurement is critical to a stable process when sealing lamps, bulbs, and tubes. Because of the small area that needs to be temperature controlled, placement of the sensor head, as well as optical resolution, must be carefully considered. In addition, the sensor must be able to detect the surface temperature of glass through smoke and flame and have the following key features:

- Fast response time
- Ability to operate in high temperature ambient conditions
- Performance and accuracy with intermittent targets
- Small (1mm) measurement area



A

Answer

Solution and Improvements

The Ircan Modline[®] 7, 77 Series is designed to measure the temperature of glass. At the 4.8-5.2 micron wavelength, the glass is opaque and the color of the glass does not affect the temperature indication. In addition, the instrument does not see the hot gas flames that are used to heat the glass. At this wavelength, the gas flame is very transparent to the thermometer. The Modline 7 has a response time of 60 milliseconds, allowing it to measure the temperature of every bulb as it is heated. It also has an electrical feature called a peak hold. This feature allows the instrument to see the temperature of the hot glass, but ignore the interference caused by the cool fixture or the open spaces between the bulbs as they index from one station to the next.

Ircan Product

Modline 7, 77 Series with integral water cooling jacket and ModView[™] software included

Accessories

- Swivel Base

Benefits

- Increased Throughput
- Quick Set-up
- Savings on Fuel Costs
- High Quality Seals
- Process Stability
- Less Scrap