



## Hermetic sealing of stainless steel rods with glass preforms

**Objective** To heat seal both ends of a stainless steel heater assembly 300-500°F (149-260°C) and melting glass preforms

**Material** Stainless steel rods 1/2" to 3" (12.7mm to 76.2mm) diameters, glass preforms

**Temperature** 300-500°F (149-260°C) °F

**Frequency** 212 kHz

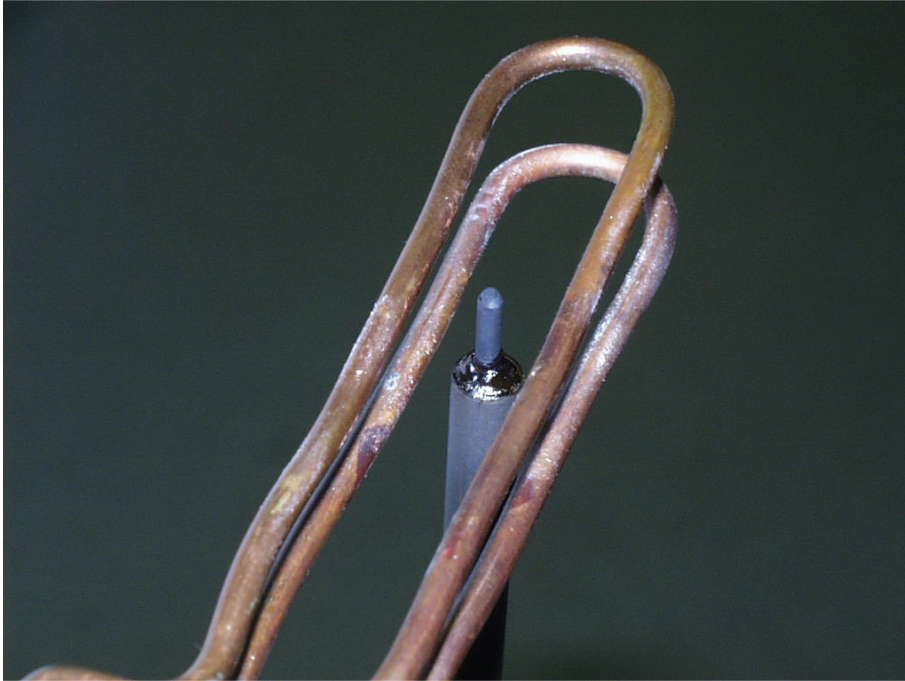
**Equipment**

- Ambrell 2.0 kW induction heating system, equipped with a remote workhead containing two 0.66μF capacitors for a total of 1.32μF
- An induction heating coil designed and developed specifically for this application.

**Process** A two turn elongated helical coil is used to heat 5 to 7 stainless steel rods simultaneously for 60 seconds, the glass preforms melt and create a hermetic seal. After the first end is heated the parts are repositioned to heat the opposite end.

**Results/Benefits** Induction heating provides:

- Hands-free heating that involves no operator skill for manufacturing
- Amount of glass is precisely controlled by the glass preforms and even flow of glass creates aesthetically pleasing bond.
- Even flow of glass creates aesthetically pleasing bond
- Even distribution of heating



Start of heating cycle



Glass preform melting as temperature is reached