

## Brazing joint on pressurized heater connectors

**Objective** Brazing a joint between a copper lug and nickel plated copper pins on a pressurized heater connector.

**Material** 1.5" (38.1mm) dia heater connector in a ceramic insulator with L shaped copper lugs and nickel plated copper pins, silver solder and braze

**Temperature** 1175-1375 °F (635-746 °C)

**Frequency** 270 kHz

**Equipment**

- Ambrell 10 kW induction heating system, equipped with a remote workhead containing two 1.5 $\mu$ F capacitors for a total of 0.75 $\mu$ F
- An induction heating coil designed and developed specifically for this application.

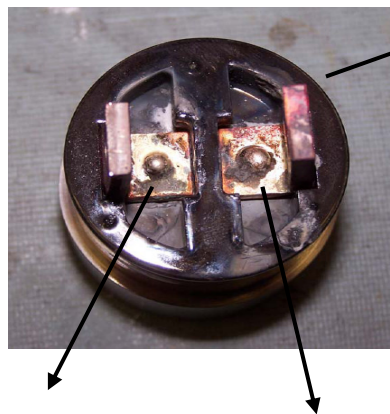
**Process** A two turn helical coil is used to heat the copper lugs and nickel plated copper pins for 1 minute. A clamp is used in production to hold the copper lugs in place for brazing.

**Results/Benefits** Induction heating provides:

- Minimal transfer of heat to adjacent ceramic insulator.
- Hands-free heating that involves minimal operator skill for manufacturing.
- Flameless processing.
- Heat very small precise areas within production tolerances.
- Even distribution of heating.



Heater connector assembly in coil heating for brazing application



Ceramic insulator

Location of soldering application