



## Soldering three fuse caps simultaneously

**Objective** Soldering three fuse caps simultaneously to reflow lead free solder and make a joint between the fuse cap and fuse wire guide

**Material** Plated copper end caps 0.375" (9.5mm) OD x 0.375" (9.5mm) height, ceramic fuse tube 1.5" tall (38.1mm) , lead free solder preforms

**Temperature** 700 °F (371 °C)

**Frequency** 286 kHz

**Equipment**

- Ambrell 10 kW induction heating system, equipped with a remote workhead containing two 1.0 $\mu$ F capacitors for a total of 0.5 $\mu$ F
- An induction heating coil designed and developed specifically for this application.

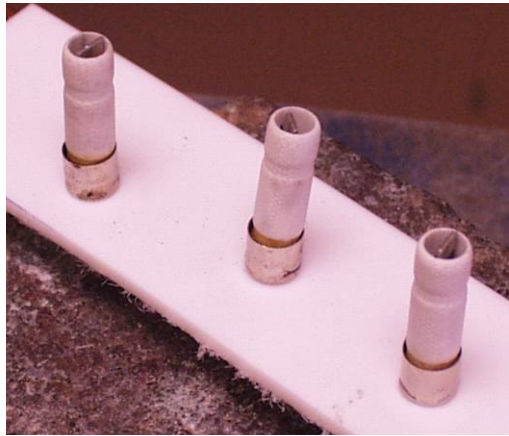
**Process** A three position two turn helical coil is used to solder three fuse caps simultaneously. The fuse assemblies are placed in the coil and the heat is applied in three cycles at 3.5 seconds per cycle to reflow the solder. On the production line the bottom caps are soldered first. The fuses are filled with sand and without flipping the assembly the top cap is soldered.

**Results/Benefits** Induction heating provides:

- Consistent, repeatable results
- Precise & accurate heat application
- Hands-free heating that involves no operator skill for manufacturing
- Even distribution of heating



Three position coil



Fuse assemblies  
ready for heating