



Hermetically sealing a fiber optic cable in a kovar ferrule

Objective Soldering a fiber optics cable in a ferrule to form a hermetic seal

Material Panda PM fiber 0.0098" (.25mm) dia, kovar ferrule 0.086" (2.2mm) dia and metal enclosure 1.96" x 1.06" x 0.23" thick (50mm x 27mm x 5.9mm thick), solder preforms and flux

Temperature 450 °F (232 °C)

Frequency 346 kHz

Equipment

- Ambrell 1.2 kW induction heating system, equipped with a remote workhead containing one 0.66µF capacitor.
- An induction heating coil designed and developed specifically for this application.

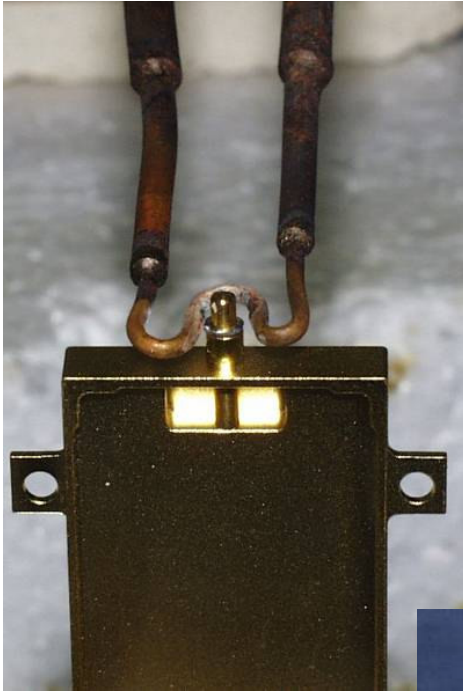
Process A single turn channel "C" coil is used for this soldering application. Assembly is fluxed at the joint area and power is applied for 15 seconds to create the hermetic seal in the ferrule.

Narrative

- The customer chose Ameritherm over competitors due to the ability to design the single channel "C" coil. The coil heats quickly so that the heat does not travel to heat sensitive components in the case

Results/Benefits Induction heating provides:

- Instant start up time requiring very little power resources
- Targets small areas with pin point accuracy
- Clean source of heat
- Easily integrated into existing automated systems
- Even distribution of heating



Assembly in coil prior to soldering

