Soldering Fiber Optic Cable to Fiber Ferrule with Glass Preform

Objective To heat the customer supplied parts for a glass preform reflow application

Material Optical Fiber (0.007 in./ 0.178 mm.), Fiber Ferrule(0.051 in./ 1.3 mm.), Glass Solder Preform (0.047 in./1.2 mm.)

Temperature 450ºF (232ºC)

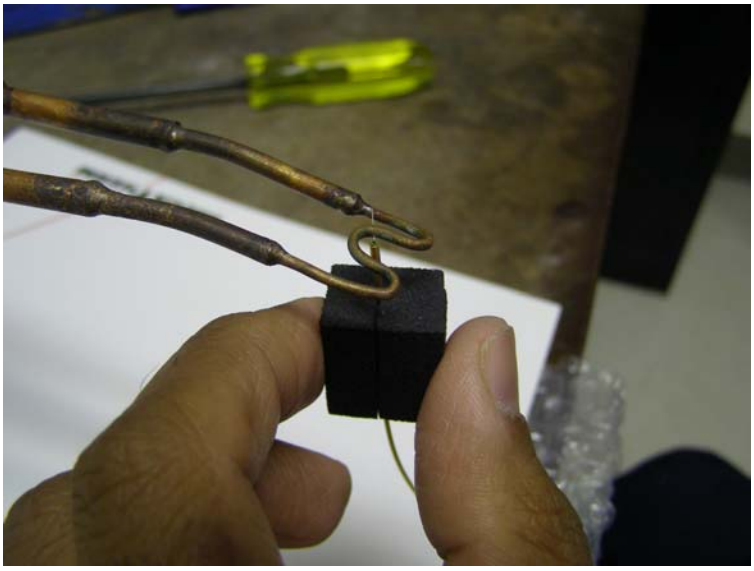
Frequency 379 kHz

Equipment
- Ambrell 1.2 kW induction power supply, with a remote heat station containing one 0.66 microfarad capacitor.
- An induction heating coil designed and developed specifically for this application.

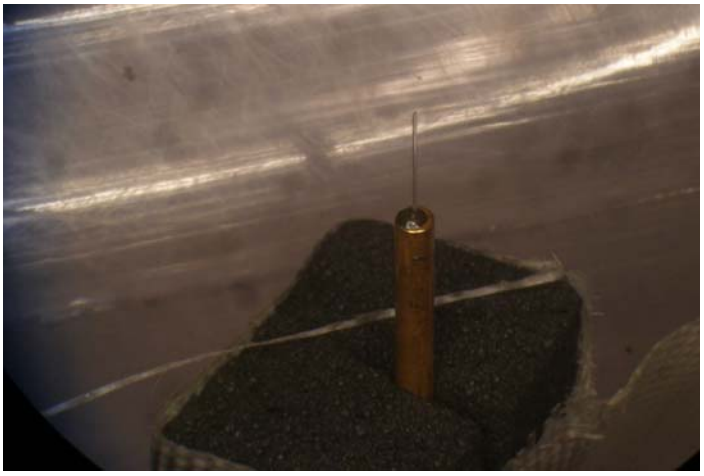
Process A single turn channel “C” coil is used to generate the required heat pattern. The assembly is placed in the coil and power is applied for fifteen seconds. A heating time of 15 seconds will result in a good solder flow.

Narrative
- The customer is using a heating block with a heating time of up to 20 seconds. The customer is looking for a non contact heating process. The Ambrell 1.2kW power supply, along with the fifteen second heating time results in better glass flow and solder joint.

Results/Benefits Induction heating provides:
- Rapid localized heat only where needed
- Repeatable, consistent results
- Creates clean, controllable joints



Fiber optic assembly positioned in coil for soldering



Microscopic view of soldered optic assembly