

AN AMBRELL COMPANY

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** 450°F (232°C)
 - Frequency 379 kHz
 - 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

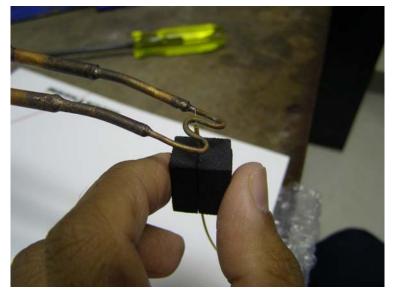
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Precision Induction Heating

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Fiber optic assembly positioned in coil for soldering



Microscopic view of soldered optic assembly



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