



## Soldering Electrical Flex Circuits

**Objective** To heat multiple joints on flex circuit strips to 180-200 °F within seven seconds for a soldering application.

**Material** Copper bonded to polyester flex circuit strips, Solder Plus Paste 63NC-A, 0.0625" thick Teflon sheets

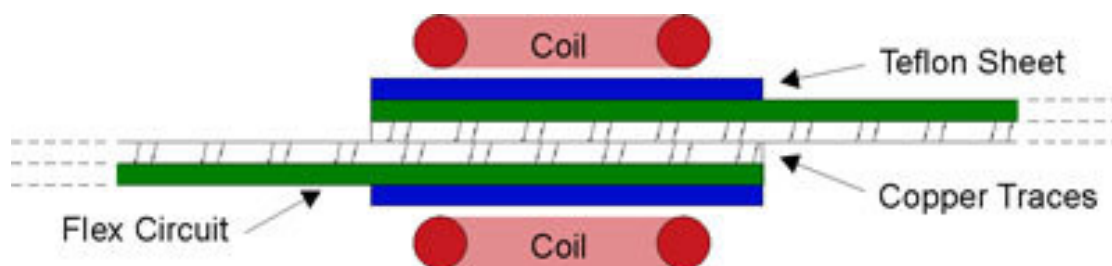
**Temperature** 183 °F

**Frequency** 278 kHz

**Equipment** Ameritherm 1 kW power supply, remote heat station with one 1.2 μF capacitor and a specially designed induction coil.

**Process** A specially designed induction coil was used to provide even heat in the area where the fingers of the flex circuits overlap. Initial tests were done to establish a heating pattern and determine time-to-temperature. After a very light coat of the solder paste was applied to the circuit connections, a small amount of pressure was applied to the Teflon sheets to hold the circuits together. RF power was then applied for 6.5 seconds to flow the solder paste and bond the flex circuits

**Results** Consistent and repeatable results were achieved using the 1kW power supply in 6.5 seconds at 183 °F.



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