



## Soldering a steel funnel to flex spout

**Objective** Soldering a tube and funnel assembly

**Material** A galvanized steel funnel (6.35 in./160 mm diam.), (4.65 in./118mm deep), a tin plated flex spout (0.092in./23.54mm diam.), flex and solder pre-forms

**Temperature** 400°F ( 204°C)

**Frequency** 254 kHz

**Equipment**

- Ambrell 2kW induction heating system, equipped with a remote heat station containing two 0.1uF capacitors for a total of 0.2uF
- An induction heating coil designed and developed specifically for this application.

**Process** A two-turn helical coil is used for this soldering application. The funnel is fluxed, and two solder performs are placed at the solder joint. This assembly is placed in the coil, and heated for eighty seconds to flow the solder and form the joint. The application is also done with a four position coil and soldering four parts simultaneously at 400° F ( 204°C) for ninety seconds.

**Narrative**

- The customer wanted to shorten cycle times, in turn reducing energy output and man hours expended. With the use of Ameritherms' products and technology, lab tests have confirmed the feasibility of this goal.

**Results/Benefits** Induction heating provides:

- Non contact energy efficient heat without flame
- Repeatable and consistent results
- Precise and accurate placement of heat



**Steel tunnel and flex spout  
assembly in coil prior to soldering**