

## Heating pre-assembled plastic tube and cap for cap sealing application

**Objective** Heating a pre-assembled plastic tube and cap assembly with the aluminum foil seal in place for a cap sealing application

**Material** Plastic tube and cap assembly with foil seal in place, 1.38" (35mm), 1.57" (40mm) and 1.97" (50mm) diameter

**Frequency** 94 kHz

**Equipment**

- Ambrell 15 kW induction heating system, equipped with a remote workhead containing eight 1.0 $\mu$ F capacitors for a total of 8.0 $\mu$ F
- An induction heating coil designed and developed specifically for this application.

**Process** A 12" (304.8mm) single turn channel coil is used to heat multiple assemblies simultaneously. Power is applied for 2 seconds to complete the cap sealing application at the customers required run rate of 25' (7.62m) per minute.

**Narrative**

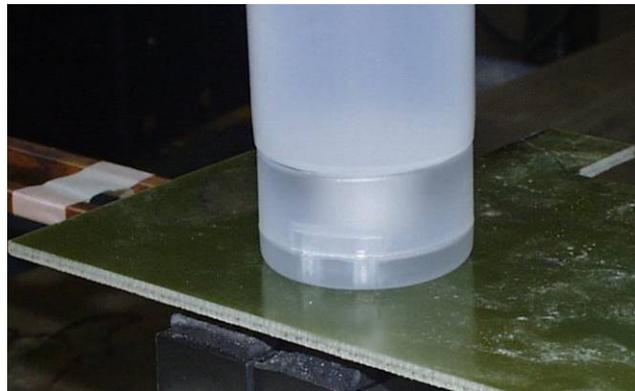
- Customer currently has Ameritherm equipment and would like to increase their run rate. In the automated process the pre-assembled cap & tube are run on a steel conveyer and passed by the coil creating enough heat through the aluminum seal to achieve the required cap seal.

**Results/Benefits** Induction heating provides:

- Precise and accurate placement of heat
- Repeatable results
- Hands-free heating that involves no operator skill for manufacturing
- Provides an air tight tamper proof seal



For test purposes the assembly is placed on top of the coil for sealing



Another view of the assembly on the coil. Picture shows how the coil runs underneath the assembly