



## Soldering windows to time indicator housings

**Objective** Soldering soda lime glass metal edged windows to steel time indicator housings

**Material** Four different size housings: .60" (15.2mm) x .5" (12.7mm) with flange, .5" (12.7mm) x .5" (12.7mm) with flange, .5" (12.7mm) x .5" (12.7mm) and .70" (17.8mm) x .5" (12.7mm) with threads and flange, .024" (.61mm) -.032" (.81mm) thick soda lime glass with metalized edge and solder paste

**Temperature** 400-450 °F (204-232 °C)

**Frequency** 245 kHz

**Equipment**

- Ambrell 1.0 kW induction heating system, equipped with a remote workhead containing one 1.33µF capacitor.
- An induction heating coil designed and developed specifically for this application.

**Process** The same two turn oval helical coil is used to heat each different sized part. The solder paste is applied to the housing and the window is placed in the housing. The smaller parts took 16 seconds for the solder to flow, the largest part took 80 seconds for the solder to flow.

**Narrative**

- The customer came to Ameritherm through a recommendation from EWI. They had previously purchased a CEIA unit that was not working as well as the customer would like due to a poorly designed coil. The customer is currently soldering these applications using a hot plate to flow the solder. Because of Ameritherm's expert coil designers the customer is now able to use the same coil efficiently for all four different sized housings saving the customer time and money.

**Results/Benefits** Induction heating provides:

- Same coil can be used for all four soldering applications
- Precise controllable application of heat, exposure to rapid heat will separate the metal edge from the glass



Three of the four housings heated in the same coil



Finished housings