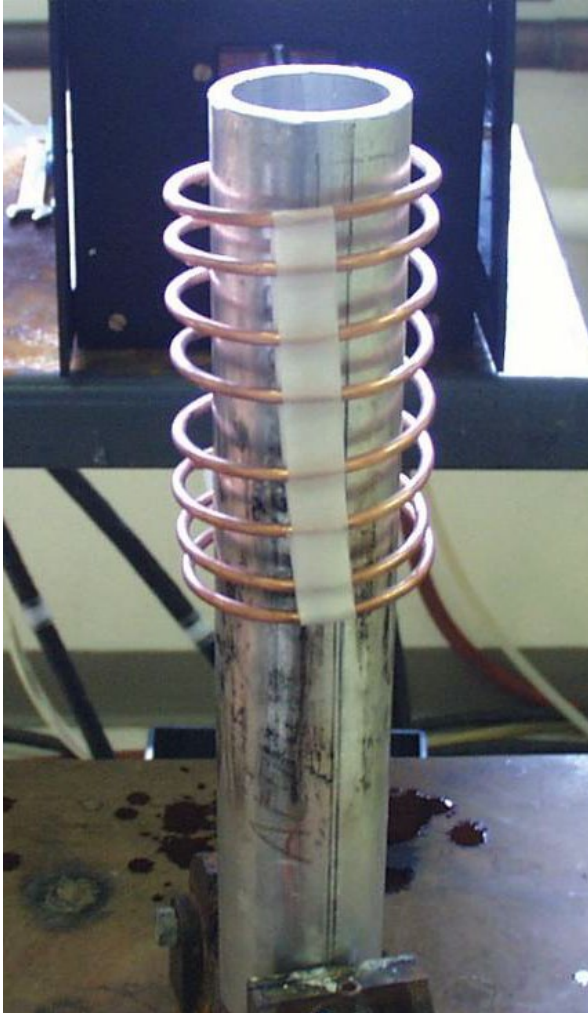


Application Note

Annealing an Aluminum Fuel Tank Fill Neck for Bending

- Objective:** To anneal aluminum fuel tank fill necks to 650 °F (343 °C) for bending.
- Equipment:** Ambrell EKOHEAT[®] 30 kW, 50-150 kHz solid state induction heating power supply with a workhead and coil specifically designed for this application.
- Frequency:** 75 kHz
- Material:** Aluminum fill neck 2.5" (63.5 mm) diameter, 14" (35.5 cm) long
- Temperature:** 650 °F (343 °C)
- Testing:** An eight-turn helical coil was used to heat the tube for annealing. To anneal the full length of the tube, the tube was placed in the coil and heated for 30 seconds, then rotated, and the bottom half was heated for an additional 30 seconds. The tube was then bent while hot to prevent cracking.
- Benefits:**
- High efficiency, low energy consumption
 - Fast, controllable and repeatable process
 - Prevention of cracks
 - Hands-free heating that involves no operator skill for manufacturing
 - Even distribution of heating



Final heating for full annealing of the part.