

## Brazing Steel Conduit to a Ferrule and Elbow Assembly

**Objective** To heat a stainless steel conduit, ferrule and elbow assembly to 1400°F (760°C) within 20 seconds for brazing.

**Material** 6”(152.4mm)long x 0.5”(12.7mm) diameter stainless steel conduit, 0.5”(12.7mm) long x 0.5”(12.7mm) diameter ferrule, 2”(50.8mm) elbow with 0.5” (12.7mm) diameter

**Temperature** 1400°F (760°C)

**Frequency** 273 kHz

**Equipment**

- Ambrell 3.5 kW induction heating system equipped with a remote workhead
- An induction heating coil designed and developed specifically for this application.

**Process** A specially designed, three-turn helical coil is used to provide heat to the assembly at the braze joint area. Two small silver solder braze rings are placed at each joint; the joints are coated with black flux to insure that the braze material flows cleanly. The assembly is placed inside the coil and power is applied for 15 seconds to cause the braze to flow.

### Results/Benefits

Induction heating provides:

- Consistent and repeatable results
- No flame process
- Faster process time

