

Brazing two parts into a coupling for a medical tool application

Objective Braze two parts to a coupling with an outside diameter of 0.5” (13 mm) to create a medical tool. The client’s goal was to braze both parts concurrently as quickly as possible with maximum repeatability.

- Material**
- Two stainless steel parts
 - A coupling
 - Black flux
 - Braze rings

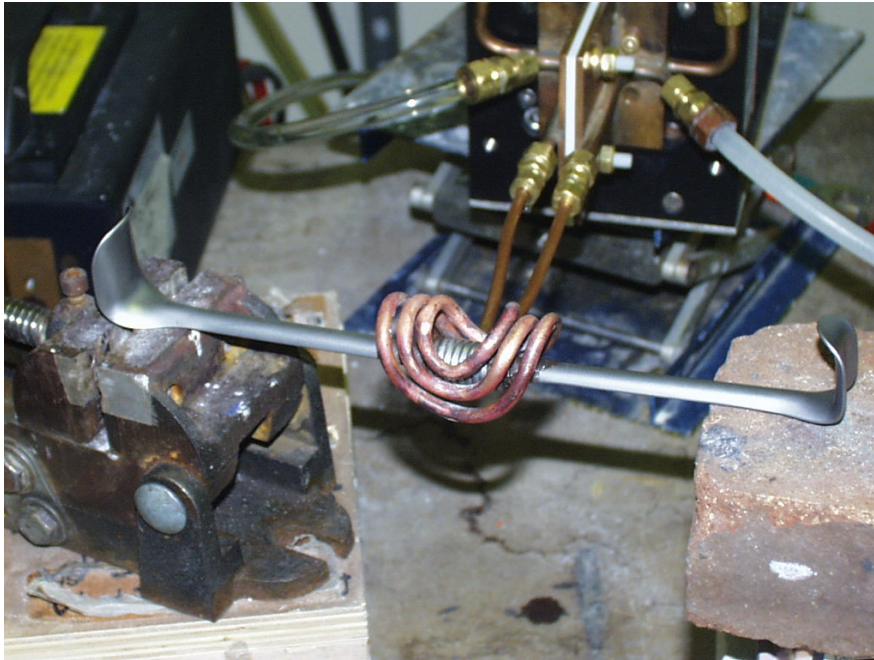
Temperature 1250 °F (677 °C)

Frequency 181 kHz

- Equipment**
- Ambrell EASYHEAT 3542 LI, 3.5 kW induction heating system, equipped with a remote workhead containing one 1.5 µF capacitor.
 - A single position, two turn C-shaped coil designed and developed specifically for this application.

Process Two braze rings were applied to the coupling, the joints areas were fluxed and the two parts were put inside the coupling and heated. The assembly was heated to the desired braze temperature within 20 seconds. After brazing the parts to the coupling, it was rinsed with water and cleaned with a hand pad.

- Results/Benefits**
- Time savings: Braze temperature was reached quickly which saves time when compared to other heating methods
 - Precision and efficiency: Direct and precise control of heat saves energy when compared to other heating methods
 - Joint quality: The braze alloy forms a good joint, validating the high quality level that can be achieved via induction
 - Easy process integration: Can easily be integrated into an automated process



Two stainless steel parts being brazed to a coupling



Medical tool after brazing

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