



Brazing a steel impeller assembly

Objective Brazing a steel impeller and shaft

Material Steel impeller 2.0" (50mm) diameter, with a 0.25"(6mm) steel shaft, braze ring

Temperature 1450 °F (780 °C)

Frequency 262 kHz

Equipment

- Ambrell EASYHEAT 3.5 kW 400kHz induction heating system, equipped with a remote workhead containing one 1.0µF capacitor
- An induction heating coil designed and developed specifically for this application.

Process A two-turn helical coil is used to heat the impeller. The part is placed inside the induction coil and heated to 1450°F within 1 minute to flow the braze ring.

Narrative Induction is proposed to replace a hand-operated flame process requiring operator training and expertise. Induction heating delivers a precise, repeatable and reliable process. Improved joint quality is coupled with simplified operation.

Results/Benefits Induction heating provides:

- Heating directly into the part, saving energy
- Hands-free operation
- Precise control of heat
- Even distribution of heating
- Elimination of flame hazard, torch maintenance





The brazed assembly is shown within the coil