



Brazing aluminum electrical lug assembly

Objective Brazing a aluminum bracket to an aluminum lug to create an electrical lug

Material Aluminum bracket 1.73" (43.9mm) long, .68" (17.2mm) wide & .21" (5.3mm) thick, aluminum lug 3.98" (101mm), .81" (20.6mm) wide & 0.1" (2.5mm) thick and aluminum braze stick

Temperature 650 °F (343 °C)

Frequency 159 kHz

Equipment

- Ambrell 6 kW induction heating system, equipped with a remote workhead containing two 1.5 μ F capacitors for a total of 0.75 μ F
- An induction heating coil designed and developed specifically for this application.

Process A five turn helical coil is used to braze the assembly. The parts are assembled and placed in the coil. Power is applied and a braze stick is used to braze the two parts in 25-30 seconds

Results/Benefits Induction heating provides:

- Ability to heat very small areas within tight production tolerances
- Clean leak-proof joints
- Quickly delivers localized heat to minimize warping and distortion of part
- Consistent temperature vs. flame brazing



Brazed joint



Lug assembly