



Brazing copper cable and block assembly for generator repairs

Objective Brazing a copper cable and block assembly for generator and electrical motor repair

Material Two copper blocks 2" (50.8mm) x 6" (152.4mm) x .55" (14mm), two copper cables .55" (14mm) x 1.5" (38.1mm), ceramic paper cloth 0.04-0.08" (1-2mm) thick

Temperature 1350 °F (732 °C)

Frequency 70 kHz

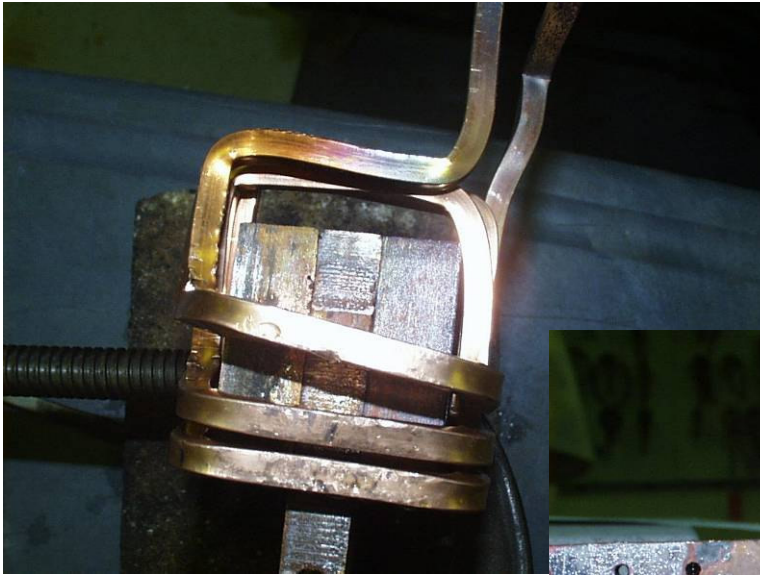
Equipment

- Ambrell 45 kW induction heating system, equipped with a portable remote workhead containing four 2.4µF capacitors for a total of 9.6µF
- An induction heating coil designed and developed specifically for this application.

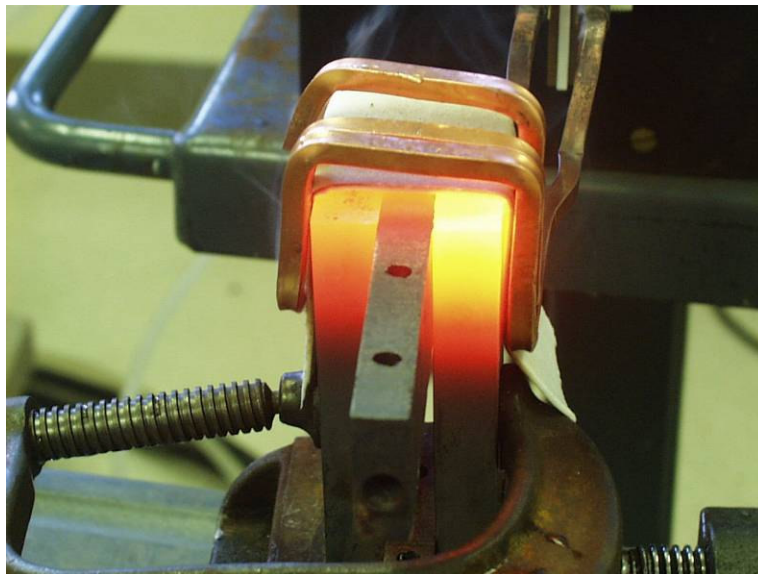
Process A three turn helical combination channel coil is used to heat the assembly. The assembly is placed in the coil with a thin ceramic paper placed between the coil and copper assembly. The ceramic paper allows for the coil to be placed closer to the coil to achieve faster heat times. The assembly is heated for 90 seconds to reach the brazing temperature.

Results/Benefits Induction heating provides:

- Precise, repeatable braze joints
- Faster process, increased production
- Even distribution of heating
- Portable workhead makes it easy to maneuver for hard-to-reach areas



Side and top view of assembly in coil



Assembly reaching brazing temperature