

Soldering copper tabs

Objective To heat copper tabs for bonding; this is for a solar cell stringing and tabbing application

Material • Copper strips

Temperature 356 °F (180 °C)

Frequency 200 kHz

Equipment

- Ambrell EASYHEAT 1 KW, 150 KHz to 400 KHz solid state induction power supply, equipped with a remote workhead containing one 0.1 capacitor
- A single-position solder pen induction heating coil designed and developed specifically for this application

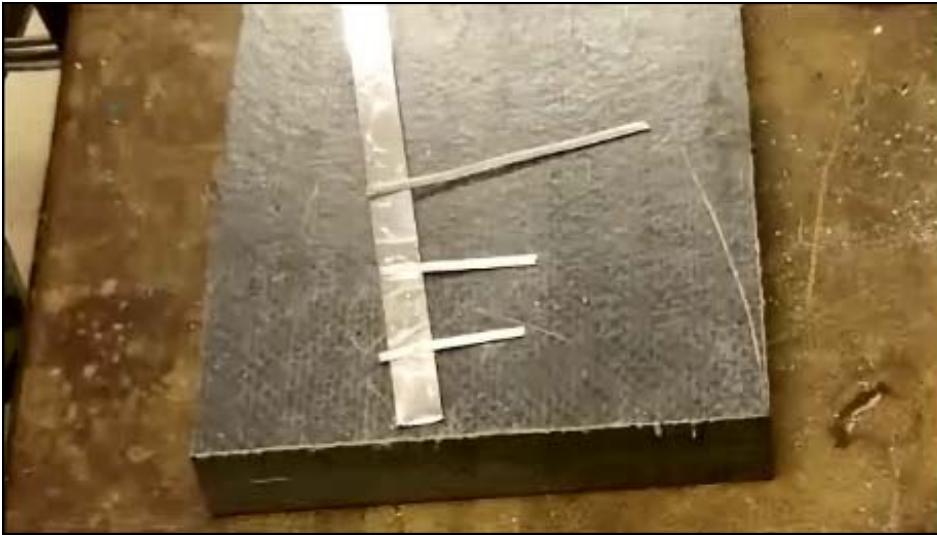
Process The coil assembly consisted of a 'C' core ferrite, and the copper coil was wound around the core. The heat time for this application was 1-2 seconds.

Results/Benefits

- Speed: The heating process took just 1-2 seconds.
- Repeatability: Induction is a repeatable heating process, so a consistent result is achieved each time
- Beneficial to surrounding substrate: Induction's precision heating ensures there is less damage to surrounding substrates than you'd see from other heating methods.
- Efficiency: There is less heat loss and lower energy usage for this application with induction when compared to other heating methods



The assembly during heating.



The completed assembly.