



Solder three brass connectors in a solar panel junction box

Objective Solder three brass connectors one at a time in a solar panel junction box without affecting the components in the junction box

Material Solar panel junction box, brass connectors, solder wire

Temperature 700 °F (371 °C)

Frequency 344 kHz

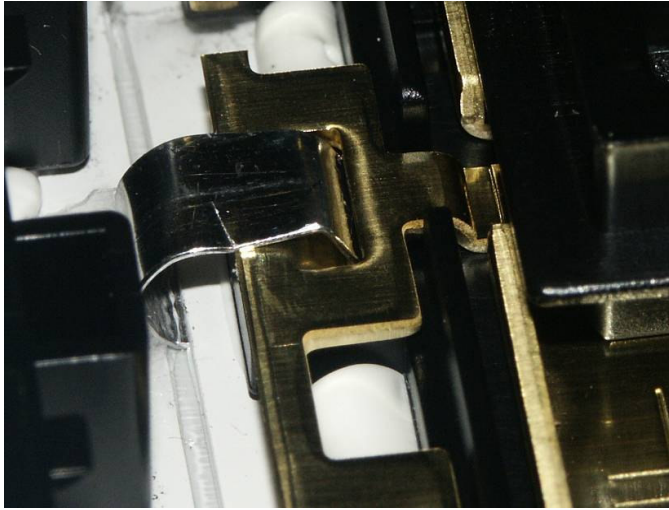
Equipment

- Ambrell 4.2 kW induction heating system, equipped with a remote workhead containing one 1.0 µF capacitor.
- An induction heating coil designed and developed specifically for this application.

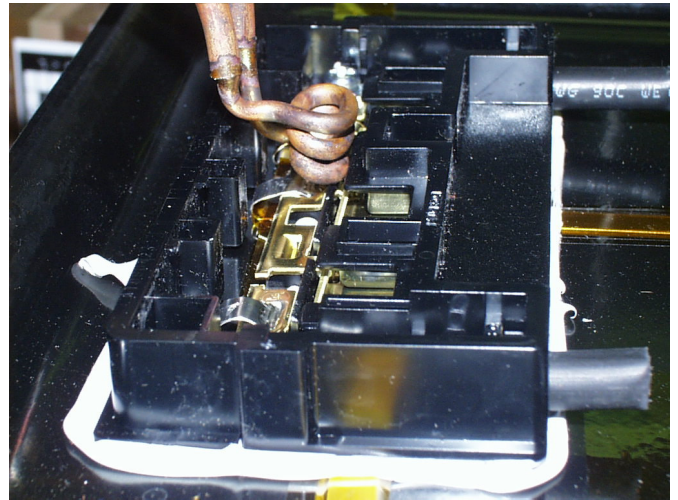
Process A three turn oval shaped helical coil is used to heat the connectors. A piece of solder wire is placed onto the joint area and each joint is heated separately for 5 seconds to solder the connector. The total process time is 15 seconds for the three joints.

Results/Benefits Induction heating provides:

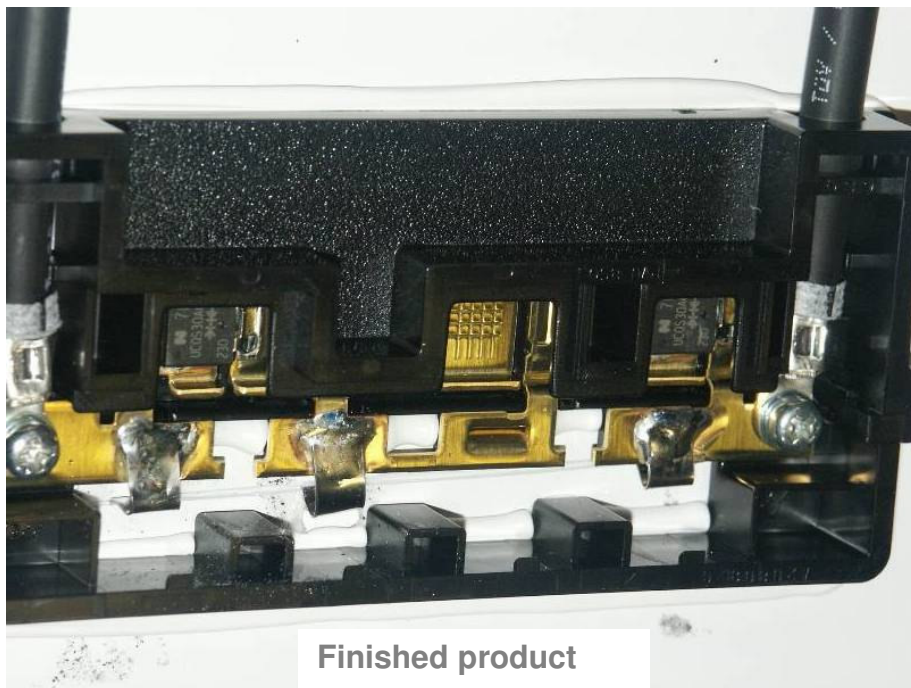
- Pinpoint accuracy deliver heating only to joint; does not affect surrounding components
- Localized heat produces neat and clean joints
- Produces high quality, repeatable results
- Even distribution of heating



Brass connector in place prior to soldering



Soldering brass connector



Finished product