

Brazing a rectangular steel part

Objective To heat a rectangular steel part to 1400 °F (760 °C) for a brazing application; the end product is band saw blade guides

Material

- Steel part
- Carbide inserts

Temperature 1400 °F (760 °C)

Frequency 232 kHz

Equipment

- Ambrell EASYHEAT 10 kW, 150 to 400 kHz induction heating system equipped with a remote workhead containing two 1.0 uf capacitors for a total of 0.5 uf
- A single-position two-turn helical induction heating coil designed and developed specifically for this application

Process The customer sent the parts to Ambrell pre-fluxed and pre-assembled. The part was placed into the coil and power was turned on. It took just 30 seconds for the part to reach brazing temperature.

Results/Benefits

- Speed: Heating took 30 seconds (or less), which can't be matched when using a torch. This client was using an old induction system from another vendor, and the Ambrell system provided considerably faster heating
- Precise, repeatable heating: Induction is a highly repeatable process, unlike torch heating
- Safety: There is no open flame with induction, which makes it a safer method of heating than torch heating



The assembly inside the helical coil during heating.