



Braze a diamond carbide tip onto band saw blade

Objective Heat a metal saw blade and diamond carbide for brazing application.

Material Steel band saw blade 0.49" (12.4mm) thick with 0.235" (5.9mm) deep tooth and 0.12" (3mm) cutout for carbide placement, diamond carbide tip and black flux.

Temperature 1350 °F (732 °C)

Frequency 390 kHz

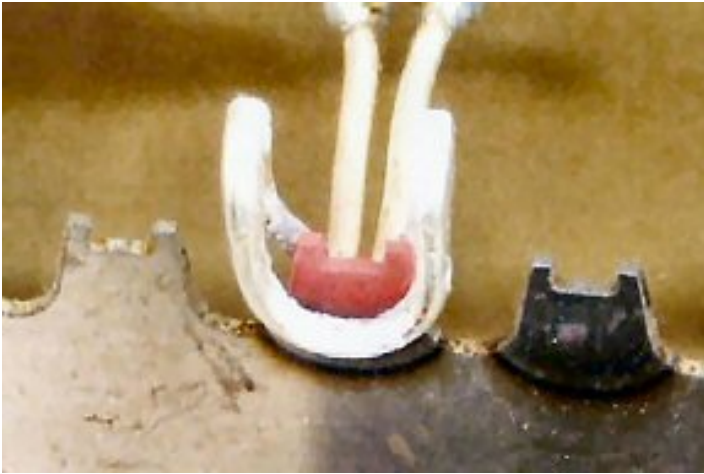
Equipment

- Ambrell 1 kW induction heating system, equipped with a remote workhead containing one 0.66µF capacitor.
- An induction heating coil designed and developed specifically for this application.

Process A single turn helical coil is used for this brazing process. The saw blade and diamond carbide tip are placed in the coil and heat is applied for 4 seconds to create strong braze.

Results/Benefits Induction heating provides:

- Hands-free heating that involves no operator skill for manufacturing
- Increased production rates
- Ability to heat small, precise area without affecting metallurgical characteristics
- Even distribution of heating



Saw blade heating for carbide brazing



Finished piece