



Brazing carbide rotary file to high speed steel shanks

Objective Braze carbide rotary file assemblies with uniform concentricity in an aerospace application

- Material**
- Carbide blank
 - High speed steel shank
 - Temperature indicating paint
 - Braze shim and black flux

Temperature 1400°F (760°C)

Frequency 252 kHz

Equipment Ameritherm 2 kW induction heating system, equipped with a remote heat station containing two 0.33 μ F capacitors (total 0.66 μ F)
An induction heating coil designed and developed specifically for this application.

Process A multi-turn helical coil is used. The part is heated to determine the time required to reach the desired temperature and required heat pattern. It takes approximately 30 - 45 seconds to reach 1400°F (760°C) depending on the various part sizes. Flux is applied to the entire part. A braze shim is sandwiched between the steel shank and carbide. Induction heating power is applied until the braze flows. With proper fixturing, concentricity of the part can be achieved.

Results/Benefits

- Repeatable, consistent precise heat.

See photo next page

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