Brazing carbide teeth to steel pipe jaw section

Objective  Brazing carbide teeth to a steel jaw in less than 5 minutes

Material  Steel pipe jaw, 0.5” (12.7mm) dia, 1.25” (31.75mm) long, 0.25” (6.35mm) thick carbide teeth, black flux and silver copper braze shims

Temperature  1292ºF (700ºC)

Frequency  257kHz

Equipment  • Ambrell 1.0 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 two turn rectangular helical coil is used to heat the carbide and steel to 1292ºF (700ºC) for 4 to 5 minutes. Three braze shims control the amount of braze and the even heat allows for a good flow of braze creating an aesthetically pleasing bond.

Results/Benefits  Induction heating provides:
                   • Hands-free heating that involves no operator skill for manufacturing
                   • Consistent, repeatable aesthetically pleasing brazes
                   • Even distribution of heating
Black flux is applied to the joint

Carbide teeth are brazed to steel shank