Brazing Brass Fitting to Copper Air Lines

Objective To braze brass end-connectors to copper tubes used in aircraft assembly air lines

Material brass end connectors, copper tubes of different diameters

Temperature 1400 ºF 750°C

Frequency 350 kHz

Equipment Ambrell 2kW induction heating system, including a three turn helical induction coil using two 0.33µF capacitors (total 0.66µF)

Process For smaller diameter parts, flux is applied to the entire part and the copper tube to brass joint is assembled using brazing preforms (allowing for the same amount of braze in each joint). The assembly is placed in the coil and heated for 20-30 seconds reaching a temperature of 1400°F.
For larger copper tube assemblies, the same process is used, but the braze alloy is stick-fed to the joint to prevent the alloy from flowing out of the joint.
A foot switch control is recommended to enable better control of the process.

Results/Benefits **Economy:** Power is consumed during the heating only
Consistency: the results of braze joints are repeatable and uniform