



Brazing Copper Fittings to Refrigeration Valve

Objective Copper 'tees' and 'ells' are to be brazed to the aluminum body of a refrigeration valve

Material customer's valve
copper fittings
brazing

Temperature 2550 °F (1400°C)

Frequency 285 kHz

Equipment 7.5kW Ambrell induction heating system including a workhead containing two 1.5μF capacitors (total 0.75μF) and a three-turn helical coil

Process The valve is placed inside the coil and RF power is applied until the part is heated to the required temperature and the braze is seen to flow into the joint.
Two tube sizes were run using the same induction system settings with differing cycle times.

Results/Benefits

- energy is applied only to the zone to be heated
- heating of the joint/braze is uniform and repeatable

