

Annealing bolt shafts

Objective To heat 431 Stainless steel bolts to 1850°F (1010°C) and Inconel and 8740 alloy steel bolts to 1000°F (538°C) for annealing

Material Various sizes of 431 stainless steel, inconel and 8740 alloy steel bolts

Temperature 1000°F (538°C) and 1850°F (1010°C)

Frequency Between 264 kHz and 273 kHz

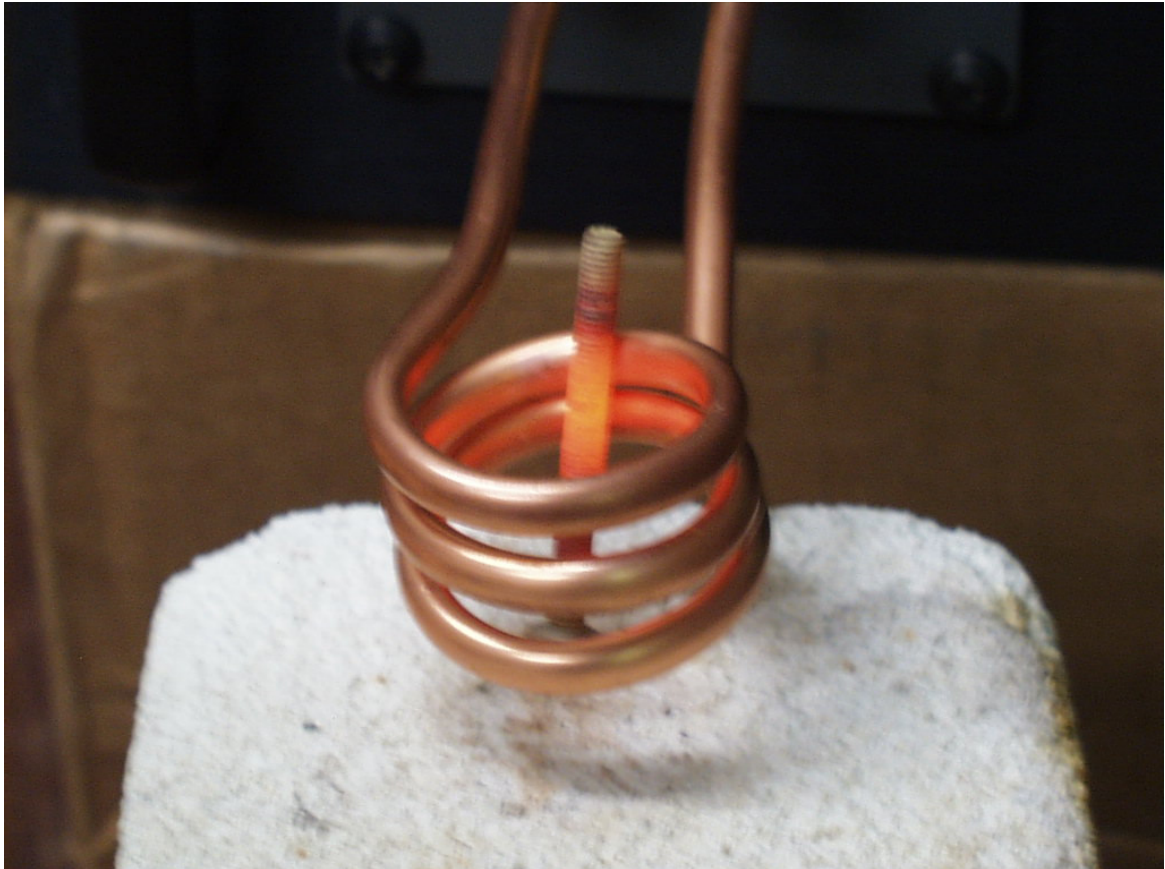
Equipment

- Ambrell 3.0 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 three turn helical coil is used to heat the shaft of the bolts for 10 to 12 seconds on the large bolts and 18 to 20 seconds on the smaller bolts using the same coil.

Results/Benefits Induction heating provides:

- Hands-free heating that involves no operator skill for manufacturing
- Flameless process
- Pinpoint accuracy and repeatable cycle after cycle



Shaft of bolt heating up