



Heating stainless steel rod for hot forming

Objective Heating 300 series stainless steel rod to 1800°F (982°C) for forming application

Material 1" (25.4mm) length of 300 series stainless steel rod ¾" (19mm) diameter

Temperature 1800 °F (982°C)

Frequency 312 kHz

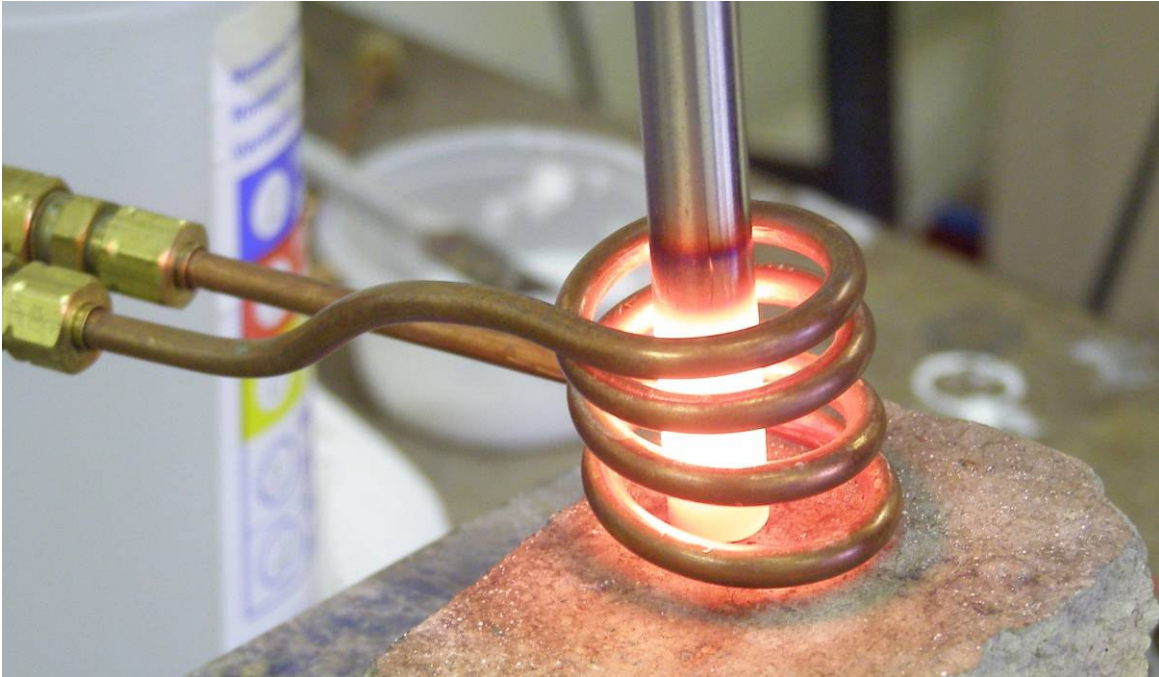
Equipment

- Ambrell 7.5 kW induction heating system, equipped with a remote workhead containing two 1.25µF capacitors for a total of .625µF
- An induction heating coil designed and developed specifically for this application.

Process A four turn helical coil is used to heat the stainless steel rod to 1800 °F (982°C) for 10 seconds. For manufacturing purposes a refractory shield should be used between the coil and rod to keep the heat directed on the rod. Refractory shield was not used during testing.

Results/Benefits Induction heating provides:

- Hands-free heating that involves no operator skill for manufacturing
- Improved production rates with minimal defects
- Low pressure and minimal residual part stress
- Even distribution of heating



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