Ambrell
INDUCTION HEATING SOLUTIONS
an inTEST Company

Application Note

Annealing a Magnetic Steel Strip

Objective: To heat magnetic steel strips to 1,400 °F (760 ºC) for an annealing application.

Equipment: Ambrell EASYHEAT™ 9 kW, 150-400 kHz solid state induction heating power supply with a workhead and coil specifically designed for this application.

Frequency: 226 kHz

Material: Magnetic steel

Temperature: 1400 ºF (760 ºC)

Testing: A custom-designed single position multiple-turn helical coil was built to generate the required heating for this annealing application. Initial tests were conducted to optimize the power delivered to the part. Temperature indicating paint was then applied to a five-inch segment along the part, which dissolves when the part reaches target temperature. It took 0.8 seconds to heat the sample to temperature, which met the client's goal.

Benefits:

- Rapid heating that boosts throughput
- Hands-free heating that requires no operator skill for manufacturing
- Flameless process which lends itself to a safer manufacturing environment
- Pinpoint accuracy that is repeatable cycle after cycle

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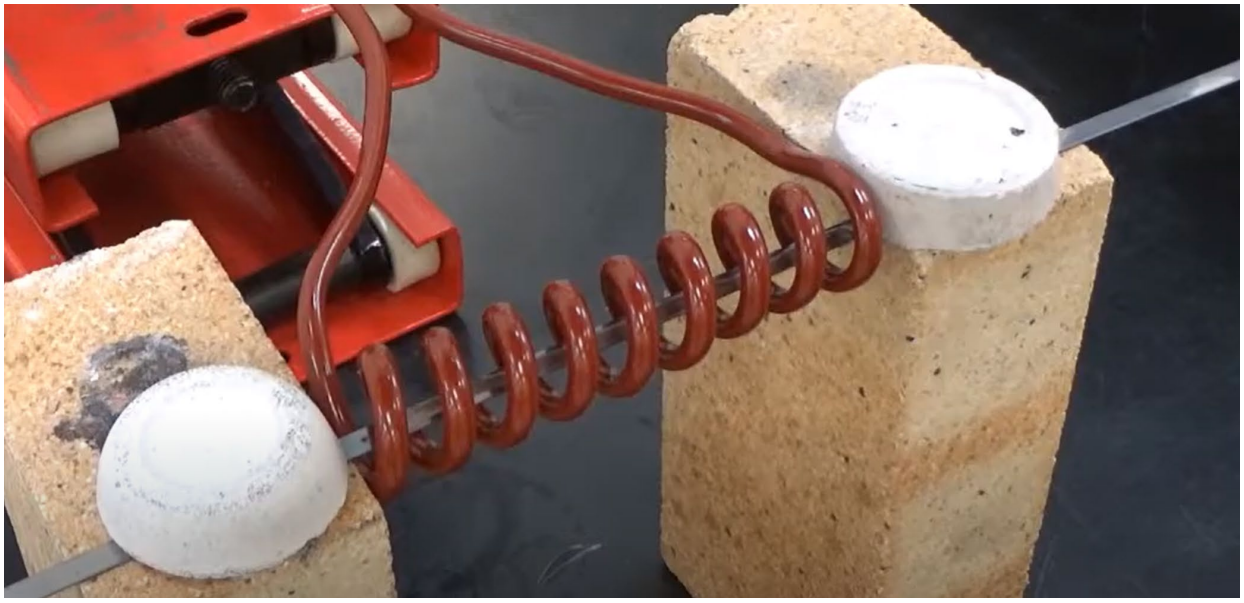

The magnetic steel strip during heating.

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