

AN AMBRELL COMPANY

## Curing coating on a steel automotive brake rotor disk

- **Objective** Induction is used in a production-line process to cure a coating material on automotive brake rotors. This treatment improves the appearance of today's more exposed wheel internals and eliminates certain masking parts.
  - **Material** Steel automotive brake rotors: 10" (254 mm), and 14" (355 mm) diameters
- **Temperature** 650 °F (340 °C)
  - Frequency 11 kHz
  - **Equipment** Ambrell 50 kW, 10 kHz induction heating system, equipped with a remote workhead containing one 53 μF capacitor
    - An induction heating coil designed and developed specifically for this application to cover the range of wire diameters.
    - **Process** A three turn coil is designed to allow the rotor to index through for heating and to provide uniform heating of the paint on the rotor surfaces.
    - **Narrative** This new process is used in production to heat-cure a dress coating of paint on the surfaces of automotive brake rotors. The coil is designed to facilitate a process pass-through from a coating station.
- **Results/Benefits** Induction heating provides:
  - heating directly into the part, saving energy and time
  - convenient production line integration
  - improved throughput
  - precise control of heating
  - uniform distribution of heating



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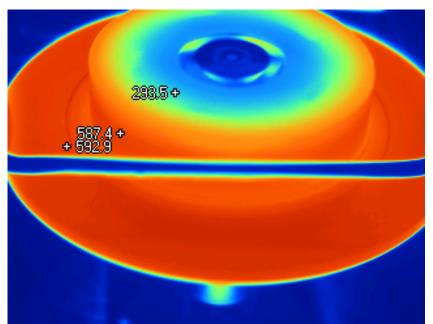


## Precision Induction Heating

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Coil designed to promote uniform heating



## Thermal image demonstrates uniform distribution of heating

## Ambrell Companies

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