Ambrell
INDUCTION HEATING SOLUTIONS
an inTEST Company

Application Note

Curing Oil Filters for Agricultural Equipment

Objective: To heat steel parts for a curing application; the end-product was an oil filter for agricultural equipment.

Equipment: Ambrell EASYHEAT™ 10 kW, 150-400 kHz solid state induction power supply with a workhead and coil specifically designed for this application. A custom-designed multiple turn dual position pancake coil was built to generate the required heating for the curing application.

Frequency: 215 kHz

Material: Steel parts

Temperature: 200 ˚F (93 °C)

Testing: Initial tests were conducted to optimize the power delivered to the part. Once a satisfactory heat pattern was achieved in the time frame allowed, samples were run at multiple settings. Testing was conducted with the end caps 0.25” (6.35 mm) away from the copper surface. A larger air gap will increase the heat time. The heat time for all trials was 2.0 seconds, which was the client’s objective.

Benefits:

- **Speed:** While this was a new application for the client, induction achieved their target heating and cycle times.
- **Precise, repeatable heating:** Induction is a highly repeatable process, which helps ensure quality.
- **Floor space:** Induction takes up less floor space than alternative heating methods.

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The induction setup with the pancake coil and customer-supplied parts.