Ambrell
INDUCTION HEATING SOLUTIONS
an inTEST Company

Application Note

Heating Copper Parts for a Burn-Off Application

Objective: To heat copper parts, which are battery lugs, for a burn-off application.

Equipment: Ambrell EKOHEAT 15 kW, 50-150 kHz induction heating power supply with a workhead and coil specifically designed for this application.

Temperature: 400 °F (204 °C)

Frequency: 123 kHz

Material: Copper parts (battery lugs) supplied by the client

Testing: A custom-designed multiple-position helical coil was built to generate the required heating for the burn-off application. Initial tests were conducted to optimize the power delivered to the part. Several coils were tested and the one chosen was selected due to its flexibility/versatility. The chosen coil can be expanded to a 12-position setup. The customer desired a 20 second cycle time, which THE LAB at Ambrell's solution was able to achieve.

Benefits:

- **Repeatability:** Induction delivers the same result every single time, making it ideal for a high-volume application such as this one.
- **Speed:** Induction has no warm-up time like an oven and was able to achieve the client's cycle time goal for this burn-off application.
- **Footprint:** Induction takes up a modest amount of floor space, especially when you consider that the workhead can be placed a distance away from the power supply.
- **Safety:** Not only is induction heating efficient, it also offers safety advantages as there is no open flame.

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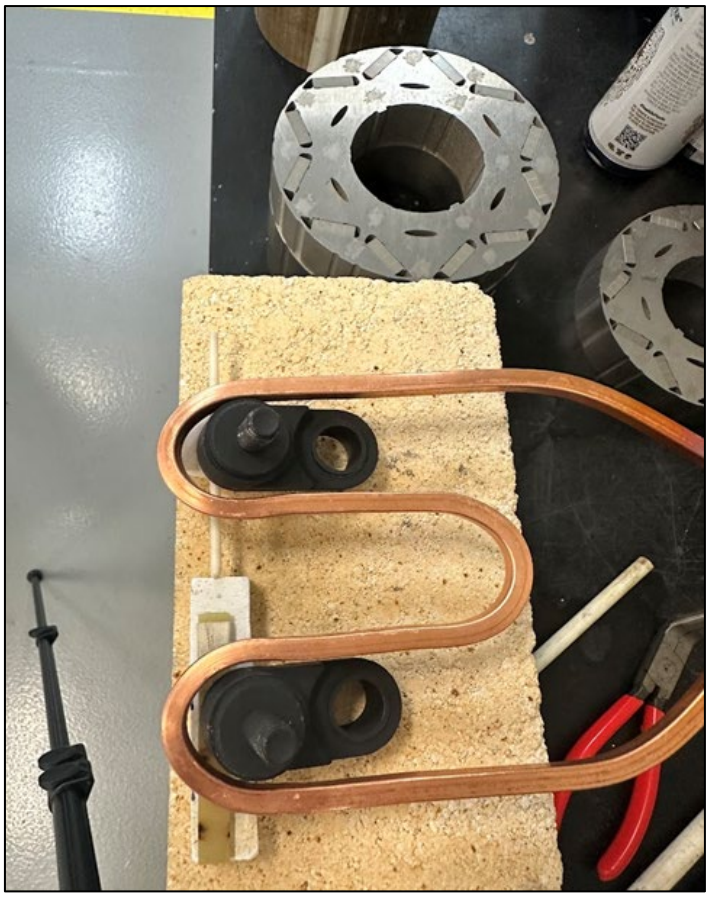

The two-position helical coil used during testing.