Heat a Fixture for a Wire Heating Application

Objective: Heat a non-magnetic metal alloy shape-setting fixture for a Nitinol wire heating/shaping application.

Equipment: Ambrell EASYHEAT™ 6 kW 150-400 kHz induction heating system with a workhead and coil specifically designed for this application

Frequency: 249 kHz

Material: Non-magnetic alloy fixture

Temperature: 977 °F (525 °C)

Testing: THE LAB determined that a specially-designed single position multiple-turn channel coil would be optimal for this application. Temperature indicating paint was applied to the part so it would clearly indicate when the fixture achieved 977 °F (525 °C). It took seven minutes for the EASYHEAT to heat the fixture to temperature. An oven had been heating this fixture to temperature in twelve minutes.

Benefits:
- **Speed:** The client had been using an oven, and induction shaved five minutes off of the heating time
- **Footprint:** An EASYHEAT and its workhead require a minimal footprint, whereas an oven requires a significant footprint
- **Energy Efficiency:** Induction heating is more efficient than an oven; with induction only the fixture is heated
- **Lower Maintenance Costs:** Ovens can have significant maintenance costs and downtime with requirements such as relining
The non-magnetic metal alloy fixture with temperature-indicating paint applied.