Brazing a Steel Tube with External Wire Braid

Objective: Heat a magnetic steel tube and external steel wire braid for a brazing application

Equipment: Ambrell EASYHEAT™ 2 kW, 150-400 kHz induction heating system with a workhead and coil specifically designed for this application

Frequency: 296 kHz

Material: Magnetic steel tube (7/8”/22 mm OD), steel wire braid and braze shim material

Temperature: 1400 °F (760 °C)

Testing: A specially designed single position, three-turn coil was used for this application. Initial tests were conducted to optimize the power delivered to the part. The coil selected is not only capable of heating the 7/8”/22 mm tube, but also a smaller tube that the client needs to heat.

Testing concluded that the EASYHEAT can heat the part to 1400 °F (760 °C) within 20 seconds.

Benefits:
- **Speed:** The client requested a system that would meet their time objectives which the 2 kW EASYHEAT easily did, boosting the client’s throughput
- **Footprint:** An EASYHEAT and a workhead requires a minimal footprint, saving the client floor space compared to heating alternatives
- **Integration:** The compact EASYHEAT can be easily integrated into the client’s manufacturing process
The magnetic steel tube at temperature showing a dull red glow.