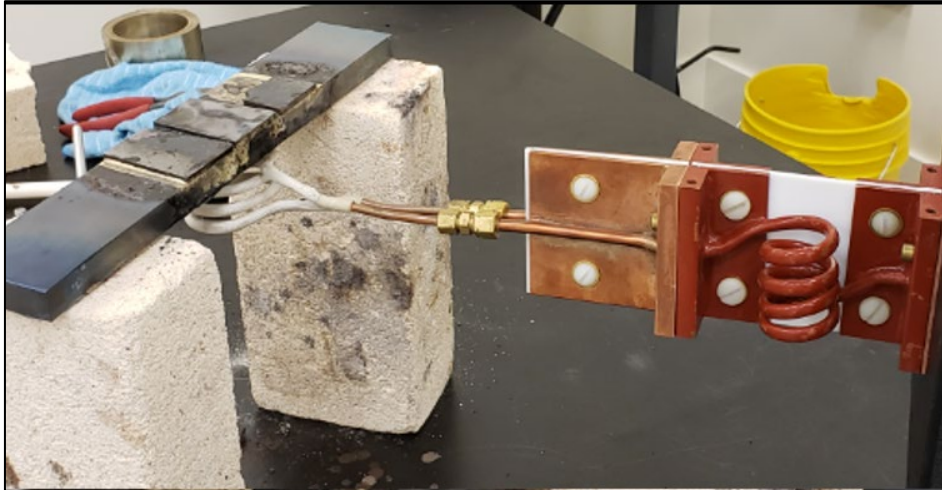


## Application Note

### Brazing and De-brazing Carbide and Steel Plate Assemblies

- Objective:** To heat a carbide and steel plate assembly for a brazing and debrazing application in the oil and gas industry.
- Equipment:** Ambrell EKOHEAT<sup>®</sup> 30 kW, 50-150 kHz induction heating power supply with a workhead and coil specifically designed for this application.
- Frequency:** 110 kHz
- Material:** Steel and carbide assemblies
- Temperature:** 1292 °F (700 °C)
- Testing:** A custom-designed special multiple-turn helical coil was built to generate the required heating for the application. Temperature indicating paint was then applied to the part, which dissolves when the part reaches temperature. It took about 120 seconds to heat samples to temperature. This is a new application for the client and the results met their objectives.
- Benefits:**
- **Speed:** Induction met the client's time requirements and is generally faster than other heating methods.
  - **Repeatability:** The client can expect the same result in the same amount of time every single time with induction heating.
  - **Work Environment:** With induction there is no open flame and with induction's instant on/off capabilities, it introduces less heat into the work environment than a method like torch heating would.



The carbide and steel plate assembly during heating.