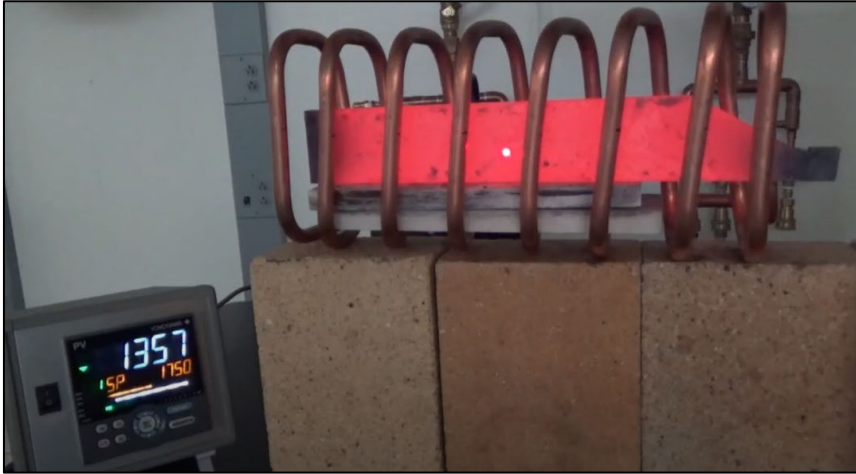


Application Note

Heating Three Steel Parts for a Bending Application

- Objective:** To heat three steel parts for a bending application; the end products are cutting tools and they're looking to upgrade their torch brazing process.
- Equipment:** Ambrell EKOHEAT[®] 10 kW, 50-150 kHz induction heating power supply with a workhead and coil specifically designed for this bending application.
- Frequency:** 100 kHz
- Material:** Magnetic steel
- Temperature:** 1400 °F (760 °C)
- Testing:** A custom-designed single position multiple-turn helical coil was built to generate the required heating for this bending application. Initial tests were conducted to optimize the power delivered to the part. Temperature indicating paint was then applied, which dissolves when the part reaches target temperature. All three parts achieved the target temperature within two minutes. They reached as high as 1,800°F (982 °C) within four minutes.
- Benefits:**
- High efficiency, low energy consumption heating method
 - Fast, controllable and repeatable process, a key benefit when compared to torch heating
 - Hands-free heating that involves no operator skill for manufacturing
 - Even distribution of heating
 - Safety benefits when compared to the open flame and heat introduced into the work environment with torch heating



Heating one of the steel parts for bending.