Heating stainless steel finned parts

**Objective**
To heat the center 2” (51 mm) of stainless steel finned parts to temperature so that they can be twisted

**Material**
- Stainless steel finned parts (30”/762 mm long, 3/16”/4.8 mm diameter for the portion that requires heating)

**Temperature**
1800 °F (982 °C)

**Frequency**
338 kHz

**Equipment**
- Ambrell EASYHEAT 10 kW, 150-400 kHz induction heating power supply with a remote workhead containing two 0.3 μF capacitors
- A single position three-turn helical coil induction heating coil developed for this application

**Process**
Testing was performed to determine the appropriate power level for this application given the time and heating requirements. A 10 kW power supply heats the parts to temperature in the targeted time.

They were processing batches of ten parts with a torch previously. The cycle time was 1.5 hours. With induction, they can cut that time in more than half.

**Results/Benefits**
- Time savings: Induction reduced their cycle time considerably
- Energy savings: Induction is a targeted, precise heating method with instant on/off, which can save users energy
- Safety: Induction is a safer, flameless heating method, so it provides employees with a cooler, lower-risk working environment
The center of the stainless steel part during heating.