

## Bonding an Arthroscopic Device

**Objective** Induction is used to bond the device sheath to collet. Innovative coil design lifts production rate.

**Material** Customer-supplied arthroscopic components  
Customer-supplied fixture and thermocouple

**Temperature** 900 °F (480 °C)

**Frequency** 334 kHz

**Equipment**

- Ambrell EASYHEAT 8310 10kW induction heating system, equipped with a remote workhead containing one 1.0 $\mu$ F capacitor
- An induction heating coil designed and developed specifically for this application.

**Process** Sheath is placed in metallic fixture. Heat-cycle applied (on=300ms, off=6.5s). Heated sheath is indexed to insertion into collet. Application feasibility is demonstrated.

**Results/Benefits** Induction heating provides:

- Localized, even heating of sheath reduces discoloration
- Innovative coil design eliminates fixture heating
- Reduced fixture heating permits metallic construction
- Metallic fixturing elevates production rate

