Bonding plastic sleeve to stainless steel handle for food industry

**Objective**

Heating end of a stainless steel handle with a plastic sleeve coated with heat adhesive for a bonding application

**Material**

1” (25mm) OD stainless steel handle 0.30” (7.6) thick covered with a plastic sleeve that is coated with a heat adhesive between the tube & plastic cover

**Temperature**

250 °F (121 °C)

**Frequency**

170 kHz

**Equipment**

- Ambrell 1 kW induction heating system, equipped with a remote workhead containing one 1.2µF capacitor.
- An induction heating coil designed and developed specifically for this application.

**Process**

A three turn helical coil is used to heat the handle assembly. The assembly is placed in the coil and heat is applied for 10 seconds at the end of the handle to reach the required temperature of 250 °F (121 °C) to adhere the plastic sleeve to the handle.

**Results/Benefits**

Induction heating provides:

- Increased production rates
- Increased energy savings
- Highly accurate placement of heat, no effect to surrounding components
- Even distribution of heating
Stainless steel tube with plastic sleeve