

### Brassiere Underwire

- Objective:** To heat the ends of 0.072" spring wire, spaced 1/2" apart, uniformly for the application of nylon powder on a 1" length of the end. Once heated to 700°F, the nylon powder fuses to the wire creating a protective coating. Underwires have a past history of poking through the supportive garment and scratching the wearer. By adding a protective nylon coating at the ends of the wire form, this uncomfortable situation is avoided.
- Material:** Spring Wire and Nylon Powder
- Temperature:** 700°F
- Application:** The Ameritherm SP 2.5, 2.5 kW output solid state induction power supply along with a unique five (5) turn elongated helical coil was used to achieve the following results:
- 700°F was reached with a twelve (12) second machine cycle.
  - A uniform coating was produced as a result of even heating due to the unique five (5) turn elongated helical coil.
  - Twelve (12) wire samples were heated simultaneously in the unique work coil.
- Equipment:** Ameritherm SP 2.5, 2.5 kW output solid state induction power supply including one (1) remote heat station containing two (2) capacitors with a total value of 0.66  $\mu$ F, and a unique five (5) turn elongated helical coil measuring 2 1/2" wide, 8 1/2" long, and 2 3/4" tall with the lower two turns angled down at the ends.
- Frequency:** 92 kHz

\*Application Illustration Located on Reverse

# Induction Heating Application Notes

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