

Crucible Melting of Ticonium and Nobelium

- Objective:** To melt ingots of Ticonium and Nobelium in a crucible.
- Equipment:** Ambrell EASYHEAT™ 5 kW solid state induction power supply with a workhead and coil specifically designed for this application.
- Frequency:** 105 kHz for the Nobelium
150 kHz for the Ticonium
- Material:** 1/2" (12.7 mm) x 3/8" (9.52 mm) x 3/8" (9.52 mm) ingots of Nobelium, 1/2" (12.7 mm) OD x 3/4" (19.05 mm) long ingots of Ticonium & fused silica crucible.
- Temperature:** 2650 °F (1454 °C) for the Nobelium
2450 °F (1343 °C) for the Ticonium
- Testing:** A five turn helical coil is used to heat the silica crucible. Due to the small size of the ingots, induction heating efficiently couples to the ingots and provides the necessary power to initiate melting. Four Nobelium ingots melt in 35 seconds and one Ticonium ingot melts in 30 seconds.
- Benefits:** Induction heating offers this application:
- Even distribution of heating.
 - Flexibility and cleanliness that can not be duplicated by conventional methods.
 - Fast, controllable temperature ramp, allowing for consistent, quality results.