

# Levitation induction melting system

United Induction Heating Machine Limited

We are experienced in Induction Heating, induction heating machine, Induction Heating equipment. They are widely used in induction heating service, induction heat treatment, induction brazing, induction hardening, induction welding, induction forging, induction quenching, induction soldering induction melting and induction surface treatment applications  
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**Objective** Design a modular electromagnetic levitor (MEL) to aid in the study of RF systems used to process metals in the microgravity of space. Nickel and copper are melted and levitated. A reliable system is to be developed to provide repeatable performance.

**Material** Copper and nickel 270

**Temperature** 1982 °F (1083°C) copper

2647 °F (1453°C) nickel 270

**Frequency** 409 kHz

**Equipment** • Power of 6 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 four turn helical coil and a bucking plate are used for levitation. 0.5 g of Copper and 0.5 g of Ni 270 are successfully levitated using the same coil. A stable molten sphere is observed.

**Results/Benefits** Induction heating provides:

- Hands-free heating that involves no operator skill for manufacturing
- Consistent, reliable melting cycles.
- Even distribution of heating

levitation-melting



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