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## **Improving Heating Uniformity And Energy Efficiency With Heat Lamps**

## PROCEDURE

- 1. Clean surfaces of any grease or surface contamination.
- 2. Apply by air-spraying or brushing to the back-side of the lamp to reflect the heat emitted by the lamp in the intended direction.
- 3. Allow to dry thoroughly at ambient temperature ideally yielding a dried layer 0.1 mm (0.004 inch or 4 mils) thickness.
- 4. After drying, energize the lamp to "cure" the coating (makes coating more resistant to damage/mechanical removal).

## **Boron Nitride Products - WATER-BASED COATINGS**

Boron Nitride Lubricoat (white version)

**<u>BN Lubricoat ZS</u>** and <u>JK SD</u> are other coatings that can be considered for this application.

## ADVANTAGES

- Simple/Easy Coating Application Like Housepaint
  - Air-Spraying
  - Brushing
- Improves Heat Lamp Reflective Performance by over 20% (energy emitted by the lamp in the desired direction)
- Ideal for incandescent and high-intensity arc discharge lamps
  - **O** T3 directional Quartz Infrared Lamps/Heaters
  - Quartz halogen infrared (IR) lamp systems
  - Such as used for
    - heating plastic preforms
    - curing adhesives/coatings
    - space heaters
    - outdoor heaters
    - bread toasters/ovens
- Stands up to high temperature and thermal cycling conditions

**REFERENCE** (NOW EXPIRED PATENT): Leonard E. Hoegler, General Electric Co (assignee), 1992. *Lamp having boron nitride reflective coating*. U.S. Patent 5,168,193.