

Mica Band Heater Physical Limitations

Best Practice Maintenance and Trouble Shooting:

1. The heater I.D. must be the same as the O.D. of the cylinder.
2. To compensate for normal expansion, retighten periodically. Cycling and normal metal expansion may cause the heaters to loosen.
3. Eliminate Contamination of Oil, plastic, dirt, etc., materials will carbonize and shorten heater life.
4. The heater should be rated for the highest voltage anticipated. Operation of a 220 Volt heater on 240 Volt will raise the wattage by approximately 18%, increasing watt density and reducing heater life.
5. Best Practice:
 1. Tighten screw terminals firmly, but avoid excessive pressure.
 2. Protect leads from abuse and abrasion.
 3. Maintain temperature controls and accessories in good working condition for proper operating conditions.
 6. One piece band heaters are designed to be installed over end of cylinder. Opening band to slip over cylinder may cause internal damage. For one time open to slip over use a One Piece Expandable or Half Band Heater for best results.
 7. Trouble Shooting: Check wiring for poor connections or open control if heater fails to heat when initially energized. Sustained high operating temperature may reduce heater life. If terminals oxidize, tighten connections and check for proper wire size.

Physical Limitations of Mica Band Heaters

Full Band: 15" Maximum Diameter

Half Band: 30" Maximum Diameter

Typical Thickness is 5/32"

Larger sizes are available up to 21" Full Bands and 43" Half Bands. (Consult Applications Engineering)

Max. 20amps per circuit

Recommended Maximum Watt Density

¾" to 3" ID - 40W/²

3 ¼" to 10" – 35W/²

10 ¼" and over – 30W/²

Full Band

$$w/in^2 = \frac{\text{watts}}{(I.D. \times \pi - \text{gap} - \text{cold area}) \times \text{width}}$$

Half Band

$$w/in^2 = \frac{\text{Total Watts}}{(I.D. \times \pi - 2 \times \text{gap} - 2 \times \text{cold area}) \times \text{width}}$$