

### ▼ Installation ▼ RECOMMENDATIONS

1. Disconnect electric power to the machine and/or heaters prior to installing or replacing heaters.
2. Do not install heaters in areas where combustible gases, vapor or dust is present.
3. Reduce the number of narrow or two-piece bands used on the barrel. Ceramic bands are very flexible and can be made in large widths and one-piece construction for easy installation. This eliminates heat losses between narrow bands and sharply reduces costly installation labor.
4. Use a heater that closely matches the wattage requirements. This will decrease the frequency of cycling and temperature overshoot, thereby increasing the life of the heater.
5. When replacing any other type of non-insulated band heater with Tempco ceramic band heaters using standard or double insulation, you can decrease your total operating wattage by approximately 15 to 20 percent.
6. To prevent overheating and heater failure, adequate temperature controls should be installed. The thermocouples must be kept free of contaminants and checked for good response to temperature changes. A faulty thermocouple can cause the destruction of an entire heating zone due to overheating. Tempco offers a wide variety of temperature controls and thermocouples from stock for immediate delivery. Consult the index of this catalog for appropriate pages.
7. Make certain that all barrel surfaces are clean and free of contaminants. During operation, the band heaters and cylinder surface must be kept free of all contaminants that might liquefy under heat and find their way into the heater windings, carbonizing and becoming conductive. The smallest amount of contamination can cause electrical shorts, resulting in heater failure.
8. Position heater bands on the barrel.
9. Take up all the slack by tightening the outer housing until the serrated edges come firmly in direct contact with the cylinder. Do not overtighten to the point where the serrated edges begin to collapse and thrust outward. At this point you are compressing the ceramic insulation and decreasing its insulating value. Unlike all other types of band heaters, ceramic bands heat by radiation as well as conduction and they do not require the same clamping force that is essential with all other types of band heaters. The proper torque is approximately 8 ft/lbs.
10. For heaters with screw terminals, remove the top nut and flat washers from the power screw terminals. Do not remove or loosen the bottom nut on the power screw terminals.
11. All electrical wiring of heater bands should be done by a qualified electrician using proper, dry personal protective equipment.
12. Use only lead wire with high temperature insulation and proper gauge size. See page 15-2 in the accessories section.
13. When connecting power leads to screw terminals make certain that barrels of terminal lugs are not facing down toward the heater case, which will create a short circuit.
14. Ensure leads are not kinked or sharply bent around other obstructions.
15. Make sure the voltage input to the heater bands does not exceed the voltage rating that is stamped on the heater band
16. It is recommended that an amperage reading is taken for each heater to verify proper wiring. ( $\text{Amps} = \text{Watts} \div \text{Volts}$ ).
17. Insulate all live electrical connections per applicable safety standards.
18. Install shrouds around the machine to meet applicable safety requirements.
19. Once installed, check surroundings to make sure that contaminants won't get on the heater while the unit is in operation. Accumulation of contaminants on heaters can cause premature heater failure.



It is imperative that upon start-up of new machines at customer facilities, all of the aforementioned parameters are double checked by qualified field service personnel.

**Exposed electrical wiring on band heater installations is a violation of Electrical Safety Codes including O.S.H.A.**