

Specifications & Tolerances

Standard Specifications and Tolerances of Mica Insulated Strip Heaters
If tighter tolerances are required consult Tempco. A heater's physical size combined with electrical ratings will determine the actual minimums and maximums.

PERFORMANCE RATINGS

Maximum Sheath Temperature: 900°F (482°C)
Nominal Watt Density: 5-45 W/in² (0.8-7.0 W/cm²)
Maximum Watt Density: Depends on operating temperature and heater size. 38 W/in² (5.9 W/cm²) Maximum when UL & CSA approval is required.

ELECTRICAL SPECIFICATIONS

Maximum Voltage: 480 Volts
Maximum Amperage: lead wire termination: 12.5 amp
 screw terminations: 8-32UNF—20 amp; 10-32UNF—25 Amps
Resistance Tolerance: +10%, -5%
Wattage Tolerance: +5%, -10%

MATERIAL SPECIFICATIONS & PHYSICAL SIZES

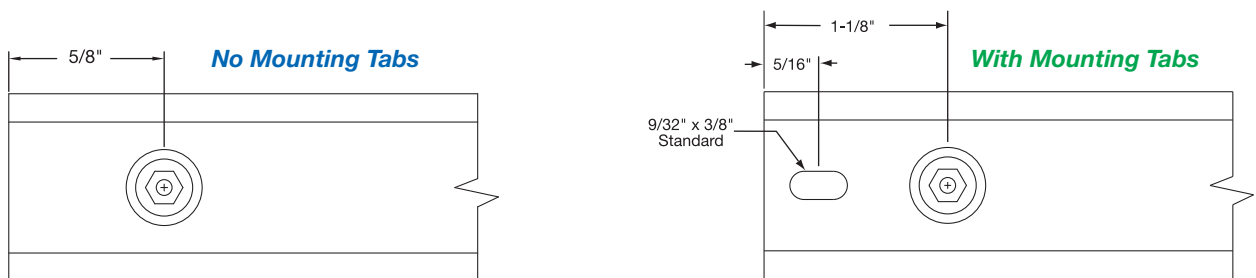
Standard Sheath Material: Rust resistant steel
Optional: Stainless Steel or Aluminum
Nominal Thickness: 3/16" (4.76 mm)
Minimum Width: 5/8" (15.88 mm)
 May vary depending on Termination
Width Tolerance: ±1/32" (0.79 mm)
Maximum Length: 72" (1829 mm)
Length Tolerance: Up to 24" (610 mm) ±1/16" (1.59 mm)
 Over 24" (610 mm) ±1/8" (3.18 mm)
Screw Terminals
 1" (25.4 mm) wide strips: 8-32 threads
 Over 1" (25.4 mm) wide strips: 10-32 threads

Formula for Calculating Watt Density

$$\text{Watt Density} = \frac{\text{Heater Wattage}}{(\text{Heater Width} - 3/8) \times (\text{Heater Length} - \text{Cold Area}^*)}$$

* Cold Area consists of Holes or Cutouts.

Minimum Termination Distance from Edge of Heater



Installation

- Tempco Mica Insulated Strip Heaters are available with mounting slots at each end for surface mounting applications or without mounting slots for insertion into milled slots.
- For surface mounting installations, Mica Strip heaters must be clamped securely along their entire length to a smooth metal surface by using metal clamps 3" to 5" apart.
- Holes along the body of the strip heater for mounting purposes are not recommended and should only be used when there is no other means of clamping the strip heater down. These holes take up valuable winding space, increasing watt density, resulting in poor heater life.

Instructions

- When supported by mounting slots, the terminal end should be secured firmly. Opposite end should be slightly loosened to allow for linear expansion.
- The surface being heated must be clean and smooth for efficient heat transfer. Small air gaps caused by imperfections can cause hot spots, resulting in heater failure.
- Contaminants such as oil, plastics, and dirt should not be allowed to collect on heaters, as they will find their way into the heater windings, eventually carbonizing and causing electrical shorts.