Specialized Silicone Rubber Heater Blankets are used in the composite industry to bond and cure composite structures using vacuum bagging techniques which have become standard in the industry.

Tempco’s composite bonding and curing heater blankets are designed with the field technician in mind with an extra strong strain relief, and even heat distribution to produce the best possible cure or bond.

Temperature uniformity is optimized for even heating through computer designed resistance elements. Circuit spacing is maintained at 1/4” for larger heater blankets or less on smaller heaters. This technique guarantees a ±10°F (±5.5°C) temperature uniformity across the heater blanket. The lead wires exit the heater through an unheated 2” × 2” lead exit tab. This allows the overall heater surface to be heated while maintaining a separate unheated section for the transition from resistance element to the leads and a solid strain relief.

Tempco’s Composite Curing Heater Blankets emphasize strength, durability, flexibility and overall temperature uniformity.

Design Features

* Maximum Temperature: 500°F/260°C intermittent 392°F/200°C continuous
* Material: Fiberglass reinforced Silicone Rubber
* Smooth bottom layer for contact with the composite under cure
* External Lead Exit Tab, 2” × 2” maximizes heating area and uniformity
* Lead wire: Teflon®, 5-ft. length, 400°F/200°C, 600V
* Composite Industry Watt Density Standard of 5 watts/in²
* Available Voltage: 120 Vac or 240 Vac
* Meets Composite Industry uniformity standard of ±10°F
* Each heater blanket has a serial number for traceability
* Heat Mapping Certification available
* Made to Order:
  * Maximum Width: 36” (914mm)
  * Maximum Length: 120” (3048mm)
  * Maximum Diameter: 32” (813mm)
* UL recognized

Thermal Mapping

It is a known fact in the composite repair industry that the quality of the overall repair often relates directly to the quality of the cure. The cure in turn is directly affected by the temperature uniformity of the heat blanket.

Thermal/heat mapping certification of the heater blanket is rapidly becoming the standard operating procedure for many repair facilities to optimize the cure process.

As an added value service, Tempco can certify that the heat blanket you order follows the guidelines established by the Commercial Aircraft Composite Repair Committee (CACRC), SAE document ARP 5144 Section 7, which states specific recommendations for the “…handling, maintenance and thermal testing of heat blankets…” The heater blanket certification also meets the requirements of Boeing document D6-56 273 “Qualification of Heat Blankets for Hot Bonding Composites.”

Standard (Non-Stock) Round Flexible Heater Blankets

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Watts</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>inches</td>
<td>120</td>
<td>240</td>
</tr>
<tr>
<td>mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>152</td>
<td>170</td>
</tr>
<tr>
<td></td>
<td>254</td>
<td>470</td>
</tr>
<tr>
<td>10</td>
<td>381</td>
<td>1055</td>
</tr>
</tbody>
</table>

Note: Round heaters have a higher watt density than listed rectangular sizes, and provide an additional 20% of surface heat.