Thermal Management Solutions
for LED Assembly

More Light
Less Heat

High performance cooling – for a new generation of high-intensity LEDs
An emerging need for thermal management

Today's high intensity LEDs are opening up new opportunities for cost savings and reduced power consumption; however, they also generate more heat than conventional LEDs. It's important to remember that the higher the temperature at which LEDs operate, the less efficient they become – making improved thermal management essential for optimal performance. That's where 3M can help.

3M™ Thermal Interface Materials provide efficient thermal transfer for long-term reliability and performance optimization in applications using high brightness LEDs. 3M Thermal Interface Materials have a proven track record of durability and high thermal performance in a variety of environmental conditions to meet the demanding needs of applications today and in the future. 3M provides a full selection of products to meet customers' process and performance requirements, including thermally conductive pads, adhesives, and greases.

3M™ Thermal Interface Materials

<table>
<thead>
<tr>
<th>Product</th>
<th>3M ID #</th>
<th>Description</th>
<th>Features</th>
</tr>
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<tbody>
<tr>
<td>3M™ Thermally Conductive Interface Pads</td>
<td>5570 (1.3 W/m-K), 5589H (Softer), 5590H (Harder)</td>
<td>Acrylic pads, 0.5 mm and thicker.</td>
<td>High thermal conductivity. Excellent gap filling. Die cut to size and shape. No silicone oil breeding/contamination.</td>
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<tr>
<td>5515-20, 5515-25 (S version is also available)</td>
<td>Silicone pad, thin and higher K</td>
<td>Higher thermal conductivity (3 W/m-K). Thin thickness (0.2 mm - 0.25 mm). S version: One side is laminated with thin film for better handling and converting.</td>
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<tr>
<td>3M™ Thermally Conductive Interface Tapes</td>
<td>8904-02, 8904-05</td>
<td>Acrylic adhesive tapes with thin PET carrier.</td>
<td>Higher thermal conductivity (1.5 W/m-K). Reworkable. UL 94 V-0.</td>
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<tr>
<td>8805, 8810, 8820</td>
<td>Acrylic double-sided tapes, 0.5 mm and thinner.</td>
<td>High adhesion. Die cut to size and shape. Excellent wet-out.</td>
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Note: For applications using a thermal pad, the 3M Acrylic Thermal pads are slightly tacky on one side for generally acceptable assembly adhesion in many applications. If higher adhesion is desired, 3M suggests the testing of the 3M Acrylic Adhesive Transfer Tape 9461.

The tack adhesion strength of the 3M Thermal Pads is sufficient for holding the product in place for assembly and use, etc. in many applications. The end use design of the LED Structure/Thermal Pad/Heat Sink does require an added mechanical means of assembly to ensure long term mechanical integrity and thermal performance.

3M also offers a line of silicone based thermal pads ranging in thermal conductivity from 1.0 W/m-K to 4.9 W/m-K. Please contact 3M for additional product information and inquire about 3M™ Thermally Conductive Interface Pads 5591(S), 5592(S), 5595(S), 5516(S) and 5519(S).

Some products may not be available in your country or region. Please contact your local 3M representative for product support.

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