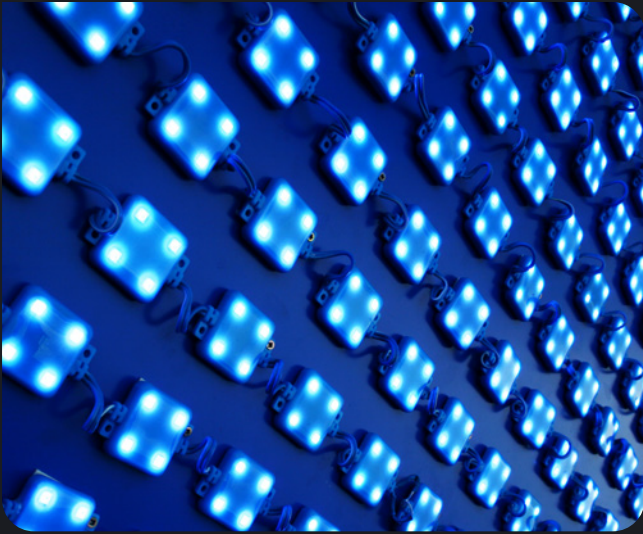




Science.
Applied to Life.™

Bonding solutions for LED lighting

Typical applications



Bonding LED strips

LED strips for industrial lighting manufacturers can be bonded with 3M double-sided tapes, which ensure heat transfer as well as reliable bond to the substrate.



High performance applications

Thermally conductive tapes, pads and adhesives are used under electronic components or COB chips, where it is necessary to ensure the transfer of heat from the component to the cooling surface during operation.

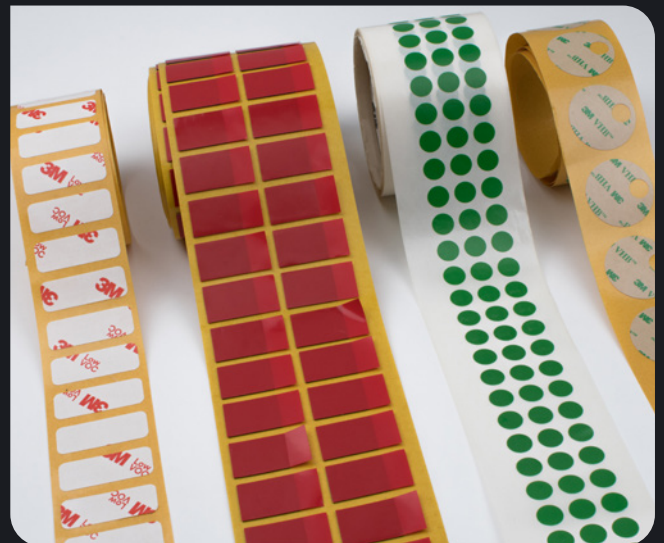
Converting solutions

Adhesive transfer tapes and double-sided tapes can be converted into requested shapes in order to achieve faster and more precise applications



Die cutting

When cutting, both the adhesive material and liner are cut through. The converted parts are delivered in individual pieces for further processing.



Kiss cutting

The finished products remain on the roll or sheet after cutting, which makes it very easy to remove them from the liner sheet.

Current requirements for thermal management in production



Faster and easier
installation



Lighter
construction



Electrically safer
connection



Higher heat flux
response rate



Modern solutions

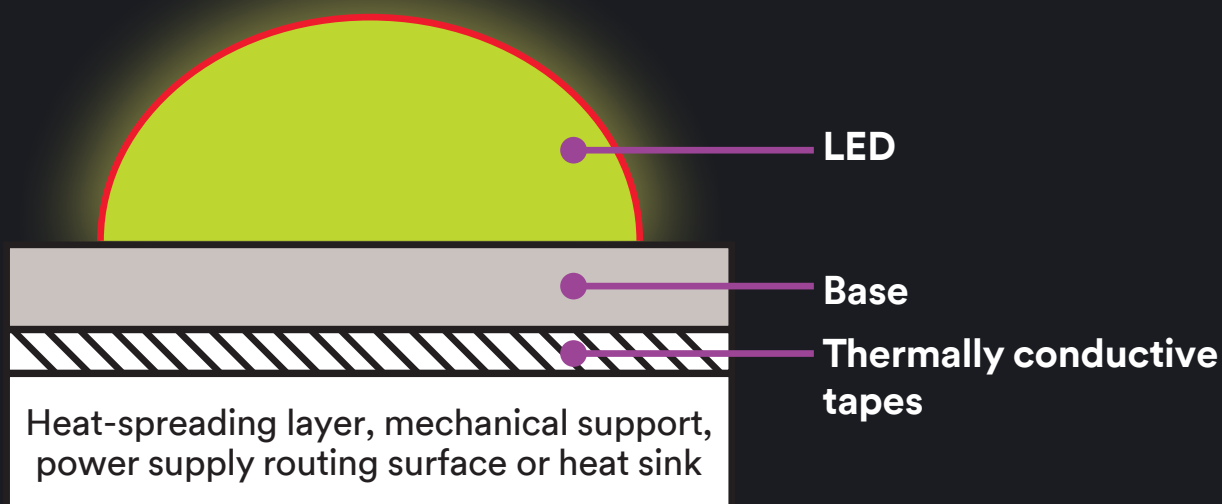


Constant joint
thickness

Product features:

- Good adhesion on multiple substrates
- Good thermal conductivity while being electrically isolating
- Good wettability for better thermal conductivity
- Highly conformable
- Easy handling
- Can be converted into requested shapes

LED cooling



Durability of the adhesive joints: Especially when using outdoor LED lights, the durability of the adhesive joint is important to support efficiency in various environmental conditions. 3M products have been proven to have excellent durability in accelerated aging tests.

3M bonding and thermal conductive solutions

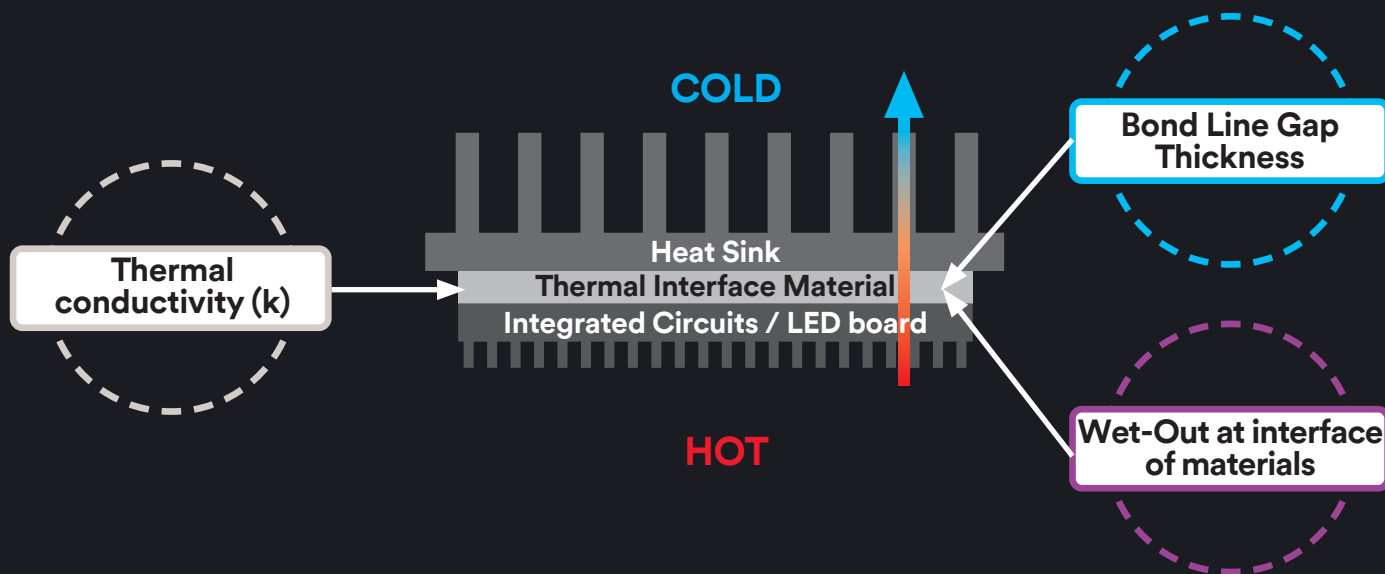
| Application | Product | Product description | Thermal Conductivity (W/m*K) |
|-------------------------------|--------------|---|------------------------------|
| LED strips bonding | 467MP | Adhesive Transfer Tape | 0,18 (ASTM C518) |
| | F9469PC | VHB™ Adhesive Transfer Tape | 0,16 (ASTM C177) |
| | 9080HL | Double Coated Tape | – |
| | 93010LE | Double Coated Tape with Polyester Carrier | – |
| | GPT-020F | Double sided adhesive tape | – |
| | 9882 | Thermally Conductive Tapes | 0,6 (ASTM C177) |
| | 8810 | Thermally Conductive Tapes | 0,6 (ASTM C177) |
| | 8708 | Thermally Conductive Tapes | 0,6 (ASTM D5470) |
| | 8926 | Thermally Conductive Tapes | 1,5 (ASTM D5470) |
| | TC 2810 | Thermally Conductive Adhesives | 0,8 - 1,4 (ASTM D5470) |
| LED fixtures bonding | 4910 | VHB™ tape | 0,16 (ASTM D149) |
| | GPH-060GF | VHB™ tape | 0,15 (ASTM E1530) |
| | 5925 | VHB™ tape | 0,05 (ASTM D149) |
| High performance applications | 5500H | Thermally conductive pads | 2 (ASTM D5470) |
| | 5570N | Thermally conductive pads | 1,3 (ASTM D5470) |
| | 5571N / 5571 | Thermally conductive pads | 1,6 (ASTM D5470) |

Thermally conductive materials

3M products are offering a balanced combination of

- wet-out which helps to eliminate air at interface
- thermal conductivity (k)
- a variety of different thicknesses

to an effective heat transfer with good dielectric strength.



| Dielectric Strength (kV/mm) (ASTM D149) | Thickness (mm) | Temperature Resistance (°C) long-term | Temperature Resistance (°C) short-term | Certification | Color |
|---|-----------------------|---------------------------------------|--|--|-----------------|
| 27 | 0,06 | 150 | 204 | UL-969 | Transparent |
| 23 | 0,13 | 150 | 260 | UL-969 | Transparent |
| – | 0,16 | 80 | 120 | – | White |
| – | 0,1 | 121 | 149 | – | Transparent |
| – | 0,2 | 90 | 190 | – | Transparent |
| 30 | 0,05 | 100 | 130 | – | White |
| 26 | 0,25 | 100 | 130 | UL-746C | White |
| 15 | 0,13 / 0,25 | 80 | 90 | – | Yellowish White |
| 15 | 0,2 / 0,25 / 0,5 | 80 | 90 | UL-94 V0 | Yellowish White |
| 44 | Variable | 90 | 130 | – | Cream |
| 16 | 1 | 149 | 93 | UL-746C | Transparent |
| 17,7 | 0,6 | 150 | 230 | UL-746C | Grey |
| 18 | 0,6 | 121 | 149 | UL-746C | Black |
| 18 | 0,5 / 1,0 / 1,5 / 2,0 | 130 | 150 | UL-94 V0 | White |
| 20 | 0,5 / 1,0 / 1,5 / 2,0 | 110 | 130 | UL-94 V0 | White |
| 13 | 0,5 / 1,0 / 1,5 / 2,0 | 110 | 130 | UL-94 V2 (0,5 mm), UL-94 V0 (1,0 / 1,5 / 2,0 mm) | White |

3M Industrial Tapes and Adhesives

Remaking the world of making things.

Whether you are in need for a solution in bonding LED lighting, or you could use a sparring partner for re-thinking your design; our tapes and adhesives experts are here for you.



Important information: All of the details provided above constitute our experience and must not be incorporated in specifications. Before using our products, please check whether they are suitable for your intended purpose, also in terms of possible application - specific influences. Please consider all occupational health and safety regulations to be observed during use. All questions of warranty and liability for our products are governed by the terms of the sales contract, unless statutory regulations provide otherwise. Technical changes and printing errors accepted.

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