

# 3M™ Thermally Conductive Acrylic Interface Pad 5571

## Product Description

3M™ Thermally Conductive Acrylic Interface Pad 5571 is designed to provide a preferential heat transfer path between heat generating components like integrated circuits and heat spreaders (e.g. aluminum heat sink). 3M pad 5571 consists of a highly conformable, slightly tacky acrylic elastomeric sheet filled with conductive ceramic particles which provide features listed as follows:

## Key Features

- High thermal conductivity, 2.0W/m-K on plane direction
- Good softness and conformability even to non-flat IC surfaces and heat spreading blocks
- Passes UL 94 V-0 flame retardance test
- No siloxane outgassing or oil bleeding
- Soft compliant material allows for pressure relaxation, preventing high pressure zones on components
- Good electrical insulation properties
- Slight tack allows easy pre-assembly
- Good wetting performance for better thermal conductivity

## Product Construction/Material Description

**Note:** The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

### 3M™ Thermally Conductive Acrylic Interface Pad 5571

| Property            | Value  |
|---------------------|--|
| Color               | Yellowish White  |
| Base Resin          | Acrylic  |
| Pad Thickness       | 0.75 mm/1.0 mm/1.5 mm/2.0 mm                                   |
| Primary Filler Type | Ceramic  |
| Product Liner       | PET Film   |
| Roll Length         | Standard: 33 m — Custom size can be supplied by user requests. |

## 3M™ Thermally Conductive Acrylic Interface Pad 5571

### Applications

- IC packaging heat conduction
- Heat sink interface
- COF chip heat conduction
- LED board TIM
- HD TV address IC chip and scan module board
- General gap filling in electronic device
- Mechanical fastening such as clamp, bracket, and screw can be used in parallel with this thermal conductive tape

### Application Technique

- To obtain optimum thermal conductivity, good surfaces for wet out are required. For better contact, clean, dry and well unified surface conditions are recommended. Typical surface cleaning solvents are isopropyl alcohol and water (rubbing alcohol) or heptane.  
**Note:** Be sure to follow manufacturer's safety precautions and directions for use when using solvents.
- Ideal application temperature range is from 0°C to 40°C. Initial application to surfaces at temperatures below 10°C is not recommended because the pad becomes too firm to be wet out readily. However, once properly applied, low temperature holding is generally satisfactory.

### Typical Physical Properties and Performance Characteristics

**Note:** The following technical information and data should be considered representative or typical only and should not be used for specification purposes. Final product specifications and testing methods will be outlined in the products Certificate of Analysis (COA) that is provided once the product is approved by 3M for general commercialization and development work is completed.

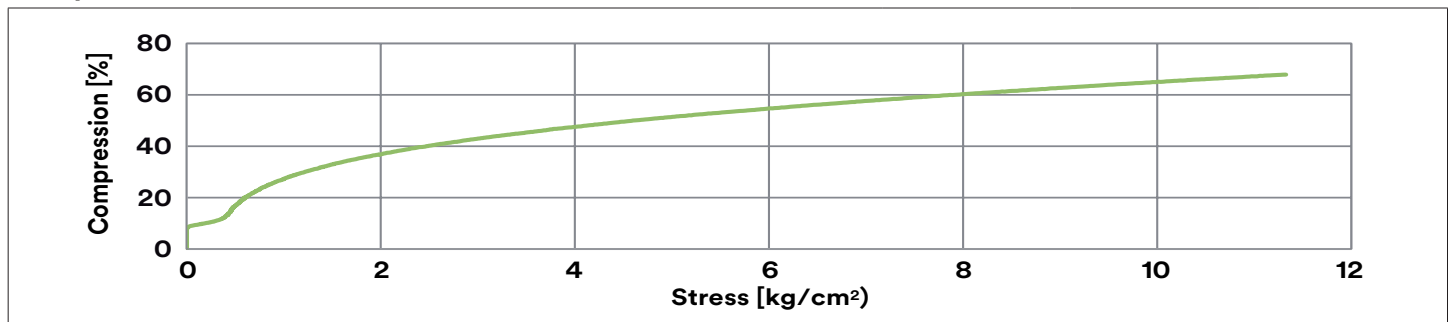
### 3M™ Thermally Conductive Acrylic Interface Pad 5571

| Property                         | Method <sup>a</sup> | 0.75T                  | 1.0T | 1.5T | 2.0T |
|----------------------------------|---------------------|------------------------|------|------|------|
| Thickness (mm)                   | –                   | 0.75                   | 1.0  | 1.5  | 2.0  |
| Thermal conductivity (W/mK)      | ASTM C1113          | 2.0                    |      |      |      |
| Hardness (Shore 00)              | TS-KOR-217          | 70                     |      |      |      |
| Density (grams/cm <sup>3</sup> ) | TS-TM-44            | 1.85                   |      |      |      |
| Flammability                     | UL94                | V-0                    |      |      |      |
| Dielectric Strength (kV/mm)      | ASTM D149           | 13                     |      |      |      |
| Volume Resistivity (Ω-cm)        | JIS K6249           | 3.3 × 10 <sup>12</sup> |      |      |      |

<sup>a</sup>Methods listed as ASTM are tested in accordance with the ASTM method noted

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### Compression vs. Stress



Sample size: 1.0T, 30 by 30mm  
Test speed: 0.5mm/min

### Heat Resistance<sup>1,2</sup>

| Duration (hrs)              | Initial | 1000      | 2000      | 5000      |
|-----------------------------|---------|-----------|-----------|-----------|
| Thermal Conductivity (W/mK) | 2.0     | 2.0       | 2.0       | 2.0       |
| Hardness (Shore 00)         | 69      | 70        | 70        | 70        |
| Appearance                  | –       | No effect | No effect | No effect |

<sup>1</sup> Aged by dwelling at 110°C high temperature chamber.

<sup>2</sup> The end use customer application, design and verification testing will determine the final in-use effective temperature range based on each application's environmental conditions.

## Certificate of Analysis (COA)

The 3M Certificate of Analysis (COA) for this product is established when the product becomes commercially available from 3M. The Technical Data Sheet (TDS) technical information, test methods and data should be considered representative or typical only and should not be used for specification purposes. The Technical Data Sheet (TDS) information is based on a limited set of test results and do not reflect the COA specification limits. Final product specifications and associated manufacturing facility testing methods used for the commercialized product are outlined in the products Certificate of Analysis (COA) that is provided upon request or with the products shipment.

The COA contains the 3M specifications and test methods for the products performance limits that the product will be supplied against. The 3M product is supplied to 3M COA test specifications and the COA test methods. Contact your local 3M Technical Service representative for the COA for this product.

## Storage and Shelf Life

The shelf life of 3M™ Thermally Conductive Acrylic Interface Pad 5571 is 12 months from the date of manufacture when stored in the original packaging materials and stored at 21°C (70°F) and 50% relative humidity.

**Regulatory:** For regulatory information about this product, contact your 3M representative.

**Technical Information:** The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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**Electronics Materials Solutions Division**

3M Center, Building 224-3N-11  
St. Paul, MN 55144-1000

Phone 1-800-251-8634  
Fax 651-778-4244  
Web [www.3M.com/electronics](http://www.3M.com/electronics)

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