

3M™ Thermally Conductive Interface Tape 8711 Series

Product Description

3M™ Thermally Conductive Interface Tape (TCIT) 8711 Series are pressure sensitive adhesives (PSAs) loaded with thermally conductive fillers that require no heat-cure cycle to form a bond to many substrates. These tapes are designed to provide a preferential heat-transfer path between heat-generating components and heat sinks or other cooling devices (e.g., fans, heat spreaders, or heat pipes).

Key Features

- Good thermal conductivity (0.6W/m-K)
- Excellent dielectric performance
- Low thermal impedance
- Strong adhesion performance against Al and SUS
- Soft and conformable to many surfaces
- Excellent thermal stability
- Vibration damping
- Halogen free*

**Halogen free is defined as having maximum 900 ppm bromine, maximum 900 ppm chlorine, and maximum 1500 ppm total bromine and chlorine, per IEC 61249-2-21*

Product Construction

	Protective PET Release Liner
	Thermally Conductive Acrylate Adhesive
	Protective PET Release Liner

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 Interface Tape 8711 Series	
Property	Value
Color	White
Adhesive Type	Soft Acrylic Adhesive
Tape Thickness (mm)	0.050, 0.100, 0.125, 0.150, 0.200, 0.250, 0.300, 0.375, 0.500
Primary Filler	Ceramic
Product Liner	PET Film
Standard Roll Length	50 m (55 yds)

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Typical Applications

- General heat sinks bonding
- Automotive sensors applications
- Integrated chip (IC) packaging heat conduction
- Printed circuit board
- LED module/board bonding
- Display assembly (e.g. LCD and LED devices)
- COF chip heat conduction
- Smart phones

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 product's Certificate of Analysis (COA) that is shipped with the commercialized product.

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Property	Method*	8711-050	8711-100, 125, 150	8711-200, 250, 300	8711-375, 500
Thickness (mm)	D3652	0.050	0.100, 0.125, 0.150	0.200, 0.250, 0.300	0.375, 0.500
90° Peel Adhesion (kg/25.4mm) Initial (15 min dwell at RT) SUS 304 test substrate	D3330	> 0.5	> 1.0	> 1.5	> 2.0
90° Peel Adhesion (kg/25.4mm) 72 hr dwell at 70°C SUS 304 test substrate	D3330	> 1.0	> 2.0	> 3.0	> 3.5
Dynamic Shear (kg/in ²) Initial (15 min dwell at RT)	D1002	> 30			
Static Shear 1000g at RT using 25.4mm ²	3M Test Method	> 1000 hours			
Dielectric Strength (kV/mm)	D149	26			
Foam Density (g/cm ³)	D6111	1.20			
Operating Temperature** (°C)	3M Test Method	90-110			
Flammability***	UL94	V-0			
Thermal Conductivity (W/mK)	D5470	0.60			
Thermal Conductivity (W/mK)	C1113	0.34			

*Methods listed as ASTM are tested in accordance with the ASTM method noted

**Based on long-term operating temperature (weeks/months)

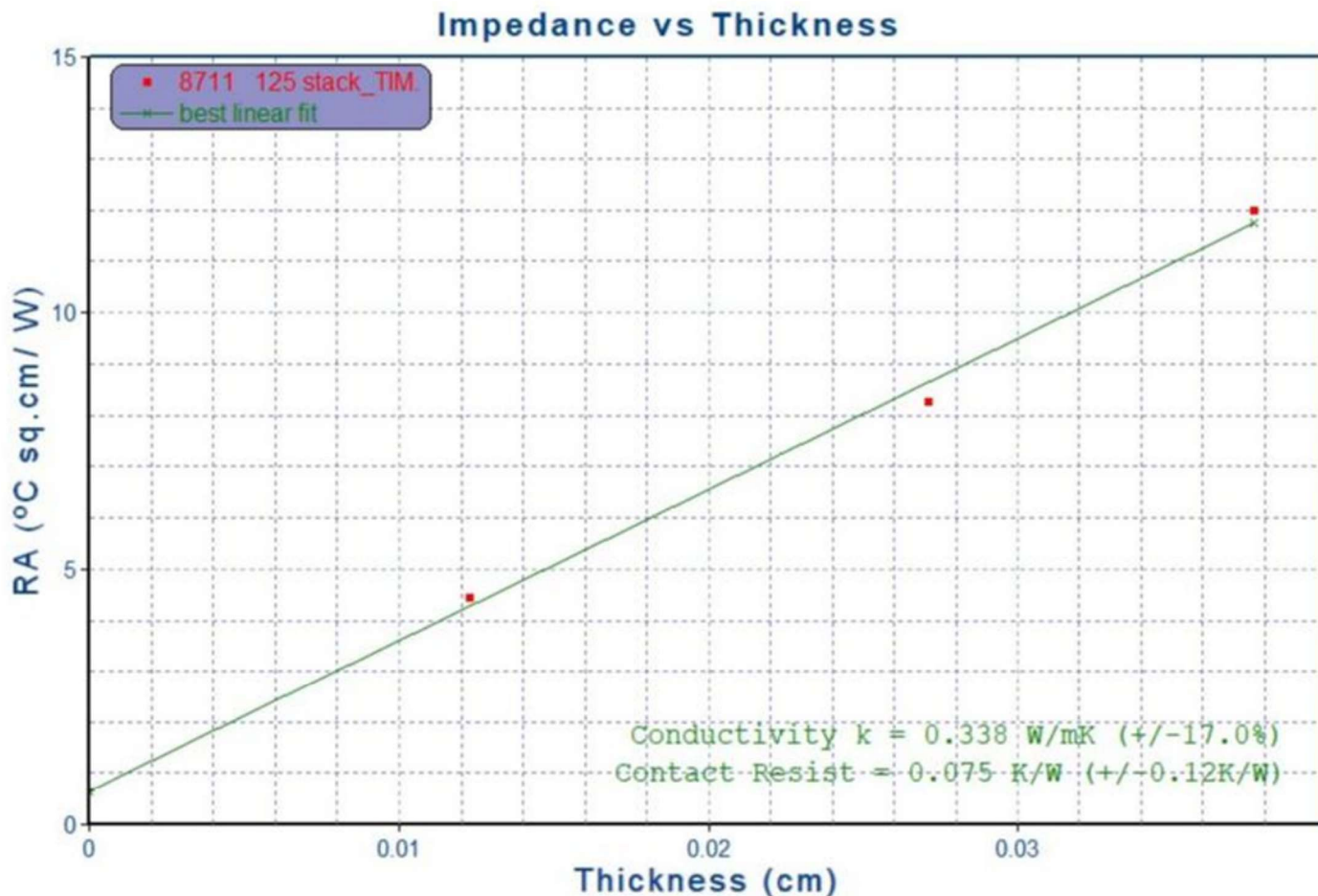
***Flame rating is only valid for the material coated on one side of an aluminum plate with a minimum of 1.0mm thickness and the other side of recognized component (QMTS2) FR-4 laminate at a minimum of 0.8mm thickness. (File No. : E239181)

Note: 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

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Application Techniques

- Mechanical fastening such as clamp, bracket, and screw can be used in parallel with this thermally conductive tape.
- Bond strength is dependent upon the amount of adhesive to surface contact developed. Firm application pressure helps to develop better adhesive contact and improve bonding strength.
- To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. 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 tape application temperature range is 21°C to 38°C (70°F to 100°F). Initial tape application to surfaces at temperatures below 10°C (50°F) is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.



Storage and Shelf Life

The shelf life of 3M™ Thermally Conductive Interface Tape 8711 Series is 12 months from the date of manufacture when stored in original packaging material and stored at 21°C (70°F) and 50% relative humidity.

Certificate of Analysis (COA)

The 3M Certificate of Analysis (COA) for this product is established when the product is manufactured and is deemed commercially available from 3M. The COA contains the 3M specifications, test methods, and test results for the product's performance attributes that the product will be supplied against. Contact your local 3M representative for this product's COA.

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

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