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Technical Data | February 2024

3M™ Thermally Conductive Interface Tape 8926 Series

Product Description

3M™ Thermally Conductive Interface Tape 8926 Series has 0.20mm, 0.25mm, and 0.50mm thick pressure sensitive adhesive tapes filled with thermally conductive ceramic particles. These products have good converting ability, handing, and re-workability through the introduction of a thin PET carrier. 3M tape 8926 series has a soft acrylic polymer and multiple thickness options to allow for excellent wet-out or conformability to many surfaces. The tape series has good adhesion performance to many substrate types and has excellent dielectric performance.

Product Uses

These products can be used for heat management in electronic devices and for general heat dissipation in devices. They may also be used for bonding/joining parts in electronic products.

Key Features

- Good thermal conductivity
- Excellent dielectric performance
- Low thermal impedance
- Good and reliable adhesion performance to Al and SS
- Vibration damping

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 Interface Tape 8926 Series	
Property	Value
Adhesive type	Soft Acrylic Adhesive
Tape Thickness	0.2mm / 0.25mm / 0.5mm
Tape color	Yellowish White
Filler type	Ceramic Particle
Product Liner	75µm PET Film Liner
Roll length	Standard: 40m (0.20 mm, 0.25mm, and 0.5mm) Custom size can be supplied upon request

Applications

- General heat sink bonding
- IC chip packaging heat conduction
- Printed circuit board
- LED module/board bonding
- Display assembly (e.g. LCD and LED devices)
- COF chip heat conduction
- Mechanical fastening such as clamp, bracket or screw can be used in parallel with this tape.

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Application Techniques

- 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 optimal 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.

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.

3M™ Thermally Conductive Interface Tape 8926 Series				
Property	**Method***	**8926-02**	**8926-25**	**8906-5**
90° Angle Peel Adhesion Crosshead speed: 508mm/min	ASTM D-3330*			
SUS 304 Test substrate		Unit gram/25.4mm width (N/mm)		
15 min dwell at 23°C	Liner side	1300 (0.5)	1300 (0.5)	1300 (0.5)
	Non-liner side	1300 (0.5)	1300 (0.5)	1300 (0.5)
72h Dwell at 70°C (For reference)	Liner side	2000 (0.77)	2000 (0.77)	2000 (0.77)
	Non-liner side	2000 (0.77)	2000 (0.77)	2000 (0.77)
Dynamic Shear Crosshead speed: 305 mm/min	ASTM D-1002 Initial Adhesion (SUS to SUS)	15 kg/6.25cm^2		
Foam Density		1.6 (+/-0.10) g/cm^3		
Dielectric Strength	ASTM D-149	15 kV/mm		
Thermal Conductivity**	XY direction: Hot wire plane Test Z direction: ASTM D5470	1.5 W/m-K		
Thermal Impedance ***Imperial Unit***		1.31°C-in^2/W	1.35°C-in^2/W	1.50°C-in^2/W
Thermal Impedance ***Metric Unit***		8.49°C-cm^2/W	8.74°C-cm^2/W	9.70°C-cm^2/W
Flammability***	UL94	V-0		
Operating Temperature Range******	3M Test Method	Long Term (Weeks – Months): Up to 80°C Short Term (Hours – Days): Up to 90°C		

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

**3M Thermal Conductivity Interface Tape 8926 Series Test Methods:

- 1.5W/m-K in XY direction per Hot wire plane Test method (Test equipment: QTM-500)
- 1.5W/m-K in Z direction tested in accordance with a simplified ASTM D5470 type method (Test equipment: T3ster DynTIM)

*** Flame rating is only valid for the material coated on one side of aluminum plate with minimum 1.0mm thickness and the other side of recognized component (QMTS2) FR-4 laminate at minimum 0.8mm thickness.

**** 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.

Storage and Shelf Life

The shelf life of 3M™ Thermally Conductive Interface Tape 8926 Series is 18 months from the date of manufacture when stored in the original packaging materials and stored at 21°C (70°F) and 50% relative humidity.

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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.

This technical data sheet may contain preliminary data and may not match the COA specification limits and/or test methods that may be used for COA purposes.

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

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