

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 are designed to have good converting ability, handling and re-workability through the introduction of a thin PET carrier. 3M tape series 8926 is designed with a soft acrylic polymer and multiple thickness options to allow 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 (>1.5W/m-K)
- 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	0.20mm / 0.25mm / 0.50mm
Tape color	Yellowish White
Filler type	Ceramic Particle
Product liner	75 um PET Film Liner
Roll length	Standard: 40m (0.20mm, 0.25mm and 0.50mm) Custom size can be supplied by request

Applications

- General heat sink bonding
- IC chip packaging heat conduction
- Printed circuit board
- LED module/board bonding
- Flat panel display assembly (e.g. LCD and PDP 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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Typical Physical Properties and Performance Characteristics

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Property and test method		Value		
Tested in accordance with ASTM D-3330 test method	90 Angle Peel Adhesion Crosshead speed: 508 mm/min	Unit gram/25.4mm width		
		0.2	0.25	0.5
SUS 304 Test substrate				
15 min dwell at 23°C	Liner side	1300	1300	1300
	Non-liner side	1300	1300	1300
72hr Dwell at 70°C (For reference)	Liner side	2000	2000	2000
	Non-liner side	2000	2000	2000
Tested in accordance with ASTM D-1002 test method		Kg/6.25cm ²		
Dynamic Shear	Initial Adhesion	15		
Crosshead speed: 305 mm/min	(SUS to SUS)			
Foam Density (gram/cm ³)		1.60 (+/- 0.10)		
Dielectric Strength (KV/mm)		15		
Thermal conductivity*		1.5 W/m-K		
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		
Product Series		8926-02	8926-025	8926-05
Thermal conductivity		1.5 W/m-K	1.5 W/m-K	1.5 W/m-K
Thermal Impedance		1.31°C-in ² /W	1.35°C-in ² /W	1.50°C-in ² /W
Thermal Impedance (metric)		8.49°C-cm ² /W	8.74 C-cm ² /W	9.70°C-cm ² /W

* Thermal Conductivity Interface Tape 8926 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.

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.

Storage and Shelf Life

The shelf life of 3M™ Thermally Conductive Interface Tape 8926 Series is 12 months from the date of manufacture when stored in original cartons 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 commercially available from 3M. The commercially available product will have a COA specification established. 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 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.

Final product specifications and testing methods will be outlined in the products Certificate of Analysis (COA) that is shipped with the commercialized product.

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