

3M™ Thermally Conductive Silicone Interface Pad 5515

Product Description

3M™ Thermally Conductive Silicone Interface Pad 5515 is designed to provide a preferential heat transfer path between heat generating components and cooling devices for applications with a thin thickness (0.2-0.25 mm) requirement.

Features and Benefits

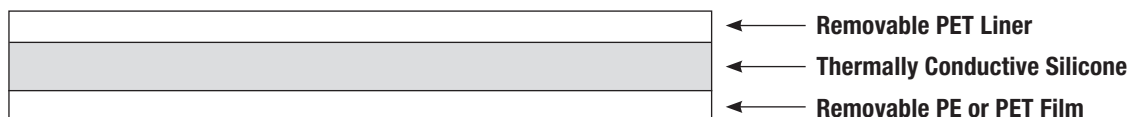
- Good thermal conductivity (3.0 W/m-K)
- Hardness: Shore 00 = 80
- Good dielectric properties
- UL 94 V-0
- High temperature resistance
- Good converting for complicated shape
- Good flexibility with over bending
- Thin thickness for lower thermal impedance

Product Uses

This product can be used as the Thermal Interface Material (TIM) to help improve heat management of electronic devices and joining/stacking parts in electronic component assemblies.

Product Construction

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Standard thickness (excluding liner): 0.20 mm (5515-20), 0.25 mm (5515-25)

Application Ideas

- IC Packaging Thermal Interface Material (TIM)
- Printed Circuit Board Heat Sink TIM
- Aluminum Heat Sink Block
- COF Chip Heat Conduction to adjacent substrate
- LED Board TIM
- HD TV Address IC Chip and Scan Module
- Thin Gap Filling between board, module and chassis

Mechanical fastening such as clamp, bracket, screw and additional tapes and adhesives bonding can be used in parallel with this pad. 3M™ Adhesive Transfer Tape 91022 is an adhesive option to use with the 3M™ Thermally Conductive Silicone Interface Pad 5515 if higher adhesion is desired in an application.

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.

3M™ Thermally Conductive Interface Silicone Pad 5515				
Property	Value			Method
Thickness (mm)	0.20 / 0.25 (±0.025mm)			–
Thermal Conductivity (W/mK)	3.0			QTM-500
Flammability	UL 94 V-0			UL 94
Density (g/cm ³ , @ 25°C)	2.9 (±0.15)			TS-TM-441
Hardness (Shore 00)	80 (±10)			ASTM D2240
Volume Resistivity (Ω-cm)	4.5 x 10 ¹⁴			ASTM D257
Dielectric Strength (kV/mm)	14.5			ASTM D149
Dielectric Constant	100 Hz	1 Khz	1 Mhz	ASTM D150
	16.0	15.6	15.7	

Environmental Aging Test: 3M™ Thermally Conductive Silicone Interface Pad 5515

Duration (hrs)	Initial	100	1000	2000
Thermal Conductivity (W/mK)	3.0	3.0	3.0	3.1
Hardness (Shore 00)	82	82	83	83
Appearance	–	No effect	No effect	No effect

Aged at 130°C in high temperature chamber.

Application Technique

- Firm application pressure helps develop better contact.
- Contact surfaces should be clean, dry and well unified to allow for improved contact and thermal performance. Typical surface cleaning solvents are an isopropyl alcohol and water blend: **Note:** Follow manufacturer’s safety precautions and directions for use when using solvents.
- Useful application temperature range is from 20°C to 40°C. Initial application to surfaces at temperatures below 20°C is not suggested because the pad will be firmer and wet-out could be reduced. However, once properly applied, low temperature holding is generally satisfactory.

Storage and Shelf Life

The shelf life of 3M™ Thermally Conductive Interface Silicone Pad 5515 is 12 months from the manufacture date when stored in original packaging 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.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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