

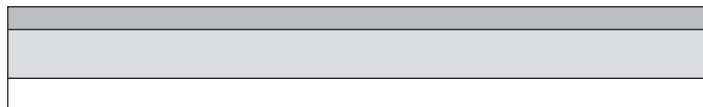
3M™ Thermally Conductive Acrylic Interface Pads 5589H and 5590H

Product Description

3M™ Thermally Conductive Acrylic Interface Pads 5589H and 5590H are soft and acrylic based pads. Because of their softness, Interface Pads 5589H and 5590H can decrease the load to integrated circuit chips during compression, and have good tack to many surfaces. These properties lead to a high performance non-silicone based thermal pad. Interface Pad 5590H is a higher thermal conductivity and somewhat firmer acrylic thermal pad, versus Interface Pad 5589H.

- Good softness and conformability to non-flat surfaces.
- Excellent compressive stress relaxation.
- High thermal conductivity.
- UL94 V-O certified (File No. E176845).
- Good surface tack leads to low thermal resistance at surface.
- Non-silicone acrylic elastomer.
- Good dielectric performance.
- Excellent durability for long term thermal conductivity and electric insulation stability.

Product Construction



Thermally conductive firm acrylic elastomer (very low tack) surface

Thermally conductive soft acrylic elastomer (low tack) core

Film liner (Roll type: Film on firm layer)

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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.

Property	Method	Value	
		3M™ Thermally Conductive Acrylic Interface Pads 5589H	5590H
Color	—	Light grey / White	Light grey
Thickness (mm)	5 mm dia. dial gauge	1.0 / 1.5	0.5 / 1.0 / 1.5
Thermal Conductivity (W/m-K)	3M method	2.0	3.0
Flammability	UL94	V-0	V-0
Density (g/cm ³ , @ 25°C)	JIS K6249	1.9	2.1
Hardness	Asker C	16 (data for soft layer)	30 (data for conformable layer)
Volume Resistivity (Ω-cm)	JIS K6249	3.4 x 10 ¹²	2.7 x 10 ¹²
Dielectric Strength (kV/mm)	JIS K6249	21	33

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Heat resistance

Duration (hrs)	Initial	500	1000	2000
Thermal Conductivity (W/m-K)	2.0	2.0	2.0	2.0
Hardness (Asker C)	16	17	16	17
Appearance	—	No effect	No effect	No effect

Aged at 110°C in high temperature chamber.

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Heat resistance

Duration (hrs)	Initial	500	1000	2000
Thermal Conductivity (W/m-K)	3.0	3.0	3.0	3.0
Hardness (Asker C)	30	33	33	34
Appearance	—	No effect	No effect	No effect

Aged at 110°C in high temperature chamber.

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Certification/Recognition

MSDS: 3M has not prepared a MSDS for these products which are not subject to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R. 1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, these products should not present a health and safety hazard. However, use or processing of the product in a manner not in accordance with the directions for use may affect their performance and present potential health and safety hazards.

TSCA: These products are defined as articles under the Toxic Substances Control Act and therefore, are exempt from inventory listing requirements.

RoHS: These products comply with the requirements of EU Directive 2002/95/EC and 2005/618/EC.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M Electronics Markets Materials Division, Building 21-1W-10, 900 Bush Avenue, St. Paul, MN 55144-1000. Our fax number is 651-778-4244 or 1-877-369-2923. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

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60-5002-0291-0

