

3M™ Thermally Conductive Silicone Interface Pad 5300-SP and 5300-DS

Product Description

3M™ Thermally Conductive Silicone Interface Pad 5300-SP and 5300-DS series are specially designed as cushion sheets with high thermal conductivity and reliable restoration properties. This material is specifically used for the assembly of electrical connection by ACF (anisotropic conductive film) on TFT-LCD (Thin Film Transistor - Liquid Crystal Display) module, touch screen module, camera module and other flexible circuit board bonding on electronic parts.

Product Uses

These products can be used as the special functional sheet during the ACF bonding process to improve heat and pressure distribution of Thermode (heating tool) on application area and prevent any damage on electrical connection and bonding part during electrical connection/assembly process. Through its high thermal conductivity and superior softness originated from Silicone layer, it promotes fast and uniform heat transfer and pressure distribution with no damage on PCB and flex circuit part.

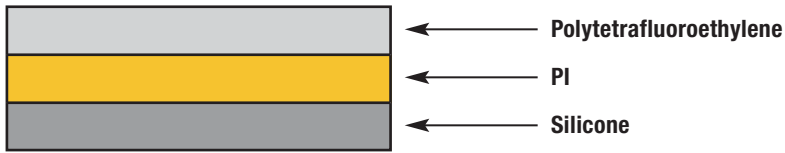
Key Features

- Excellent heat stability
- Various thickness availability
- Dust Free (No contamination)
- High mechanical properties (high tear strength)
- High restoration force and no surface tack
- Excellent electrical insulation properties

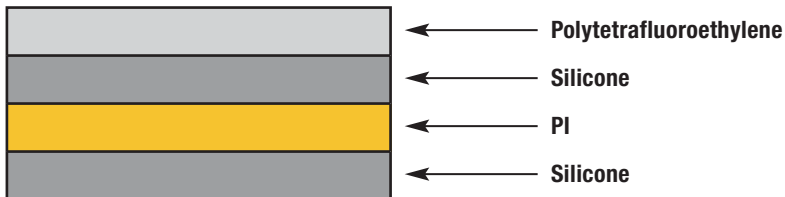
3M™ Thermally Conductive Silicone Interface Pad 5300-SP and 5300-DS

Construction

3M™ Thermally Conductive Silicone Interface Pad 5300-SP



3M™ Thermally Conductive Silicone Interface Pad 5300-DS



Application Ideas

- FOG (Flex on Glass) and FOB (Flex on Board) Bonding Process
- TAB (Tape Automated Bonding) and OLB (Outer Lead Bonding) Bonding Process
- COB (Chip on Board) and COF (Chip on Flex) Bonding Process
- Thermally conductive insulators for semiconductor element, esp. thermal conductive spacer of power transistor (TV, stereo, transceiver, computer, copy machine and facsimile etc.) Replace ceramic insulators such as BeO, BN and Alumina
- Thermal conductive media of heat generating, cooling and temperature sensor etc. (Various kind of heater, temperature fuse etc.)
- Thickness (mm): SP type 0.05 ~ 0.25
DS type 0.20 ~ 0.45
- Width: Max. 1100mm
- Available Configurations: Rolls, Sheets

3M™ Thermally Conductive Silicone Interface Pad 5300-SP and 5300-DS

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
Color	Visual	SP : Grey / Pale Yellow DS : Light Blue / Grey
Thickness (mm)	TS-TM-405	SP : 0.05 ~ 0.25 (±10%) DS : 0.20 ~ 0.45 (±10%)
Thermal conductivity (W/mK)	QTM-500	SP : 1.0 ~ 1.2 DS : 0.6 ~ 1.0
Density (g/cm ³ , @ 25°C)	TS-TM-441	2.1~2.4 (±10%)
Hardness (Shore 00)	ASTM D2240	85 (±10)
Tensile Strength (kgf/cm ² [MPa])	TS-TM-1404	255 (±30)
Elongation (%)	TS-TM-1404	80~110 (±10%)
Tear Strength (kgf/cm)		25
Dielectric Strength (kV/0.45mm)	ASTM D149	12
Dielectric constant (@ 1kHz)	ASTM D150	4.5

These values are given as a customer reference only. Actual application performances can be varied/differed by real conditions and mostly related to the surface roughness, flatness and pressure & temperature applied.

Finished good format: Roll (Max. width is 1100 mm) or Sheet.

Application Techniques

- For ACF bonding process, uniform and constant temperature and pressure distribution is very important and meaning for right and smooth assembly process. Also, it is very critical for total reuse time of compliance sheet. Therefore, before normal process is carried out, process condition optimization is strongly required.
- Contact surfaces should be clean, dry and well unified to allow for improved thermal, good surface wetting for uniform pressure distribution performance. Typical surface cleaning solvents are 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.

3M™ Thermally Conductive Silicone Interface Pad 5300-SP and 5300-DS

Certification/Recognition

MSDS: 3M has not prepared a MSDS for these products which are 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 these products 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 an article under the Toxic Substances Control Act and therefore, are exempt from inventory listing requirements.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-866-599-4227. Address correspondence to: 3M, Electronics Markets Materials Division, 3M Center, Building 225-3S-06, 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.

Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture at the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



Electronics Markets Materials Division

3M Center, Building 225-3S-06
St. Paul, MN 55144-1000
1-866-599-4227 phone
651-778-4244 fax
www.3M.com/electronics

3M is a trademark of 3M Company.
Please recycle. Printed in U.S.A.
©3M 2012. All rights reserved.
60-5002-0569-9

