

SILCOOL™ TIA2101GF THERMAL PAD / GAP FILLER

Product Description

SILCOOL TIA2101GF thermal pad / gap filler is a 2-component, soft, thermally conductive silicone material that can help dissipate heat from electronic devices. Its non-slumping pasty consistency provides physical stability for optimized processing. It can be used as a liquid dispensed alternative to pre-fabricated thermal pads or for a broad array of thermal designs in electronic applications.

Key Features and Typical Benefits

- High thermal conductivity
- Fast, low temperature cure
- Convenient 1:1 mix ratio by weight
- Retains softness after cure to contribute to stress relief during thermal cycling
- Good slump resistance (stays in place)
- Repairable

Typical Physical Properties

UNCURED PROPERTIES		TIA2101GF (A)	TIA2101GF (B)
Appearance (Part A & B)		pink	pale pink
Viscosity *1	Pa-s	400	400
Viscosity *2	Pa-s	600	600
Mix ratio by weight		1 : 1	
Viscosity *1 after mixing	Pa-s	400	
Viscosity *2 after mixing	Pa-s	600	
Thixo Index		1.6	
Work Life @ 23°C	Hours	1	
Cure conditions		Hours	
@ 70°C		1	
@ 23°C		24	
CURED PROPERTIES (1 hour @ 70°C)			
Appearance		pale pink	
Density (23°C)	g/cm ³	3.1	
Thermal conductivity *3	W/m·K	10.2	
Thermal resistance	mm ² ·K/W	17 (BLT: 140µm)	
Minimum bond line thickness @ 100N force	µm	140	
Hardness (Type E)		10	
Hardness (Shore 00)		30	
Dielectric strength		kV/mm	
		15	
Volume Resistivity		Ω cm	
		3 x 10 ¹³	
Low volatile (D4-D10)		ppm	
		< 100	

*1: Plate-plate rheometer at 1s⁻¹ / *2: Rotational viscometer at #7 spindle, 2rpm, 5min / *3: Hot disk method
Typical properties are average data and are not to be used as or to develop specifications.

Pressure dependent Bond Line Thickness / please allow some margin for testing tolerance (+/-10%)

Force in N	200	300	500	1000	1500
BLT in µm	131	108	98	85	73

(*Material applied on an area of 50x50mm, Texture analyzer, Metal substrate)

Potential Applications

Thermal interface for electronic components in Automotive, Consumer, Telecommunication, Lighting and Industrial applications

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement, or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

- Material is kit-matched; only A & B of the same batch should be used to reach above mentioned mechanical properties
- Materials such as water, sulfur, nitrogen compounds, organic metallic salts, phosphorus compounds, etc. contained in the surface of the substrate can inhibit curing. A sample patch should always be used before proceeding to determine compatibility.
- Wear eye protection when handling uncured rubber as it can irritate eyes. In case of eye contact, immediately flush eyes well with water and contact a physician.
- Maintain adequate ventilation in the workplace at all times.
- Store in a cool, dry place out of direct sunlight
- Keep out of the reach of children

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment, if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness for use in their particular applications.

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