

TIA225GF

Liquid-Dispensed Silicone Thermal Pad

Description

TIA225GF silicone is a two-component thermally conductive material that is dispensed as a liquid and cured in place to create a heat path for efficient heat transfer. After being applied, its non-slumping pasty consistency provides physical stability to help prevent run-off after being dispensed. TIA225GF can be used as a liquid-dispensed alternative to pre-fabricated thermal pads, and as a gap filler for a broad array of thermal designs in electronic components.

Key Features and Typical Benefits

- Good thermal conductivity
- Fast low-temperature cure
- Retains softness after cure to enhance stress relief during thermal cycling
- Easy to use 1:1 mixing ratio
- Conforms to complex shapes of three-dimensional interface designs
- Can be dispensed or printed
- Repairable
- Flame retardant: UL94V-0 equivalent

Potential Applications

Thermal interface for electronic components in consumer, telecommunications, automotive, and lighting applications.

Typical Physical Properties

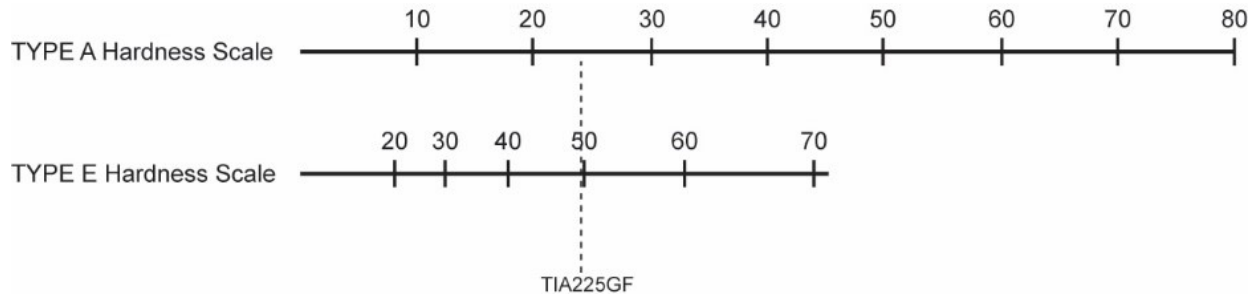
Uncured Properties ^(†)		TIA225GF(A)	TIA225GF(B)
Appearance		Dark Gray	Light Gray
Viscosity (23°C)	Pa·s	100	100
Mixing ratio (by weight)		100 : 100	
Viscosity after mixing (23°C)	Pa·s	100	
Pot life	h	4	
Cure condition (70°C)	h	0.5	
(23°C)	h	24	

Cured Properties ^(†) (0.5h at 70°C)		TIA225GF
Appearance		Gray
Density (23°C)	g/cm ³	2.90
Thermal conductivity * ¹	W/(m·K)	2.5
Thermal resistance * ² (BLT: 50µm)	mm ² ·K/W	35
Hardness (Type E)		50
Tensile strength	MPa	0.4
Elongation	%	70
Volume resistivity	MΩ·m	6.0×10 ⁶
Dielectric strength	kV/mm	20
CTE * ³	ppm/K	120
Low volatile siloxane (D ₄ -D ₁₀)	ppm	200
Flame retardant (UL94)		V-0 (planned)
Relative temperature index (RTI)		150°C (planned)

*1: Hot wire method *2,*3: In-house test method

(†)Typical property data values should not be used as specifications. Typical properties are average data and are not to be used as or to develop specifications.

Hardness Scale Conversion Guide



Test data. Actuals may vary.

General Considerations For Use

As materials such as water, sulfur, nitrogen compounds, organic metallic salts, phosphorus compounds, etc. contained in the surface of the substrate can inhibit curing, a preliminary test should be performed to determine compatibility.

While the typical operating temperature for silicone materials ranges from -45°C to 200°C, the long-term maintenance of its initial properties is dependent upon design related stress considerations, substrate materials, frequency of thermal cycles, and other factors.

Packaging

- TIA225GF(A): 25kg pail
- TIA225GF(B): 25kg pail

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

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 of use in their particular applications.

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TIA225GF

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