

SILCOOL™ TIA211G THERMALLY CONDUCTIVE POTTING MATERIAL

Product Description

SILCOOL TIA211G is a 2-component, thermally conductive potting material. Its lower viscosity allows the material to conform to intricate shapes of thermal interfaces and contributes to the reduction of contact interference in complex designs. TIA211G quickly cures to a soft rubber gel with exposure to heat, and retains tacky adhesion on its cured surface.

Key Features and Typical Benefits

- Good thermal conductivity
- Low specific gravity
- Lower viscosity: Pours easily, penetrates complex assemblies
- Fast cure with exposure to heat (50°C)
- Cures at room temperature
- Easy to use 1:1 mixing ratio by weight or volume
- Absorbs shock and protects delicate mechanical components from vibration.
- Hot and cold temperature resistance, enabling use in operating temperature ranges of -40~150°C.

Typical Physical Properties

Criteria		Properties	
Products		TIA211G(A)	TIA211G(B)
Color		Gray	White
Viscosity	Pa.s	10	10
Mixing Ratio (by weight or volume)		1 : 1	
Viscosity (23C) (after mixing)	Pa.s	10	
Work Life	h	4	
Cure condition (with heat)	°C/h	70 / 0.5	
Cure condition (RT)	h	24	
Post-Cured properties			
Appearance		Gray, elastic rubber	
Thermal conductivity ¹	W/m·K	1.1	
Density	g/cm ³	2.10	
Hardness	(Type E)	40	
LV content	ppm (D ₄ -D ₁₀)	< 200	
Volume resistivity	MΩ.m	4.8x10 ⁶	
Dielectric Strength	KV/mm	20	
Linear expansion	1/K	1.9X10 ⁻⁴	

Typical properties are average data and are not to be used as or to develop specifications.

1) Hot wire method

Potential Applications

- Potting of electronic parts requiring flammability and use under temperature extremes
- Potting of high voltage parts
- Moisture proof coating of electronic circuit boards
- Thermal potting and gap filling in various electronic components

General Considerations for Use

- Material is kit-matched; only A & B of the same batch should be used to reach above mentioned mechanical properties.
- (A) and (B) each should be stirred before mixing together, because filler sedimentation may occur during storage.
- 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 conducted before proceeding to determine compatibility.
- Wear eye protection and protective gloves as required while handling the product.
- All parts should be as clean and dry as possible prior to applications.
- Maintain adequate ventilation in the work place at all times.
- Store in a dark, cool place out of direct sunlight
- Keep out of the reach of children

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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