Technical Data Sheet

DOWSIL™ TC-5026 Thermally Conductive Compound

Gray, flowable, non-curing thermally conductive compound

Features & Benefits

- Solventless formulation
- Flowable
- Non-curing – no need for curing ovens
- Capable of achieving thin Bond Line Thickness for optimum performance
- Very low thermal resistance
- High thermal conductivity
- Conducts heat away from sensitive components

Composition

- Thermally conductive filler
- Polydimethylsiloxane matrix

Applications

- DOWSIL™ TC-5026 Thermally Conductive Compound is designed to provide efficient thermal transfer for the cooling of MPU in servers, desktops, notebooks, and game consoles

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
One or Two-part		One
Color		Gray
Viscosity	cP	100,000
	mPa-sec	100,000
	Pa-sec	100
Specific Gravity (Uncured)		3.5
NVC (Non Volatile Content)	%	99.95
Thermal Conductivity	btu/hr-ft-°F	1.7
	W/mK	2.9
Thermal Resistance at 40 psi	°C-cm²/W	0.03

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Typical Properties (Cont.)

Property	Unit	Result
Bond Line Thickness (BLT) at 40 psi	mm	0.007
	inch	0.0003
	mils	0.3
Dielectric Strength	volts/mil	227
	kV/mm	8.9
Volume Resistivity	ohm*cm	5.9E+11
Dielectric Constant at 1kHz		7.4
Dissipation Factor at 1kHz		0.0003

Description

Dow thermally conductive compounds are grease like silicone materials, heavily filled with heat-conductive metal oxides. This combination promotes high thermal conductivity, low bleed and high-temperature stability. The compounds are designed to maintain a positive heat sink seal to improve heat transfer from the electrical device and PCB system assembly to the heat sink or chassis, thereby increasing the overall efficiency of the device. PCB system assemblies are continually designed to deliver higher performance. Especially in the area of consumer devices, there is also a continual trend towards smaller, more compact designs. In combination these factors typically mean that more heat is generated in the device. Thermal management of PCB system assemblies is a primary concern of design engineers. A cooler device allows for more efficient operation and better reliability over the life of the device. As such, thermally conductive compounds play an integral role here. Thermally conductive materials act as a thermal “bridge” to remove heat from a heat source (device) to the ambient via a heat transfer media (i.e. heat sink). These materials have properties such as low thermal resistance, high thermal conductivity, and can achieve thin Bond Line Thicknesses (BLTs) which can help to improve the transfer of heat away from the device.

Solvent Exposure

In general, the product is resistant to minimal or intermittent solvent exposure, however best practice is to avoid solvent exposure altogether.

Usable Life And Storage

The product should be stored in its original packaging with the cover tightly attached to avoid any contamination. Store in accordance with any special instructions listed on the product label. The product should be used by the indicated Exp. Date found on the label.

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT WWW.CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Health And Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, www.consumer.dow.com or consult your local Dow representative.

How Can We Help You Today?

Tell us about your performance, design, and manufacturing challenges. Let us put our silicon-based materials expertise, application knowledge, and processing experience to work for you.

For more information about our materials and capabilities, visit www.consumer.dow.com.

To discuss how we could work together to meet your specific needs, go to www.consumer.dow.com for a contact close to your location. Dow has customer service teams, science and technology centers, application support teams, sales offices, and manufacturing sites around the globe

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