

Dow Corning® TC-5021 Thermally Conductive Compound

FEATURES & BENEFITS

- Flowable
- Non-curing material - no need for curing ovens
- Capable of achieving thin Bond Line Thickness
- Low thermal resistance
- High thermal conductivity
- Conducts heat away from sensitive electronic components

COMPOSITION

- Thermally conductive filler
- Polydimethylsiloxane matrix

Gray, flowable, non-curing thermally conductive compound

APPLICATIONS

- Dow Corning® TC-5021 Thermally Conductive Compound is designed to provide efficient thermal transfer for the cooling of MPU in servers, desktops, and notebooks.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Property	Unit	Result
One or Two-part	-	One
Color	-	Gray
Viscosity	cP	82,650
	mPa-sec	82,650
	Pa-sec	82.6
Specific Gravity (Uncured)	-	3.47
Bleed	%	0.15
NVC (Non Volatile Content)	%	99.8
Thermal Conductivity	btu/hr-ft-°F	1.9
	W/mK	3.3
Thermal Resistance at 40 psi	°C-cm ² /W	0.2
Dielectric Strength	volts/mil	125
	kV/mm	5
Dissipation Factor at 1 kHz	-	0.06
Dielectric Constant at 1 kHz	-	8.1
Volume Resistivity	ohm*cm	3.7E+11

DESCRIPTION

Dow Corning® brand 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/electronic device to the heat sink or chassis, thereby increasing the overall efficiency of the device. Electronic devices are continually designed to deliver higher performance. Especially in the area of consumer electronics, 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 electronic devices 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 resistance 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 MATERIAL SAFETY DATA
SHEETS AND CONTAINER
LABELS FOR SAFE USE,
PHYSICAL AND HEALTH
HAZARD INFORMATION. THE
MATERIAL SAFETY DATA
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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 Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, dowcorning.com or consult your local Dow Corning representative.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customers’ tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

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Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

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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 **dowcorning.com**.

To discuss how we could work together to meet your specific needs, email **electronics@dowcorning.com** or go to **dowcorning.com/contactus** for a contact close to your location. Dow Corning has customer service teams, science and technology centers, application support teams, sales offices and manufacturing sites around the globe.

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