Technical Data Sheet

DOWSIL™ TC-5625C Thermally Conductive Compound

FEATURES & BENEFITS

- Optimized polymer matrix to help reduce pump out
- Flowable
- Good thermal conductivity
- Low thermal resistance
- Non-curing, no need for curing ovens
- Heat dissipation from circuitry components
- Can achieve thin Bond Line Thickness (BLT)

COMPOSITION

- Filled polydimethysiloxane

Greenish yellow, flowable, non-curing thermally conductive compound

APPLICATIONS

- DOWSIL™ TC-5625C Thermally Conductive Compound is suitable for use as an interface material for a variety of mid to high end lamps and luminaires.

TYPICAL PROPERTIES

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

Test*	Property	Unit	Result
	One Part or Two Part		One
	Color		Greenish yellow
CTM 0050	Viscosity	Pa-sec cP	77.0 77,000
CTM 0905	Thixotropy		1.64
CTM 0540	Specific Gravity (Uncured)		4.2
	Non-Volatile Content (NVC)	%	99.93
CTM 1388	Thermal Conductivity	W/m-K	2.7
	Thermal Resistance at 40 psi	$^oC\text{-}cm^2/W$	0.09
CTM 0114	Dielectric Strength	kV/mm Volts/mil	1.89 47.3
CTM 1400	Volume Resistivity	ohm*cm	1.3E+13
CTM 1139	Dielectric Constant @ 1 kHz		14.0
CTM 1139	Dissipation Factor @ 1 kHz		0.073

* CTM: Corporate Test Method, copies of CTM's are available on request.

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 or PCB system assembly to the heat sink or chassis, thereby increasing the overall efficiency of the device. PCB Systems Assembly devices 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.

APPLICATION METHODS

- Screen print
- Stencil print
- Dispense

HOW TO USE

Allow printed grease pad to dry open for 24 hours before assembly. Dry time allows the small amount of carrier fluid to evaporate.

SOLVENT EXPOSURE

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

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.

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.

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.

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 customer's 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.

Dow's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

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.

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DOW SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.

DOW DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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.

www.consumer.dow.com

®Trademark of The Dow Chemical Company

Form No. 11-3662-01 A