



Technical Data Sheet

DOWSIL™ TC-5888 Thermally Conductive Compound

Gray, thixotropic, non-curing thermally conductive compound

Features & Benefits

- One part material – no cure required
- Solvent free formulation – provides material stability
- Easy application – Screen printable
- Thixotropic – low slump
- High thermal conductivity
- Achieves thin Bond Line Thickness (BLT)
- Low thermal resistance

Composition

- Thermally conductive fillers
- Siloxane polymer matrix

Applications

DOWSIL™ TC-5888 Thermally Conductive Compound is designed to provide efficient thermal transfer for the cooling of modules, including computer MPUs and power modules.

Typical Properties

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

Property	Unit	Result
Color		Gray
One Part Material		Non-curing
Viscosity At Low Strain Rate	Pa-s	1,200
Viscosity At High Strain Rate	Pa-s	100
Specific Gravity		2.6
Volatile Content, 48 hours at 125°C	%	0.02
Thermal Conductivity	W/mK	5.2
Thermal Resistance at 25 N/cm ²	°C-cm ² /W	0.05
Bond Line Thickness at 25 N/cm ²	mm	0.02
	inch	0.0008

Description

DOWSIL™ thermally conductive compounds are grease like materials that are highly loaded with thermally conductive fillers in a silicone matrix. 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 an electrical device or PCB system assembly to a heat sink or chassis, thereby increasing the overall efficiency of the device. PCB system assemblies are continually designed to deliver higher performance.

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DOWSIL™ TC-5888 Thermally Conductive Compound

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**Description
(CONT.)**

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. Thermal compounds have advantages over other Thermal Interface Materials (TIMs) due to their relatively low cost, ease of application on to heat sinks (screen printing), and ease of re-work.

**Solvent Free
Formulation**

DOWSIL TC-5888 Thermally Conductive Compound is a solvent free formulation so that the material remains stable after the container is opened. This means the viscosity of the material will not change over time which allows for consistent and easy screen printing.

**Application
Methods**

- Screen print
- Stencil print
- Dispense

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.

Many highly filled thermal materials may experience some slight settling over time. Re-mixing the material by stirring is recommended before use.

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.

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