



## Technical Data Sheet

# DOWSIL™ SE 4490 CV Thermally Conductive Compound

White, non-curing and non-flowing thermally conductive compound with controlled volatility

### Features & Benefits

- Non-flowing
- Good thermal conductivity
- Controlled silicone volatility
- One part - no need for ovens or curing
- Heat flow away from PCB system components can increase reliability

### Composition

- Siloxane polymer matrix
- Thermally conductive fillers

### Applications

- DOWSIL™ SE 4490 CV Thermally Conductive Compound is designed to provide efficient thermal transfer for the cooling of automotive control modules, power supplies and driver IC's for displays.

### Typical Properties

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

Property	Unit	Result
One Part or Two Part		One
Color		White
Viscosity	cP	520000
	mPa-sec	520000
	Pa-sec	520
Thixotropy	NA	2.3
Specific Gravity (Uncured)		2.63
NVC (Non Volatile Content)	%	99.96
Thermal Conductivity	btu/hr-ft-°F	1.1
	W/mK	1.9
Thermal Resistance at 40 psi	°C*cm <sup>2</sup> /W	0.77
Volume Resistivity	ohm*cm	2E+14

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DOWSIL™ SE 4490 CV Thermally Conductive Compound

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Description	<p>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 and PCB system assembly device 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.</p> <p>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.</p>
Application Methods	<ul style="list-style-type: none"> <li>• Automated or manual dispensing</li> </ul>
How To Use	<p>Allow printed grease pad to dry open for 24 hours before assembly. Dry time allows the small amount of carrier fluid to evaporate.</p>
Solvent Exposure	<p>In general, the product is resistance to minimal or intermittent solvent exposure, however best practice is to avoid solvent exposure altogether.</p>
Usable Life And Storage	<p>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.</p>
Handling Precautions	<p>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 <a href="http://WWW.CONSUMER.DOW.COM">WWW.CONSUMER.DOW.COM</a>, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.</p>
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