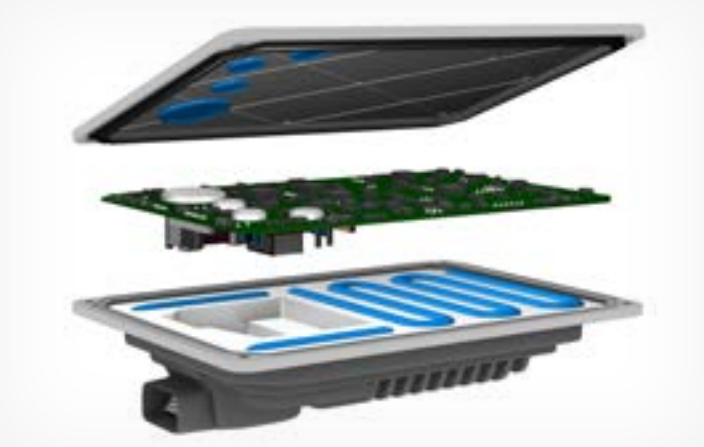
SELL SHEET

DOWSIL™ TC-4525 Adhesive Thermally Conductive Gap Filler



Description

DOWSIL™ TC-4525 Thermally Conductive Gap Filler is a soft and compressible silicone material designed to dissipate heat from electronic devices such as printed circuits by conducting it to a heat sink such as an aluminum housing.

Key features

- Holds vertical position (cured or uncured)
- UL 94 V-0 certification
- Glass bead option (180 micron) for bond line thickness (BLT) control

Application notes

- Enhanced processing experience thanks to smooth dispensability and assembly
- Ideally suited for automated dispensing with metered mixing equipment; approved by bdtronic and Scheugenpflug equipment suppliers

Potential uses

Thermal management and vibration dampening for electronic devices

Typical applications

- Engine control unit
- Anti-lock braking/electronic stability control – safety system
- DC/DC converter of hybrid electric vehicle (HEV)
- Advanced driver-assistance systems
- Sensors
- Transmission control unit
- Battery assembly

Material properties

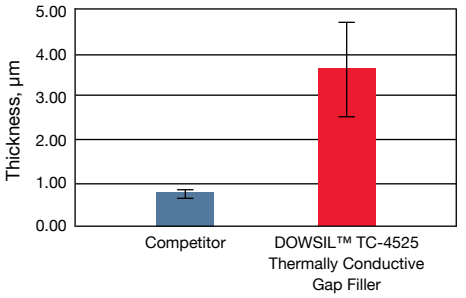
Test[1]	Property	DOWSIL™ TC-4525 Thermally Conductive Gap Filler
CTM 0176B	Mix ratio (by weight or volume)	Two part, 1 to 1 mix ratio
CTM 0176B	Color A/B	White/blue
CTM 1094C	Viscosity (mixed)	217 Pa.s
CTM 1094N	Thixotropic index (mixed) Steady shear: 1 s^{-1}/10 s^{-1}	4.3
CTM 022B	Specific gravity (mixed)	2.9
CTM 0099	Cure time	120 minutes at 25°C; 10 minutes at 80°C
CTM 0099	Hardness	55 Shore 00
CTM 1163A	Thermal conductivity	2.6 W/m.K
	Shelf life at 25°C	10 months

[1]CTM: Corporate Test Method; copies of CTMs are available on request. ASTM: American Society for Testing and Materials. DIN: Deutsche Industrie Norm.

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Sales Application Engineer or Dow Customer Service before writing specifications on this product.

Improved interface contact through enhanced tackiness

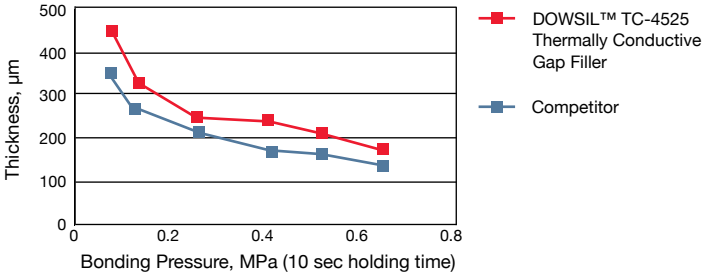
Tack measurement (loop tack)
ASTM D6195





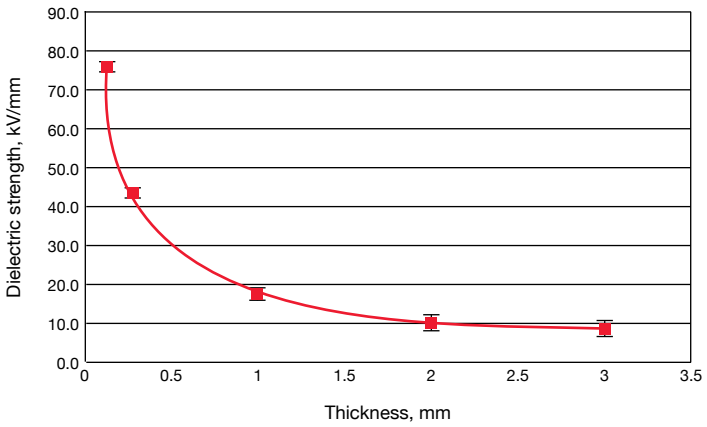
Excellent material spreadability at low pressure

BLT vs. Bonding pressure



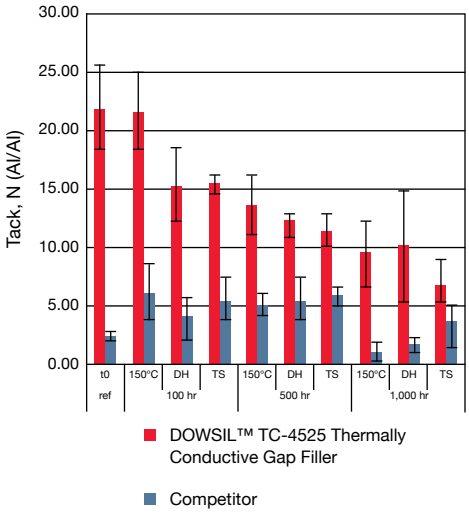
Safe dielectric strength

Dielectric strength vs. Gap filler thickness
ASTM D149



Excellent interface contact: stability

Adhesion evolution of DOWSIL™ tc-4525
thermally conductive gap filler and competitor





DOWSIL™ TC-4525 Thermally Conductive Gap Filler maintains good interfacial contact after thermal shock.

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 dow.com.

To discuss how we could work together to meet your specific needs, email electronics@dow.com or go to dow.com/ContactUs 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.

Images: dow_40422824609

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