



Encapsulating Reliable Performance

DOWSIL™

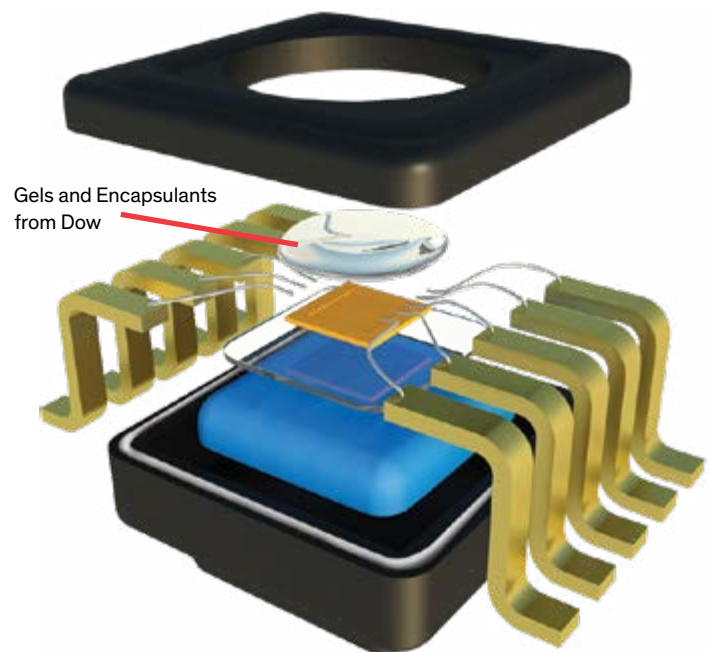
Automotive PCB (system) assemblies are rapidly multiplying, and they are adding value to everything from vehicle safety to reliability to comfort to energy efficiency. So, it's become more critical than ever to protect sensitive PCB module components from harsh under-the-hood environmental factors, such as moisture, extreme temperatures, salt and severe mechanical stresses stemming from vibration or mismatched coefficients of thermal expansion.

Silicone encapsulants and gels from Dow protect the PCB module assembly applications that conformal coatings and lid seals alone cannot. Specifically, our broad portfolio of proven silicone solutions expands options for embedding tall components and complex architectures to protect them from damage in harsh automotive environments.

As a class of materials, our silicones offer low modulus, versus epoxy and urethane materials, for reduced stress from vibration, mechanical shock and thermal cycling. Our ultralow-modulus silicone gels, in particular, can encapsulate the most fragile wires to deliver strong protection against both contamination and stress. Our expansive portfolio of silicone encapsulants and gels also includes thermally conductive grades to help manage and dissipate heat away from sensitive PCB systems components. And importantly, many of our materials have achieved UL certification.

All these qualities offer unique options for enhancing the performance, reliability and lifetime of complex automotive PCB (system) assembly designs – even those with thin wires and connections. But Dow's silicone technology also can help reduce cost of ownership by offering improved manufacturing efficiencies. Combined with our processing expertise, our advanced materials can help simplify production through low-temperature cures or reduce cycle times via fast-cure solutions. In addition, we are constantly exploring next-generation silicone solutions to develop grades that are increasingly resistant to temperature extremes.

Automotive Device Sensor



One Company: Many Automotive Solutions

Dow offers the proven materials, expertise and collaborative culture to help you find the right encapsulant or gel for your automotive PCB (system) assembly application. If you cannot find an off-the-shelf silicone product that meets an application's precise specifications, contact us. Our materials experts often can tailor a solution that will enable you to meet your goals for performance, processing and cost.

Imagine

Featured Products

Product	Description	Dielectric Protection (Dielectric Strength)	Thermal Conductivity (W/mK)	Mixed Viscosity (Pa.sec)	Cure Profile	Hardness	UL Recognition
SYLGARD™ 567 Primerless Encapsulant Kit	2-part encapsulant; self-priming	405 V/mil 16 kV/mm	0.29	0.21	180 min @ 70°C 120 min @ 100°C 85 min @ 115°C 15 min @ 150°C	38-42 ⁽¹⁾	94 V-0
SYLGARD™ 170 Silicone Elastomer Kit	2-part polydimethylsiloxane elastomer; 1:1 mix ratio	493 V/mil 19 kV/mm	0.48	2.1	24 hr @ 25°C 45 min @ 50°C 25 min @ 70°C 15 min @ 85°C 10 min @ 100°C	46.8 ⁽¹⁾	94 V-0
SYLGARD™ 170 Fast Cure Silicone Elastomer Kit	2-part siloxane elastomer; 1:1 mix ratio; low viscosity with moderate thermal conductivity	350 V/mil 14 kV/mm	0.4	2.4	0.2 hr @ 25°C	43 ⁽¹⁾	94 V-0
SYLGARD™ 160 Silicone Elastomer Kit	2-part siloxane elastomer; 1:1 mix ratio; good flowability with added flame resistance	475 V/mil 19 kV/mm	0.62	0.49	24 hr @ 25°C 4 min @ 100°C	56 ⁽¹⁾	94 V-0
SYLGARD™ 527 A&B Silicone Dielectric Gel	2-part colorless or red gel	425 V/mil 17 kV/mm	NA	0.47	210 min @ 100°C 75 min @ 125°C 35 min @ 150°C	113 gm ⁽²⁾	NA
DOWSIL™ 3-4207 Dielectric Tough Gel Kit	2-part, translucent green, 1:1 mix ratio, fast-room-temperature-cure, tough gel with UV indicator, conditional primerless adhesion and good flame resistance	420 V/mil 17 kV/mm	NA	0.42	90 min @ 25°C 10 min @ 50°C 3 min @ 100°C	59 ⁽¹⁾	94 V-1
DOWSIL™ 3-4241 Dielectric Tough Gel Kit	2-part, translucent green, 1:1 mix ratio, fast-heat-cure, tough gel with UV indicator, conditional primerless adhesion and good flame resistance	440 V/mil 17 kV/mm	NA	0.42	10.6 hr @ 25°C 2 min @ 125°C	63 ⁽¹⁾	94 V-1
DOWSIL™ 3-4150 Dielectric Gel Kit	2-part, transparent green, 1:1 mix ratio, fast-room-temperature-cure gel	385 V/mil 15 kV/mm	0.18	0.47	90 min @ 25°C	117 gm ⁽²⁾	NA
DOWSIL™ 3-4154 Dielectric Gel Kit	2-part, clear, 1:1 mix ratio gel	450 V/mil 18 kV/mm	NA	0.54	180 min @ 80°C 105 min @ 100°C	112 gm ⁽²⁾	NA
DOWSIL™ 3-6635 Dielectric Gel	1-part, clear, low-temperature gel	520 V/mil 20 kV/mm	NA	0.69	120 min @ 100°C	69 gm ⁽²⁾	NA

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

⁽¹⁾Shore A durometer.

⁽²⁾Gel hardness.

Learn More

We bring more than just an industry-leading portfolio of advanced silicone-based materials. As your dedicated innovation leader, we bring proven process and application expertise, a network of technical experts, a reliable global supply base and world-class customer service.

To find out how we can support your applications, visit consumer.dow.com/pcb.

Image: dow_40609992300

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](https://www.consumer.dow.com), OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

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.

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

© 2019 The Dow Chemical Company. All rights reserved.

S91209/E26340

Form No. 11-3416-01 A S2D