Product Information

DOWSIL™ EG-3896 Dielectric Gel

Two-part, heat-cure, toughened and self-priming silicone gel

DOWSIL™

Key Features

- -Improved resistance to cracking and void formation
- -Suitable for operating temperatures from -40°C to +185°C
- -Self-priming adhesion for enhanced module protection
- -UL 94 V-1 flammability classification
- -Reliable protection against damaging environmental conditions
- -Good stability on vertical surfaces
- -Cures quickly

Benefits

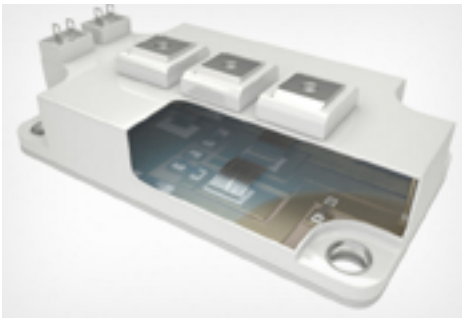
- -More reliable device performance, longer life in damaging environmental conditions
- -Regulatory compliance
- -Improved productivity

Typical Applications

- - Power conversion, such as IGBT modules
- - Automotive under-the-hood PCB system assembly
- - Industrial sensors and actuators

Application Method

- - Automated or manual needle dispense



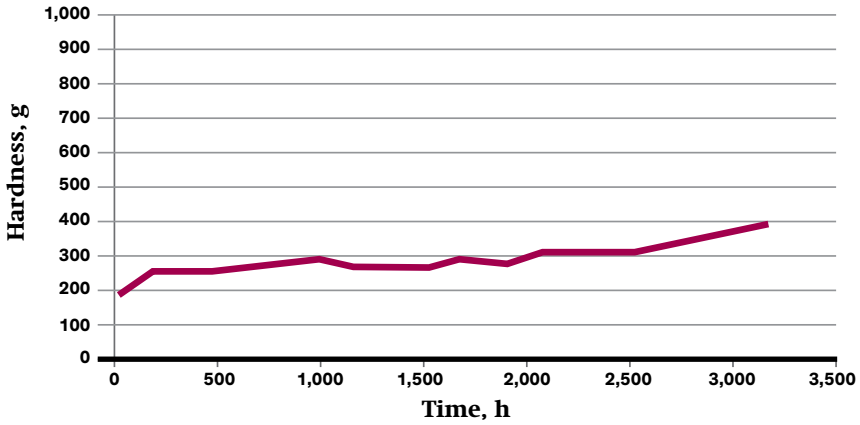
DOWSIL™ EG-3896 Dielectric Gel is a two-part, dielectric silicone that cures quickly with heat to form a tough encapsulant with excellent resistance to cracking and void formation. It offers strong self-priming adhesion to provide PCB system assembly modules with long-lasting protection against moisture, contamination and other environmental factors. The low modulus of this advanced silicone gel minimizes stress on delicate components from thermal cycling, impact and vibration.

These properties enable DOWSIL™ EG-3896 Gel to help enhance the reliability and performance of power conversion applications, such as insulated gate bipolar transistor (IGBT) modules. Its unique combination of thermal stability and low modulus also make it an appealing solution for automotive PCB system modules, sensors and actuators that must operate reliably over large temperature ranges. The product also qualifies for UL 94 V-1 flammability classification.

Potential Uses

Potting material for power conversion and other modules that must operate reliably over a broad temperature range.

Variation of gel hardness with time upon heat exposure at 175°C (CTM 1107)



Material Properties

Property	DOWSIL™ EG-3896 Dielectric Gel
Description	Self-priming adhesive gel
Form	Two-part
Color	Slightly hazy to clear
Viscosity (base)	560 cP 560 mPa.s
Viscosity (curing agent)	330 cP 330 mPa.s
Viscosity (mixed)	520 cP 520 mPa.s
Specific Gravity (uncured part A)	0.98
Specific Gravity (uncured part B)	0.97
Working Time at 25°C	> 4 hours
Heat Cure Time at 70°C	30 minutes
Heat Cure Time at 100°C	10 minutes
Heat Cure Time at 150°C	5 minutes
Gel Hardness (measured at 10 mm)	220 grams
Penetration	30 at 1/10 mm
Penetration ¼ cone	55 at 1/10 mm
Dielectric Strength	559 volts/mil 22 kV/mm
Dielectric Constant at 110 Hz	2.8
Dielectric Constant at 100 kHz	2.9
Dielectric Constant at 1 MHz	2.9
Volume Resistivity	2E+15 ohm-cm
Dissipation Factor at 110 Hz	1.5E-04
Dissipation Factor at 100 kHz	4.6E-05
Dissipation Factor at 1 MHz	1.0E-04

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

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**.

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