Technical Data Sheet

SYLGARD™ 517 Dielectric Gel Kit

General purpose silicone gel

Features & Benefits

- Two-part, 1:1 mixing ratio
- Low viscosity
- Room temperature cure or rapid heat cure
- Addition cure system: no cure by-products
- Self-healing gel
- Permanent pressure sensitive adhesion to most materials without use of a primer
- Stable and flexible from -50°C to +200°C
- Clear
- Excellent dielectric properties

Applications

- Designed to provide long term sealing against moisture and atmospheric contaminants.
- Typical applications include: sealing and protection of delicate electronic circuits, hybrid devices and sealing of small appliances.

Typical Properties

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

CTM[1]	ASTM[2]	Property	Unit	Result
		As supplied		
0176		Color (part A/part B)		Clear
0050	D1084	Viscosity at 23°C (part A/part B)[3]	mPa.s	450/450
		Mixed 1:1 by weight or volume		
0050	D1084	Viscosity at 23°C[3]	mPa.s	450
0022	D0792	Specific gravity at 23°C		0.97
		Physical properties, cured 1 hour at 150°C		
0176		Color (part A/part B)		Clear
		Penetration	mm x 10^{-1}	45
		Electrical properties, cured 1 hour at 150°C		
0114	D0149	Dielectric strength	kV/mm	15
0249	D257	Volume resistivity	Ohm.cm	$3x10^{15}$

1. CTM: Corporate Test Method, copies of CTMs are available on request.
2. ASTM: American Society for Testing and Materials.
3. Brookfield LVF, spindle #3 at 60 rpm

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How to Use

Substrate Preparation
All surfaces should be cleaned and degreased with a suitable solvent prior to potting. Care should be taken to ensure that all solvent is removed.

Mixing
SYLGARD™ 517 Dielectric Gel Kit is supplied in lot matched kits consisting of Part A and Part B in separate containers.

The two components should be thoroughly mixed using a weight or volume ratio of 1:1.

Vacuum de-airing is recommended. A residual pressure of 1020 mm mercury applied for 5-10 minutes will sufficiently de-air the material.

Pot Life
When the two components are thoroughly mixed in a 1:1 ratio, SYLGARD™ 517 Dieletric Gel Kit will have a working time of about 16 hours at room temperature. The viscosity of the initial mix will double in about 2 hours at room temperature (pot life).

How to Apply
Apply the encapsulant, being careful to avoid air entrapment. Vacuum encapsulation is recommended for complex geometries.

For information on appropriate dispensing equipment for your application, please contact Dow.

Curing
SYLGARD™ 517 Dielectric Gel Kit should be cured using one of the following recommended schedules:

4 hours at 65°C, or 1 hour at 100°C, or 15 minutes at 150°C.

Large components and assemblies may require longer times in order to reach the curing temperature. Considerably shorter cure times can result when the part is pre-heated prior to adding the product or when the product is applied in thin sections.

Compatibility
In some cases, SYLGARD™ 517 Dielectric Gel Kit may fail to cure to optimum properties when in contact with certain plastics or rubbers.

Cleaning the substrate with solvent or baking slightly above the cure temperature can eliminate the problem.

Certain chemicals, curing agents and plasticisers can inhibit cure. These include:

- Organotin compounds
- Silicone rubber containing organotin catalysts
- Sulphur, polysulphides, polysulphones and other sulphur containing materials
- Amines, urethanes, amides and azides

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How to Use (Cont.)

Repairability

When cured in place, SYLGARD™ 517 Dielectric Gel Kit can be removed with relative ease, repairs or changes made and protected with additional gel.

Since this gel develops a good adhesion to itself, the repaired region will become an integral part of the original material.

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 DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life and Storage

When stored at or below 35°C in the original unopened containers, this product has a usable life of 12 months from the date of production.

Packaging Information

This product is available in standard industrial container sizes. For details please refer to your Dow sales office.

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, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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To discuss how we could work together to meet your specific needs, go to **dow.com** 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.

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