

# Information About *Dow Corning*<sup>®</sup> brand Silicone Encapsulants

## Silicones and Electronics

Long-term, reliable protection of sensitive circuits and components is becoming more important in many of today's delicate and demanding electronic applications. Silicones function as durable dielectric insulation, as barriers against environmental contaminants and as stress-relieving shock and vibration absorbers over a wide temperature and humidity range.

In addition to sustaining their physical and electrical properties over a broad range of operating conditions, silicones are resistant to ozone and ultraviolet degradation, have good chemical stability and are available in a variety of useful forms as conformal coatings, encapsulants and adhesives. Dow Corning's broad range of general purpose and specialty products offers you a choice of materials for your application needs.

### DESCRIPTION

*Dow Corning*<sup>®</sup> silicone encapsulants are supplied as two-part liquid component kits comprised of:

<b>Mix Ratio</b> <b>(by weight or volume)</b>	<b>Components</b> <b>(as supplied)</b>
1:1	Part A/Part B
10:1	Base/Curing agent

When liquid components are thoroughly mixed, the mixture cures to a flexible elastomer, which is suited for the protection of electrical/electronic applications. *Dow Corning* silicone encapsulants cure without exotherm at a constant rate regardless of sectional thickness or degree of confinement. *Dow Corning* silicone elastomers require no post cure and can be placed in service immediately following the completion of the cure schedule with an operating temperature range of -45 to 200°C (-49 to 392°F). Select materials have been classified by Underwriters Laboratories and/or meet military specifications. Standard silicone encapsulants require a surface treatment with a primer in addition to good cleaning for adhesion while primerless silicone encapsulants require only good cleaning.

Silicone Encapsulants	
<b>Type</b>	Two-part silicone elastomer
<b>Physical Form</b>	Flowable liquid; cures to flexible elastomer
<b>Special Properties</b>	Constant cure rate, regardless of sectional thickness or degree of confinement; service range of -45 to 200°C (-49 to 392°F); no post cure required
<b>Potential Uses</b>	Protection of electrical/electronic devices

Product	Description	Features
<b>Silicone Encapsulants</b>		
<i>Sylgard</i> <sup>®</sup> 160 Silicone Elastomer	Low cost; good thermal conductivity	Two part; 1:1 mix; RT/HA cure; minimal shrinkage; no exotherm during cure; no solvents or cure byproducts; repairable; good dielectric properties; deep section cure; flexible elastomer
<i>Sylgard</i> <sup>®</sup> 165 Silicone Elastomer	Fast cure; low cost; good thermal conductivity	
<i>Sylgard</i> <sup>®</sup> 170 Silicone Elastomer	Low viscosity	
<i>Sylgard</i> <sup>®</sup> 170 Fast Cure Silicone Elastomer	Fast cure; low viscosity	
<i>Dow Corning</i> <sup>®</sup> 96-082 A & B Encapsulant	Very low viscosity; flame retardant; nonmelting; self-extinguishing; extremely long pot life; wide temperature range	
<i>Sylgard</i> <sup>®</sup> 182 Silicone Elastomer	Transparent; long pot life; heat cure	Two part; 10:1 mix; minimal shrinkage; no exotherm during cure; no solvents or cure by-products; deep section cure; repairable; good dielectric properties; flexible elastomer
<i>Sylgard</i> <sup>®</sup> 184 Silicone Elastomer	Transparent; RT/HA cure	
<i>Sylgard</i> <sup>®</sup> 186 Silicone Elastomer	Clear; RT/HA cure; high tear strength	
<i>Dow Corning</i> <sup>®</sup> 3-6121 Encapsulating Elastomer	Low-temperature performance below -65°C (-85°F); clear; high tear and tensile strength; RT/HA cure; high refractive index	
<b>Primerless Silicone Encapsulants</b>		
<i>Sylgard</i> <sup>®</sup> 275 Silicone Elastomer	Excellent unprimed adhesion; heat cure; elastomeric	Two part; 1:1 mix; heat cure; minimal shrinkage; no exotherm during cure; no solvents or cure byproducts; repairable; good dielectric properties
<i>Dow Corning</i> <sup>®</sup> 3-6642 Thermally Conductive Adhesive	Excellent thermal conductivity; self-priming; low viscosity liquid; elastomeric	
<i>Dow Corning</i> <sup>®</sup> 3-8264 Primerless Silicone Adhesive	Excellent unprimed adhesion; heat cure; elastomeric	
<i>Dow Corning</i> <sup>®</sup> 567 Primerless Silicone Encapsulant	Heat cure; unprimed adhesion; elastomeric	

Product	Potential Uses	Application Methods	Cure <sup>1,2</sup>
Silicone Encapsulants			
<i>Sylgard</i> <sup>®</sup> 160 Silicone Elastomer	General potting applications: power supplies, connectors, sensors, industrial controls, transformers, amplifiers, high voltage resistor packs, relays	Supplied as two-part liquid component kits comprised of Part A/Part B to be mixed in a 1:1 ratio by weight or volume; automated mixing and dispensing; manual mixing	24 hours at 25°C (77°F) 10 minutes at 100°C (212°F) 5 minutes at 150°C (302°F)
<i>Sylgard</i> <sup>®</sup> 165 Silicone Elastomer		Supplied as two-part liquid component kits comprised of Part A/Part B to be mixed in a 1:1 ratio by weight or volume; automated mixing and dispensing	5 minutes at 25°C (77°F)
<i>Sylgard</i> <sup>®</sup> 170 Silicone Elastomer		Supplied as two-part liquid component kits comprised of Part A/Part B to be mixed in a 1:1 ratio by weight or volume; automated mixing and dispensing; manual mixing	24 hours at 25°C (77°F) 20 minutes at 70°C (158°F) 15 minutes at 85°C (185°F) 10 minutes at 100°C (212°F)
<i>Sylgard</i> <sup>®</sup> 170 Fast Cure Silicone Elastomer		Supplied as two-part liquid component kits comprised of Part A/Part B to be mixed in a 1:1 ratio by weight or volume; automated mixing and dispensing	10 minutes at 25°C (77°F)
<i>Dow Corning</i> <sup>®</sup> 96-082 A & B Encapsulant	Applications requiring the thorough impregnation possible only with a very low viscosity resin	Supplied as two-part liquid component kits comprised of Part A/Part B to be mixed in a 1:1 ratio by weight or volume; automated mixing and dispensing; manual mixing	30 minutes at 150°C (302°F)
<i>Sylgard</i> <sup>®</sup> 182 Silicone Elastomer	General potting applications: power supplies, connectors, sensors, industrial controls, transformers, amplifiers, high voltage resistor packs, relays; adhesive/encapsulant for solar cells; adhesive handling beam lead integrated circuits during processing	Supplied as two-part liquid component kits comprised of Base/Curing Agent to be mixed in a 10:1 ratio by weight or volume; automated mixing and dispensing; manual mixing	45 minutes at 100°C (212°F) 20 minutes at 125°C (257°F) 10 minutes at 150°C (302°F)
<i>Sylgard</i> <sup>®</sup> 184 Silicone Elastomer			~48 hours at room temp 45 minutes at 100°C (212°F) 20 minutes at 125°C (257°F) 10 minutes at 150°C (302°F)
<i>Sylgard</i> <sup>®</sup> 186 Silicone Elastomer			~48 hours at room temp 30 minutes at 100°C (212°F) 15 minutes at 150°C (302°F)
<i>Dow Corning</i> <sup>®</sup> 3-6121 Encapsulating Elastomer			Low-temperature encapsulating applications; optical applications requiring high refractive index
Primerless Silicone Encapsulants			
<i>Sylgard</i> <sup>®</sup> 275 Silicone Elastomer	Encapsulating applications requiring good primerless adhesion and lower heat cure temperatures	Supplied as two-part liquid component kits comprised of Part A/Part B to be mixed in a 1:1 ratio by weight or volume; automated or manual mixing and dispensing can be used	45 minutes at room temp <5 minutes at 80°C (176°F)
<i>Dow Corning</i> <sup>®</sup> 3-6642 Thermally Conductive Adhesive	Encapsulating applications requiring high thermal conductivity and/or good primerless adhesion	Supplied as two-part liquid component kits comprised of Part A/Part B to be mixed in a 1:1 ratio by weight or volume; automated or manual mixing and dispensing can be used  Note: For full shelf life, product must be refrigerated during storage.	20 minutes at 100°C (212°F) 5 minutes at 150°C (302°F)
<i>Dow Corning</i> <sup>®</sup> 3-8264 Primerless Silicone Adhesive	Encapsulating applications requiring good primerless adhesion and lower heat cure temperatures	Supplied as two-part liquid component kits comprised of Part A/Part B to be mixed in a 1:1 ratio by weight or volume; automated or manual mixing and dispensing can be used	150 minutes at 70°C (158°F) 30 minutes at 115°C (239°F)
<i>Dow Corning</i> <sup>®</sup> 567 Primerless Silicone Encapsulant	Low cost primerless adhesion encapsulation applications	Supplied as two-part liquid component kits comprised of Part A/Part B to be mixed in a 1:1 ratio by weight or volume; automated or manual mixing and dispensing can be used	90 minutes at 100°C (212°F) 60 minutes at 125°C (257°F) 15 minutes at 150°C (302°F)

<sup>1</sup>These data were collected on 50-100 gram samples of a lot believed to be typical and should be used as initial estimates of cure times. Times will vary slightly from batch to batch and can be longer or shorter due to thermal mass of your parts and your heating ramp rate. Pretesting is recommended to confirm adequate cure for your application.

<sup>2</sup>For primerless adhesion products, cure time is based on time to reach durometer. Full adhesion may take more time at the cure temperature.

## TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

Product	Mix Ratio	Color	Viscosity, centipoise or mPas	Durometer, Shore A	Specific Gravity	Working Time at RT	Unprimed Adhesion, Lap Shear			Thermal Conductivity		Linear Coefficient of Thermal Expansion, $\mu\text{m}/\text{m}\cdot\text{C}$ or ppm	Shelf Life from Date of Manufacture at Room Temp, months
							psi	MPa	kgf/cm <sup>2</sup>	Watt-meter <sup>o</sup> K	cal/cm <sup>o</sup> sec <sup>o</sup> C		
Silicone Encapsulants													
<i>Sylgard</i> <sup>®</sup> 160 Silicone Elastomer	1:1	Gray	4000	60	1.57	30 min	NA	NA	NA	0.58	1.4 x 10 <sup>-3</sup>	240	18
<i>Sylgard</i> <sup>®</sup> 165 Silicone Elastomer	1:1	Gray	5000	52	1.57	<2 min	NA	NA	NA	0.58	1.4 x 10 <sup>-3</sup>	230	18
<i>Sylgard</i> <sup>®</sup> 170 Silicone Elastomer	1:1	Dark gray to black	2900	40	1.37	15 min	NA	NA	NA	0.40	9.6 x 10 <sup>-4</sup>	270	24
<i>Sylgard</i> <sup>®</sup> 170 Fast Cure Silicone Elastomer	1:1	Dark gray to black	2850	42	1.37	<5 min	NA	NA	NA	0.40	9.6 x 10 <sup>-4</sup>	-	18
<i>Dow Corning</i> <sup>®</sup> 96-082 A & B Encapsulant	1:1	Black	1100	31	1.21	14 days	NA	NA	NA	0.30	7.2 x 10 <sup>-4</sup>	285	12
<i>Sylgard</i> <sup>®</sup> 182 Silicone Elastomer	10:1	Clear	3900	50	1.03	>8 hours	NA	NA	NA	0.18	4.3 x 10 <sup>-4</sup>	310	24
<i>Sylgard</i> <sup>®</sup> 184 Silicone Elastomer	10:1	Clear	3900	50	1.03	>2 hours	NA	NA	NA	0.18	4.3 x 10 <sup>-4</sup>	310	24
<i>Sylgard</i> <sup>®</sup> 186 Silicone Elastomer	10:1	Translucent	65,000	24	1.12	2 hours	NA	NA	NA	0.2	4.8 x 10 <sup>-4</sup>	330	12
<i>Dow Corning</i> <sup>®</sup> 3-6121 Encapsulating Elastomer	10:1	Translucent	25,000	30	1.13	2 hours	NA	NA	NA	0.18	4.3 x 10 <sup>-4</sup>	290	18
Primerless Silicone Encapsulants													
<i>Sylgard</i> <sup>®</sup> 275 Silicone Elastomer	1:1	Gray	2100	40	1.37	<15 min	230	1.6	16.2	0.45	1.1 x 10 <sup>-3</sup>	NA	6
<i>Dow Corning</i> <sup>®</sup> 3-6642 Thermally Conductive Adhesive	1:1	Gray	5100	82	2.21	0.5 hour	470	3.2	33.0	1.00	2.4 x 10 <sup>-3</sup>	180	8 @ <5°C (41°F)
<i>Dow Corning</i> <sup>®</sup> 3-8264 Primerless Silicone Adhesive	1:1	Black	2900	45	1.32	5 hours	385	2.6	27.0	0.35	8.4 x 10 <sup>-4</sup>	290	9
<i>Dow Corning</i> <sup>®</sup> 567 Primerless Silicone Encapsulant	1:1	Black	1500	45	1.24	>3 days	140	1.0	9.8	0.30	7.2 x 10 <sup>-4</sup>	300	24

Specification Writers: Please obtain copies of the Dow Corning Sales Specifications for these products and use them as a basis for your specifications. They may be obtained from any Dow Corning Sales Office, or from Dow Corning Customer Service in Midland, MI. Call (517) 496-6000.

Product	UL Listing		Military Specification		Dielectric Strength		Dielectric Constant at 100 Hz	Dielectric Constant at 100 kHz	Volume Resistivity, ohm-cm	Dissipation Factor at 100 Hz	Dissipation Factor at 100 kHz
	Flammability Classification	UL Temperature Index, Electrical/Mechanical, °C	Specification	Type, Class, Group	volts/mil	kV/mm					
<i>Sylgard</i> <sup>®</sup> 160 Silicone Elastomer	94 V-0	105/105	NA	NA	530	20.9	3.30	3.20	1.0 x 10 <sup>15</sup>	0.01	0.002
<i>Sylgard</i> <sup>®</sup> 165 Silicone Elastomer	94 V-0	105/105	NA	NA	530	20.9	3.30	3.20	1.0 x 10 <sup>15</sup>	0.01	0.002
<i>Sylgard</i> <sup>®</sup> 170 Silicone Elastomer	94 V-0	170/170	MIL-PRF-23586F (Grade B2)	Type I, Class II, QPL	480	18.9	3.17	3.16	3.1 x 10 <sup>13</sup>	0.003	<0.001
<i>Sylgard</i> <sup>®</sup> 170 Fast Cure Silicone Elastomer	94 V-0	170/170	NA	NA	530	20.9	2.97	2.90	1.4 x 10 <sup>15</sup>	0.005	<0.001
<i>Dow Corning</i> <sup>®</sup> 96-082 A & B Encapsulant	94 V-0	170/170	NA	NA	500	19.7	3.14	3.12	9.5 x 10 <sup>14</sup>	0.0055	<0.001
<i>Sylgard</i> <sup>®</sup> 182 Silicone Elastomer	94 V-1	130/130	MIL-I-81550C	Type II, QPL	540	21.2	2.65	2.65	1.2 x 10 <sup>14</sup>	0.0005	<0.001
<i>Sylgard</i> <sup>®</sup> 184 Silicone Elastomer	94 V-1	130/130	MIL-I-81550C	Type I, QPL	540	21.2	2.65	2.65	1.2 x 10 <sup>14</sup>	0.0005	<0.001
<i>Sylgard</i> <sup>®</sup> 186 Silicone Elastomer	94 HB	140/140	NA	NA	450	17.7	2.93	2.87	1.1 x 10 <sup>14</sup>	0.0012	<0.001
<i>Dow Corning</i> <sup>®</sup> 3-6121 Encapsulating Elastomer	NA	NA	NA	NA	415	16.3	2.92	2.92	1.4 x 10 <sup>14</sup>	0.01	<0.001
<i>Sylgard</i> <sup>®</sup> 275 Silicone Elastomer	94 V-0	105/105	NA	NA	480	18.9	3.31	3.00	6.4 x 10 <sup>14</sup>	0.087	0.006
<i>Dow Corning</i> <sup>®</sup> 3-6642 Thermally Conductive Adhesive	94 V-0	105/105	NA	NA	440	17.3	-	4.20	1.1 x 10 <sup>13</sup>	-	0.0013
<i>Dow Corning</i> <sup>®</sup> 3-8264 Primerless Silicone Adhesive	NA	NA	NA	NA	545	21.4	3.11	3.05	3.5 x 10 <sup>14</sup>	0.007	<0.001
<i>Dow Corning</i> <sup>®</sup> 567 Primerless Silicone Encapsulant	94 V-0	105/105	MIL-PRF-23586F (Grade B2)	Type I, Class IV, QPL	520	20.5	2.85	2.79	1.0 x 10 <sup>14</sup>	0.008	0.002

## HOW TO USE

### Mixing – 1:1/Part A:Part B

*Dow Corning* silicone 1:1 encapsulants are supplied in two parts that do not require lot matching. The 1:1 mix ratio, by weight or volume, simplifies the proportioning process. To ensure uniform distribution of filler, Parts A and B must each be thoroughly mixed prior to their combination in a 1:1 ratio. When thoroughly blended, the Part A and B liquid mixture should have a uniform appearance. The presence of light-colored streaks or marbling indicates inadequate mixing and will result in incomplete cure.

Due to the fast-curing characteristics of some encapsulants included in this datasheet, automated mix and dispense equipment should be utilized. In applications sensitive to air entrapment, deairing with 28 to 30 inches Hg vacuum is required.

### Mixing –10:1/Base:Curing Agent

*Dow Corning* silicone 10:1 encapsulants are supplied in two parts as lot-matched base and curing agent that are mixed in a ratio of 10 parts base to one part curing agent, by weight. After thoroughly mixing base and curing agent, agitate gently to reduce the amount of air introduced. Allowing the mixture to set for 30 minutes before pouring may be adequate for removal of the air introduced during mixing. If air bubbles are still present, vacuum deairing may be required. Deair in a container with at least four times the liquid volume to allow for expansion of material. Air entrapped in the mixture can be removed by using a vacuum of 28 to 30 inches Hg. Continue the vacuum until the liquid

expands and settles to its original volume and bubbling subsides. This may take 15 minutes to 2 hours depending on the amount of air introduced during stirring. For best curing results, glassware and glass or metal stirring implements should be used. Mix with a smooth action that does not introduce excess air.

### Pot Life/Working Time

Cure reaction begins with the mixing process. Initially, cure is evidenced by a gradual increase in viscosity, followed by gelation and conversion to a solid elastomer. Pot life is defined as the time required for viscosity to double after Parts A and B (base and curing agent) are mixed. Please refer to individual pot life for each silicone encapsulant.

### Processing and Curing

Thoroughly mixed *Dow Corning* silicone encapsulant may be poured/dispensed directly into the container in which it is to be cured. Care should be taken to minimize air entrapment. When practical, pouring/dispensing should be done under vacuum, particularly if the component being potted or encapsulated has many small voids. If this technique cannot be used, the unit should be evacuated after the silicone encapsulant has been poured/dispensed.

*Dow Corning* silicone encapsulants may be either room temperature (25°C/77°F) or heat cured. Room temperature cure encapsulants may also be heat accelerated for faster cure. Ideal cure conditions for each product are given in the Product Selection Table.

## PRIMER SELECTION GUIDE

These values are not intended for use in preparing specifications.

<i>Dow Corning</i> ® brand Primer or Adhesion Promoter	Flash Point, °C (°F)	Volatile Organic Content (VOC), grams/liter <sup>4</sup>	Special Properties	For Use On	For Use With	Silicone Product Examples
P5200 Clear <sup>1</sup>	32 (90)	110/705	Colored for easier identification	Most metals, glass, ceramics and some plastics	Pigmented two-part addition cure	160, 165, 170
1200 Clear	17 (63)	748				
1200 Red	17 (63)	774				
P5200 Red <sup>2</sup>	32 (90)	110/705				
1204	15 (59)	774	Film-forming	Most plastics	All	3140, 3145, 838, 3-1753
P5204 <sup>3</sup>	18 (64)	205/591				
1205	5 (41)	861	Improves inhibition resistance	Most plastics and metals	All two-part addition cure	182, 184, 186
3-6060	37 (99)	780				
92-023	-4 (25)	678				
<i>Sylgard</i> ® Prime Coat	-3 (27)	687		Most metals, glass and ceramics		

<sup>1</sup>P5200 Clear is a low-VOC alternative to 1200 Clear.

<sup>2</sup>P5200 Red is a low-VOC alternative to 1200 Red.

<sup>3</sup>P5204 is a low-VOC alternative to 1204.

<sup>4</sup>The lower VOC value is for states and air quality management districts that have recognized volatile methylsiloxanes as VOC exempt.

## PREPARING SURFACES

In applications requiring adhesion, priming will be required for the silicone encapsulants. See the Primer Selection Guide for the correct primer to use with a given product. For best results, the primer should be applied in a very thin, uniform coating and then wiped off after application. After application, it should be thoroughly air dried prior to application of the silicone elastomer. Additional instructions for primer usage can be found in the Dow Corning literature, "How To Use *Dow Corning* Primers and Adhesion Promoters" (Form No. 10-366) and in the information sheets specific to the individual primers.

## USEFUL TEMPERATURE RANGES

For most uses, silicone elastomers should be operational over a temperature range of -45 to 200°C (-49 to 392°F) for long periods of time. However, at both the low and high temperature ends of the spectrum, behavior of the materials and performance in particular applications can become more complex and require additional considerations.

For low-temperature performance, thermal cycling to conditions such as -55°C (-67°F) may be possible, but performance should be verified for your parts or assemblies. Factors that may influence performance are configuration and stress sensitivity of components, cooling rates and hold times, and prior temperature history. There are specialized products including *Dow Corning*® 3-6121 Encapsulating Elastomer that can perform at -65°C (-85°F) and below.

At the high-temperature end, the durability of the cured silicone elastomer is time and temperature dependent. As expected, the higher the temperature, the shorter the time the material will remain useable.

## COMPATIBILITY

Certain materials, chemicals, curing agents and plasticizers can inhibit the cure of *Dow Corning* silicone encapsulants. Most notable of these include:

- Organotin and other organometallic compounds
- Silicone rubber containing organotin catalyst
- Sulfur, polysulfides, polysulfones or other sulfur-containing materials
- Amines, urethanes or amine-containing materials
- Unsaturated hydrocarbon plasticizers
- Some solder flux residues

If a substrate or material is questionable with respect to potentially causing inhibition of cure, it is recommended that a small scale compatibility test be run to ascertain suitability in a given application. The presence of liquid or uncured product at the interface between the questionable substrate and the cured gel indicates incompatibility and inhibition of cure.

## REPAIRABILITY

In the manufacture of electrical/electronic devices it is often desirable to salvage or reclaim damaged or defective units. With most non-silicone rigid potting/encapsulating

materials, removal or entry is difficult or impossible without causing excessive damage to internal circuitry. *Dow Corning* silicone encapsulants can be selectively removed with relative ease, any repairs or changes accomplished, and the repaired area repotted in place with additional product.

To remove silicone elastomers, simply cut with a sharp blade or knife and tear and remove unwanted material from the area to be repaired. Sections of the adhered elastomer are best removed from substrates and circuitry by mechanical action such as scraping or rubbing and can be assisted by applying *Dow Corning*® brand OS Fluids.

Before applying additional encapsulant to a repaired device, roughen the exposed surfaces of the cured encapsulant with an abrasive paper and rinse with a suitable solvent. This will enhance adhesion and permit the repaired material to become an integral matrix with the existing encapsulant. Silicone prime coats are not recommended for adhering product to themselves.

## STORAGE AND SHELF LIFE

Shelf life is indicated by the "Use By" date found on the product label.

For best results, Dow Corning silicone encapsulants should be stored at or below 25°C (77°F). Special precautions must be taken to prevent moisture from contacting these materials. Containers should be kept tightly closed and head or air space minimized. Partially filled containers should be purged with dry air or other gases, such as nitrogen.

Any special storage and handling instructions will be printed on the product containers.

## LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

## PACKAGING

In general, *Dow Corning* silicone 1:1 mix ratio encapsulants are supplied in nominal 0.45-, 3.6-, 18- and 200-kg (1-, 8-, 40- and 440-lb.) containers, net weight. *Dow Corning* silicone 10:1 mix ratio encapsulants are supplied in nominal 0.5-, 5-, 25- and 225-kg (1.1-, 11-, 55- and 495-lb) containers, net weight. Packaging options may vary by product. Consult Dow Corning Customer Service at (517) 496-6000 for additional packaging options.

## SAFE HANDLING INFORMATION

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY WRITING TO DOW CORNING CUSTOMER SERVICE, OR BY CALLING (517) 496-6000.

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**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 Dow Corning's products are safe, effective, and fully satisfactory for the intended end use. Dow Corning's sole warranty is that the product will meet the Dow Corning 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. Dow Corning specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability. Unless Dow Corning provides you with a specific, duly signed endorsement of fitness for use, Dow Corning disclaims liability for any incidental or consequential damages. Suggestions of uses should not be taken as inducements to infringe any particular patent.

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**DOW CORNING**



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