

## SYLGARD® 567 Primerless Silicone Encapsulant

### FEATURES

- Two-part, 1:1 mixing ratio
- Low viscosity
- Long pot life
- Rapid heat cure
- Addition cure system:  
no cure by-products
- Self-priming
- Flexible rubber - protects against  
mechanical shock and thermal  
cycling stress at components
- Flame retardant: meets  
Underwriters Laboratories  
UL 94-VO
- Stable and flexible from -50°C to  
+200°C
- Excellent dielectric properties

### Self-priming elastomer

### APPLICATIONS

- Designed to protect against moisture, environmental attack, mechanical and thermal shock as well as vibration especially where good adhesion is required.
- Typical applications include: encapsulation of amplifiers, automotive electronic units, ballast, bleed resistors, connectors, flyback transformers, high voltage resistor packs, lifting magnets, power controllers, power supplies, radio frequency induction transformers and sensing devices.

### TYPICAL PROPERTIES

Specifications writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales representative prior to writing specifications on this product.

| CTM*   | ASTM* | Property  | Unit    | Value                |
|--|-------|---|---------|----------------------|
| <b>As supplied</b>                                   |       |   |         |                      |
| 0176   |       | Colour (Part A/Part B)                          |         | Black/Tan            |
| 0050   | D1084 | Viscosity at 23°C (Part A/Part B) <sup>1</sup>  | mPa.s   | 2100/900             |
| 0022   | D792  | Specific gravity at 23°C (Part A/Part B)        |         | 1.20/1.20            |
| <b>Catalysed, mixed 1:1, by weight or volume</b>     |       |   |         |                      |
| 0176   |       | Colour  |         | Dark grey            |
| 0050   | D1084 | Viscosity at 23°C, after 2 minutes <sup>1</sup> | mPa.s   | 1500                 |
| 0050   | D1084 | Viscosity at 23°C after 3 days                  | mPa.s   | 3000                 |
| <b>Physical properties, cured 2 hours at 150°C</b>   |       |   |         |                      |
| 0176   |       | Colour  |         | Dark grey            |
| 0099   | D2240 | Durometer hardness, Shore A                     |         | 38                   |
| 0022   | D0792 | Specific gravity at 23°C                        |         | 1.20                 |
| 0137A  | D412  | Tensile strength                                | MPa     | 1.40                 |
| 0137A  | D412  | Elongation at break                             | %       | 100                  |
|  |       | Coefficient of thermal conductivity             | W/(m.K) | 0.27                 |
|  |       | Volume coefficient of thermal expansion         | 1/K     | 8.5x10 <sup>-4</sup> |
| <b>Electrical properties, cured 2 hours at 150°C</b> |       |   |         |                      |
| 0114   | D149  | Dielectric strength                             | kV/mm   | 18                   |
| 0112   | D150  | Permittivity at 100Hz/100kHz                    |         | 3.0/2.98             |
| 0112   | D150  | Dissipation factor at 100Hz/100kHz              |         | 0.008/0.002          |
| 0249   | D257  | Volume resistivity                              | Ohm.cm  | 1.0x10 <sup>15</sup> |
|  |       | Comparative tracking index (IEC112)             |         | 600                  |

1. Brookfield HAF, spindle #2 at 10rpm.

\* CTM: Corporate Test Method, copies of CTMs are available on request.

ASTM: American Society for Testing and Materials.

## 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.

SYLGARD 567 Primerless Silicone Encapsulant has been specially formulated to provide excellent unprimed adhesion to many metals, ceramics, glass, laminates, resins and plastics. Good adhesion cannot be expected on low surface energy substrates such as polytetrafluoroethylene, polyethylene and polypropylene. Special surface treatments such as chemical etching, corona discharge or plasma treatment are required to give a reactive surface and promote adhesion onto these types of substrates. In general, it has been shown that for difficult substrates, adhesion is improved using the maximum cure temperature.

Substrates which melt at or below the cure temperature of SYLGARD 567 Primerless Silicone Encapsulant should not be used.

### Mixing

SYLGARD 567 Primerless Silicone Encapsulant is supplied in lot matched kits consisting of Part A and Part B in separate containers. During long periods of storage, some of the filler may settle at the bottom of the containers and should be individually homogenised prior to use.

The two components should be thoroughly mixed using a weight or volume ratio of 1:1 until the mixture has a uniform colour.

After mixing, SYLGARD 567 Primerless Silicone Encapsulant has a working time of more than 4 days at room temperature. An agitation tank is recommended during prolonged use.

Vacuum de-airing is recommended. A residual pressure of 10-20mm mercury applied for 5-10 minutes will sufficiently de-air the material.

### 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 Corning.

### Curing

For complete cure and more importantly for optimum adhesion, SYLGARD 567 Primerless Silicone Encapsulant should be cured using one of the following recommended schedules:

3 hours at 80°C, or  
2 hours at 100°C, or  
1 hour at 150°C

Large components and assemblies may require longer times in order to reach the curing temperature.

### Compatibility

In some cases SYLGARD 567 Primerless Silicone Encapsulant 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:

- Organo-tin compounds
- Silicone rubber containing organo-tin catalysts
- Sulphur, polysulphides, polysulphones and other sulphur containing materials
- Amines, urethanes, amides and azides.

## HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. 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 FROM YOUR LOCAL DOW CORNING SALES REPRESENTATIVE.

## USABLE LIFE AND STORAGE

When stored at or below 32°C in the original unopened containers, this product has a usable life of 24 months from the date of production.

## PACKAGING

This product is available in standard industrial container sizes. For details please refer to your Dow Corning 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 Corning has an extensive Product Stewardship organization and a team of Health, Environment and Regulatory Affairs specialists available in each area.

For further information, please consult your local Dow Corning representative.

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