Product Information

DOW CORNING

SILASTIC® 145 RTV Encapsulant

FEATURES

- Two-part
- Room temperature cure
- Neutral alkoxy cure system
- Flexible rubber - protects against mechanical shock and thermal cycling stress at components
- Stable and flexible from -50°C to +180°C
- Excellent dielectric properties

General purpose condensation cure silicone elastomer

APPLICATIONS

- Designed to protect against moisture, environmental attack, mechanical and thermal shock as well as vibration.
- Typical applications include: encapsulation of high voltage and low voltage electrical and electronic units.

TYPICAL PROPERTIES

Specification 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
		As supplied		
0176		Colour - Base/Catalyst		White/Blue
		Base and Catalyst mixture (10:1 by weight)		
0050	D1084	Viscosity at 23°C[1]	mPa.s	17,000
0092A		Working time (snap) of catalysed mixture at 23°C	minutes	120
		Physical properties, cured 3 days at 23°C		
		Color		Blue
0022	D0792	Specific gravity at 23°C		1.17
0099	D2240	Durometer hardness, Shore A		40
0137A	D412	Tensile strength	MPa	2.5
0137A	D412	Elongation at break	%	200
		Volume coefficient of thermal expansion	1/K	7.5x10[a¤]
		Coefficient of thermal conductivity	W/(m.K)	0.28
		Electrical properties, cured 3 days at 23°C		
0114	D149	Dielectric strength	kV/mm	18
0249	D257	Volume resistivity	Ohm.cm	0.7x10[¥]
		Comparative tracking index (IEC112)		600

1. Brookfield viscosimeter model HAF, spindle #3 at 5rpm

* 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.

For best adhesion, coat surfaces with DOW CORNING® 1200 OS Primer, following the instructions and precautions given for use of this product.

Mixing

Thoroughly stir SILASTIC 145 RTV Base before use, as filler separation may occur upon prolonged storage.

Weigh 100 parts of SILASTIC

145 RTV Base and 10 parts SILASTIC 145 RTV Catalyst in a clean container. Mix together until the catalyst is completely dispersed in the base. Hand or mechanical mixing can be used, but do not allow the temperature to exceed 35°C.

De-air the mixture under vacuum (typically to a residual pressure of 20mm of mercury for 5 to 10 minutes), allowing the mixture to completely expand and then collapse. After a further 1-2 minutes under vacuum, the mix should be inspected and, if free of air bubbles, can then be used. A temporary volume increase of 3-5 times will occur during vacuum de-airing the mixture, so a suitably large container should be chosen. Caution: prolonged vacuum will remove volatile components from the uncured mix and may result in poor thick section cure.

How to apply

Use care when encapsulating or potting to minimise the air entrapped. It may be necessary to apply a further vacuum to the filled assembly. Leave to cure at room temperature (23°C) for 24 hours. Units can then be handled and moved. Full physical properties will be obtained after 3 days.

Confined applications

SILASTIC 145 RTV Encapsulant may depolymerise (soften in deep section) when overheated in totally confined applications. Components which must operate in total confinement at high temperatures can be given a graduated post-cure to minimise this effect. This post-cure should allow by-products to escape from the encapsulant by leaving a suitable aperture (which later can be sealed).

A recommended post-cure schedule is to increase from room temperature by 25°C per hour up to 50°C above the maximum operating temperature of the device. Leave for 4 hours at this temperature. Do not exceed 180°C.

Please note: This post-cure process is not usually required as most encapsulated assemblies have an exposed surface, or are not exposed to high temperatures in totally confined conditions.

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 between 5°C and 32°C in the original unopened containers, this product has a usable life of 24 months from the date of production.

Both the base and catalyst are moisture sensitive. Ensure that containers are tightly closed after use.

PACKAGING

SILASTIC 145 RTV Encapsulant 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.

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 use shall not be taken as inducements to infringe any patent.

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