

DOW CORNING® 3-6385 Thermally Conductive Encapsulant

FEATURES

- Two-part, 1:1 mixing ratio
- Room temperature cure or rapid heat cure
- Addition cure system: no cure by-products
- Stable and flexible from -50°C to +200°C
- Flexible rubber - protects against mechanical shock and thermal cycling stress at components
- High thermal conductivity
- Excellent dielectric properties

Two-component RTV silicone encapsulant

APPLICATIONS

- Designed to protect against moisture, environmental attack, mechanical and thermal shock as well as vibration especially where heat transfer is important and high hardness or high specific gravity of the product is required.
- Typical applications include: potting of high voltage transformers and sensors.

TYPICAL PROPERTIES

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

CTM*	ASTM*	Property	Units	Value
As supplied				
0176		Colour (Part A/Part B)		Red/Light grey
0050	D1084	Viscosity at 23°C (Part A/Part B) ¹	mPa.s	20,000/16,000
Catalysed, Mixed 1:1 by weight				
		Colour		Red
0050	D1084	Viscosity at 23°C, after 2 minutes ¹	mPa.s	18,000
		Working time at 23°C (snap)	minutes	60
		Cure time at 23°C	minutes	80
Physical properties, cured 30 minutes at 70°C				
		Colour		Red
0022	D0792	Specific gravity at 23°C		2.4
0099	D2240	Durometer hardness, Shore A		64
0137A	D412	Tensile strength	MPa	2.0
0137A	D412	Elongation at break	%	50
0159A	D624	Tear strength - die B	kN/m	6.0
		Thermal conductivity	W/(m.K)	1.0
0653		Volume coefficient of thermal expansion	1/K	5.5x10 ⁻⁴
Electrical properties, cured 30 minutes at 70°C				
0114	D149	Dielectric strength, 2mm thickness	kV/mm	16
0249	D257	Volume resistivity	Ohm.cm	6.0x10 ¹⁴
		Comparative tracking index (IEC112)		600

1. Brookfield RVT, spindle #6, 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.

For best adhesion, coat surfaces with DOW CORNING® 92-023 Primer or DOW CORNING® 1200 OS Primer, following the instructions and

precautions given for use of these products.

Mixing

DOW CORNING 3-6385 Thermally Conductive Encapsulant is supplied in lot matched kits consisting of Part A and Part B in separate containers. During 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.

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

DOW CORNING 3-6385 Thermally Conductive Encapsulant should be cured at room temperature for two hours.

Compatibility

In some cases, DOW CORNING 3-6385 Thermally Conductive 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

A Product Safety Data Sheet should be obtained from your nearest Dow Corning sales office prior to use.

ATTENTION: Before handling, read product information, Product Safety Data Sheets and container labels for safe use, and any physical and/or health hazard information.

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.

Dow Corning will guarantee the usable life of this product until the date indicated on the packaging. This date is shown by the letters "EXP" (meaning Expiry) followed by 4 digits, which stand for the month (last day) and year. Example: "EXP 03/99" means use by 31 March 1999.

PACKAGING INFORMATION

DOW CORNING 3-6385 Thermally Conductive 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

Dow Corning's Health, Environment and Regulatory Affairs (HERA) Department is available to support customers for their product safety needs. For further information, you can contact this group at:

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