



# DOW CORNING®

## 3145 RTV MIL-A-46146

### Adhesive/Sealant

#### FEATURES

- One-part
- Non-sag
- Room temperature cure
- Neutral alkoxy cure system
- Good adhesion to glass, ceramics, metals, silicone rubber and many plastics
- High tear strength
- Flexible rubber - protects against mechanical shock and thermal cycling stress at components
- Stable and flexible from -50°C to +200°C (higher for grey version)
- Excellent dielectric properties

#### High strength silicone adhesive/sealant

#### APPLICATIONS

- Designed to provide long term bonding and to protect against moisture, environmental attack, mechanical and thermal shock as well as vibration especially where a high strength product is required.
- Typical applications include: bonding of sensitive electronic components and sub-assemblies.

#### 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
<b>As supplied</b>				
		Consistency		Non-slump paste
0176		Color		Grey or clear
0364		Extrusion rate, 3mm orifice at 0.6MPa	g/minute	175
0098		Skin-over time	minutes	50
0095		Tack-free time	hours	1.5
		Cure time - 0.5mm thickness	hours	24
		Cure time - 3.2mm thickness	hours	72
		Full cure - 3.2mm thickness	days	7
0010		Non-volatile content	%	98
0022	D0792	Specific gravity at 23°C		1.12
<b>Physical properties, after curing 7 days at 23°C and 50% relative humidity</b>				
0099	D2240	Durometer hardness	Shore A	50
0137A	D412	Tensile strength	MPa	6.9
0137A	D412	Elongation at break	%	650
0159A	D624	Tear strength - die B	kN/m	35
0239	D403	Peel strength, primed aluminium panel	kN/m	17
		Volume coefficient of thermal expansion	1/K	7.8x10 <sup>-6</sup>
		Coefficient of thermal conductivity	W/(m.K)	0.17

## TYPICAL PROPERTIES (continued)

CTM*	ASTM*	Property	Unit	Value
<b>Electrical properties, cured 7 days at 23°C and 50% relative humidity</b>				
0114	D149	Dielectric strength	kV/mm	20
0112	D150	Permittivity at 100Hz		2.6
0112	D150	Permittivity at 100kHz		2.6
0112	D150	Dissipation factor at 100Hz		0.001
0112	D150	Dissipation factor at 100kHz		0.0009
0249	D257	Volume resistivity	Ohm.cm	1.8x10 <sup>15</sup> ¶
		Comparative tracking index (IEC112)		600

\* CTM: Corporate Test Method, copies of CTMs are available on request.  
 ASTM: American Society for Testing and Materials.

## HOW TO USE

### Substrate preparation

DOW CORNING 3145 RTV MIL-A-46146 Adhesive/Sealant forms a bond to most clean, dry surfaces of metals, glass, silicone or organic resins and vulcanised silicone rubber. For maximum adhesion, the use of DOW CORNING® 1200 OS Primer or DOW CORNING® 1204 Primer is recommended.

For best results:

1. Clean the surface with a solvent such as isopropanol and a slightly abrasive pad or a coarse lint-free cloth.
2. Apply a thin coat of primer by dipping, brushing or spraying.
3. Allow the primer to dry for at least 1 hour, at 50% relative humidity.
4. Silicone rubber surfaces should not be primed, but only roughened slightly with abrasive paper and rinsed with acetone.

### How to apply

DOW CORNING 3145 RTV MIL-A-46146 Adhesive/Sealant has a paste-like consistency and can be applied directly from its collapsible tube or extruded from its cartridge. A plastic nozzle is supplied which may be cut to the desired orifice size and shape to facilitate application.

Apply DOW CORNING 3145 RTV MIL-A-46146 Adhesive/Sealant to the prepared surface in a uniform thickness. If the adhesive is to be used to bond two surfaces, apply it first to

one surface only and then assemble. When placing the second surface, use enough pressure to spread the adhesive and displace any trapped air.

Best adhesion is obtained with an approximately 0.5mm thick glue line. Bonds should not overlap more than 25mm. Let the unit stand undisturbed until it cures sufficiently.

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

### Working and curing time

On exposure to moisture in the air, the surface of DOW CORNING 3145 RTV MIL-A-46146 Adhesive/Sealant will form a skin in about 25 minutes at room temperature with 50% relative humidity. Any tooling should be completed before this skin forms. After 90 minutes under these conditions, the adhesive/sealant will become tack free, allowing limited handling until the cure is fully complete.

Curing continues inward from the surface. In 24 hours (at room temperature and 50% relative humidity), the adhesive/sealant will cure to a depth of 3mm. Optimum physical properties are reached after curing for 7 days at room temperature. Cure time is extended at lower humidity levels. This effect becomes pronounced below 30% relative humidity.

If both bonded substrates are impermeable to moisture, as in the case of two metal plates, cure time

will depend upon the thickness of the adhesive and the area under the joint. For best results, the bonded surfaces should not overlap by more than 25mm.

## 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 30°C in the original unopened containers, this product has a usable life of 12 months from the date of production.

DOW CORNING 3145 RTV MIL-A-46146 Adhesive/Sealant cures by reaction with moisture in air, keep the container tightly sealed when not in use. A plug of used material may form in the tip of a tube or cartridge during storage. This is easily removed and does not affect the remaining contents.

## PACKAGING

DOW CORNING 3145 RTV MIL-A-46146 Adhesive/Sealant 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.

