

Product Information

Dow Corning[®] 3-8186 Thixotropic Foam

FEATURES

- Reduced flow
- Low durometer

BENEFITS

- Robotically Dispensed in place gasketing applications
- Low sealing force

COMPOSITION

- As supplied-Liquid form
- As Cured-Elastomeric foam
- Two component Platinum cure.

Two-part silicone elastomeric foam

APPLICATIONS

- Dow Corning[®] 3-8186 Thixotropic Foam is designed to form dispensed in place compression gaskets in applications that require low sealing force. Uses include sealing automotive components and lighting.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Test	Property	Unit	Result	
	As supplied¹			
CTM ² 0063	Color		Part A Black	Part B Off-white
CTM 0044	Specific Gravity		1.12	1.22
CTM 0050	Viscosity,	cps	135,000	125,000
	As catalyzed—1:1 mix ratio (by weight)			
CTM 0063	Color		Black	
CTM 0092A	Snap Time,	minutes	3.5	
CTM 0062	Flow, maximum	inches	4	
	As cured—Physical³			
CTM 0854A	Density,	kg/m ³ (pcf)	225 (14)	
ASTM D 412	Tensile Strength, Die A,	MPa (psi)	0.18 (26)	
ASTM D 412	Elongation,	percent	140	
CTM 0525	Compression Deflection, 25% ILD at 23°C (73°F)	MPa (psi)	0.032 (4.7)	
	50% ILD at 23°C (73°F)	MPa (psi)	0.085 (12.4)	
	75% ILD at 23°C (73°F)	MPa (psi)	0.33 (48.6)	
CTM 0085	Compression Set, 72 hours at 23°C (73°F), 50% deflection,	percent	3	

¹At 23°C (73°F) and 50% relative humidity.

²CTMs (Corporate Test Methods) correspond to standard ASTM tests in most instances. Copies of CTMs are available upon request.

³After curing 10 minutes at 75°C (167°F) and equilibration for 24 hours at 23°C (73°F) and 50% relative humidity.

DESCRIPTION

Dow Corning 3-8186 Thixotropic Foam is a two-part, medium-density, reduced flow, liquid silicone product supplied as Part A and Part B. When mixed 1:1 by weight, it will expand and cure to form an elastomeric foam with moderate heat ($\geq 75^{\circ}\text{C}$ / 167°F) in

approximately 10 minutes.

HOW TO USE

Substrate Preparation

This product bonds better to some substrates than others. For instance, metals typically are easier to adhere to

when the foam is cured at elevated temperatures (120° to 150°C/248° to 302°F).

Regardless of the substrate, it must be clean for best adhesion, with no dirt, oils, release agents, dust, or shavings. Wash the substrate, if necessary. However, certain cleaning solutions may leave a residue that can actually hamper adhesion.

Some substrates—even when properly washed—require additional treatment, including plasma, corona, or flame treatment; chemical priming; or, in some cases, both, to achieve good adhesion. Contact your Dow Corning representative for more information if your application requires surface treatment.

Metering/Mixing

Dow Corning 3-8186 Thixotropic Foam should be metered using a positive displacement device, such as a gear pump, and mixed using static mixing. For information on suitable metering and mixing equipment, contact Dow Corning.

Dispensing

Dow Corning 3-8186 Thixotropic Foam should be dispensed using a suitable robot, XYZ table, or other motion device to obtain a uniform bead.

The gasket bead size to be specified is a function of the anticipated gap size for the part and the flange width. Consult your Dow Corning representative for design recommendations.

Working Time

Dow Corning 3-8186 Thixotropic Foam has a working time of about one minute at 23°C (73°F) and 50 percent relative humidity. Higher temperatures will reduce working time.

Cure

When properly mixed, *Dow Corning* 3-8186 Thixotropic Foam will expand and cure within 10 minutes at 75°C (167°F).

Cure Inhibition

Certain materials, chemicals, curing agents, and plasticizers can inhibit the cure of *Dow Corning* 3-8186 Thixotropic Foam. The most notable are organo-tin and other organometallic compounds; silicone rubber containing an organo-tin catalyst; sulfur, polysulfides, polysulfones, and other sulfur-containing materials; and unsaturated hydrocarbon plasticizers. Many lubricating oils contain sulfur.

If a substrate is questionable with respect to causing inhibition of cure, it is recommended that a small scale compatibility test be run to ascertain suitability. The presence of liquid, uncured product at the interface between the substrate and foam bead indicates inhibition of cure and incompatibility.

HANDLING PRECAUTIONS

Immediately upon mixing Parts A and B of *Dow Corning* 3-8186 Thixotropic Foam, a chemical reaction takes place that results in the evolution of flammable hydrogen gas. Appropriate caution should be exercised. Adequate ventilation should be provided to prevent localized build-up of hydrogen gas.

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 (90°F), *Dow Corning* 3-8186 Thixotropic Foam has a shelf life of 8 months from the date of manufacture. Store material in the original containers. Keep the containers tightly sealed when not in use.

SHIPPING LIMITATIONS

Dow Corning 3-8186 Thixotropic Foam, Part B, is a combustible liquid.

PACKAGING INFORMATION

Dow Corning 3-8186 Thixotropic Foam, Parts A and B, is available in 5-gal (8.9-L) pail kits with 40 pounds (18.1 kg) of material per pail and 55-gal (208-L) drum kits with 400 pounds (181 kg) of material per drum.

PATENT POSITION

A method of preparing a foam by mixing Part A and Part B of *Dow Corning* 3-8186 Thixotropic Foam is claimed in Dow Corning's U.S. Patents Nos. 4,322,518 and 5,414,023. Dow Corning intends to enforce these patents, but will offer licenses there under. If a license is needed, Dow Corning will ship the products in containers which bear a label license and the invoice will include a statement of the royalty due.

Alternatively, upon written request, Dow Corning will offer a license agreement at a comparable royalty rate under which the licensee may handle its own accounting of royalties due, regardless of the source of materials.

LIMITATIONS

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

Do not use for applications where the product will be in constant contact with engine oils, gasoline, synthetic fuels, or solvents. Mixing Part A and Part B at a ratio other than 1:1 may lead to poor seal performance.

HEALTH AND ENVIRONMENTAL INFORMATION

To support Customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our Web site, dowcorning.com or consult your local Dow Corning representative.

LIMITED 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 our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow Corning's sole warranty is that our products will meet the 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.

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