



Technical Data Sheet

DOWSIL™ 3-0105 Automotive Sealant

FEATURES

- One-part, alkoxy-cure, room temperature- vulcanizing (RTV) silicone sealant

BENEFITS

- Fluid resistant, blowout resistant, noncorrosive, low odor, excellent unprimed adhesion, low volatility, low foaming in powertrain fluids

COMPOSITION

- As supplied: High-viscosity paste
- As cured: Tough, rubbery solid

Formed-in-place gasketing (FIPG) sealant for many automotive powertrain sealing applications where in-line pressure leak testing is required

APPLICATIONS

- DOWSIL™ 3-0105 Automotive Sealant can be used for many automotive flange sealing applications. Because of its high viscosity, the sealant is recommended in applications where immediate pressure leak testing is required. Typical applications include oil pan and axle cover sealing, as well as coolant system seals and engine block main seals.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications.

CTM ²	ASTM	Property	Unit	Result
		As supplied¹		
0176		Consistency		High-viscosity, nonslumping paste Grey
0063		Color		Grey
0364		Extrusion Rate, 3.2-mm (1/8-inch) nozzle at 0.63 MPa (90 psi)	grams per minute	50
0098		Skin-Over Time	minutes	7
0095		Tack-Free Time	minutes	20
0084		Cure Rate, 3.2 mm (1/8 inch)	hours	24
0097		Specific Gravity		1.32
		Blowout Resistance, 30-minute cure, 4-mm (0.157-inch) flange, 1.5-mm (0.060-inch) gap	20 seconds at 0.014 MPa (2 psi)	Pass
		As cured—Physical³		
	D 2240	Durometer	Shore A	45
	D 412	Tensile Strength	MPa (psi)	2.07 (300)
	D 412	Elongation	percent	375
		Modulus at 100% elongation	MPa (psi)	1.10 (160)
		Lap Shear Adhesion, 12.7 x 25.4 x 1 mm (0.5 x 1 x 0.040 inch) 2024 aluminum	MPa (psi)	1.55 (225)
		1010 steel	MPa (psi)	1.59 (230)
		As cured—Fluid Immersion Resistance³		
		<i>Mobil</i> ^{®4} 5W30 SG Oil, one week at 150°C (302°F)		
		change in durometer	percent	-40
		change in tensile	percent	-35
		change in elongation	percent	
		volume swell	percent	35

DESCRIPTION

DOWSIL 3-0105 Sealant is a one-part, self-priming, noncorrosive, alkoxy-cure, RTV silicone rubber designed for automotive powertrain sealing applications. The sealant was formulated to be high viscosity to withstand in-line pressure leak testing (blowout resistance) in assembly operations.

This product exhibits excellent unprimed adhesion to properly prepared surfaces of metals and many plastics. It is low in silicone volatiles and meets the low volatility requirements of the automotive industry for use in gasketing applications.

HOW TO USE

Substrate Preparation

Surfaces to be adhered or sealed should be free of dirt, oil, and other contaminants. A surface primer can be recommended for hard-to-bond surfaces, such as some plastics. Contact your representative for specific recommendations.

How to Apply

Apply the sealant to the prepared surface in a continuous, uniform thickness. DOWSIL 3-0105 Automotive Sealant can be manually applied, but the use of automated dispensing equipment is highly recommended to obtain a uniform seal.

The sealant bead size to be specified is a function of the anticipated gap size for the part and the flange width.

Tack-Free Time and Handling Time

On exposure to moisture in the air, the surface of DOWSIL 3-0105 Automotive Sealant will skin over in about seven minutes at room temperature and 50 percent relative humidity. To ensure integrity of the

seal between mating parts, assemble the parts before the

TYPICAL PROPERTIES *continued*

CTM ²	ASTM	Property	Unit	Value
		IRM 903 Oil, 3 days at 150°C (302°F)		
		change in durometer	percent	-58
		change in tensile	percent	-37
		change in elongation	percent	-34
		volume swell	percent	48
		Ethylene Glycol/Water, 50:50 solution, one week at 122°C (252°F)		
		change in durometer	percent	-6
		change in tensile	percent	-17
		change in elongation	percent	-22
		volume swell	percent	6
		SAE 80W90 Hypoid Gear Oil, 100 hours at 100°C (212°F)		
		change in durometer	percent	-14
		change in tensile	percent	22
		change in elongation	percent	-8
		volume swell	percent	11
		Dexron [®] 5 II Automatic Transmission Fluid, one week at 150°C (302°F)		
		change in durometer	percent	-55
		change in tensile	percent	-22
		change in elongation	percent	-28
		volume swell	percent	40

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

²Corporate Test Method.

³After curing 7 days at 23°C (73°F) and 50% relative humidity.

⁴Mobil is a registered trademark of Mobil Oil Corporation.

⁵Dexron is a registered trademark of General Motors Corporation.

sealant skins over. Higher relative humidities will accelerate this cure time.

Cure

Curing continues inward from the surface. In 24 hours at room temperature and 50 percent relative humidity, a fully exposed section of DOWSIL 3-0105 Automotive Sealant will cure to a depth of 3.2 mm. Lower relative humidities will extend this cure time. If both bonded members are impermeable to moisture, as in the case of two metal plates, cure time will depend on the thickness of DOWSIL 3-0105 Automotive Sealant and the area under the joint. The larger the unexposed area, the longer the cure time. For shorter cure time and maximum bond strength, keep the area enclosed by the joint to a minimum. For best results, a metal-to-metal bond should not overlap more than one inch.

**HANDLING
PRECAUTIONS
PRODUCT SAFETY
INFORMATION REQUIRED
FOR SAFE USE IS NOT
INCLUDED IN THIS
DOCUMENT. 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
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DOWSIL™ 3-0105 Automotive Sealant

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USABLE LIFE AND STORAGE

Product should be stored at or below 32°C (90°F) in original, unopened containers. Since this material cures by reaction with moisture in the air, keep the container tightly sealed when not in use.

LIMITATIONS

Do not use for applications where the product will be in constant contact with gasoline, synthetic fuels, or solvents. Do not use in totally confined applications; sealant must have exposure to moisture from the atmosphere to cure

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

SHIPPING LIMITATIONS

None.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, www.consumer.dow.com or consult your local Dow 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.

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