



## Technical Data Sheet

### DOWSIL™ 3-6096 Adhesive

#### FEATURES & BENEFITS

- Easy-to-use one-component adhesive/sealant
- Addition cure system
- Cures to a tough, flexible rubber
- Excellent adhesion to a wide range of substrates such as glass, metals and plastics
- Rapid heat cure
- Excellent heat resistance (up to 250°C)
- Stable and flexible over wide temperature range (from -40°C to +250°C)

One-component, non-flowing, silicone adhesive with rapid heat cure

#### APPLICATIONS

- Designed to provide flexible yet structurally strong bonding of various substrates with dissimilar thermal expansion rates such as metal, glass and plastic when a very fast cure is needed
- Typical applications include bonding of domestic oven doors, and assembling of ceramic cooking hobs.

#### TYPICAL PROPERTIES

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

CTM <sup>1</sup>	ASTM <sup>2</sup>	Property	Unit	Result
<b>As supplied</b>				
0176		Appearance		Paste
0176		Color		Black
<b>As cured (1 hr at 150°C) Physical properties measured after 24 hr at RT</b>				
0099	D-2240	Durometer Hardness, Shore A		45
0097F		Specific Gravity		1.3
0137	D-412	Tensile Strength	MPa	3.65
0137	D-412	100% Modulus	MPa	1.4
0137	D-412	Elongation at Break	%	215
0159	D-624	Tear Strength, Die B	N/mm <sup>2</sup>	7
<b>Adhesion in lap shear assemblies Alu/Alu, as cured (1 hr at 150°C)</b>				
0243		Lap Shear Strength	MPa	4.2
		Elongation at Break	%	165
		Cohesive Failure	%	100

<sup>1</sup>CTM: Corporate Test Method, copies of CTM's are available on request.

<sup>2</sup>ASTM: American Society for Testing and Materials

## DESCRIPTION

DOWSIL™ 3-6096 Adhesive is a one-component, non-flowing, silicone adhesive with rapid heat cure. It forms high-strength, medium modulus flexible bonds to metal, glass and other substrates with improved adhesion properties when exposed to high temperatures > 200°C, especially if adhesion in a humid environment is asked for.

## HOW TO USE

### Substrate preparation

For best adhesion, all surfaces should be cleaned and degreased with a suitable solvent. Care should be taken to ensure that all solvent is removed. DOWSIL 3-6096 Adhesive has been formulated to provide unprimed adhesion to a variety of substrates such as metals, glass and plastics. Good adhesion cannot be expected on low surface energy substrates such as polytetrafluoroethylene, polyethylene and polypropylene. Special surface treatments such as chemical etching, flame or plasma treatment are required to give a reactive surface and promote adhesion to these substrates. Substrates which melt at or below the cure temperature of DOWSIL 3-6096 Adhesive should not be used.

### How to apply

Apply DOWSIL 3-6096 Adhesive to one of the prepared surfaces and bond the surfaces together.

Cure using recommended conditions mentioned below.

### Cure time

For complete cure and, more importantly, for optimum adhesion, DOWSIL 3-6096 Adhesive should be cured using one of the following recommended schedules:

- 5 minutes at 180°C
- 15 minutes at 150°C
- 1 hour at 120°C

Large components and assemblies may require longer times to reach the curing temperature.

It is possible to cure the adhesive in 3 minutes or less via use of efficient, direct heating methods of the bonded parts, e.g. via infrared, heating elements, or via induction heating. Do not expose DOWSIL 3-6096 Adhesive to temperatures of more than 200°C before it is fully cured.

### Compatibility

In some cases, DOWSIL 3-6096 Adhesive may fail to cure to optimum properties when in contact to certain plastics and rubbers. Cleaning the substrate with solvent or baking slightly above the cure temperature can eliminate this problem.

Certain chemicals, curing agents and plasticisers can inhibit cure. These include: organo-tin compounds, silicone rubber containing organo-tin catalysts, sulphur, polysulfides, polysulphones and other sulphur containing materials, amines, amides, urethanes and azides.

### Thermal stability

At very high temperatures, oxygen will slowly react with the silicone leading to increased cross-linking of the elastomer. Tensile strength is essentially not affected very much, but the silicone loses elasticity during heat aging. The ageing effect depends on the extent to which the silicone is exposed to air.

After 168 hours exposure to 250°C in a ventilated air oven, the mechanical strength (measured via Tensile Strength) did not indicate any critical changes.

**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 ON**

**THE DOW WEBSITE AT  
WWW.CONSUMER.DOW.COM,  
OR FROM YOUR DOW SALES  
APPLICATION ENGINEER, OR  
DISTRIBUTOR, OR BY CALLING  
DOW CUSTOMER SERVICE.**

## USABLE LIFE AND STORAGE

When stored at or below 25°C in the original unopened containers, this product has a usable life of 270 days from the date of production.

## PACKAGING INFORMATION

This product is available in standard industrial container sizes.

## LIMITATIONS

Adhesion may be less successful on low-energy plastics such as Polyethylene, Polypropylene and PTFE. Users should do preliminary tests in each specific application to ensure satisfactory results.

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 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](http://www.consumer.dow.com) or consult your local Dow representative.

## LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

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