



Technical Data Sheet

DOWSIL™ 7091 Adhesive Sealant

FEATURES

- One-component adhesive/sealant
- Cures at room temperature when exposed to moisture in the air
- Alkoxy cure system
- Non-sag, paste consistency
- Easy to apply
- Cures to a tough, flexible rubber
- Excellent adhesion to many substrates
- Stable and flexible from -40°C (-40°F) to +180°C (+356°F)

High performance neutral cure silicone adhesive/sealant

APPLICATIONS

- Designed for applications which demand a strong but flexible bond, such as when bonding materials with differing thermal expansion rates, e.g. glass to metal or glass to plastic.
- Unprimed adhesion to commonly used materials including enamelled and painted steel, aluminum, ceramic and glass as well as to certain plastics used in engineering applications.
- Used as a Formed-in-Place Gasket (FIPG) material.

TYPICAL PROPERTIES

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

CTM*	ASTM**	Property	Unit	Result
		As supplied		
		Appearance		Non-slump paste
		Colors		Black, white, gray
0364	D2452	Extrusion rate ¹	g/minute	185
0098		Skin-over time	minutes	15
0095	MIL-S-8802E	Tack-free time ²	minutes	28
Mechanical properties, cured 7 days in air at 23°C (73°F) and 50% relative humidity				
0099	D2240	Durometer hardness, Shore A		32
0137A	D412	Tensile strength	MPa	2.5
0137A	D412	Elongation at break	%	680
0137A	D412	Tear strength - die B	kN/m	15
0022	D0792	Specific gravity at 22°C (72°F)		1.4
Adhesion cured 7 days at 23°C (73°F) and 50% relative humidity				
100% Cohesive failure is obtained on metals and glass but also on ABS, polycarbonate, talc-filled polypropylene-corona treated, antiscratch coated plastic				

¹Extrusion rate measured using 3.18mm diameter nozzle at 0.62MPa.

²Tack-free time is the time required for the product to develop a non-tacky surface based on adhesion to a polyethylene film.

*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 must be clean and dry. Degrease and wash off any contaminants that could impair adhesion. Suitable solvents include isopropyl alcohol, acetone or methyl ethyl ketone.

Good unprimed adhesion may be obtained on a variety of substrates, including enamelled and painted steel, aluminum, ceramic, glass and certain plastics. Substrates to which good adhesion is normally not obtained include PTFE, polyethylene, polypropylene and related materials.

For maximum adhesion, the use of DOWSIL™ 1200 OS Primer is recommended. After solvent cleaning apply a thin coat of DOWSIL 1200 OS Primer by dipping, brushing or spraying. Allow primer to dry for 15 to 90 minutes at room temperature and a relative humidity of 50% or higher.

How to apply

Apply a bead of DOWSIL™ 7091 Adhesive Sealant (see Handling Precautions) to one of the prepared surfaces, then quickly cover with the other substrate to be bonded.

On exposure to moisture, the freshly applied material will "skin-over" in about 10-15 minutes at room temperature and 50% relative humidity. Any tooling should be completed before this skin forms. The surface is easily tooled with a spatula. The adhesive/sealant will be tack-free in approximately 30 minutes.

Cure time

After skin formation, cure continues inward from the surface. In 24 hours (at room temperature and 50% relative humidity) DOWSIL 7091 Adhesive Sealant will cure to a depth of about 2mm. Very deep sections, especially when access to atmospheric moisture is restricted, will take longer to cure completely. Cure time is extended at lower humidity levels. Before handling and packaging bonded components, users are advised to wait a sufficiently long time to ensure that the integrity of the adhesive seal is not affected. This will depend on many factors and should be determined by the user for each specific application.

HANDLING PRECAUTIONS

When using solvents avoid contact with skin and eyes, heat, sparks and

open flames. Always provide adequate ventilation. Obtain and follow handling precautions from the solvent supplier.

**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,
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APPLICATION ENGINEER,
OR DISTRIBUTOR, OR BY
CALLING DOW CUSTOMER
SERVICE.**

USABLE LIFE AND STORAGE

When stored at or below 30°C (86°F) in the original unopened containers, this product has a usable life of 12 months 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, 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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