Technical Data Sheet

DOWSIL™ Q3-3526 Base and Catalyst

Fast curing non-slump two-part silicone adhesive/sealant.

Features & Benefits

- Fast handling of bonded components: develops adhesive strength rapidly at room temperature permitting fast handling of components.
- Adheres to many metals, polyamide, PC, PBT, PET, ABS and acrylics, and to plastics treated with scratch resistance coatings.
- Adheres to suitably prepared polypropylene.
- Two-part system with 10:1 mix ratio by weight. Noncorrosive, low odor cure.
- Contains no solvents.
- Non-slump nature when mixed, allows extruded bead to be maintained without flowing.
- Excellent weathering, U.V. and heat resistance to 190°C.
- Available in two color versions: Grey (RAL 7038) Black (RAL 7016).

Applications

- Designed for the rapid sealing/adhering of components made from materials which exhibit different thermal expansion rates, or which are exposed to high temperatures.
- Assembly of automotive headlights and auxiliary lights, body panels and body components, assembly of oven door windows and other appliance components.

Typical Properties

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

CTM[1]	ASTM[2]	Property	Unit	Result	
		DOWSIL™ Q3-3526 Base			
		Appearance and color		Yellow paste	
0050	D1084B	Viscosity	mPa.s	200,000	
0097	D1475	Specific gravity		1.36	
		DOWSIL™ Q3-3526 Catalyst		**Grey**	**Black**
		Appearance and color		Black pourable paste	Black paste
0050	D1084B	Viscosity	mPa.s	11,000	55,000
0097	D1475	Specific gravity		1.01	1.03

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

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Typical Properties

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

CTM	ASTM	Property	Unit	Result	
		DOWSIL™ Q3-3526 Base and Catalyst (mixed 10:1 by weight)			
0092A		Working time	minutes	8	8
0095		Tack-free time	minutes	20	20
0062	D2202	Flowability	mm		Non-flowing
		Color	RAL number	7038	7016
		Cured for 7 days at 23°C			
0099	D2240	Durometer hardness	Shore A	38	40
0137A	D412	Tensile strength at break	MPa	2.0	2.1
0137A	D412	Elongation at break	%	280	270
0243	D816	Adhesion, via lap shear to PC, PA, PP, PBT glass/plastic samples, 2 mm bond line[1]			
		Lap shear strength	MPa	1.40	1.40
		Cohesive failure		100	100

3. All substrates unprimed/untreated except PP (treated via Corona).

Description

DOWSIL™ Q3-3526 Base and Catalyst is a two-component silicone product designed to be used in a ratio of 10:1 by weight. The mixed, uncured product is nonslump for good reproducibility of bead profiles. It cures rapidly at room temperature via a noncorrosive, low odour condensation cure mechanism to yield excellent unprimed adhesion to glass, and many plastic and metal substrates. The product develops adhesive strength rapidly at room temperature permitting fast handling for leakage testing or for storage of bonded components.

How to Use

Substrate Preparation

The surfaces to be bonded should be free of grease, dust and particles. Primers are not required to obtain adhesion to many engineering plastics such as polyamides, PC, ABS, PBT, acrylics, glass and metals. Adhesion to polypropylene is routinely achieved via surface activation techniques such as flaming or corona treatment. Consult Dow for further information.

Mixing

100 parts of base should be mixed with 10 parts by weight of grey or black catalyst (see Handling Precautions). On a volume base, the mix ratios of base to catalyst are 7.4:1 for the grey catalyst and 7.6:1 for the black catalyst.

For production processing, two-component meter/mix equipment is recommended. The base component is fed via followerplate mounted pumps, while the catalyst component may also be fed via pressure vessels under dry air or nitrogen. The base and catalyst streams are fed to metering pumps (gears or piston driven), and then mixed using either static or dynamic mixers. The pronounced difference in color between the base and the catalyst components allows for easy visual inspection of the mixing quality. Further information on suitable equipment is available from Dow.

How to Use (Cont.)

How to Apply (Cont.)
Use a multi-axis robot or an XYZ co-ordinate table. The mixed product is applied onto one surface and the mating surface is assembled immediately to ensure optimum substrate wetting and adhesion. The non-slump nature of the uncured product ensures good reproducibility of applied beads.

Curing of the Product and Handling of Bonded Components
A feature of DOWSIL™ Q3-3526 Base and Catalyst is the fast rate at which adhesive strength develops immediately after adhesive application. This feature allows for fast handling of bonded components and is dependent on the substrate used as shown in Graphs 1 & 2.

The graphs show the rate of adhesive strength development onto key plastic substrates and to galvanised steel using glass-to-substrate lap shear specimens (2 mm adhesive layer), after cure at room temperature, as well as after a moderate heat schedule of 15 minutes at 70°C. Note that polypropylene substrates were suitably treated but other substrates were untreated except for a prior cleaning with isopropyl alcohol. The graphs show that room temperature cure is sufficient to obtain fast adhesion development onto most substrates; however, the use of moderate heat accelerates the cure and adhesion development onto many substrates and allows the time to handling to be reduced if desired. Temperatures above 75°C are not recommended to accelerate the cure and adhesion.

The data provided is indicative of the performance of DOWSIL™ Q3-3526 Base and Catalyst. However, as specific conditions are likely to vary in actual use, it is recommended users determine more exactly optimal cure conditions for individual applications.

Handling Precautions

DOWSIL™ Q3-3526 Base is essentially nonhazardous and nonflammable. DOWSIL™ Q3-3526 Catalyst Grey and DOWSIL™ Q3-3526 Catalyst Black are flammable (flash point of 24°C), and are skin and eye irritants; the appropriate precautions must be taken.

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 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 32°C in the original unopened containers DOWSIL™ Q3-3526 Base has a usable life of 16 months from the date of manufacture.

DOWSIL™ Q3-3526 Catalyst Grey and DOWSIL™ Q3-3526 Catalyst Black have a usable life of 5 months from date of manufacture when stored at 25°C or below in the original unopened containers.

DOWSIL™ Q3-3526 Catalyst Grey and DOWSIL™ Q3-3526 Catalyst Black are sensitive to moisture and contamination. Ensure that containers are tightly closed after use.

Packaging Information

DOWSIL™ Q3-3526 Base is available in 25 kg and 250 kg containers.

DOWSIL™ Q3-3526 Catalyst Grey and DOWSIL™ Q3-3526 Catalyst Black are available in 20 kg and 25 kg containers.

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 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, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

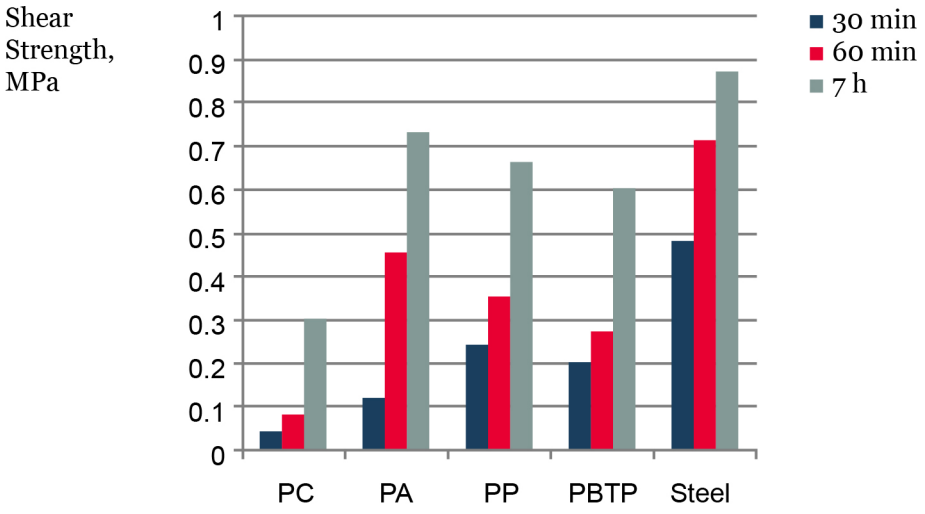
Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

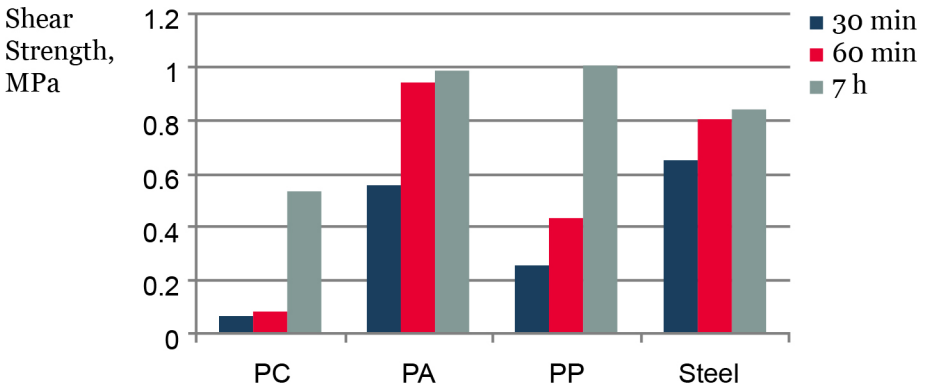
Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

Graph 1: Adhesion strength of DOWSIL™ Q3-3526 Base and Catalyst after 30 minutes, after 60 minutes and after 7 hours of polymerization at room temperature.



Graph 2: Adhesion strength of DOWSIL™ Q3-3526 Base and Catalyst after 30 minutes, after 60 minutes and after 7 hours of polymerization following a 15-minute heating at 70°C.



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