



Technical Data Sheet

DOWSIL™ 993N Structural Glazing Sealant – Korea made

Description

Two-part, neutral-cure adhesive/sealant with structural glazing capabilities

Sustainability Attribute:



Uses / Applications

DOWSIL™ 993N Structural Glazing Sealant is developed for structural glazing application, such as the adhesion between glasses and metal substrates in shop assembly. Once cured, this sealant forms a durable, flexible, watertight bond and used in with +/-25% weatherseal applications. It has excellent unprimed adhesion to glass, alodine, anodized and DOWSIL™ Primer-C is recommended for fast and consistent adhesion to Kynar and other painted substrates.

Composition

- Two-part, neutral-cure
- RTV silicone sealant

Benefits

- Structural and weatherseal capability¹
- 14-month shelf life, no lot matching of components
- Meets ASTM C719 Class 25 (G, A, O)
- Meets ASTM C1184 structural silicone sealant specification
- Meets European standard ETAG 002 for structural glazing as developed by EOTA working groups
- Meets GB 16776-2005 structural silicone sealant property specification
- Easy tooling, low VOC formula
- Excellent stability through wide temperature range: -50°C to 150°C (fully cured)

¹All structural applications MUST be reviewed by the technical staff. If their recommendations are followed, Dow will issue a structural adhesive warranty for a specific job.

Benefits (Cont.)



SGBP 5414

Typical Properties

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

Test ¹	Property	Unit	Result
Base - As Supplied			
	Color		White
	Physical Form		Paste
CTM 0097	Specific Gravity		1.33
	VOC ² Content	g/L	< 3
As Catalyzed			
	Working Time (Snap Time)	minutes	20–60
ASTM D 2202	Flow/Sag (Slump)	inches (mm)	< 0.2 (< 5.1)
As Cured			
ASTM C 661	Durometer Hardness, Shore A	points	40
ASTM D 412	Tensile Strength, Ultimate	psi (MPa)	311 (2.14)
	Ultimate Elongation	%	375
ASTM C 794	Adhesion-in-Peel, Cohesive Failure		
	Aluminum	%	100
	Glass	%	100

1. CTMs (Corporate Test Methods) correspond to standard. Copies of CTMs are available upon request.
ASTM is American Society for Testing and Materials.
2. Based on South Coast Air Quality Management District of California, maximum VOC is listed both inclusive and exclusive of water and exempt compounds.

Typical Properties (Cont.)

Test	Property	Unit	Result
	Strength	N/m (ppi)	6,000 (34)
ASTM D 624	Tear Strength, Die B	N/m (ppi)	7,730 (44)
ASTM C 1135	Tensile Adhesion, Ultimate	psi (MPa)	180 (1.24)
	Ultimate Elongation	%	160
ASTM C 719	Movement Capability	%	± 25, Passes
ASTM C 1184	Structural Glazing Spec		Passes

Description

Mixed DOWSIL™ 993N Structural Glazing Sealant is a two-part silicone formulation. As supplied, the base is a smooth, white paste and the curing agent is a viscous paste available in black or grey. Once catalyzed, the material cures to a high-modulus, flexible silicone rubber that is flexible for use in structural and/or weatherseal applications.

DOWSIL™ 993N Structural Glazing Sealant features unprimed adhesion to most common construction materials, a physical property profile that is more than sufficient for structural adhesive and weatherseal applications, a noncorrosive by-product, and excellent weatherability, durability and recovery after repeated extension and compression up to 25%.

DOWSIL™ 993N Structural Glazing Sealant is compatible with reflective glass, laminated glass and most insulating glass. It can be used in deep narrow joints to obtain a full and complete cure.



How to Use

DOWSIL™ 993N Structural Glazing Sealant, when used in structural applications, **MUST** be reviewed by technical service specialists.

Complete design and installation guidelines are contained in the technical manual when using this product.

Method of Application

DOWSIL™ 993N Structural Glazing Sealant Catalyst must be thoroughly mixed into the base using an airless mixing system. DOWSIL™ 993N Structural Glazing Sealant is compatible with existing commercial, two-part silicone dispensing equipment. Neither hand mixing nor mechanical mixing is satisfactory due to incorporation of air, resulting in altered physical properties.

Lot matching of DOWSIL™ 993N Structural Glazing Sealant catalyst and base is NOT required.

DOWSIL™ 993N Structural Glazing Sealant Catalyst should be remixed if fluid separation occurs. This is easily accomplished with a mix paddle on a battery powered drill motor. Total mix time takes less than 2 minutes to achieve a homogenous mix. Because of its reactivity with atmospheric moisture, curing agent should not be exposed to air for prolonged periods.

DOWSIL™ 993N Structural Glazing Sealant should be mixed in a ratio of 10:1 (base to curing agent by weight), users can change the mix ratio (from 9:1 to 12:1) to adjust the snap time. Sealant physical properties are not significantly changed within this range. Changes in the temperature and humidity of the environment, however, will affect snap time.

To obtain optimum adhesion, joints should be tooled immediately after sealant application to ensure complete substrate contact.

During shutdown, it is recommended that the dispensing and mixing lines be purged with uncatalyzed base. This minimizes sealant build-up.

Questions about the use of DOWSIL™ 993N Structural Glazing Sealant can be answered by calling a local field representative. Our laboratory testing and technical service staff is also available for assistance.

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 DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life and Storage

DOWSIL™ 993N Structural Glazing Sealant should be stored in airtight, closed containers. When stored at or below 86°F (30°C), both the base and catalyst have a shelf life of 14 months from date of manufacture. Refer to product packaging for "Use By" date.

Packaging Information

DOWSIL™ 993N Structural Glazing Sealant Base and DOWSIL™ 993N Structural Glazing Sealant Curing Agent are available separately.

DOWSIL™ 993N Structural Glazing Sealant Base is available in 226.8 kg or 250 kg drums; DOWSIL™ 993N Structural Glazing Sealant Curing Agent is available in 19 kg or 20 kg pails.

Limitations

DOWSIL™ 993N Structural Glazing Sealant should not be applied:

- In a confined joint configuration
- To building materials that bleed oils, plasticizers or solvents-materials such as impregnated wood, oil-based caulks, green or partially vulcanized rubber gaskets and tapes
- Where painting of sealant is required
- To surfaces in direct contact with food
- In below-grade or continuous immersion applications

In horizontal joints where abrasion and physical abuse are likely to be encountered because of a potential for incompatibility, DOWSIL™ 993N Structural Glazing Sealant should not come in contact with, or be exposed to sealants that liberate acetic acid.

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.

dow.com

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