

Dow Corning® 995 Silicone Structural Adhesive

DOW CORNING

1. PRODUCT NAME

Dow Corning® 995 Silicone Structural Adhesive

2. MANUFACTURER

Dow Corning Corporation
Midland, MI 48686-0994
Phone: (517) 496-6000
FAX: (517) 496-4586

3. PRODUCT DESCRIPTION

Dow Corning 995 Silicone Structural Adhesive is a one-component, self-priming, shelf-stable, neutral-cure, elastomeric adhesive specifically formulated for silicone structural glazing, exhibiting the following unique features:

- Excellent unprimed adhesion to most common building substrates, including glass, reflective glass, anodized aluminum, granite and paints, including most fluoropolymer-based paints.
- Excellent shelf life and "Use By" dating
- Noncorrosive by-products
- 20-year performance warranty available
- Cures to extremely tough elastomeric rubber

Structural applications require prior testing and written print review by Dow Corning.

Basic Uses: Dow Corning 995 Silicone Structural Adhesive is designed for use in structural applications such as factory or field glazing of glass and metal.

Once cured, this adhesive forms a durable, flexible, watertight bond that can be warranted for 20 years.

The performance of sealant in a structural joint may be simulated using the ASTM C 1135 test procedure. The stress-strain relationship for Dow Corning 995 Silicone Structural Adhesive is illustrated in Figure 1.

Limitations: Dow Corning 995 Silicone Structural Adhesive should not be applied:

- To building materials that bleed oils, plasticizers or solvents – materials such as impregnated wood, oil-based caulks, green or partially vulcanized rubber gaskets or tapes
- In totally confined spaces (the sealant requires atmospheric moisture for cure)
- When surface temperatures exceed 60°C (140°F)
- Where painting of the sealant is required, as the paint film may crack and peel
- To surfaces in contact with food – this sealant does not comply with

Federal Food and Drug Administration food-additive regulations

- In below-grade applications
- For use as an interior penetration firestop sealing system
- In horizontal floor joints where abrasion and physical abuse are likely to be encountered
- To frost-laden or damp surfaces
- For continuous immersion in water

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

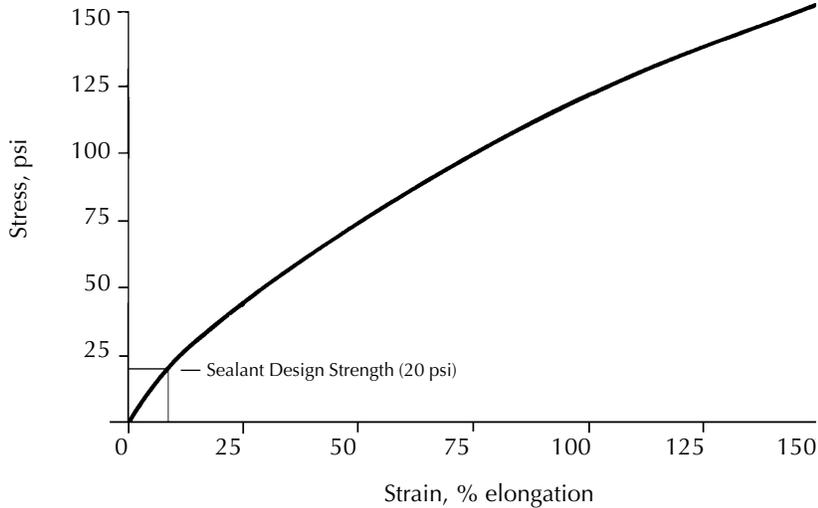
Composition and Materials: Dow Corning 995 Silicone Structural Adhesive is a one-part, ready-to-use material that has the consistency of toothpaste. This consistency remains

TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

As Supplied	
MIL-S-8802	Color Black
	Tack-Free Time, 50% RH, hours 1.5
	Curing Time, 50% RH, at 25°C (77°F), days 7-14
	Full Adhesion, days 14-21
	Flow, Sag or Slump, inches <0.1
	Working Time, minutes 10-20
As Cured – After 7 days at 25°C (77°F), 50% RH	
ASTM D 2240	Durometer Hardness, Shore A, points 40
ASTM D 412	Ultimate Tensile, psi 350
	Ultimate Elongation, % 525
ASTM D 624	Tear Strength, die B, ppi 49
ASTM C 794	Peel Strength, ppi 40
As Cured – After 21 days at 25°C (77°F), 50% RH	
ASTM C 1135	Tensile at 25%, psi 48
	Tensile at 50%, psi 75
ASTM C 719	Joint Movement Capability, % ±50
As Cured – After 21 days at 25°C (77°F), 50% RH and Subjected to 4,500 hours QUV ASTM G-53	
ASTM C 1135	Tensile at 25%, psi 50
	Tensile at 50%, psi 78
Specification Writers: Please obtain a copy of the Dow Corning Sales Specification for this product, and use it as a basis for your specifications. It may be obtained from any Dow Corning Sales Office, or from Dow Corning Customer Service in Midland, MI. Call 1-800-322-8723.	

Figure 1: Stress-Strain Relationship of Dow Corning 995 Silicone Structural Adhesive¹



¹Stress-strain relationship properties are based upon a standard 1/2-inch by 1/2-inch by 2-inch tensile adhesion joint pulled at a rate of 2 inches per minute (ASTM C 1135).

uniform over a wide temperature range from -26 to 60°C (-15 to 140°F), allowing the sealant to be applied easily at most temperatures.

Packaging: Dow Corning 995 Silicone Structural Adhesive is supplied in 10.3-fl oz (305-mL) disposable plastic cartridges that fit ordinary caulking guns, 4.5-gal (17-L) bulk containers, 2-gal (7.6-L) pails and 45-gal (170-L) drums. It can be dispensed by many air-operated guns and most types of bulk dispensing equipment. A complete dispensing guide is available from Dow Corning.

Color: Dow Corning 995 Silicone Structural Adhesive is available in black.

Applicable Standards: Dow Corning 995 Silicone Structural Adhesive has been internally tested and is designed to meet or exceed the test requirements of:

- Federal Specification TT-S-001543A (COM-NBS) Class A for silicone building sealants.
- Federal Specification TT-S-00230C (COM-NBS) Class A for one-component building sealants.
- ASTM Specification C-920 Type S, Grade NS, Class 25, Use NT, G and A.

4. TECHNICAL DATA

Dow Corning 995 Silicone Structural Adhesive is virtually unaffected by sunlight, rain, sleet, snow and temperature extremes. Its unique weatherability enables it to retain its original design properties even after years of exposure.

Cured sealant will remain elastomeric in cold to -40°C (-40°F) or heat to 149°C (300°F).

5. INSTALLATION

Structural glazing applications for Dow Corning 995 Silicone Structural Adhesive must be reviewed by the Technical Service staff, Dow Corning Corporation, Construction Sealants Technical Service and Development.

The following instructions provide a general overview of the installation process. Complete design and installation guidelines are contained in the Silicone Structural Glazing Manual, Form No. 62-351, available from Dow Corning.

Joint Design: The design of a silicone structural joint must be prepared by the design professional, based upon industry-accepted design guidelines.

A typical silicone structural joint is illustrated in Figure 2. Basic design parameters include:

- Glue line thickness must not be less than 1/4 in (6.4 mm)
- Structural bite must not be less than glue thickness
- Structural bite (in) must be greater than or equal to the smallest leg of the largest lite (ft) x windload (lb/ft²) ÷ 480
- The structural sealant joint must be able to be filled using standard caulking practices
- The structural joint must not move during cure

These are preliminary guidelines, consistent with common industry practice.

Preparatory Work: Clean all joints and glazing pockets, removing all foreign matter and contaminants such as grease, oil, dust, water, frost, surface dirt, old sealants or glazing compounds and protective coatings.

Metal and glass surfaces should be cleaned by mechanical or solvent procedures. Detergent or soap and water treatments are not acceptable. In all cases where used, solvents should be wiped on and off with clean, oil-free and lint-free cloths. Follow solvent manufacturer's recommended safe handling procedures.

Masking: Areas adjacent to joints may be masked to ensure neat sealant lines. Do not allow masking tape to touch clean surfaces to which the silicone sealant is to adhere. Tooling should be completed in one continuous stroke immediately after sealant application and before a skin forms. Masking should be removed immediately after tooling.

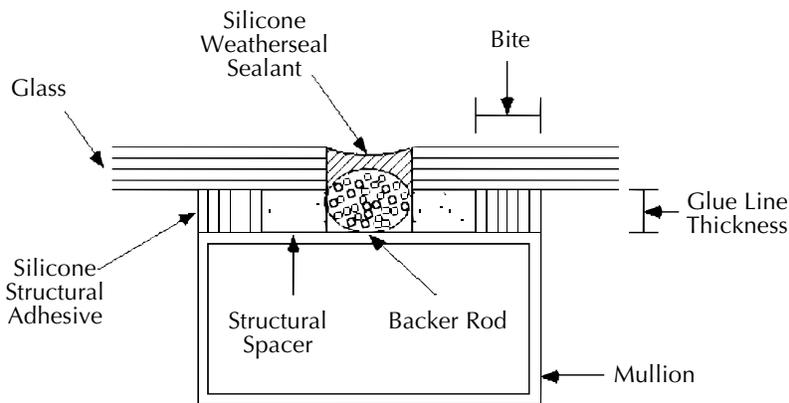
Method of Application: Install back-up material or joint filler, setting blocks, spacer shims and tapes as specified. Apply Dow Corning 995 Silicone Structural Adhesive in a continuous operation using a positive pressure adequate to properly fill and seal the joint. Tool or strike Dow Corning 995 Silicone Structural Adhesive with light pressure to spread the material against the back-up material and the joint surfaces. A tool with a concave profile is recommended to keep the sealant within the joint.

In glazing, tool the sealant applied at the sill so that precipitation and cleaning solutions will not pool.

It is imperative that uncured silicone sealants are not allowed to contact nonabradable surfaces such as polished granites, metal or glass. Because excess silicone sealant cannot be completely removed with organic or chlorinated solvents, these surfaces must be masked or extreme care taken to prevent any silicone sealant from contacting them during sealant application. Once an uncured sealant contacts the surface, it will leave a film that may change the aesthetic surface characteristics of that substrate.

In cases where uncured sealant is inadvertently applied to adjacent surfaces, the sealant should be cleaned

Figure 2: Typical Silicone Structural Joint



while still uncured, using a commercial solvent such as xylol, toluol or methyl ethyl ketone. Observe proper precautions when using flammable solvents.

Safe Handling Information – PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY WRITING TO DOW CORNING CUSTOMER SERVICE, OR BY CALLING 1-800-322-8723.

Storage and Shelf Life: When stored at or below 32°C (90°F), *Dow Corning* 995 Silicone Structural Adhesive has a shelf life of greater than one year from date of manufacture, indicated by the “Use By” date on product packaging.

6. AVAILABILITY AND COST

Availability: *Dow Corning* 995 Silicone Structural Adhesive is available throughout the United States through authorized construction sealant distributors.

Cost: Contact your local *Dow Corning* representative for the name of your nearest distributor. See list on the last page for the nearest *Dow Corning* sales office.

7. WARRANTY

Limited Weatherseal Warranty: *Dow Corning* Corporation produces and sells a full line of silicone construction sealants and adhesives. These

products offer a variety of physical characteristics and adhesion properties. *Dow Corning* 995 Silicone Structural Adhesive is part of that line and, when used with compatible substrates and when applied within the stated shelf life and according to manufacturer’s recommendations for application and joint design, *Dow Corning* warrants that it will perform as a watertight weatherseal for a period of 20 years from the date of purchase. In addition to maintaining the integrity of the weatherseal, the sealant will not change color when used with backup materials and substrates that have been approved for compatibility by *Dow Corning*, either after specific testing or as noted in a current *Dow Corning* publication.

Limitations: This warranty specifically excludes failure of the sealant due to:

- Natural causes such as lightning, earthquake, hurricane, tornado, fire, flooding, etc., or
- Movement of the structure resulting in stresses on the sealant that exceed *Dow Corning*’s published specifications for elongation and/or compression for the sealant, whether due to structural settlement, design error or construction error, or
- Disintegration of the underlying substrates, or
- Mechanical damage to the sealant caused by individuals, tools or other outside agents, or
- Changes in the appearance of the sealant from the accumulation of dirt or other contaminants deposited on the sealant from the atmosphere

Remedies: In the event of a claim under this warranty, you must notify

Dow Corning Corporation in writing within 30 days of the occurrence of the failure. *Dow Corning*’s sole liability shall be to furnish sufficient silicone replacement material to restore the integrity of the weatherseal. Any labor or other cost associated with the repairs is the responsibility of the owner. DOW CORNING SHALL NOT BE LIABLE FOR AND EXPRESSLY DISCLAIMS ANY LIABILITY FOR DAMAGE TO THE CONTENTS OF THE STRUCTURE OR FOR CONSEQUENTIAL OR INCIDENTAL DAMAGE, WHETHER IN CONTRACT OR IN TORT, INCLUDING NEGLIGENCE.

THIS WARRANTY IS IN LIEU OF ALL OTHER WRITTEN OR ORAL, EXPRESS OR IMPLIED WARRANTIES AND DOW CORNING SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE.

Structural Adhesion Warranty: *Dow Corning* 995 Silicone Structural Adhesive may be used as a structural adhesive under certain conditions, but *Dow Corning* Corporation disclaims any general adhesion warranty. *Dow Corning* will issue project-specific Structural Adhesion Warranties on a case-by-case basis. No Structural Adhesion Warranty will be issued until *Dow Corning* has reviewed the pertinent building prints and specifications and has completed adhesion and compatibility testing of the various materials to be used with *Dow Corning* 995 Silicone Structural Adhesive. For details on how to obtain the Structural Warranty, please contact your *Dow Corning* field representative.

8. MAINTENANCE

If sealant becomes damaged, replace the damaged portion. *Dow Corning* 995 Silicone Structural Adhesive will adhere to cured silicone sealant with only a preparatory solvent wipe to remove accumulated dirt.

9. TECHNICAL SERVICES

Complete technical information and literature are available from *Dow Corning* and authorized building sealant distributors. Laboratory testing and technical service are available from *Dow Corning*.