



SSG4000* UltraGlaze*

Structural Glazing Silicone Adhesive

Product Description

GE SSG4000 UltraGlaze silicone is a one-component high-strength neutral cure elastomeric adhesive sealant tested for structurally glazed curtainwall applications. The material is supplied as a paste, which cures into durable and flexible silicone rubber upon exposure to atmospheric moisture.

Key Features and Typical Benefits

- **Primerless adhesion**—Direct bonds to most conventional substrates and finishes including: glass, glass coatings, ceramic frits, fluropolymer and powder coated paints, conversion-coated and anodized aluminum.†
- **High tensile strength**—Can increase safety factors in SSG designs.
- **High tear strength**—Useful in *Protective Glazing* applications.

Potential Applications

- **Structural glazing** - Factory glazing of unitized curtainwall systems or in field constructed stick curtainwall systems
- **Weatherseal** - For applications where expected joint movement is $\leq 25\%$ of installed width
- **Protective glazing**
- **Panel stiffener**

Packaging

SSG4000 UltraGlaze silicone is currently available in 10.1 fl. oz. (299 ml) plastic caulking cartridges, 20 fl. oz. (591 ml) foil sausage packs, 5 gallon plastic pails (5 gals. / 18.9 L) and 55 gallon drums (42 gals. / 158.9 L).

Color

Color - Black

Typical Physical Properties

Typical physical property values of SSG4000 UltraGlaze structural glazing silicone adhesive as supplied and cured are set forth in the tables below.

Typical Properties – Uncured

Property	Value ⁽¹⁾	Test Method
Color	Black	
Polymer	100% Silicone	
Consistency	Non-sag paste	
Specific Gravity	1.52	P-15
VOC	31 g/l	EPA 24
Work Life (tooling time)	20-40 minutes	
Tack Free Time	5-7 hours	ASTM C679
Application Rate	2 seconds	ASTM C603
Sag/Slump	0.1" max.	ASTM D2202

Typical Properties – Cured

Property	Value ⁽¹⁾	Test Method
Hardness, Durometer (Type A Indentor)	39	ASTM D2240
Ultimate Tensile Strength	342 psi (2.36 MPa)	ASTM D412
Ultimate Elongation	451%	ASTM D412
Tensile at 25% Elongation Tensile at 50% Elongation Tensile Strength Ultimate Elongation	71 psi (0.49 MPa) 112 psi (0.77 MPa) 163 psi (1.12 MPa) 124%	ASTM C1135, Ultimate
Tear Strength; die B	79 pli	ASTM D624
Shear Strength (@ 1/4" thickness)	175 psi (1.21 MPa)	ASTM C961
Peel Strength (average); aluminum, glass (21-day cure @ 75°F (21°C) 50% RH)	40 pli	ASTM C794
Joint Movement Capability	±25%	ASTM C719
Service Temperature Range (after cure)	-55°F to (-48°C) to +250°F (121°C)	
Weathering and U.V. Resistance	Excellent	GE 20 yr. study
Cure Time (1/4" or 6 mm deep section) @ 75°F (24°C) 50% RH	2-3 days	
Full Cure (most common bead sizes)	10-14 days	

(1) Typical properties are average data and are not to be used as or to develop specifications.

Installation

Refer to SSG Design and Application Guide for Surface Preparation requirements, design information and detailed application instructions.

Applicable Standards

SSG4000 UltraGlaze silicone meets or exceeds the requirements of the following specifications for one-part sealants.

ASTM Specifications:

- C1184; Type S, Use G and O (finished aluminum)
- C920; Type S, Grade NS, Class 25, Use NT, A, G, O

Canadian Specification:

- CAN/CGSB-19.13-M87

Technical Services

Additional technical information, literature, laboratory testing and application engineering are available upon request from Momentive Performance Materials (MPM). Any technical advice furnished by MPM or any representative of MPM concerning any use or application of any MPM product is believed to be reliable, but MPM makes no warranty, expressed or implied, of suitability for use in any application for which such advice is furnished.

Limitations

Customers must evaluate Momentive Performance Materials (MPM) products and make their own determination as to fitness of use in their particular applications.

Note: SSG4000 UltraGlaze silicone should not be considered for:

- Structural adhesion on bare metals or surfaces subject to corrosion (i.e., mill aluminum, bare steel, etc.)
- Encapsulated designs without access to moisture
- Exceedingly large structural cavities (see Sealant Application section in SSG Design and Application Guide for additional information).
- Application of product in exceedingly hot or cold conditions (see Sealant Application section in SSG Design and Application Guide for additional information).
- Underwater or in applications where the product will be in continuous contact with water.
- Contact with strong acids or bases.
- Food contact applications.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

Customers considering the use of this product should review the latest Material Safety Data Sheet and label for product safety information, handling instructions, personal protective equipment if necessary, and any special storage conditions required. Material Safety Data Sheets are available at www.ge.com/silicones or, upon request, from any MPM representative. Use of other materials in conjunction with MPM sealants products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

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