

UltraGlaze* SSG4000E

UltraGlaze SSG 4000E Silicone Structural Glazing Sealant

Product Description UltraGlaze SSG 4000E Silicone Structural Glazing Sealant is a one-component, high-strength neutral cure sealant specially designed and tested for structurally glazed curtain wall applications.

PACKAGING

UltraGlaze SSG 4000E Silicone Structural Glazing Sealant is available in 600 ml foils and 290 kg drums.

COLOUR

UltraGlaze SSG 4000E Silicone Structural Glazing Sealant is available in black and grey.

Key Performance Properties

Performance characteristics include the following:

- High-strength structural sealant with primerless adhesion to many building substrates. Specific substrate testing required on all structurally glazed projects.
- Compatible with Momentive performance materials Silicones insulating glass sealants
- Low odour
- Medium tooling time
- Non-corrosive cure by-product

BASIC USES

UltraGlaze SSG 4000E Silicone Structural Glazing Sealant is designed for use in structural glazing applications such as in-shop or field glazing of curtain wall modules where glass lights are attached to the metal framing system with the structural sealant. This material can also be used as the weatherseal in glass-to-glass butt joints.

LIMITATIONS

Structural glazing applications require that Momentive performance materials give written approval of the use of UltraGlaze SSG 4000E sealant for each building project. Drawing review and substrate testing, as outlined in the most recently published Silicone Structural Glazing Guide, must be completed prior to sealant use on a project. Review and testing is done on a job-to-job basis. No blanket approval is given by Momentive performance materials for structural glazing applications. Use only approved back-up materials, spacer blocks to ensure sealant compatibility and function.



Typical Product Data

TYPICAL PROPERTIES

Hardness, Shore A	42	ISO 868
Tensile strength, MPa	1.8	ISO 37, S 2
Tensile Modulus @ 100 % elongation, MPa	0.8	ISO 37, S 2
Elongation at break, %	500	ISO 37, S 2
Density, g/cm ³	1.52	
Application rate, g/min	100	6 mm orifice, 2 bar
Sag, slump, mm	< 2	ISO 7390
Tack Free Time, min	60	
Tooling Time, minutes	20	
Peel adhesion Glass, kN/m	5	

TECHNICAL DATA

UltraGlaze SSG 4000E Silicone Structural Glazing Sealant exhibits excellent resistance to ultraviolet radiation, ozone, high and low temperatures and water vapour. It is compatible with many types of coated glass, metal finishes, glazing gaskets, setting blocks and spacer. Momentive performance materials policy is to test on a project-by-project basis each substrate and component used in a structural glazing assembly for adhesion and compatibility to assure optimum performance. No blanket approvals will be issued relative to adhesion or compatibility of UltraGlaze SSG 4000E Silicone Structural Glazing Sealant with such materials.

TECHNICAL SERVICES

Additional technical information and literature are available from Momentive performance materials. Laboratory facilities and application engineering are available upon request from Momentive performance materials. Any technical advice furnished by Momentive performance materials, or any representative of Momentive performance materials, concerning any use or application of any sealant is believed to be reliable but Momentive performance materials Silicones makes no warranty, express or implied, of any use or application for which advice is furnished.

Instructions for Use

JOINT DESIGNS AND DIMENSIONS

The design professional has the total responsibility for the determination of the structural sealant joint dimension based on design wind loads, glass sizes and anticipated thermal movement. Joint dimensions should be reviewed by Momentive performance materials prior to actual sealant installation. Shop drawings design wind load and glass size information must be by the fabricator/glazing contractor.

The following outlines the suggested procedure which should be followed to receive suggestions from Momentive performance materials Silicones as to the use of UltraGlaze SSG 4000E Silicone Structural Glazing Sealant.

To be provided to Momentive performance materials :

Architectural and shop drawings for review and comment

Design wind load requirement

Glass sizes

Production samples of metal, glass, gaskets, spacers and setting blocks with generic type and manufacturer identified

Momentive performance materials will:

Review and comment on architectural and shop drawings

Confirm joint dimensions as meeting design criteria

Provide short term adhesion data in accordance with a modified ASTM C794 test method.

Perform compatibility test results on gaskets, spacers and setting blocks

Suggest primers when required Momentive performance materials will not:

Design sealant joint regarding wind loading or thermal movement

Provide comments on structural integrity of metal framing system

Provide long term performance data. A minimum joint thickness of 6 mm should be used in order to make certain sealant can be injected in the cavity, insuring full contact with the glass and metal surface while remaining free of air voids. Greater joint thickness may be required to accommodate movement. Contact Momentive performance materials to determine joint thickness required to accommodate movement in structurally glazed applications. Sealant contact width will vary with the design wind load and glass size.

SURFACE PREPARATION

No sealant will maintain long-term adhesion to any substrate if the surface is not prepared and cleaned properly before the sealant is applied. Using proper materials as well as following prescribed surface preparation and cleaning procedures is vital for sealant adhesion.

MATERIALS

Clean, fresh solvent as recommended by the structural silicone sealant manufacturer

Clean, white cloths free of lint or approved wiping materials

Clean, narrow-blade putty knife

Adhesion promoter when required

SURFACE PREPARATION AND PROCEDURES/CLEANING

Remove all loose material (such as dirt and dust), plus any oil, frost or other contaminants from the substrates where structural silicone sealant adhesion is required. Clean the substrates receiving the sealant as follows:

Do not use detergent to clean the substrate as residue may be left on the surface.

Using a two-rag wipe technique:

- Wet one rag with solvent and wipe the entire surface area with it, then
- Use the second rag to wipe the wet solvent from the surface BEFORE it evaporates. Allowing solvent to dry on the surface without wiping with a second cloth negates the entire cleaning procedure because the contaminants are redeposited as the solvent dries.

Do not spread the contaminants being removed by the solvent over the face of the area being cleaned. Any residue left may discolor or stain the face of the panels (such as metal or glass curtain walls).

When cleaning deep, narrow joints, wrap the cleaning cloth around a clean, narrow-blade putty knife. This permits force to be applied to the surface to be cleaned.

Clean only as much area as can be sealed in one hour. If cleaned areas are again exposed to rain or contaminants, the surface must be cleaned again.

Change to clean rags frequently, as they become soiled. It is easy to see the soiling if white rags are used.

ON USING SOLVENTS

Do not dip used wipe cloths into solvent. This only contaminates the solvent. Cleaning with contaminated solvent can result in sealant adhesion problems. Always use clean containers for solvent use and for solvent storage.

CAUTION

Smoking, sparks, welding and flames of any type must not be permitted in the areas or the vicinity where solvents are being used.

Follow all precautions on the solvent warning label.

PRIMERS

Both the nature of the substrate and the nature of the silicone sealant will determine whether and what type of primer may be required in a particular application.

When properly used, primers help assure strong and consistent sealant adhesion to surfaces that may be difficult to bond.

Most primers are a blend of organic and inorganic chemicals, resins and solvents. NEVER APPLY PRIMER TO GLASS SURFACES. Obtaining the proper materials, as well as following the prescribed procedures, is vital to ensure the successful use of primers.

PRIMERS ARE NOT TO BE SUBSTITUTED FOR GOOD SURFACE PREPARATION.

MATERIALS

Pressure-sensitive masking tape if required

Drop cloths

Clean, fresh adhesion promoter as recommended by the structural silicone sealant manufacturer

PROCEDURES

Here are easy steps to follow when using an adhesion promoter:
Mask joint edges if necessary to prevent them from being applied to over the face of adjacent surfaces.

Apply a thin film of primer to the joint surface with either a natural bristle brush or a clean, lint-free cloth or other approved wiping materials. Do not puddle primer in glazing pockets.

Allow the primer to dry before applying the sealant. Drying time depends on ambient conditions, but most primers contain fast-evaporating solvents so that waiting should be short (approximately 30 minutes).

CAUTION

Primers contain solvents. Smoking sparks, welding and flames of any type must not be permitted in the areas of the vicinity where solvents are being used.

MASKING

Before applying the structural silicone sealant, use pressure-sensitive tape to mask the exterior face of the joint where necessary. Start from the top down and overlap the runs.

Use drop cloths to cover any horizontal surfaces likely to receive any excess sealant removed during tooling operations.

Structural Silicone Sealant Application: The sealant should be applied carefully and according to the written instruction on the container.

Apply the sealant by pushing the bead ahead of the nozzle and making sure that the entire cavity is filled. AIR POCKETS OR VOIDS ALONG THE EDGES ARE NOT ACCEPTABLE.

Tooling should be done neatly, forcing the sealant into contact with the sides of the joint, thus helping to eliminate any internal voids and assuring good substrate contact.

Do not tool with water, soap or detergent solutions.

METHOD OF APPLICATION

UltraGlaze SSG 4000E Silicone Structural Glazing Sealant can be dispensed directly from cartridges. The sealant may also be dispensed from drums with pumping equipment. Consult Momentive performance materials regarding suggested pumping equipment and pumping procedures.

MAINTENANCE

No maintenance is needed. If silicone sealant becomes damaged, replace damaged portion. Clean surfaces in damaged area and repair with fresh silicone sealant.

Handling and Safety

Material Safety Data Sheets are available upon request from Momentive performance materials. Similar information for solvents and other chemicals used with Momentive performance materials products may be obtained from your suppliers.



When solvents are used, proper safety precautions must be observed. All solvents must be used only in well-ventilated areas. Exposure to high vapor concentrations must be avoided. When flammable solvents are used, storage, mixing, and use must be in areas away from heat, sparks, flame or other sources or ignition.

**Storage and
Warranty Period**

Shelf life is 13 months from date of manufacture. It will be indicated by the 'use before date' on the associated documents when stored in original, unopened container at 27 °C or less.

Availability

UltraGlaze SSG 4000E Silicone Sealant is available on a direct basis from Momentive performance materials. For availability and cost information, contact a local distributor or the nearest Momentive performance materials Technical Center.



PRINCIPAL LOCATIONS – Regional Information

North America	World Headquarters 187 Danbury Road Wilton, CT 06897, USA	T 800.295.2392	F 607.754.7517
Latin America	Rodovia Eng. Constância Cintra, Km 78,5 Itatiba, SP – 13255-700, Brazil	T +55.11.4534.9650	F +55.11.4534.9660
Europe, Middle East, Africa and India	D-51368 Leverkusen Germany	T 00.800.4321.1000 T +31.164.225350	F +31.164.241.750
Pacific	Akasaka Park Building - 5-2-20 Akasaka Minato-ku, Tokyo 107-6112 Japan	T +81.3.5544.3100	F +81.3.5544.3101

CUSTOMER SERVICE CENTERS

North America	Charleston, WV 25314, USA E cs-na.silicones@momentive.com		
	• Specialty Fluids	T 800.523.5862	F 304.746.1654
	• UA, Silanes, Resins, and Specialties	T 800.334.4674	F 304.746.1623
	• RTV Products-Elastomers	T 800.332.3390	F 304.746.1623
	• Sealants and Adhesives & Construction	T 877.943.7325	F 304.746.1654
Latin America	E cs-la.silicones@momentive.com		
	• Argentina & Chile	T +54.11.4862.9544	F +54.11.4862.9544
	• Brazil	T +55.11.4534.9650	F +55.11.4534.9660
	• Mexico & Central America	T +52.55.5899.5135	F +52.55.5899.5138
	• Venezuela, Ecuador, Peru, Colombia, & Caribbean	T +58.212.285.2149	F +58.212.285.2149
Europe, Middle East, Africa and India	E cs-eur.silicones@momentive.com	T 00.800.4321.1000 T +31.164.225350	F +31.164.241750
	E cs-ap.silicones@momentive.com		
Pacific	• Japan	T +81.276.20.6182	
	• China	T +86.21.5050.4666 (ext. 1523)	
	• Korea	T +82.2.6201.4600	
	• Singapore	T +65.6220.7022	
Worldwide Hotline	Worldwide Web www.momentive.com	T 800.295.2392 T +607.786.8131	F +607.786.8309

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