



SCS2700 SilPruf™ LM

Silicone Weatherproofing Sealant

Product Description

SCS2700 SilPruf LM silicone weatherproofing sealant is a one-component, low-modulus, neutral cure silicone for use on a wide variety of materials in new or remedial weatherproofing applications.

SCS2700 is supplied as a paste and upon cure produces a durable, formed-in-place silicone rubber joint.

Key Features and Typical Benefits

Performance

- **Silicone Durability**—Cured silicone rubber exhibits excellent long term resistance to natural weathering, including: ultraviolet radiation, high and low temperatures and rain and snow, with negligible change in elasticity.
- **Low Modulus**—Softer and more flexible than most sealants; yielding reduced stresses in working joints.
- **High Flexibility**—Can accommodate higher movements in extension than many weatherproofing sealants and has excellent recovery after extension and compression cycling.
- **Versatility with GE sealant products**—Full adhesive and chemical compatibility with GE silicones coatings and with GE pre-cured silicone weatherstrip (US1100 UltraSpan™). System warranties available.
- **Low VOC Content**—Significantly lower than the requirements of the U.S. Green Building Council's Leadership in Energy and Environmental Design (L.E.E.D.) program.

Product Compatibility

- Compatible with the following GE silicone coatings: SilShield, Optic™, Enduris™, and Elemax™.
- Compatible with the following silicone products: IGS3713, IGS3723, IGS3760, RGS7700, SCS2000, SCS2350, SCS2800, SCS9000, SCS2811, SSG4000, SSG4000AC, SSG4000E, SSG4400, SSG4600, SSG4650, SSG4800J, SWS, US1100, UST2200.

Application

- **Adhesion**—Primerless adhesion to many substrates and finishes, including: EIFS, glass, polycarbonate, vinyl, numerous plastics, treated and untreated wood, fluoropolymer and powder coated paints, conversion-coated and anodized aluminum, brick, terra-cotta, ceramic, and porcelain materials and concrete. Some finishes or substrates may require a primer.
- **Long Tooling Time**—Extended work life to allow the user sufficient time for placement and tooling.
- **Stable Consistency (uncured state)**—Supplied as a lightweight paste the consistency of which remains relatively unchanged over a wide temperature range.
- **Low Sag or Slump**—May be used for application to horizontal or vertical surfaces.
- Neutral cure byproduct with low odor.

Aesthetics

- **Color Selection**—8 standard colors. Available in custom colors.

Packaging

SCS2700 is made to stock in 20 fl. oz. (591.5 mL) foil sausage packs. SCS2700 is also made to order in 10.1 fl. oz. (299 mL) cartridges, 2 gallon plastic pails (2 gals. / 7.6 L) and 5 gallon plastic pails (5 gals. / 18.9 L).



Potential Applications

- SCS2700 is a candidate for use as a weatherproofing material when sealing between dissimilar or similar materials in either new or remedial glazing and sealing applications.
- SCS2700 is a candidate for use on sound substrates weaker in tension; such as Exterior Insulation and Finish Systems (EIFS), stucco, concrete, etc.

SCS2700 is not recommended:

- In structural glazing applications.
- In designs where the silicone is encapsulated and without access to atmospheric moisture (this material requires atmospheric moisture to cure from paste to rubber).
- Underwater or in other applications where the product will be in continuous contact with water.
- In food contact applications.
- On porous substrates or surfaces with special protective or decorative coatings, where staining or discoloration may be a concern, without prior testing and consultation with MPM Technical Services.
- When painting of the cured sealant is desired (unless coating with GE SilShield silicone coating products).

SCS2700 should not be applied or used:

- Under exceedingly hot or cold conditions (see Sealant Application section for additional information).
- On wet, damp, frozen or contaminated surfaces.
- On excessively basic or acidic substrates.

Colors

SCS2700 is available in 8 standard colors and can be custom colored.



SCS2700.02
White



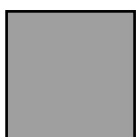
SCS2700.03
Black



SCS2700.04
Limestone



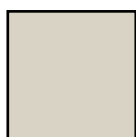
SCS2700.08
Light Grey



SCS2700.09
Aluminum Grey



SCS2700.10
Dark Grey



SCS2700.20
Precast White



SCS2700.97
Bronze

Typical Physical Properties

Typical property values of SCS2700 as supplied and cured are set forth in the tables below. Typical product data values should not be used as specifications. Assistance with specifications is available by contacting MPM at 1-877-943-7325.

Typical Properties—Supplied

Property	Value ⁽¹⁾	Test Method
Consistency	Paste	
Specific Gravity	1.45	
VOC	27 g/l	WPSTM C1454
Work Life (tooling time)	30-40 minutes	
Tack Free Time	10-15 hours	ASTM C679
Sag/Slump	0.1" max.	ASTM D2202

Typical Properties—Cured

Property	Value ⁽¹⁾	Test Method
Hardness, Durometer (Shore A)	15	ASTM D2240
Ultimate Tensile Strength	246 psi (1.70 MPa)	ASTM D412
Ultimate Elongation	781%	ASTM D412
Tensile at 50% Elongation	8.0 psi (0.06 MPa)	ASTM C1135 ⁽²⁾
Tensile at 100% Elongation	11.8 psi (0.08 MPa)	ASTM C1135 ⁽²⁾
Ultimate Tensile Strength	43.1 psi (0.30 MPa)	ASTM C1135 ⁽²⁾
Ultimate Elongation	689%	ASTM C1135 ⁽²⁾
Tear Strength; die B	33.3 pli	ASTM D624
Peel Strength (average) (21-day cure @ 75°F (21°C) 50% RH)	37.2 pli	ASTM C794
Service Temperature Range (after cure)	-55°F to +250°F -48°C to 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	3-4 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.

(2) C1135 specimens were cast in an hourglass shape.



Installation

Sealants may not adhere or maintain long-term adhesion to substrates if the surface is not prepared and cleaned properly before sealant application. Using proper materials and following prescribed surface preparation and cleaning procedures is vital for sealant adhesion. IN ALL CASES IT IS IMPORTANT TO CONFIRM THE ACCEPTIBILITY OF EACH SEALANT-SUBSTRATE COMBINATION WITH A LAB OR SITE ADHESION TEST PRIOR TO PROCEEDING WITH PROJECT INSTALLATION. MPM can provide lab and field adhesion testing information and suggestions to user upon request.

Surface Preparation

Porous Materials (Concrete, Masonry, Brick, Stone, etc.)

- Joints must be clean, dry and sound prior to application of the sealant. All contaminants, impurities, or other adhesion inhibitors (such as moisture/frost, oils, concrete form release agents, old sealants, asphalt and other surface treatments, etc.) must be removed from the surfaces to which the sealant is intended to adhere.
- Clean where necessary by wire brush, mechanical abrading, grinding, sanding, saw cutting, blast cleaning (sand or water), or a combination of these methods to provide a stable clean surface for sealant application.
- Remove dust and other remaining loose particles with a soft bristle brush or by using an oil-free air blow.
- Polished stone surfaces and smooth sawn edges can be cleaned using a solvent dampened rag (allow sufficient time for solvent to evaporate prior to application of the sealant).
- Cleaning of surfaces should be done within 1 to 2 hours of when the sealant is to be applied.
- Since porous materials can absorb and retain moisture, it is important to confirm that substrates are dry prior to application of the sealant.

Non-Porous Materials (Glass, Metals, Plastics, Ceramics, etc.)

- Clean by using a two-rag wipe technique → wet one rag with solvent and wipe the surface with it, then use the second rag to wipe the wet solvent from the surface BEFORE it evaporates (allowing the solvent to dry on the surface without immediately wiping with a second cloth can negate the cleaning procedure because the contaminants may simply be re-deposited as the solvent dries). In all cases where used, solvents should be wiped dry with a clean, white cloth or other lint-free wiping materials.
- Isopropyl Alcohol (IPA) is a commonly-used solvent and has proven useful for most non-porous substrates encountered in architectural construction applications. Xylene and Toluene have also been found useful on many substrates. When handling solvents, refer to manufacturer's MSDS for information on handling, safety and personal protective equipment.
- Architectural coatings, paints and plastics should be cleaned with a solvent approved by the manufacturer of the product or which does not harm or alter the finish.
- Cleaning of surfaces should be done within 1 to 2 hours of when the sealant is to be applied.
- Difficult or nearly impossible to see on a joint substrate, frost is likely to develop on substrates when temperatures drop near the freezing point. Since frost and moisture will interfere with proper sealant adhesion, it is important to confirm that substrates are dry prior to application of the sealant.



Installation—(continued)

- The use of an appropriate silicone primer is required on all EIFS substrates. Consult MPM Technical Services for sealant-primer- substrate recommendations.
- Confirm with the EIFS supplier which finish the sealant should be applied to (i.e., base coat or base coat with EIFS primer).
- All EIFS surfaces must be clean, dry and sound and in an acceptable condition to receive sealant. Confirm with the EIFS supplier or project architect or consultant, what joint conditions are considered acceptable for sealant installation to proceed. If unacceptable conditions are found, cease installation of sealant until corrections are made.
- To clean EIFS, lightly abrade the joint surfaces using a synthetic brush or pad and then remove dust and other remaining loose particles with a soft bristle brush or using an oil-free air blow.
- Cleaning of surfaces should be done within 1 to 2 hours of when the sealant is to be applied.
- Since EIFS materials can absorb and retain moisture, it is important to confirm that the EIFS materials are dry prior to application of the sealant.

Priming

SCS2700 attains primerless adhesion to many commonly encountered construction materials. However, some materials with variable surface characteristics may require the use of a primer to help obtain durable long-term adhesion. Prior to use, trial applications should be made to check adhesion to the specific materials to be used on the project. See the GE sealants primer datasheets for product specific information on use and priming instructions. Consult MPM Technical Services for sealant-primer- substrate recommendations.

Primers may contain solvents. When handling solvents, refer to manufacturer's MSDS for information on handling, safety and personal protective equipment.

Masking

The use of masking tape is recommended where appropriate to ensure a neat job and to protect adjoining surfaces from over-application of sealant. When tooling, use care not to spread the sealant over the face of the substrates adjacent to the joint or masking as the silicone can be extremely difficult to remove on rough or porous substrates. Silicone materials are hydrophobic in nature and if inadvertently over-applied onto adjacent joint surfaces (even if removed immediately), can create a permanent waterproofing effect of a substrate when the building is wet. Do not allow masking tape to touch clean surfaces to which the silicone sealant is to adhere (adhesive on masking tape can interfere with adhesion of silicone). Masking tape should be removed immediately after tooling the sealant and before the sealant begins to skin over (tooling time).

Sealant Application

- Apply sealant in a continuous operation, horizontally in one direction and vertically from the bottom to the top of the joint opening, applying a positive pressure adequate to properly fill and seal the joint width.
- Tool or strike the sealant with a concave tool applying light pressure to spread the material against the back-up material and the joint surfaces to ensure a void-free application.
- In glazing applications, tool the sealant at the sill so that precipitation and cleaning solutions will not pool.
- Excess sealant should be cleaned from glass, metal and plastic surfaces while still uncured. On porous surfaces the excess sealant should be allowed to progress through the initial cure or set-up. It should then be removed by abrasion or other mechanical means.
- Due to the smooth consistency of SCS2700, tooling agents such as water, soap, or detergent solutions are not necessary or recommended. Dry tooling is recommended.
- Sealant is best applied when the temperature is above 40°F (4°C) as frost or moisture are less likely to be present on the surfaces to be sealed. However, SCS2700 can be applied in colder temperatures; refer to the MPM technical bulletin "Cold Weather Sealing Guidelines" for additional information.



Installation—continued

Sealant Application—continued

- Application of SCS2700 is not recommended to be applied to substrates when surface temperatures are above 140°F (60°C).
- The cure rate of this product is dependent upon temperature and the availability of atmospheric moisture. Under Standard (relative humidity of 50 ±5% at an air temperature of 73.4 ±2°F [23 of ±1°C]) this material can attain a cured thickness of 2-3 mm per 24 hours (assuming ample access to atmospheric moisture). As temperature decreases, the cure rate slows down (and vice versa). Low moisture environments will also reduce the cure rate. Near-confined spaces which limit the overall access to atmospheric moisture will cure only from that surface which has access to the atmosphere. Colder temperatures can significantly increase cure times and can open the possibility of sealant irregularities if joint movement occurs while sealant is not fully cured. The following reference provides additional information on Movement-During-Cure of sealant joints: ASTM C1193 - Standard Guide for Use of Joint Sealants; section 12.5.

Method of Application

SCS2700 is easily dispensed directly from cartridges and foil sausage packs using standard caulking guns or from 2 gallon pails using standard bulk caulking gun equipment. The sealant may also be dispensed from 55 gallon drums with pumping equipment.

Joint Designs and Dimensions

In addition to the guidelines provided on this datasheet, MPM recommends that designers and users of SCS2700 familiarize themselves with the latest editions of following industry guidelines and best practices:

- 1.) ASTM C1193 Standard Guide for Use of Joint Sealants.
- 2.) ASTM C1481 Standard Guide for Use of Joint Sealants with Exterior Insulation & Finish Systems (EIFS).
- 3.) ASTM C1472 Standard Guide for Calculating Movement and Other Effects When Establishing Sealant Joint Width.
- 4.) SWR Institute's Applying Liquid Sealants Applicator Training Program.

Joint Movement—The dimensions of joints in typical construction applications change daily as a result of solar heat gain and building sway, and throughout the year due to seasonal changes. The movement in a sealant bead installed on the sun-side of a building or during the hottest portion of the day will be almost entirely in extension during the cold season or cycle; while the movement of a bead installed during the coldest condition will be almost entirely in compression during the hotter season or cycle.

In addition to these above movements, the designer should consider the effect of construction tolerances in his/her project to minimize the occurrence of over-sized or under-sized joints during construction. All moving (dynamic) joints must be designed so as not to allow three-sided adhesion of the sealant to occur (reference ASTM C1193). Three-sided adhesion hinders the ability of the sealant to extend and compress freely as desired and can lead to early joint failure.

Joint Width—When using SCS2700, the designed joint width must be at least twice the total anticipated joint movement. For example, if the total anticipated movement in an expansion joint in which SCS2700 silicone sealant is to be installed is 1/4" (6 mm), the designed joint width must be at least 1/2" (12 mm). The designer may want to consider additional width to accommodate construction tolerances (reference ASTM C1472). Large panels or lites should allow a minimum width of 1/4" (6 mm) for the sealant bead, mostly to allow for a proper installation (very small/narrow beads become difficult to install and can accommodate less movement). Glazing of plastic or larger-sized metal panels may require larger than usual joint widths due to the greater movement potential (higher coefficients of thermal expansion). Consult with MPM Technical Services for recommendations on large or unusual applications.



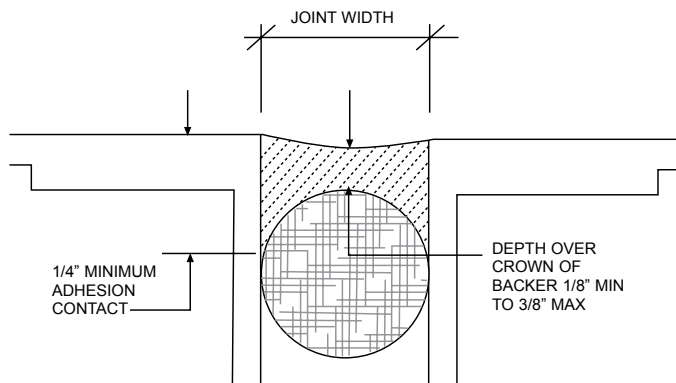
Installation—continued

Butt Joints—A thin installation of silicone sealant can better accommodate more movement than a deep installation, as the deeper bead will result in additional stress being imposed on both the sealant and the bonding surfaces during joint movement.

Figure 1 illustrates the general guidelines for installation of SCS2700 into a typical butt joint configuration of widths up to 2" (5 cm).

- 1.) The recommended sealant profile is an hourglass shape with the depth of the sealant over the crown of the backer rod to be no thinner than $\frac{1}{8}$ " (3 mm) and no thicker than $\frac{3}{8}$ " (10 mm), and
- 2.) A minimum of $\frac{1}{4}$ " (6 mm) of adhesive bonding contact must be made to all surfaces to which the sealant is intended to adhere. When used in joints exceeding 2" (5 cm) in width:
- 3.) The recommended sealant profile is an hourglass shape with the depth of the sealant over the crown of the backer rod to be no thinner than $\frac{1}{4}$ " (6 mm) and no thicker than $\frac{3}{8}$ " (10 mm), and
- 4.) A minimum of $\frac{3}{8}$ " (10 mm) of adhesive bonding contact must be made to all surfaces to which the sealant is intended to adhere.

Figure 1



Joint Backer Materials

Backer materials, typically backer rod, provide the following benefits to aid in the correct application of SCS2700.

- 1.) To control and provide the desired sealant depth.
- 2.) Create a formed joint cavity that allows for the desired hourglass sealant shape.
- 3.) Provide a firm backup which helps attain full wetting of the substrates when the sealant is tooled.
- 4.) Act as a bond breaker to eliminate adhesion on the backside of a joint (three-sided adhesion).

Non-gassing polyethylene, polyolefin or polyurethane foam rod is the recommended back-up material for use with SCS2700. If the joint is too shallow to allow foam rod, use a polyethylene tape (as a bond breaker to eliminate three-sided adhesion). On EIFS and porous substrate applications, a closed cell backer rod is recommended (open cell backer materials absorb and hold water which can affect long-term sealant adhesion on these materials). Backer rod should be 25-50% greater (confirm with manufacturer of backer rod as to type selected) than the width of the joint, thereby providing continuous pressure against the joint walls, and expanding and contracting with the joint movement without pushing the sealant out of the joint during the compression cycle or falling away during the extension cycle. Rubber backup materials may stain the sealant and are not recommended, unless tested and verified for compatibility.



Applicable Standards

SCS2700 meets or exceeds the requirements of the following specifications for one-part sealants.

U.S. Federal Specifications:

- TT-S-001543A
- TT-S-00230C

Canadian Specification:

- CAN/CGSB-19.13-M87

Technical Services

Additional technical information and literature may be available from MPM Laboratory facilities and application engineering is available upon request from 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.

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 Safety Data Sheet and label for product safety information, handling instructions, personal protective equipment if necessary, and any special storage conditions required. Safety Data Sheets are available at www.gesilicones.com 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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