



THERMO-SIL™ SF

TECHNICAL DATA SHEET

SILICONE FLASHING AND SEAM TREATMENT

PRODUCT DESCRIPTION

Huntsman Building Solutions' Thermo-Sil SF is a high performing silicone sealant for protection of seams, penetrations, and fasteners on various roofing substrates. Upon cure, Thermo-Sil SF forms a durable and weatherproof barrier that is highly resistant to degradation from UV and natural weathering.

KEY FEATURES AND TYPICAL BENEFITS

Performance

- Silicone Durability — Excellent long-term resistance of cured product to natural weathering including: extreme temperatures, ultraviolet radiation, rain and snow.
- VOC Compliant — High solids solvent-free formulation that complies with California regulations.
- Ease of Use — Single-component material that can be applied with trowel, stiff brush or glove hand, with sufficient open time for tooling before it cures.
- High Build Formulation — Low sag.
- Storage & Shelf Life — Thermo-Sil SF can be stored in unheated warehouses during the cooler months without the risk of freezing. Shelf life is 18 months from date of manufacture when properly stored.

Application

Thermo-Sil SF can be applied to itself as well as other roofing materials and substrates including: single ply membranes (TPO, PVC, EPDM, and CSPE), spray-applied polyurethane foam (SPF), metal, concrete and common parapet/coping materials. Asphaltic substrates such as modified bitumen, smooth BUR, and granulated cap sheet may require a bleed blocker basecoat.

POTENTIAL APPLICATIONS

NOTE: Thermo-Sil SF should not be considered for:

- Use on pedestrian, deck or frequent traffic bearing surfaces
- Cold storage roofing application without vapor barrier, cryogenic tank applications or continuous water immersion services
- Unprepared surfaces including but not limited to those that are wet, dusty, oily, mildewed, heavily chalked, blistered or otherwise structurally unsound.
- Building materials that might bleed oil or solvents. These include, but are not limited to, certain vulcanized rubber products, tapes, failed sealants, some caulking compounds and asphaltic/mastic materials unless appropriate preparation or primers are used. Consult Huntsman Building Solutions' technical services for primer recommendations.
- Surfaces where adhesion has not been verified by testing.

Precautions

- Inclement weather may negatively affect uncured Thermo-Sil SF by displacement of uncured material; therefore, application of sealant should not proceed if heavy rain, hail or snowfall is impending or expected within 24 hours of application.
- Thermo-Sil SF requires atmospheric moisture for propagation of cure thus it is not suitable for use in totally confined spaces.

PACKAGING

Thermo-Sil SF is currently available in nominal 2 gallon plastic pails filled to 20 LBS - (9.08 KG) and 20 fl. oz. (591 ml) foil sausage packs.

Physical Properties

Property ⁽¹⁾	Value ⁽²⁾	Test Method
Appearance	Bright White	Visual
VOC	~34 g/L	EPA Method 24
Application Rate	500-1000 g/min	E56
Specific Gravity	1.18-1.25	P15
Sag/Slump	1 inch (25 mm)	ASTM D2202
Skin-Over Time	5-10 minutes	WPSTM C-560
Tack Free Time	30-60 minutes	ASTM C679
Cure Time	3-4 days	1/4" (6 mm) depth of cure
Hardness (A) Type Indenter	24	ASTM D2240
Ultimate Tensile Strength	220 psi (1.52 MPa)	ASTM D412
Tensile at 50% Elongation	52 psi (0.358 MPa)	ASTM D412
Tensile at 100% Elongation	86 psi (0.593 MPa)	ASTM D412
Ultimate Elongation	230%	ASTM D412
Joint Movement	±25%	ASTM C719
Low Temperature Flexibility	Pass	ASTM D522 (B)

(1) Properties tested @ 72°F (24°C), 50% RH

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

INSTALLATION AND APPLICATION CONSIDERATIONS

Surface Preparation

Surfaces to which Thermo-Sil SF is to be applied must be clean, dry, structurally sound and free of loose particles, dirt, dust, oil, frost, mildew and other contaminants. Damage to the underlying roof system, such as cracks, openings, and holes should be properly repaired prior to application. Saturated substrates must be removed and repaired appropriately. Proper adhesion to all existing roofing materials to be sealed should be tested prior to large scale application of the sealant. It is recommended that areas be cleaned, and Thermo-Sil SF be applied and adhesion tested to verify the effectiveness of the cleaning method and adhesion to the surface(s).

Surfaces not intended for sealant should be masked or covered.

Application Guidelines

Apply Thermo-Sil SF to ensure a uniform build and thorough coverage. Thermo-Sil SF can typically be applied in one application. If applying multiple coats, allow adequate time between each application for the sealant to cure. Final cured thicknesses must be free of voids, pinholes, cracks or blisters.

Application Temperature

Thermo-Sil SF can be applied throughout the year as long as the substrates being sealed are completely dry. Frost and/ or moisture will interfere with adhesion. Lower temperatures will increase the skin over, tack free and ultimate cure time and may require 24 to 72 hours to cure. In cold weather, allow the sealant to cure before top coat application. Higher temperatures will accelerate the cure rate and decrease the open time of the sealant. Under summer conditions, time to cure before application of top coat over sealant may be as little as 1 hour. Do not apply Thermo-Sil SF when substrate surface temperatures exceed 176°F (80°C).

Application Equipment

Thermo-Sil SF can be applied by trowel, stiff brush or gloved hand.

CLEAN UP

Cleanup of equipment containing uncured material may be accomplished by cleaning with mineral spirits or toluene.

DO NOT USE water or alcohol based solvents.

Cured material can be removed from surfaces with a razor blade, or scrubbed off with steel wool or synthetic abrasive pads and solvent.

TECHNICAL SERVICES

Additional technical information, literature, laboratory testing and application engineering are available upon request. Any technical advice furnished by Huntsman Building Solutions or any representative of Huntsman Building Solutions concerning any use or application of any sealant is believed to be reliable but Huntsman Building Solutions makes no warranty, expressed or implied, of suitability for use in any application for which such advice is furnished.

LIMITATIONS

Customers must evaluate Huntsman Building Solutions' 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 should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Huntsman Building Solutions maintains an around-the-clock emergency service for its products. SDS are available at www.huntsmanbuildingsolutions.com or, upon request, from any Huntsman Building Solutions representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with Huntsman Building Solutions' products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Thermo-Sil SF should be stored in unopened containers and protected from exposure to direct sunlight and high heat. Do not open containers until ready for use and store containers below 109°F (43°C) to maintain full shelf life. Thermo-Sil SF can generally be stored in unheated warehouses during the cooler months without the risk of freezing.

Thermo-Sil SF reacts with atmospheric moisture to cure. Once containers are open and exposed to the atmosphere, a skin will form on the material over time. The formation of skin will be negligible in winter months but can form quickly (minutes) under hot and humid summer conditions. Cured skin that has formed on the top of the material should be removed or screened. Take appropriate precautions to cover open containers during use.

Thermo-Sil SF should be applied as received; dilution with a solvent is not recommended. If settling in the package has occurred, stir or shake the material prior to use.

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