

SilShield™ 3100

Silicone Architectural Coating

Product Description

SilShield 3100 silicone architectural coating is a low VOC⁽¹⁾ 100% silicone elastomeric coating used to provide a waterproof barrier to vertical and horizontal above-grade surfaces. SilShield coating cures to a durable, flexible, and weatherproof membrane that can be produced to nearly any color.

Key Features and Typical Benefits

Performance

- **Silicone Durability** – Cured silicone membrane exhibits excellent long-term resistance to natural weathering from extreme temperatures, ultraviolet radiation, rain and snow and will not harden, crack or peel.
- **Waterproof Power** – Protects against water intrusion even from wind-driven rain.
- **Rain Ready** – Can be exposed to a light to medium rain in as little as 30 minutes.
- **Primerless Adhesion** – Adheres to a broad range of porous and non-porous substrates including: glass, concrete, stucco, masonry, urethane foam, wood, copper, EIFS, aluminum and many painted surfaces.
- **Low VOC** – High-solids formulation has low Volatile Organic Compounds (VOCs) content that is well below the limits of California's Air Quality Management Districts.
- **Silicone Compatibility** – Compatible with neutral-cure silicone sealants and pre-cured silicone weatherstrip.
- **System Warranty** – Qualifies for a combined product warranty when used with UltraSpan™ pre-cured weatherstrip and SilPruf™ sealants.
- **Breathable** – Cured SilShield coating is water vapor permeable.
- **Excellent Color Retention** – High resistance to chalking due to natural weathering and UV exposure, even dark colors.

Potential Applications

- Vertical wall applications on a wide variety of substrates for waterproofing and decorative purposes.
- Non-traffic horizontal and roof applications.

SilShield coating should not be considered for:

- Walking or traffic surfaces.
- Continuous water immersion applications.
- Surfaces which are wet, dusty, oily, mildewed, heavily chalked, blistered or structurally unsound.
- Building materials which might bleed oil or solvents such as: impregnated wood and certain vulcanized rubber gaskets or foams, tapes or failed sealants and caulking compounds. Compatibility testing is available and recommended.

Packaging

SilShield coating is currently available in 52-lb (23.6 kg) plastic pails containing approximately 5.0-gallons (18.2 L).

Colors

SilShield coating is made to order and tinted at the manufacturing facility. Standard colors can be selected from a pre-matched Color Selection Guide fan deck or a limited amount of custom color matching can be performed. Contact your sales representative for information.

(1) Based on VOC content of less than 50 g/L, as provided for in the 06/2018 US EPA (40 CFR 59) and the 02/2016 South Coast AQMD (Rule 1113) VOC emission standards for architectural coating.

Typical Physical Properties

Typical physical property values of SilShield coating as supplied and cured are set forth in the tables below.

Typical Physical Properties – Supplied

Property	Value	Test Method
Specific Gravity	1.29	WPSTM P-15
Solids Content, by volume	88-92%	ASTM D1644-0
Tack Free Time	45-60 minutes	WPSTM E-86
Skin Over Time	20-25 minutes	WFDADC
Viscosity, cps	35,000	WPSTM C-560
Volatile Organic Content (VOC, g/L)	24	EPA Method 24 ⁽¹⁾

Typical Physical Properties – Cured

Property	Value	Test Method
Tensile Strength, psi	236	ASTM D412
Elongation %	187	ASTM D412
Application Temperature Range	20-120°F (-7-49°C)	
Coverage rate	145 ft ² (13.5 m ²)	Calculation
Vapor Permeance (10mils DFT)	5.20 Perms	ASTM E96

WPSTM = Waterford Plant Standard Test Method
Typical properties are average data and are not to be used as or to develop specifications.

(1) Value determined using WPSTM C-1454 following EPA Method 24.

General Considerations for Use

Project Mock-Up

A mock-up, or test patch on actual project substrates should be performed prior to application in order to:

- Verify that acceptable adhesion is attained.
- Identify coverage rates based on the specific substrates and conditions. Coverage rates may vary between first and second coats.
- Assess appearance, hiding power and color acceptance over project-specific substrates.

Surface Preparation

Surfaces to be coated must be clean, dry, structurally sound and free of loose particles, dirt, dust, rust, oil, frost, mildew and other contaminants. For most applications, cleaning with a high pressure water wash should be sufficient. Allow sufficient time after cleaning for the substrate to dry completely prior to the application of SilShield coating.

- Cracks and holes must be filled if greater than 1/32 inch (0.8 mm) wide. Cracks can be filled with SilPruf or SilGlaze™ silicone sealants.
- For masonry surfaces, if efflorescence is present the surface may need to be treated prior to coating. Testing is recommended.
- Existing non-adhered painted surfaces should be removed down to the original surface or to a sound condition, and cleaned prior to coating.
- New concrete and masonry should be allowed to cure for a minimum of 30 days then prepared by wire brushing loose mortar and cleaned via pressure washing.
- Non-porous substrates such as steel, aluminum, galvanized metal, glazed tile, etc should be thoroughly cleaned and dry.

Application Temperature and Humidity

Coating is best applied when the temperature is above 20°F (-7°C) as frost or moisture are less likely to be present on the surfaces to be coated. SilShield coating may be applied in colder temperatures under certain conditions; refer to the Momentive Performance Materials (MPM) technical bulletin "Cold Weather Installation Guidelines" for additional information.

Surface temperature of the substrate to be coated should be below 120°F (49°C).

SilShield coating needs atmospheric moisture to properly cure and cure speed will vary relative to ambient temperature and humidity.

General Considerations for Use - Continued

Film Thickness

Dry Film Thickness (DFT) is approximately 10% less than the applied wet film thickness. On vertical surfaces, SilShield coating should be applied in 1 or 2 coats yielding minimum final DFT of 10 mils (254 microns). Subsequent coats may be applied when the previous coat is dry to the touch or is firm enough to resist disturbance when rolling or brushing, typically less than 2 hours. On horizontal surfaces, it may be applied in a single coat up to a DFT of 20 mils (508 microns).

Coverage

Maximum possible coverage rate at 10 mils (254 microns) DFT is 145 ft² (13.5 m²) / gallon.

Actual coverage rates should be verified using a mockup and will vary based on substrate texture, porosity, application method, applicator and other factors.

When used in limited roof applications, contact MPM representative for required dry film thicknesses.

Application Methods

SilShield coating can be applied by roller, power roller, brush, or airless power sprayer. Rollers should be solvent resistant. Microfiber rollers are recommended as they are woven and more shed-resistant (tend to leave less roller lint in the coating). Roller naps of 3/8 to 1" (9 to 25mm) have shown to be useful towards achieving the recommended coverage though naps of any size can be used to create the desired finish. Utilizing the minimum nap necessary to achieve required film thickness is recommended when a smoother final finish is desired. Please contact a technical representative for power roller and power spraying recommendations. Removal of uncured product from equipment may be accomplished by flushing with mineral spirits. Coating should not be left in equipment and hoses for prolonged periods of time unless all hoses, piping connections and pump seals are vapor locked and lined/sealed with materials designed to prevent product from curing and adhering internally. Inadequate lining and seals will allow sufficient moisture vapor intrusion to gradually form cured material on hose walls and connections, resulting in increased operating pressures and material flow restrictions.

Color Uniformity

- Stir as needed for uniform color blending.
- Approve color before application. The color chip can only approximate the actual color.
- Boxing (or mixing together multiple pails) is an acceptable way to ensure color is uniform.
- It is a best practice to start (and stop) the application of SilShield at a reveal, corner, or other defining feature of the project.

Applicable Standards

ASTM D6904 Standard Practice for Resistance to Wind-Driven Rain for Exterior Coatings Applied on Masonry.

Technical Services

Additional technical information and literature may be available from MPM. Laboratory facilities and application engineering are 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 MPM products and make their own determination as to the 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.siliconesforbuilding.com or, upon request, from any MPM representative.

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