



Optic* 3101

Translucent Silicone Coating

Product Description

GE Optic 3101 translucent silicone coating is a low VOC⁽¹⁾ 100% silicone elastomeric coating used to provide a waterproof barrier to above grade surfaces. Optic coating cures to a durable, flexible and weatherproof membrane that is translucent for visual aesthetics.

Key Features and Typical Benefits

- **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
- **Low VOC**—Allows compliance with most air quality requirements
- **Vapor Permeable**—Cured Optic coating waterproofs with high vapor permeability for building moisture management.
- **Design Aesthetics**—Thin film application allows the underlying substrate to be visible through the coating.
- **Light Transmission**—Waterproofs while still allowing the passage of light in applications such as glass block or sky lights.
- **Anti-Graffiti**—Resistant to non-mechanical vandalism and graffiti; most paints and inks can be easily removed with simple cleaning methods.

Potential Applications

- Brick, natural stones, and other surfaces where significant appearance change is undesirable.
- Glass block walls, skylights, stained glass windows, daylighting features, shelters, and other substrates through which light transmission is required.
- Applications requiring anti-graffiti performance.

Optic 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.
- Light transmission applications where clear sight through the substrate is required.

Packaging

Optic coating is currently available in 5 plastic pails containing 42-lb (19.05 kg), approximately 5 gallons (18.2 L).

Typical Physical Properties

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

Typical Properties – Supplied

Property	Value	Test Method
Specific Gravity (g/ml)	.97	WPSTM P15
Solids Content, by volume	73%	WPSTM C19
Solids Content, by weight	70%	WPSTM C19
Tack Free Time	1-2 hours	Varies by temp/humidity
Skin Over Time, mins	<30 minutes	
Viscosity, centipoises	12,300	WPSTM C560
Application Temperature Range	20-120°F (-7-39°C)	
Volatile Organic Content (VOC, g/L)	24	EPA Method 24 ⁽¹⁾

Typical Properties – Cured

Property	Value	Test Method
Tensile Strength, psi	121	ASTM D412
Elongation %	199	ASTM D412
Service Temperature Range	-20-250°F (-46-121°C)	
Hardness, Durometer Type A (Indentor)	23	ASTM D2240
Gloss (GU)	27	Glossmeter
Coverage Rate	117 ft ² /gal max	Calculation
Water Vapor Permeance (10 mils DFT)	18 Perms	ASTM E96 Wet cup
Light Transmission (10 mil DFT)	95%	Color i7
Wind-Driven Drain Resistance	Pass	ASTM D6904

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.

(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 coatings.
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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 actual project substrates and conditions. Coverage rates may vary between first and second coats.
- For visual evaluation of the appearance. Obtaining customer acceptance of the appearance prior to the project start is strongly recommended.

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 Optic coating.

- Cracks and holes must be filled if greater than 1/32 inch (.8 mm) wide. Cracks can be filled with GE SilPruf* or GE SilGlaze* silicone sealants. Repairs to cracks and holes should match the existing substrate as closely as possible in texture and color since the Optic coating has no hiding power.
- For masonry surfaces, if efflorescence is present, the surface may need to be treated prior to coating. Testing is recommended.
- New concrete and masonry should be allowed to cure for a minimum of 30 days then cleaned 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 clean 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 sealed. Optic 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).

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

Film Thickness

Dry Film Thickness (DFT) is approximately 25% less than the applied wet film thickness. On vertical surfaces, Optic coating should be applied in 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).

Care should be exercised to avoid over application which can result in a decrease of translucent appearance.

Coverage

Maximum possible coverage rate at 10 mils (254 microns) DFT is 117 ft²/gallon based on solids content. Actual coverage rates should be verified using a mockup and will vary based on substrate texture, porosity, application method, applicator and other factors.

Application Methods

Optic coating can be applied using rollers, power rollers, brushes, or power sprayers. Rollers should be solvent resistant and utilize the minimum nap possible that still achieves continuous coverage. Achieving the most consistent coating thickness possible is important to final appearance. Varying coating thicknesses can lead to a mottled appearance as the coating begins to appear milky in areas where the thickness is increased. Contact a technical representative for power roller and power spraying recommendations. Clean up of equipment containing uncured material 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.

Applicable Standards

ASTM D6578 Standard Practice for Determination of Graffiti Resistance.

ASTM D6904-03(2013): Standard Practice for Resistance to Wind-Driven Rain for Exterior Coatings Applied on Masonry.

Technical Services

Additional technical information and literature may be available. 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 sealant 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 siliconeforbuilding.com or upon request, from any MPM representative.

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