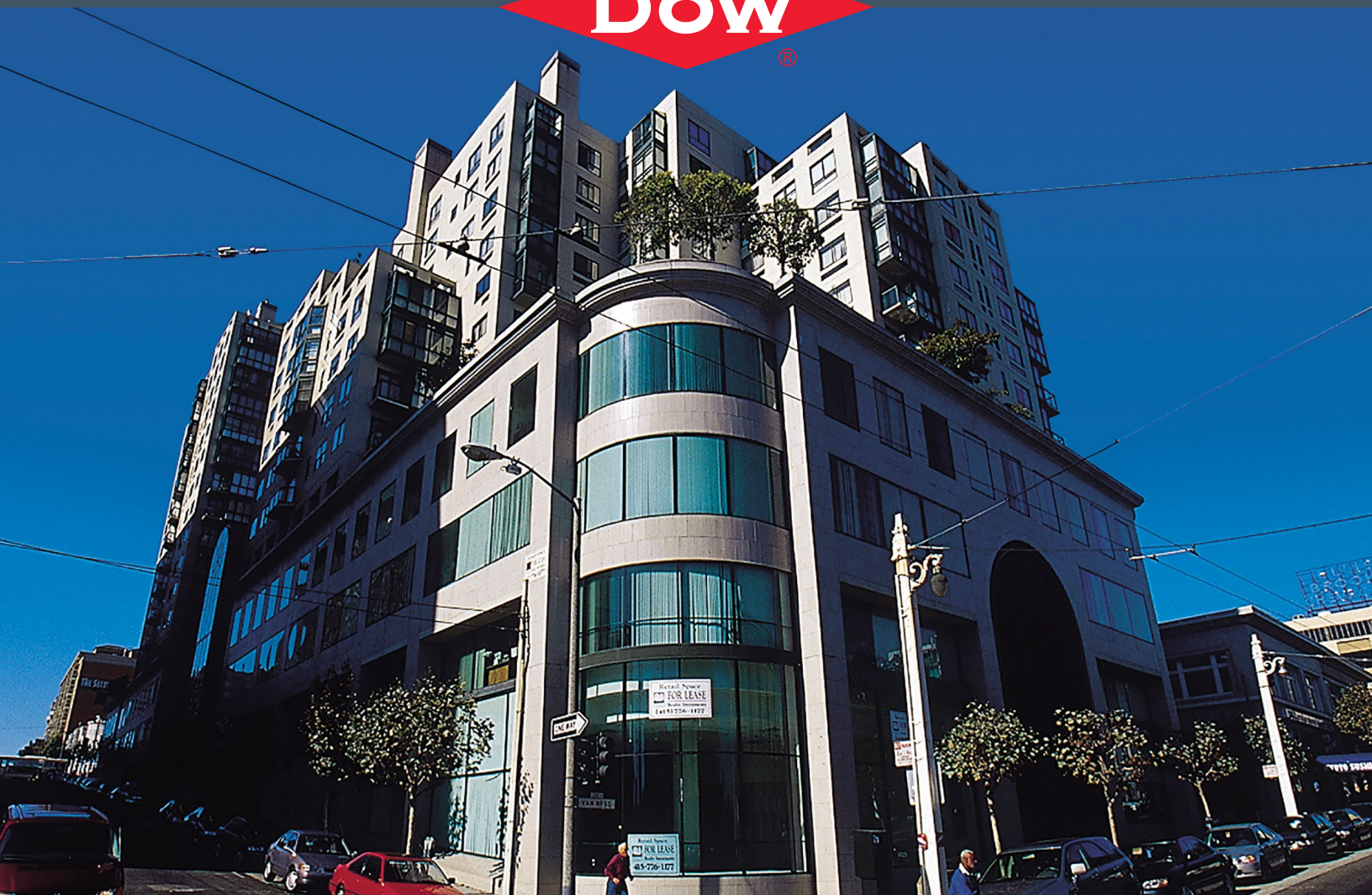
DOWSIL™ ALLGUARD Silicone Elastomeric Coating

Application and maintenance guide



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This document is intended to offer installation and field testing instructions for DOWSIL™ ALLGUARD Silicone Elastomeric Coating. Additional information regarding cleaning and maintenance is included to support maximum, long-term waterproof performance for your building.

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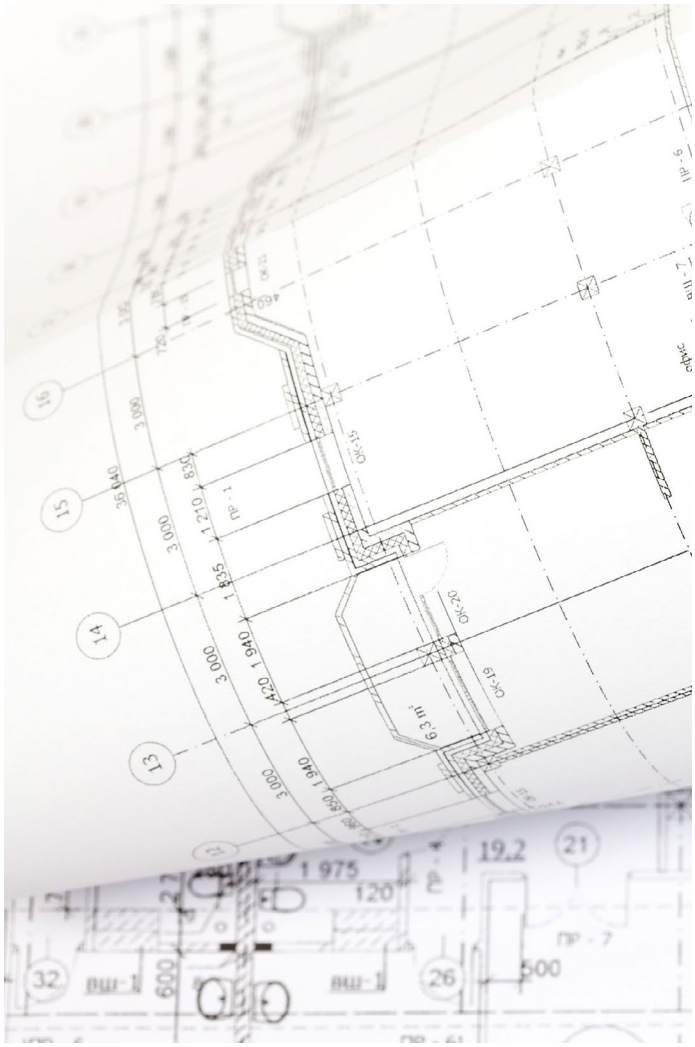


Product description

DOWSIL™ ALLGUARD Silicone Elastomeric Coating is a one-component water-based silicone elastomer designed to waterproof above-grade exterior masonry substrates. Featuring a smooth, matte finish, this coating is available in a broad range of standard and custom colors that are made to order at your distributor's location.

Excellent for both new construction and renovation projects, DOWSIL™ ALLGUARD Silicone Elastomeric Coating withstands wind-driven rain without water penetration.

Substrate compatibility

DOWSIL™ ALLGUARD Silicone Elastomeric Coating is designed to waterproof above-grade exterior masonry substrates, such as concrete block, fluted block, brick, stucco, synthetic stucco, poured concrete, precast concrete, Exterior Insulation Finish Systems (EIFS), and previously coated masonry substrates.

DOWSIL™ ALLGUARD Silicone Elastomeric Coating generally has primerless adhesion to these substrates. Field adhesion testing is required at the site to help ensure primerless results.

Compatibility with DOWSIL™ Brand Products

DOWSIL™ ALLGUARD Silicone Elastomeric Coating is compatible with the DOWSIL™ Brand Products listed here. DOWSIL™ ALLGUARD Silicone Elastomeric Coating can be applied over the sealants after they have been allowed to achieve tack-free cure (see sealant data sheets for specific cure times). It is the only coating that can be used for application over DOWSIL™ 123 Silicone Seal. Products commonly used with DOWSIL™ ALLGUARD Silicone Elastomeric Coating include:

- DOWSIL™ 123 Silicone Seal
- DOWSIL™ 756 SM Building Sealant
- DOWSIL™ 790 Silicone Building Sealant
- DOWSIL™ 791 Silicone Weatherproofing Sealant
- DOWSIL™ 795 Silicone Building Sealant

When DOWSIL™ ALLGUARD Silicone Elastomeric Coating is used in conjunction with DOWSIL™ 123 Silicone Seal and these recommended sealants, complete building protection can be achieved.

Colors

DOWSIL™ ALLGUARD Silicone Elastomeric Coating is available in over 55 standard colors, and a full range of custom colors is available from your DOWSIL™ Brand Construction Products distributor.

Shelf life

DOWSIL™ ALLGUARD Silicone Elastomeric Coating has a shelf life of nine months from date of manufacture.

Application

Design considerations

As with any high-performance material, care taken in initial design and application will result in longer coating life.

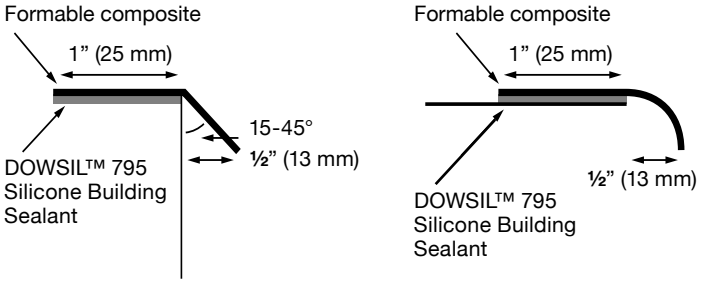
In many building designs, there may be areas such as ledges and window sills that allow airborne dirt and soot to accumulate. If the design permits or promotes channeling of water runoff from these areas, dirt streaking is likely to result.

Wall texture and environmental conditions are also important factors in the quantity and type of dirt accumulated. Industrial areas and nearby highways increase the probability of soot and hydrocarbon in the air, resulting in a greater chance of dirt pickup and streaking. If the building's location, design, wall surface, or existing dirt streaking indicates channeling of water down the side of the wall, drip edges are recommended on the ledges, window sills, and scuppers to reduce dirt streaking on DOWSIL™ ALLGUARD Silicone Elastomeric Coating.

In field tests, the use of a drip edge greatly reduces or eliminates dirt streaking. The use of the drip edge moves the runoff water away from the wall, creating a non-patterned runoff.

A drip edge can be fabricated from the same material as the window sills or from other formable composites. The design of the drip edge should allow for a minimum 1" (25- mm) width for attachment to the ledge, with a bent edge of 15 to 45° or minimum 1/2" (13-mm) radius, with the edge at least 1/2" (13-mm) away from the wall (see Figure 1). The drip edge can be mechanically adhered to the substrate or attached with DOWSIL™ 791 Silicone Weatherproofing Sealant or DOWSIL™ 795 Silicone Building Sealant. A field adhesion test on the sealant to drip edge and sill must be performed to verify good adhesion.

Figure 1: Drip edge design



Temperature and humidity

DOWSIL™ ALLGUARD Silicone Elastomeric Coating can be applied from -6 to 38°C (20 to 100°F). If the temperature drops below -6°C (20°F) after the coating is applied, the average drying time will increase. DOWSIL™ ALLGUARD Silicone Elastomeric Coating requires temperatures higher than -6°C (20°F) for a cumulative total of 24 hours to dry. Do not apply the coating when the relative humidity is greater than 90 percent or when there is a threat of rain within 24 hours.

Surface preparation[1]

For recommendations regarding proper cleaning and preparation of the substrate prior to coating, please refer to Table 1.

Sealing cracks

Static cracks less than 1/16" (1.6 mm) can be bridged with DOWSIL™ ALLGUARD Silicone Elastomeric Coating.

Static cracks greater than 1/16" (1.6 mm) must be repaired by methods suitable for the substrate before being coated with DOWSIL™ ALLGUARD Silicone Elastomeric Coating.

Moving cracks should be stabilized or properly repaired for the expected movement prior to installation of DOWSIL™ ALLGUARD Silicone Elastomeric Coating to help prevent tearing of the coating due to excessive movement.

Table 1: Surface preparation

Surface conditions	Detection method	Removal method
Efflorescence[2]	Wipe with dark cloth	Wire brush; then clean with high-pressure water. On stubborn deposits, mix one part muratic acid (or similar) to 12 parts water; then clean with high-pressure water.
Dirt/dust	Wipe with dark cloth	High-pressure water cleaning.
Laitance	Scrape with putty knife looking for powdery material	Scrape with steel scraping tool followed by high-pressure water cleaning.
Mildew	Visual	Scrub with five percent bleach solution followed by high-pressure water cleaning.
Greases/oil	Sprinkle water on surface	Trisodium phosphate (TSP) solution in hot water and high-pressure water cleaning.
Form release, curing, or surface-hardening compounds	Visual; sprinkle water on the surface[3]	Must be removed by mechanical abrasion or abrasive water cleaning.
Existing paints/coatings	Visual	High pressure water clean the building to remove any loose sections prior to coating the building.

[1] These are general recommendations; please refer to substrate manufacturer for specific remediation recommendations.

[2] Efflorescence may be caused by migration of water through a cementitious substrate reacting with components of the mix. Removing efflorescence may not prevent further formation of efflorescence at a later time without mitigating water migration within the substrate.

[3] If water beads on the surface, the surface is contaminated. Apply a test treatment of detergent or caustic soda with a bristle brush to remove contamination. Retest. If water still beads, a penetrating water repellent may exist and will interfere with adhesion. Contact your Dow Technical Service Representative for further recommendations.

Table 2: Estimated application rate

Surface conditions	Estimated rate[1]	
	ft^2/gal	m^2/L
Smooth (brick, precast concrete)	70-80	1.7-2.0
Medium (sand, #3 vermiculite, stucco)	50-70	1.2-1.7
Coarse (aggregate, split fce block, EIFS)	30-50	0.8-1.2

[1] Application rates vary tremendously with porosity and degree of texture on the substrate. These values are estimated and should be confirmed at the job site prior to bidding the project.

Workmanship

- Protect adjacent surfaces and surroundings that are not to be coated.
- Apply a minimum of two coats to achieve a dry film thickness of ≥ 10 mils (0.25 mm).
- Follow design considerations.

Priming (if needed)[1]

One coat of primer is required.

1. Apply at a rate of 300 ft^2/gallon (7.4 m^2/L) using a 1/2 to 3/4" (13- to 19-mm) synthetic nap roller, nylon bristle brush, or airless sprayer.
2. Apply primer to the point of rundown.
3. Dry 30 minutes to two hours. Actual drying time will depend on temperature, humidity, and wind conditions. Allow an additional 30 minutes to dry after dry to the touch.
4. Apply coating over primer at least 30 minutes after primer is dry to the touch, but within 24 hours. If the surface cannot be coated during this time, care should be taken to confirm that the primed surface is free of dirt and debris before applying coating.

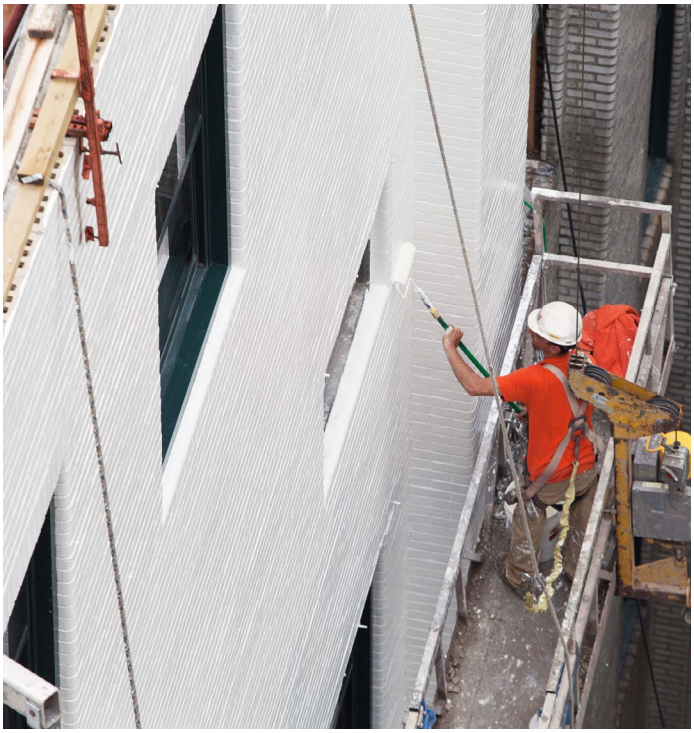
Coating

A minimum of two thick (10- to 12-mil) coats of DOWSIL™ ALLGUARD Silicone Elastomeric Coating are necessary to achieve the required 10-mil (0.25-mm) minimum dry film thickness to attain protection against through-water penetration and to qualify for a project-specific warranty.

Apply the coating in a minimum 10- to 12-mil (0.25-mm) wet thickness (see Table II for estimated application rates; a job-specific mockup is recommended to determine actual usage). Typically, two 10- to 12-mil (0.25-mm) wet coats will result in the required 10-mil (0.25-mm) dry coating thickness; however, an additional coat may be required due to surface texture or porosity. Apply using a 3/4 to 11/2" (19- to 38-mm) nap, polyester, or 50/50 polyester/wool blend roller cover, nylon bristle brush, or airless sprayer. When applying the coating with a roller, apply it in a fan pattern to achieve uniform thickness. Always finish roller applications in the same direction to reduce visual surface texture differences. When applying with an airless sprayer, follow the spray application with a back roll of material to help ensure a uniform coating and appearance.

Allow the coating to dry (typically two to four hours) before applying the next coat.

Note: Do not thin or cut back DOWSIL™ ALLGUARD Silicone Elastomeric Coating.



Drying time

After the final coat has been applied, the average drying time is 4 to 8 hours, depending upon temperature, humidity, and wind conditions. If the temperature drops below -6°C (20°F) after the coating is applied, the average drying time will increase. DOWSIL™ ALLGUARD Elastomeric Coating requires temperatures higher than -6°C (20°F) for a cumulative total of 24 hours to dry. DOWSIL™ ALLGUARD Silicone Elastomeric Coating will attain full adhesion and physical properties in seven to 14 days.

Low-temperature application

If temperatures drop below -6°C (20°F), the coating will freeze on the surface until the temperature increases. This will not affect the cured properties of the coating, but will extend the drying time.

The coating should "dry to touch," not simply freeze, between coats. Application equipment such as rollers and the tips of spraying equipment should be kept above 0°C (32°F) when not in use.

Disposal

See the Safety Data Sheet (SDS) for disposal information.

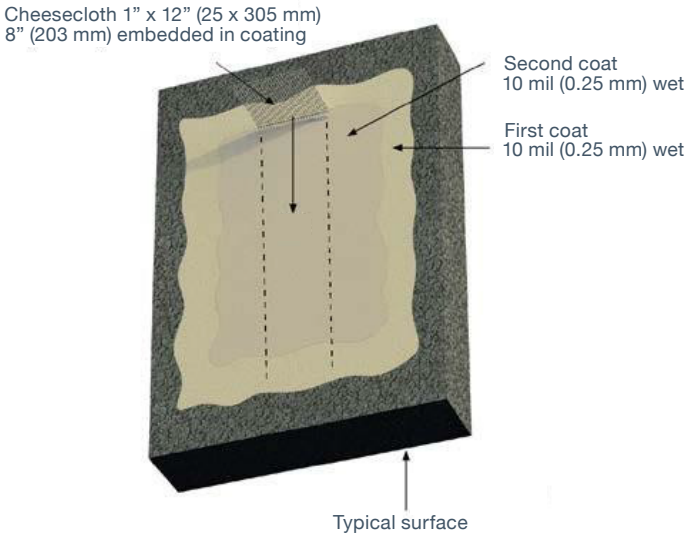
[1]To determine whether a primer is required, perform field adhesion tests as outlined in the "Adhesion test procedure" section on page 6.

Adhesion test procedure

Field adhesion testing is recommended to confirm the coating is properly adhering to the substrates. Tests must be made on all sides and different substrates of the building being coated.

1. Prepare surfaces as described in Table 1.
2. Use of a primer is optional, but testing is required to confirm sufficient adhesion in primerless applications. If primer is used, apply per the application method and allow to dry.
3. Apply the first coat of DOWSIL™ ALLGUARD Silicone Elastomeric Coating at a rate of 10- to 12-mil (0.25- to 0.31-mm) wet film thickness. Embed a cheesecloth strip (1” x 12” [25 x 305 mm]) in the wet coating with a paint brush.
4. Apply the second coat over the cheesecloth at the same 10- to 12-mil (0.25- to 0.31-mm) wet film thickness and allow to fully cure for 7 to 14 days. This is an adhesion test only; additional coats may be required to achieve thickness requirements.
5. Test adhesion of the coating by pulling the uncoated part of the cheesecloth at a 180° angle at a slow, steady rate.
6. Inspect and note the percent cohesive failure (percent of coating material left on the wall surface). At least 80 percent of the coating should remain on the substrate. If the 80 percent retention is not achieved, reclean and test another suitable section. If necessary, contact Dow Technical Service for further instruction. (Refer to the Dow Building Science website, **dow.com/buildingscience**, for the location of the nearest Dow Technical Service facility.)
7. If adhesion cannot be achieved, the test should be repeated using DOWSIL™ ALLGUARD Primer.

Figure 2: Test procedure diagram



Cleaning and maintenance

1. Abrasive cleaners and cleaning equipment should never be used.
2. Routine cleaning is suggested, and dictated by the surrounding environment. Visible debris, such as airborne dirt or soot, should not be allowed to collect on the coating for a long period of time. This will increase cleaning effort and may be difficult to completely remove.
3. Recommended cleaning method involves the use of pressurized water and a basic cleaning agent such as trisodium phosphate (TSP) or Simple Green. Water pressure should not exceed 1,500 psi (10.3 MPa) to clean the surface without removing the coating material from the wall surface. A small test patch should be done first to determine how long the cleaning agent should be left on the surface before rinsing.
4. Stubborn marks may require the use of a soft bristle brush with the cleaning solution. Avoid stiff brushes that may abrade the coating.
5. Any touch-ups or repairs to the coating can be accomplished by applying DOWSIL™ ALLGUARD Silicone Elastomeric Coating to the clean, dry area according to the recommendations in this application guide.



Limited warranty

Unless Dow issues a project-specific written warranty, Dow warrants only that the goods meet Dow sales specifications at the time of shipment. DOW EXPRESSLY DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The buyer's exclusive remedy and Dow's sole responsibility for any claim arising out of the purchase or use of these goods is expressly limited to either replacement of the nonconforming goods or refund of the purchase price within 90 days of the date of purchase.

Dow offers a project-specific 10-Year Limited Performance Warranty when the DOWSIL™ ALLGUARD Silicone Elastomeric Coating is applied in accordance with Dow's published application guidelines. Contact your Dow Sales Representative for details or to apply for a project-specific warranty. Under this Limited Warranty, for a period of 10 years from the date of purchase, Dow will be responsible for the cost of replacement coating for any areas in which the DOWSIL™ ALLGUARD Silicone Elastomeric Coating fails to protect the above-grade substrate from through-water penetration and for the cost of labor to apply such replacement coating, up to a maximum of five times the cost of the replacement coating. Dow's warranty is subject to certain restrictions and does not cover faults attributable to workmanship or the appearance of the coating.

Dow also offers a 10-year extended waterproofing performance warranty for reapplication (one 14-mil wet coat/7-mil dry coat) after the initial warranty period, subject to terms and restrictions.

NOTE: No warranty is available when DOWSIL™ ALLGUARD Silicone Elastomeric Coating is used on a single-family residential dwelling.

For more information

Learn more about the full range of Dow Building Science offerings, including products, service and support, at **dow.com/buildingscience**.

Dow has sales offices, manufacturing sites, and science and technology laboratories around the globe. Find local contact information at **dow.com/contactus**.

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