

DOWSIL™ Silicone Air Barrier System – Contractor Handbook

Build A Better Barrier™



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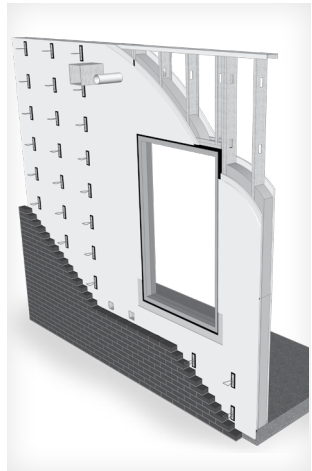
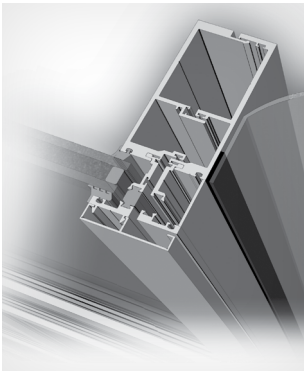
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A silicone system for building protection


The DOWSIL™ Silicone Air Barrier System is a suite of fully compatible high-performance silicone technologies from Dow work in concert to help protect the entire building envelope in both new construction and renovation projects.

- DEFENDAIR™ 200C Air and Weather Barrier Coating
- DOWSIL™ Silicone Transition System (STS)
 - DOWSIL™ Silicone Transition Strips
 - DOWSIL™ Silicone Molded Corner
 - Silicone Transition Inside Molded Corner
- DOWSIL™ 758 Silicone Weather Barrier Sealant
- DOWSIL™ 791 Silicone Weatherproofing Sealant
- DOWSIL™ 778 Silicone Liquid Flashing

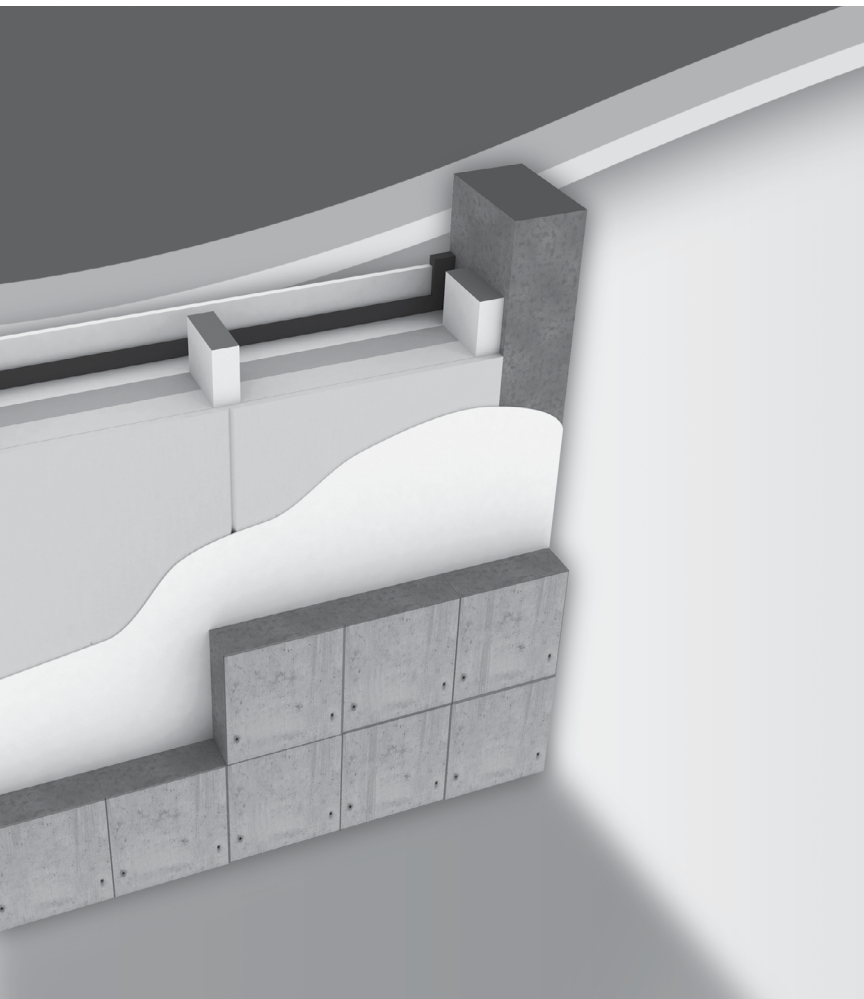


DOWSIL™

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**DEFENDAIR™ 200C Air
and Weather Barrier Coating
application guide**



Contents

This document is intended to provide installation and field testing guidance for DEFENDAIR™ 200C Air and Weather Barrier Coating.

Product descriptions

DEFENDAIR™ 200C Air and Weather Barrier Coating

DEFENDAIR™ 200C Air and Weather Barrier Coating is a 100 percent silicone fluid-applied air and weather barrier designed to protect against uncontrolled air infiltration and water penetration. The vapor-permeable, one-component, water-based coating dries to form a flexible membrane that resists water penetration, but has the ability to allow water vapor to escape from inside the substrate. It can be brush applied, or roller applied using a manual roller, pressure roller, spray roller or spray applied using an airless sprayer.

The coating provides long-term protection from air infiltration and water penetration and the elements while allowing for normal movement imposed by seasonal thermal contraction and expansion. The coating maintains its air and water protection properties even when exposed to sunlight, rain, snow or temperature extremes.

DOWSIL™ Silicone Transition System

DOWSIL™ Silicone Transition System (STS) is comprised of a preformed silicone strip and molded pieces designed for flashing and transition applications to weatherproof against air and water infiltration.

DOWSIL™ 791 Silicone Weatherproofing Sealant

DOWSIL™ 791 Silicone Weatherproofing Sealant is a one-part, medium-modulus, neutral-curing silicone sealant for general weathersealing applications. Available in a wide variety of colors.

DOWSIL™ 758 Silicone Weather Barrier Sealant

DOWSIL™ 758 Silicone Weather Barrier Sealant is a neutral, one-part silicone sealant designed for adhering to low-energy surfaces common in sheet or self-adhered air and weather-resistant barriers. Available in white.

DOWSIL™ 778 Silicone Liquid Flashing

DOWSIL™ 778 Silicone Liquid Flashing is a one-part, liquid silicone flashing that can be trowel applied to weatherproof at window and door openings and other through-cavity penetrations.

UV exposure

DEFENDAIR™ 200C Air and Weather Barrier Coating does not have a limit on exposure time before being covered by the exterior cladding if applied in strict accordance with the requirements of this application guide. After the coating is installed, any delays in the construction schedule that will result in the coating being exposed longer than expected will not affect the performance of the material. Open-joint rainscreen applications where sections of the coating will remain exposed will not affect the performance of the material. When using in conjunction with DOWSIL™ brand silicone sealants and transition materials, all components are approved for long-term UV exposure.

Availability

DEFENDAIR™ 200C Air and Weather Barrier Coating is available in 4.9 gal (18L), 44 lb (20 kg) pails and 50.5 gal (191 L), 459 lb (208 kg) drums. DEFENDAIR™ 200C Air and Weather Barrier Coating is supplied in charcoal gray. It should not be tinted to another color prior to installation.

If a different color coating is desired, one 10-mil wet (5-mil dry) coat of DOWSIL™ ALLGUARD Silicone Elastomeric Coating can be applied. DOWSIL™ ALLGUARD Silicone Elastomeric Coating and DEFENDAIR™ 200C Air and Weather Barrier Coating are compatible and will adhere to each other. DEFENDAIR™ 200C Air and Weather Barrier Coating should be installed to the required minimum total dry-film thickness and all quality control performed before any DOWSIL™ ALLGUARD Silicone Elastomeric Coating is applied.

Coverage rates

Table 1. Estimated application rates⁽¹⁾

Texture/substrate	Estimated rate	
	ft ² /gal	m ² /L
Smooth (sheathing)	36-49	0.9-1.2
Coarse (CMU)	29-43	0.7-1.1

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

Specific brands of the substrates (especially exterior grade sheathing) may absorb more or less of the air barrier than is listed in Table 1. See the Tech Talks at the back of this guide for more information on specific substrates that have been tested.

DOWSIL™ DEFENDAIR 200 PRIMER may be required for some substrates. See Table 4 for information on substrate preparation.

Shelf life

DEFENDAIR™ 200C Air and Weather Barrier Coating has a shelf life of 12 months from the date of manufacture. It should be stored in its original, unopened container above 34°F (1°C) and below 90°F (32°C).

Compatibility and adhesion between DOWSIL™ brand products

DEFENDAIR™ 200C Air and Weather Barrier Coating is compatible with many DOWSIL™ sealant and precured silicone components. DEFENDAIR™ 200C Air and Weather Barrier Coating is also compatible with DOWSIL™ ALLGUARD Silicone Elastomeric Coating.

Table 2 contains adhesion information for sealants commonly used with DEFENDAIR™ 200C Air and Weather Barrier Coating. Sealants in Column A can be applied over the air barrier 48 hours after the DEFENDAIR™ 200C Air and Weather Barrier Coating is installed. Any recommended sealant listed in Column A can be used to install DOWSIL™ Silicone Transition System over DEFENDAIR™ 200C Air and Weather Barrier Coating in order to create a complete air and watertight system. (Note: DOWSIL™ Silicone Transition System may also be installed under DEFENDAIR™ 200C Air and Weather Barrier Coating using a sealant that adheres to the underlying substrate. Refer to the DOWSIL™ Silicone Transition System application guide for more information.)

DEFENDAIR™ 200C Air and Weather Barrier Coating can be applied over any DOWSIL™ sealants listed in Column B of Table 2 after they have been allowed to achieve tack-free cure, which ranges from approximately 15-45 minutes depending on the sealant and environmental conditions (see sealant data sheets for more specific tack-free times).

Table 2. Adhesion between DEFENDAIR™ 200C Air and Weather Barrier Coating and DOWSIL™ Sealants

Sealant	Column A	Column B
	Sealant adheres to DEFENDAIR™ 200C Air and Weather Barrier Coating	DEFENDAIR™ 200C Air and Weather Barrier Coating adheres to sealant
DOWSIL™ 791 Silicone Weatherproofing Sealant	X	X
DOWSIL™ 756 SM Building Sealant	X	X
DOWSIL™ 795 Silicone Building Sealant		X
DOWSIL™ 758 Silicone Weather Barrier Sealant	X	X
DOWSIL™ 790 Silicone Building Sealant		X

Please contact your local Dow representative for information regarding the use of DOWSIL™ products not listed here.

Application and service temperature and humidity

DEFENDAIR™ 200C Air and Weather Barrier Coating can be applied at ambient air temperatures between 20°F (-6°C) and 100°F (38°C). For cold temperature considerations, refer to page 21 of this guide.

Do not apply the coating when the relative humidity is greater than 90 percent, or when there is a threat of rain within 8 hours. Reference the Tech Talks section for more information on damp substrate and rain applications.

There is no lower-limit temperature specifically for the substrate, but the surface must remain free of bulk water and frost. Do not apply DEFENDAIR™ 200C Air and Weather Barrier Coating to surfaces above 120°F (49°C).

DEFENDAIR™ 200C Air and Weather Barrier Coating has a service temperature range of -20°F to 300°F (-29°C to 149°C).

Chemical resistance

DEFENDAIR™ 200C Coating has passed ABAA S0008, section 9.4 alkali resistance test which requires dried free film material to be tested using ASTM D543 Practice A, Procedure 1, in a sodium hydroxide solution with an initial pH of 12 ± 0.5 .

DOWSIL™ DEFENDAIR 200 Primer should not be applied to cast-in-place/precast concrete that has cured for less than 28 days. Thinner applications of cementitious based patching materials, such as, but not limited to, grouts and patch compounds, should be allowed to cure for 10 days prior to coating.

Substrate compatibility and adhesion

DEFENDAIR™ 200C Air and Weather Barrier Coating has been tested according to ASTM D4541 for adhesion on the substrates in Table 3. DOWSIL™ DEFENDAIR 200 Primer optionally may be used for more robust adhesion.

There are numerous other substrates that will come into contact with the air and weather barrier. Please contact your local Dow representative for information on substrates not listed here.

Table 3. Substrate adhesion: tested per ASTM D4541 (new substrates)

Substrates that do NOT require primer
Plywood Sheathing
Oriented Strand Board (OSB) Sheathing - rough side
DensGlass Sheathing ⁽²⁾
e2XP Sheathing
Securock Sheathing
GlasRoc Sheathing
Durock Cement Board
Concrete Masonry Unit (CMU)

(2)ASTM E2357 was completed using DensGlass as a substrate without DOWSIL™ DEFENDAIR 200 Primer

Workmanship considerations

It is important to protect adjacent surfaces and surroundings that are not to be coated with the air and weather barrier.

Application instructions

Step 1. Surface preparation and evaluation

All surfaces must be clean and free of excessive dirt, dust, oil, grease, mold, fungus, efflorescence, laitance, peeling coating and any other foreign material. Green concrete must be allowed to cure 28 days before application of DEFENDAIR™ 200C Air and Weather Barrier Coating. Large amounts of dust and dirt should be removed from the substrate through a light dusting of the surface using either a brush or dry cloth. If other substances are found on the substrate, refer to Table 4 for recommendations to ensure proper cleaning and preparation of the substrate prior to coating.

When installing DOWSIL™ Silicone Transition System or another window transition system as part of the air and weather barrier system, follow the recommendations of the system manufacturer. For DOWSIL™ Silicone Transition System, clean the substrate where the sealant is to be installed using a solvent and two-cloth cleaning method. Refer to the Americas Technical Manual (Form No. 62-1112) for more information on general sealant installation recommendations.

Table 4. Substrate preparation

Surface conditions	Detection method	Removal method
Efflorescence	Wipe with dark cloth	Wire brush; then clean with high-pressure water. On stubborn deposits, mix 1 part muriatic acid (or similar) to 12 parts water, then clean with high-pressure water.
Laitance	Scrape with putty knife, looking for powdery material	Scrape with steel scraping tool followed by high-pressure water cleaning.
Mildew	Visual	Scrub with 5 percent bleach solution followed by high-pressure water cleaning.
Grease/oil	Visual; 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 surface	Must be removed by mechanical abrasion or abrasive water cleaning.

Step 2. Sealing joints and penetrations

Substrate joints, defects and holes

All joints between substrates or between sheets of exterior sheathing (such as those found in exterior grade gypsum or plywood sheets) should be sealed using a sealant listed in Column B of Table 2. Static joints may be filled with sealant and tooled flush to the surface. To reduce the amount of sealant used, a backer rod can be inserted into joints greater than 1/4 inch (6.3 mm) prior to applying sealant. Small static sheathing joints, up to 1/8 inch (3.2 mm), may also be sealed by applying sealant over the joint and tooling it approximately 1/2 inch (6.4 mm) onto the adjacent sheathing (Figure 1).

Any unused nail holes, as well as any countersunk or protruding nails and screws, must be sealed (using the same sealant used to seal the joints) and struck flush to the surface of the substrate prior to the installation of DEFENDAIR™ 200C Air and Weather Barrier Coating. Screw and nail heads that are installed flush to the substrate and remain in the substrate do not need to be sealed separately prior to the installation of the air and weather barrier.

Defects in the substrate can be repaired flush to the surface using the same sealant as used for joints and penetrations (Figure 2) or a patching material recommended by the substrate manufacturer. Cementitious patches should be allowed to cure for a minimum of 10 days prior to installing the coating.

Changes in the substrate (Figure 3) and control joints (Figure 4) should be sealed as a traditional weatherseal joint. There are five basic steps for proper joint preparation and sealant application:

1. **Clean** – Joint surfaces must be clean, dry, dust-free and frost-free.
2. **Prime** – If required, primer is applied to the clean surface(s).
3. **Pack** – Backer rod or bond breaker is applied.
4. **Seal** – Sealant such as DOWSIL™ 791 Silicone Weatherproofing Sealant is applied into the joint cavity.
5. **Tool** – Dry-tooling techniques are used to create a flush joint and to make certain the sealant has the proper configuration and fully contacts the joint walls.

Wall offsets or changes in plane can be sealed using a fillet bead of sealant (Figure 5). Bond breaker material does not need to be used unless greater than 15 percent movement is expected in the joint.

Figure 1. Small static sheathing joint (up to 1/8 inch)

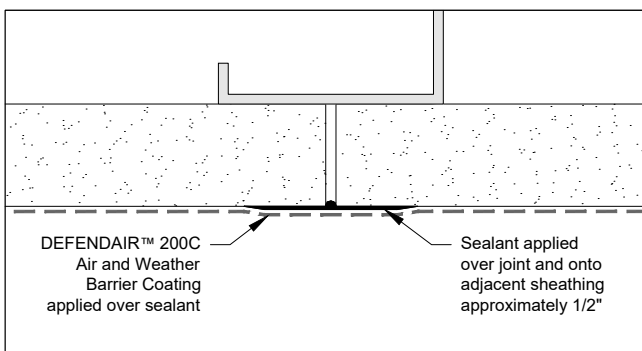


Figure 2. Divot in concrete wall

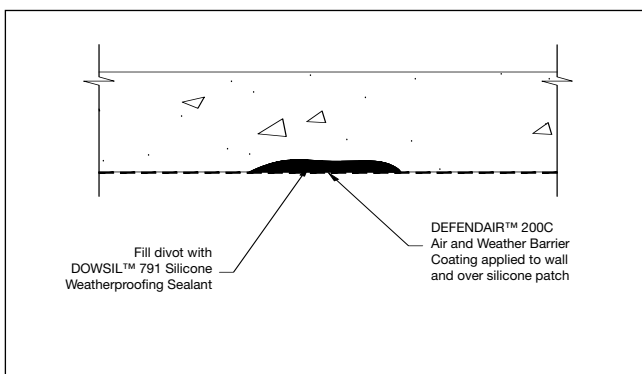


Figure 3. Change in wall substrate

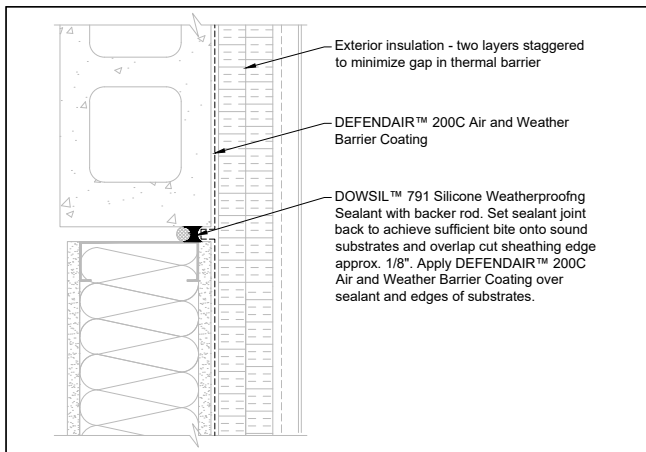


Figure 4. Control joint

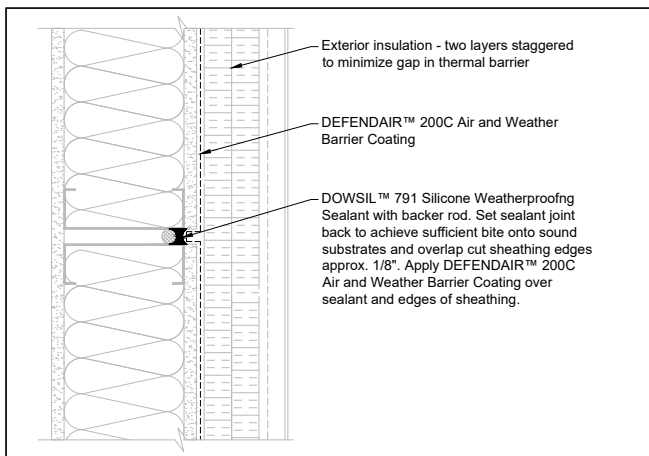
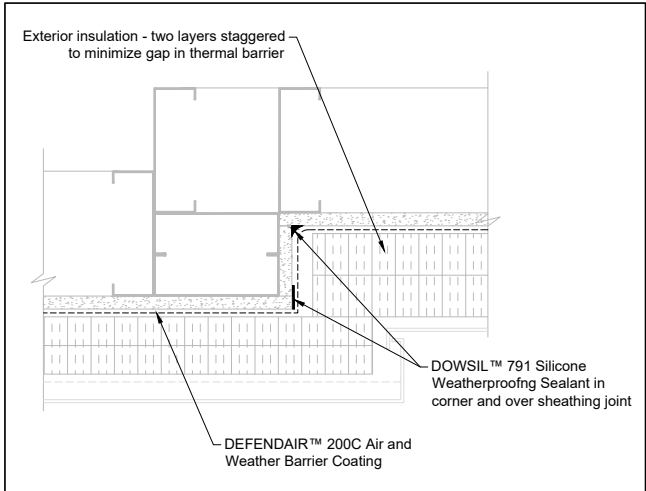


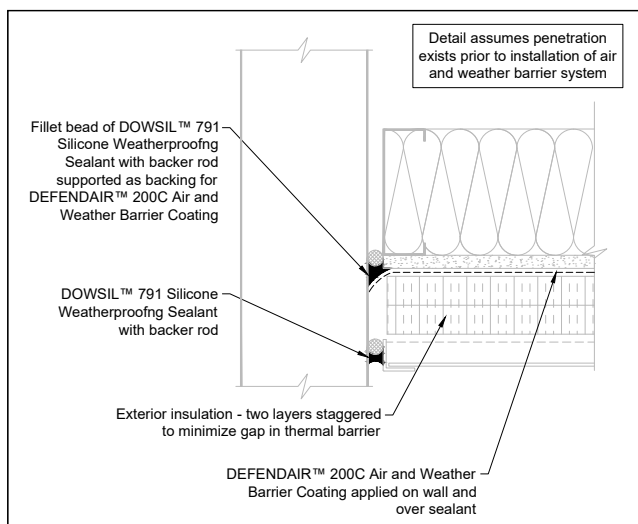
Figure 5. Vertical wall offset



Penetrations

Gaps around penetrations should be sealed in a similar manner using a sealant listed in Table 2. To reduce the amount of sealant used, a backer rod can be inserted into gaps greater than ¼ inch (6.3 mm) and sealed as a traditional sealant joint (Figure 6).

For information on fasteners installed after the air barrier, refer to page 22.

Figure 6. Penetration

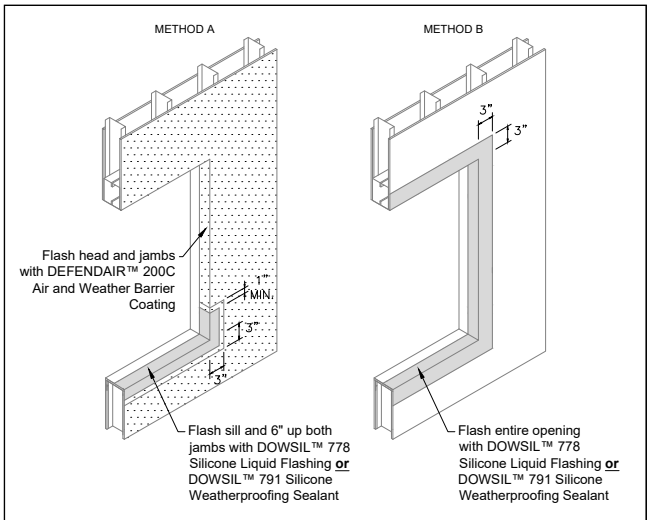
Window and door openings

Window openings must be flashed with an approved flashing method. There are two different methods that can be used. In flashing applications, DOWSIL™ 778 Silicone Liquid Flashing should be applied at 20- to 50-mil (0.51 to 1.27 mm) wet-film thickness and DOWSIL™ 791 Silicone Weatherproofing Sealant should be applied at 25-mil (0.63 mm) wet-film thickness.

One method (Figure 7 - Method A) is to first trowel apply DOWSIL™ 778 Silicone Liquid Flashing or DOWSIL™ 791 Silicone Weatherproofing Sealant on the entire window sill and 6 inches (152.4 mm) up both vertical jambs. The flashing should extend a minimum of 3 inches (76.2 mm) onto the face of the wall. The depth of the flashing into the window opening should be a minimum of 3 inches or 1 inch (76.2 or 25.4 mm) behind where the inner air and/or water seal is to be installed. Next, seal all the remaining joints between framing members or between the sheathing and framing with DOWSIL™ 791 Silicone Weatherproofing Sealant or another sealant in Table 2. Lastly, apply DEFENDAIR™ 200C Air and Weather Barrier Coating, at the required total thickness, to the face of the wall and into the remainder of the jambs and head of the window opening, making sure to overlap the sill flashing by a minimum of 1 inch (25.4 mm).

Another method (Figure 7 - Method B) is to trowel apply DOWSIL™ 778 Silicone Liquid Flashing or DOWSIL™ 791 Silicone Weatherproofing Sealant around the entire window opening. The flashing should extend a minimum of 3 inches (76.2 mm) onto the face of the wall and into the window opening a minimum of 3 inches or 1 inch (76.2 or 25.4 mm) behind where the inner air and/or water seal is to be installed. Ensure all the joints between the framing members or between the sheathing and framing are continuously sealed with the liquid flashing.

Figure 7. Window opening flashing methods



The sealing of window openings to the curtainwall or window system can be completed with a recommended sealant (Figure 8) or DOWSIL™ Silicone Transition System (Figure 9). This step can be completed before or after DEFENDAIR™ 200C Air and Weather Barrier Coating is installed. When DOWSIL™ Silicone Transition System is installed after the air and weather barrier, DEFENDAIR™ 200C Air and Weather Barrier Coating should be allowed to dry for a minimum of 48 hours before the DOWSIL™ Silicone Transition System is installed. A primer is not required when one of the recommended sealants in Table 2, Column A is used to adhere DOWSIL™ Silicone Transition System to DEFENDAIR™ 200C Air and Weather Barrier Coating.

It is important to seal the absolute edge of the DOWSIL™ Silicone Transition System. This most often requires a second line of sealant to be applied along the edge of the strip after it has been initially installed. This additional step will help ensure that no area of the substrate is left exposed once the air and weather barrier is installed and will prevent unwanted water penetration into the system.

Figure 8. Curtain wall jamb at flush condition – DOWSIL™ sealant

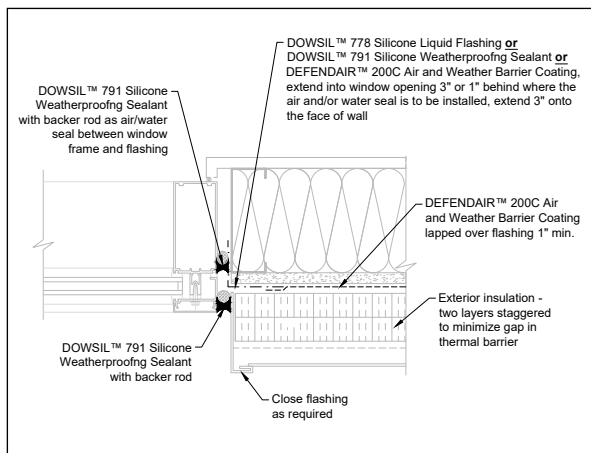
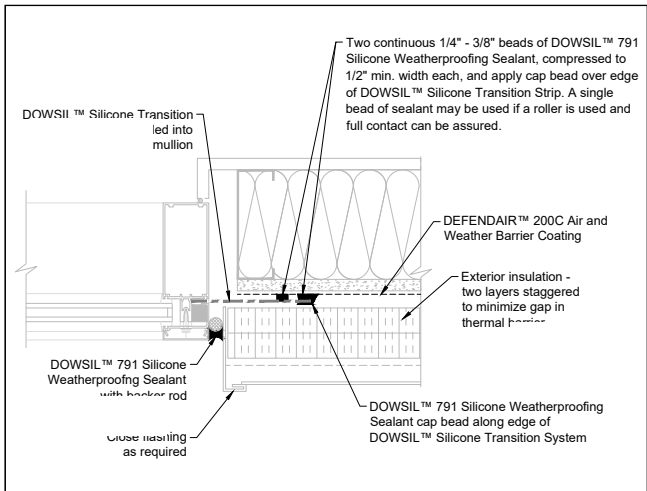


Figure 9. Curtain wall jamb at flush condition – DOWSIL™ Silicone Transition System



Foundation and roof transitions

Foundation and roof transition seals can be made using DOWSIL™ 758 Silicone Weather Barrier Sealant or DOWSIL™ Silicone Transition System (with a recommended sealant). DOWSIL™ 758 Silicone Weather Barrier Sealant, is designed for adhesion to low energy materials and is the recommended sealant to be used with most foundation and roof membranes.

DOWSIL™ 758 Silicone Weather Barrier Sealant can be used to bridge the transition between DEFENDAIR™ 200C Air and Weather Barrier Coating and the foundation or roof membrane by applying a large bead of sealant to the top edge of the membrane and tooling it to 2 inch (50.8 mm) wide and 1/8 inch (3.18 mm) thick, centered across both materials.

DEFENDAIR™ 200C Air and Weather Barrier Coating is not approved to transition to other membranes without the use of DOWSIL™ 758 Silicone Weather Barrier Sealant or DOWSIL™ Silicone Transition System.



Example of bridging from below grade water proofing to Air Barrier using DOWSIL™ 758 Silicone Weather Barrier Sealant

Step 3. DOWSIL™ DEFENDAIR 200 Primer

DEFENDAIR™ 200C Air and Weather Barrier Coating does not require a primer on most substrates. To determine if primer is required on substrates not listed in Table 3 or on substrates that may have been contaminated by other substances, it is recommended to perform a project-specific adhesion test. The procedure for this test can be found in the “Adhesion Test Procedure” section of this guide (page 26).

When required, DOWSIL™ DEFENDAIR 200 Primer is applied in one coat using either a ½- to ¾-inch (13 to 19 mm) nap roller or an airless sprayer. The primer should only be installed when temperatures are above 20°F (-6°C) and when there is no chance of rain within four hours. The expected coverage rate of DOWSIL™ DEFENDAIR 200 Primer is approximately 300 square feet per gallon (7.4 square meters per liter). It is available in 5 gal (19 L), 42 lb (19.1 kg) pails.

Allow the primer to “dry to the touch” (30 minutes to two hours) before applying DEFENDAIR™ 200C Air and Weather Barrier Coating. After priming, before installing the air and weather barrier, the spray equipment should be fully cleaned or a new roller used.

Step 4. Installing DEFENDAIR™ 200C Air and Weather Barrier Coating

DEFENDAIR™ 200C Air and Weather Barrier Coating may be specified as a low-build or medium-build fluid-applied air barrier to be installed at a required minimum total dry-film thickness of 15-mil or 17-mil (0.38 mm or 0.43 mm) on the surface of the substrate. A minimum total 15-mil (0.38 mm) dry-film thickness on the surface of the substrate is required to qualify for a project-specific warranty. The total wet-film thickness needed is going to depend on the substrate and the desired final dry-film thickness. A project-specific mockup is recommended to determine the actual wet-film thickness needed which will result in the required minimum total dry-film thickness on the surface of the substrate. Estimated application rates can be found in Table 1 of this guide.

Please refer to the DOWSIL™ Silicone Air Barrier System: Tech Talk for more information on absorption and estimated wet-film thicknesses on some substrates. It may be possible to utilize DOWSIL™ DEFENDAIR 200 Primer before applying DEFENDAIR™ 200C Air and Weather Barrier Coating to reduce the amount of coating absorbed into the substrate.

Prior to installing DEFENDAIR™ 200C Air and Weather Barrier Coating, it is important that all sealants and primers that have been installed during the wall preparation process are allowed to “dry to touch” (15-45 minutes for sealant and 30 minutes to two hours for DOWSIL™ DEFENDAIR 200 Primer). Apply one coat of DEFENDAIR™ 200C Air and Weather Barrier Coating around all penetrations and openings prior to the installation of the air barrier on the entire surface. This will help ensure complete coverage of these details.

DEFENDAIR™ 200C Air and Weather Barrier Coating should overlap the liquid flashing and all window opening detailing by a minimum of 1 inch (25.4 mm).

Do not thin or cut back DEFENDAIR™ 200C Air and Weather Barrier Coating.

Roller application

DEFENDAIR™ 200C Air and Weather Barrier Coating should be roller applied in two coats at 15-mil to 21-mil (0.38 mm to 0.53 mm) wet-film thickness each, depending on the substrate and the desired final dry-film thickness. An additional coat may be necessary to achieve the required minimum total dry-film thickness on porous substrates.

Allow the coating to dry to the touch (typically two to four hours) before applying the next coat. The final dry coating should be continuous. The coating may be roller applied using a hand roller, pressure roller or spray roller. Apply the coating using a - to 1½-inch (9.5 to 38 mm) nap, polyester or 50/50 polyester/wool blend roller cover. In general, smaller nap lengths are more suitable for smooth substrates. Apply the coating in a fan (W-) pattern to achieve uniform thickness. If applying using a pressure roller, low air pressure is needed to pump the material to the roller head. Pull the application trigger often to apply more material to the roller. There is too much material being applied in one coat when the roller slides instead of rolling.

Spray Application

DEFENDAIR™ 200C Air and Weather Barrier Coating may be spray applied, using an airless sprayer, in one coat at 30-mil to 42-mil (0.76 mm to 1.07 mm) wet-film thickness, depending on the substrate and the desired final dry-film thickness, as long as the coating does not sag and the final dry coating is continuous. Two thinner coats may be necessary if the coating begins to sag or to achieve the required minimum total dry-film thickness on porous substrates.

Refer to the equipment manual for your spray equipment for detailed information on tip size selection, tip wear and optimal pressure. A minimum 0.021-inch (0.53 mm) tip is recommended to spray DEFENDAIR™ 200C Air and Weather Barrier Coating. The optimal tip sizes range from 0.025 inch to 0.031 inch (0.63 mm to 0.79 mm). The larger the tip size, the more pressure will be required to spray the material – and the faster the application of the air and weather barrier. Ensure that your spray equipment is able to accommodate the tip size you wish to use before starting the application.

When spraying DEFENDAIR™ 200C Air and Weather Barrier Coating, start with a low pressure and increase the pressure until a uniform pattern is sprayed. Increase the size of the tip if more material is desired. As the tip wears, the pressure on the sprayer will need to be increased to maintain an even application of material. If the air and weather barrier begins to exhibit pinholing or fisheyes, reduce the pressure of the sprayer and/or move the sprayer head farther away from the substrate.

A respirator is not required when spraying DEFENDAIR™ 200C Air and Weather Barrier Coating. Personal preference may be to wear a mask.

Drying time

After the final coat of the air barrier has been applied, the average drying time of DEFENDAIR™ 200C Air and Weather Barrier Coating is four to 12 hours, depending on coat thickness, temperature, humidity and wind conditions. DEFENDAIR™ 200C Air and Weather Barrier Coating will attain full adhesion and physical properties in seven to 14 days.

Cold temperature considerations

DEFENDAIR™ 200C Air and Weather Barrier Coating can be applied at temperatures as low as 20°F (-6°C). If temperatures drop below 20°F (-6°C) after DEFENDAIR™ 200C Air and Weather Barrier Coating is applied, the coating will freeze on the surface until the temperature increases. This will not affect the cured properties of the air barrier but will extend the drying time. DEFENDAIR™ 200C Air and Weather Barrier Coating requires temperatures higher than 20°F (-6°C) for a cumulative total of 24 hours to dry. DEFENDAIR™ 200C Air and Weather Barrier Coating will attain full adhesion and physical properties in seven to 14 days.

Roller application of the air barrier at low temperature will require two coats. The air barrier should “dry to touch,” not simply freeze, between coats. Application equipment such as rollers and the tips of spraying equipment should be kept above 32°F (0°C) when not in use. When the temperatures are consistently below 40°F (4°C), allow the air barrier to dry a minimum of three days prior to applying other materials to the surface of the air barrier.

Fasteners installed after air barrier

DEFENDAIR™ 200C Air and Weather Barrier Coating has passed the ABAA S0008, section 9.3 air leakage rate testing with 48 - #12, self-drilling screw fasteners installed through the air and weather barrier coating, proud of the surface, without any pre- or post-sealing.

DEFENDAIR™ 200C Air and Weather Barrier Coating dries to form an elastic membrane that may self-gasket around smooth nails or against fully seated fasteners. However, self-drilling screws will cut/tear through the dried air and weather barrier, potentially creating a pathway for air and water infiltration to occur. A recommended best practice for sealing seated cladding anchors that use self-drilling screw fasteners, is to first apply sealant behind the cladding anchor at the penetration location and then apply an additional sealant cap bead over the fastener head and washer, using a sealant from Table 2, Column A.

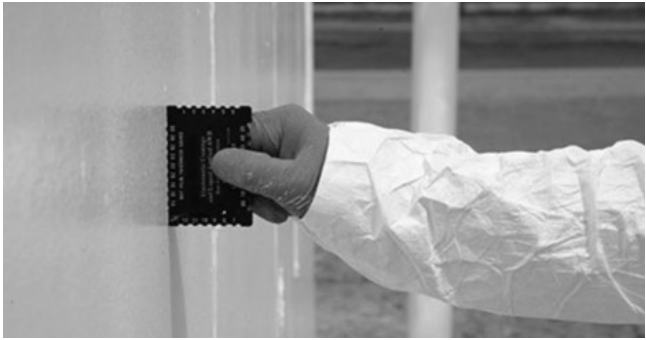
Many different wall assembly designs, cladding attachment systems, and fastener types exist. It is the responsibility of the design professional to determine the desired water penetration performance of the building envelope/enclosure, the cladding attachment system, the fastener types, and the appropriate fastener penetration sealing methods for the design. It is recommended that the project team perform a water penetration test, on a project specific mockup, to verify the fastener penetration sealing method used is acceptable for the intended performance level.

If fasteners miss the stud during installation, best practice is to remove the fastener from the wall and seal the hole with a sealant from Table 2, Column A.

Quality control

Wet-film thickness can be measured using a wet mil gauge. When measuring the thickness of DEFENDAIR™ 200C Air and Weather Barrier Coating that has been installed on porous substrates, wait five minutes before measuring the coating thickness. This measures the amount of material that remains on the surface of the substrate, after any material has been absorbed. Document the location and thickness from the testing in a quality control form (an example can be found in the Tech Talks section). Wet-film thicknesses should be measured on every floor and elevation to ensure proper air barrier thickness is being applied. As a guideline, measure at least every 10 feet during application.

At the beginning of the project, it is recommended to measure the dry film thickness of the air barrier in the same area as where the wet-film thickness was measured. This will determine the actual absorption rate of the air barrier into the project substrate. The required minimum total dry-film thickness should be on the surface of the substrate.



Demonstrating usage of wet mil gauge

At least one day after the air barrier is applied, visual inspection should be performed on the entire wall area that has been coated to assess that the wall has an adequate coating thickness. Any areas where the text on the underlying sheathing is visible, there is insufficient air barrier material and an additional coat of DEFENDAIR™ 200C Air and Weather Barrier Coating should be applied.



Post application inspection shows sheathing joint not properly sealed. Reseal with sealant.

The visual assessment should also look at seams between sheathing panels, mortar joints and screw heads to ensure that they have all been covered. After DEFENDAIR™ 200C Air and Weather Barrier Coating has been installed and allowed to dry, the charcoal gray color of the coating allows joints and deficiencies in the substrate that were not sealed before or during the application of the air and weather barrier to become visible. Screw heads and joints that did not receive enough material can be sealed over the air barrier using DOWSIL™ 791 Silicone Weatherproofing Sealant or another sealant found in Column A of Table 2 or by touching up the area with DEFENDAIR™ 200C Air and Weather Barrier Coating.

Equipment cleanup

DEFENDAIR™ 200C Air and Weather Barrier Coating is a water-based material. Any equipment that is used to install the air and weather barrier can be cleaned using water; no solvents are required. Spray equipment can be cleaned by running water through the sprayer. It is recommended to clean the equipment at least every five working days. If a longer period between cleanings is needed, sprayability of the material should be verified by the contractor.

Disposal

See the Material Safety Data Sheet (MSDS) for disposal information.

Adhesion test procedure

A field adhesion test, using one of the methods below, is recommend for substrates not listed in Table 3 or substrates that may have been contaminated by other materials. If the adhesion strength is found to be low then the test should be repeated after using DOWSIL™ DEFENDAIR 200 Primer.

ABAA T0002 (Standard Test Method for Pull-Of Strength of Adhered Air and Water Resistive Barriers Using an Adhesion Tester) can be used for testing the adhesion of DEFENDAIR™ 200C Air and Weather Barrier Coating to a substrate (Figure 12). Contact Dow Technical Service for adhesives that can be used to adhere the disc to DEFENDAIR™ 200C Air and Weather Barrier Coating. The current ABAA S0008 standard requires air barriers to have a pull adhesion strength of greater than 16 psi (110 kPa).

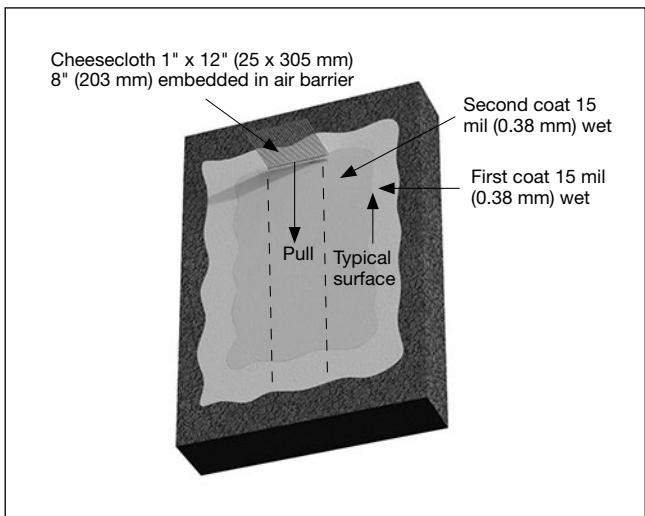


Figure 12. Adhesion test using ASTM D4541

Another option available for adhesion testing is to perform a “cheesecloth” test (Figure 13). This test is ideal for concrete and masonry substrates. Some substrates, especially gypsum sheathing, may produce a false-negative result when using this test method.

1. Prepare surfaces as described in the section on Surface Preparation and Evaluation (page 9).
2. Use of a primer is optional, but testing is required to ensure sufficient adhesion in primerless applications. If primer is used, apply per the application method and allow it to dry.
3. Apply the first coat of DEFENDAIR™ 200C Air and Weather Barrier Coating at a rate of 15-mil (0.38 mm) wet-film thickness. Embed a cheesecloth strip (1 x 12 inch [25 x 305 mm]) in the wet coating with a paintbrush.
4. Apply the second coat over the cheesecloth at the same 15-mil (0.38 mm) wet-film thickness and allow to fully dry for seven 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.
7. If 80 percent retention is not achieved, the test should be repeated using DOWSIL™ DEFENDAIR 200 Primer. If necessary, contact Dow Technical Service for further instruction.

Figure 13. Adhesion test procedure diagram



Product limitations

DEFENDAIR™ 200C Air and Weather Barrier Coating should not be installed on horizontal surfaces that may be subjected to ponding water or subjected to pedestrian traffic.

DEFENDAIR™ 200C Air and Weather Barrier Coating should not be installed when there is a threat of rain within the next 8 hours or the relative humidity is in excess of 90 percent (because conditions would not permit complete surface drying).

DEFENDAIR™ 200C Air and Weather Barrier Coating should not be installed as a roof coating or in below-grade applications.

DEFENDAIR™ 200C Air and Weather Barrier Coating should not be installed on newly applied or green cementitious materials; industry guidelines recommend at least 28 days of cure before painting or coating the substrates (see SSPC 2010 Painting Manual, Chapter 3.1 – Concrete Surface Preparation).

DEFENDAIR™ 200C Air and Weather Barrier Coating does not adhere to high-density polyethylene-backed materials. When using these materials in conjunction with DEFENDAIR™ 200C Air and Weather Barrier Coating, please contact Dow for assistance.

Appendix I – Material compatibility

DEFENDAIR™ 200C Air and Weather Barrier Coating has been tested with a selection of materials offered by other manufacturers in the industry. For information on compatibility with the materials provided by other manufacturers, please contact your local Dow representative. Project-specific testing typically is recommended. Please reference the Tech Talks section for more information on material compatibility on page 90.

Appendix II – Referenced ASTM standards

ASTM E2357 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies

ASTM D543 Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents

ABAA S0008 Standard for Air and Water-Resistive Barriers - Fluid Applied Membrane - Material Specification

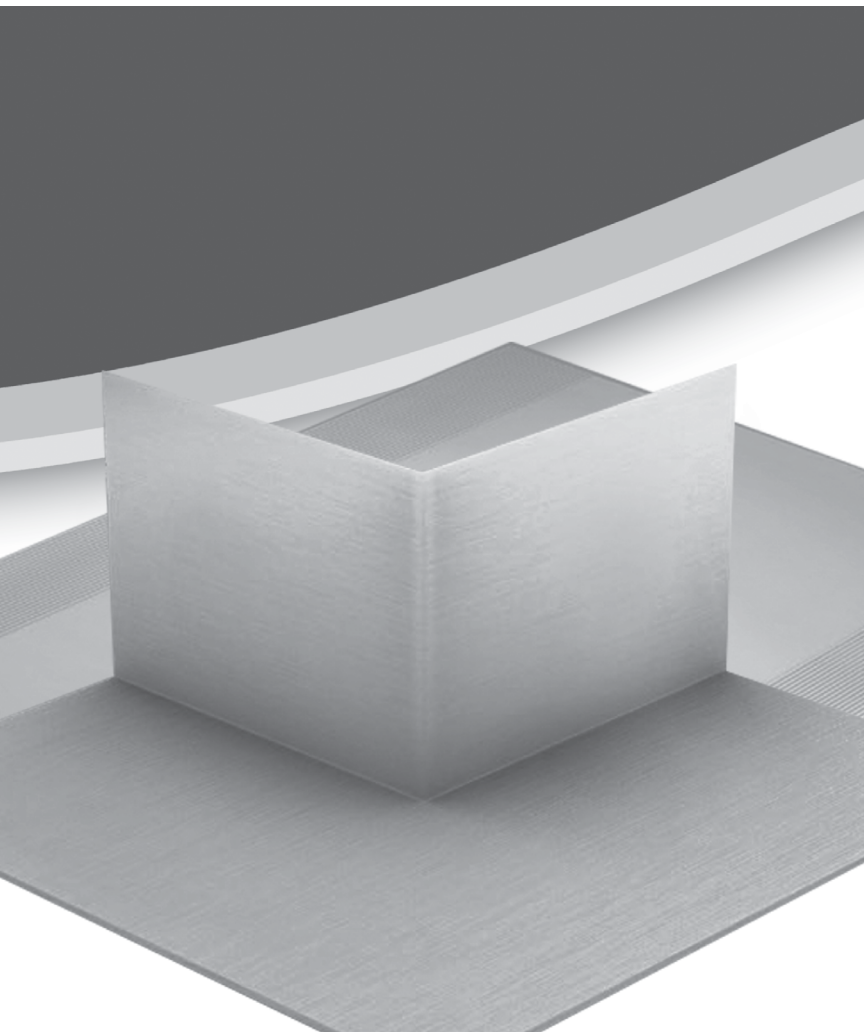
ABAA T0002 Standard Test Method for Pull-Off Strength of Adhered Air and Water Resistive Barriers Using an Adhesion Tester

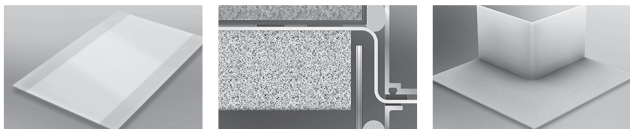
Health and environmental information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, [**dow.com/construction**](https://www.dow.com/construction), or consult your local Dow representative.

DOWSIL™ Silicone Transition System application guide





The DOWSIL™ Silicone Transition System (STS) is a flexible solution for sealing transitions from curtain wall, storefront and punched windows to the façade opening. It can be installed with inboard, outboard and in-plane designs, as Figures 15 through 23 illustrate.

The silicone strip may be installed in-shop or in the field, depending on the desired sequence of installation.

In-shop

Installation of strip

For in-shop installations, Dow recommends attaching the strip to the mullion using DOWSIL™ 791 Silicone Weatherproofing Sealant or DOWSIL™ 795 Silicone Building Sealant. Other sealants (DOWSIL™ 756 SM Building Sealant, DOWSIL™ 758 Silicone Weather Barrier Sealant or DOWSIL™ 983 Structural Glazing Sealant) may be used, but generally DOWSIL™ 791 Silicone Weatherproofing Sealant and DOWSIL™ 795 Silicone Building Sealant are the products on hand. For best air infiltration and water penetration results, Dow recommends two strips of silicone be used for the attachment. Clean the mullion using the two-rag wipe method and solvent. Apply two parallel beads of sealant $\frac{1}{4}$ inch to $\frac{3}{8}$ inch (6 to 9 mm) in diameter to either the strip or the mullion, and then press the silicone strip to the mullion. The compressed bead width should be $\frac{1}{2}$ inch (13 mm) or larger and can be visually checked by viewing through the translucent strip. It has been found that two beads help to eliminate any air infiltration through areas that may not be completely wetted out using hand pressure. A single bead of sealant may be used when there is insufficient space for two beads and full contact can be assured.

Corners may also be installed in-shop. When shop-installed, two beads of sealant (or one ensuring full contact) should be applied using the techniques previously mentioned. Corners shall be installed such that reverse lapping is avoided once the unit is installed.

This is most readily accomplished by installing the sill corners first; then the vertical DOWSIL™ Silicone Transition Strip pieces will lie over the corners. The head corners can then be installed lapping over the vertical strip pieces, achieving the appropriate shingling. However, this order can be changed provided the appropriate pieces are laid over/under as needed to avoid reverse lapping.



Figure 1: Corner piece installed

System considerations

When installing the strip – and corners, if applicable – it may be found that a mechanical fastener is desired to keep the strip in place when moving units in the shop before sealant has cured. A screw can be punched through the strip, sealed over by installing a dollop of sealant over the screw head and tooling the sealant over the screw head. It is critical for air infiltration performance that any area where a mechanical fastener is used be completely covered with sealant, and the sealant must be tooled over the fastener.

When the fenestration unit is taken to the field, the opposing edge of the strip and corner are attached to the building façade using two strips of sealant. If the free edge is being attached to an air barrier, which would be expected (dependent on sequence of trades), the appropriate sealant for adhering to the air barrier should be chosen. When adhering to DEFENDAIR™ 200C Air and Weather Barrier Coating, DOWSIL™ 791 Silicone Weatherproofing Sealant is the ideal sealant choice. When adhering to other air barriers, particularly self-adhered membranes with a polyethylene facing and spun bound polyolefin sheet membranes, DOWSIL™ 758 Silicone Weather Barrier Sealant is the preferred sealant because of its adhesive properties to low-energy surfaces. Depending on the substrate, be it an air barrier or other building material, alternate sealants may be used. A method for identifying a DOWSIL™ brand sealant with suitable adhesion is described in the following section. Additionally Dow can be contacted for guidance at dow.com/construction.

Once the appropriate sealant has been identified, clean the air barrier surface using a solvent and gentle two-rag wipe so as not to burnish the surface of the air barrier.

Apply two parallel beads of sealant of ¼ inch to ⅜ inch in diameter to the surface. Press the silicone strip to the surface. The compressed bead width should be ½ inch or larger, and it can be visually checked by viewing through the translucent strip. It has been found that two beads help in eliminating any air infiltration through areas that may not be completely wetted out using hand pressure.

If a roller is used and full contact can be assured, a single bead of sealant may be used.

For best air infiltration and water penetration performance, it is critical to install and tool sealant at every lap edge of the strip and every lap transition between pieces of the strip, or between strip and corners (Figure 4).

Peel-in-adhesion test procedure (tab adhesion)

DOWSIL™ Silicone Transition System is to be installed using a sealant that adheres to the substrates the DOWSIL™ Silicone Transition System is being applied to. As previously noted, many sealants may function as the adhesive. In order to determine which sealant to use for DOWSIL™ Silicone Transition System installation, establishing the sealants' adhesion to the substrates is important. A simple screening test can be done on a flat test surface. A test piece like that shown in Figure 3 is recommended.

1. **Clean** and prime the surface following the project-specific recommendations.
2. **Place** a piece of polyethylene sheet or bond breaker tape across the flat test surface.
3. **Apply** a bead of sealant and tool it to form a strip approximately 7.8 inches (200 mm) long, 1 inch (25 mm) wide and 1/8 inch (3 mm) thick. At least 2 inches (50 mm) of the sealant should be applied over the polyethylene sheet or bond breaker tape.
4. **After** allowing the sealant to cure, pull the free tab up and away at 180 degrees.
5. **Pass/Fail** criteria can be found in the Dow Americas Technical Manual; however, a sealant that easily (with little extension) releases adhesively from the substrate may indicate inadequate adhesion.

If the entire DOWSIL™ Silicone Transition System strip assembly is desired to be tested, the sealant adhering the strip can be undercut and the strip pulled on. This is a very inexact test to perform, particularly on sheathing, as the facing of the sheathing many times separates and the sealant and the strip do not end up being directly tested (See Figure 3). A potential problem could be detected in this way, however, if the sealant and strip were observed to easily release from the substrate when pulled on. Please note when adhering DOWSIL™ Silicone Transition System to DEFENDAIR™ 200C Air and Weather Barrier Coating, the assembly must cure a minimum of seven days before testing it.



Figure 2: Corner and strip pieces installed in-shop

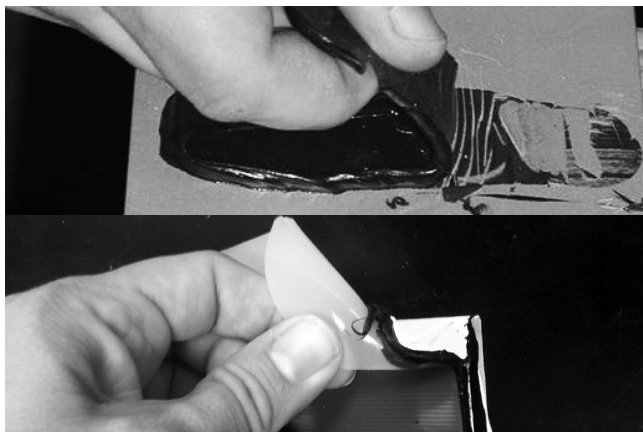


Figure 3: Tab adhesion test procedure

Field installation

For field installation, the same guidelines apply, but the order of installation is reversed, adhering the DOWSIL™ Silicone Transition System to the air barrier first, then to the mullion.

Installation of strip

For field installations, Dow recommends attaching the strip to the building surface (generally an air barrier) with DOWSIL™ 758 Silicone Weather Barrier Sealant. Depending on the air barrier surface, other sealants may be used (please consult Dow for guidance as needed at [consumer.dow.com/construction](https://www.consumer.dow.com/construction)). Field adhesion testing by "tab adhesion" should be completed prior to installing the DOWSIL™ Silicone Transition System (Figure 3). Once the appropriate sealant has been identified, clean the air barrier surface using a solvent and gentle two-rag wipe, so as not to burnish the surface of the air barrier.

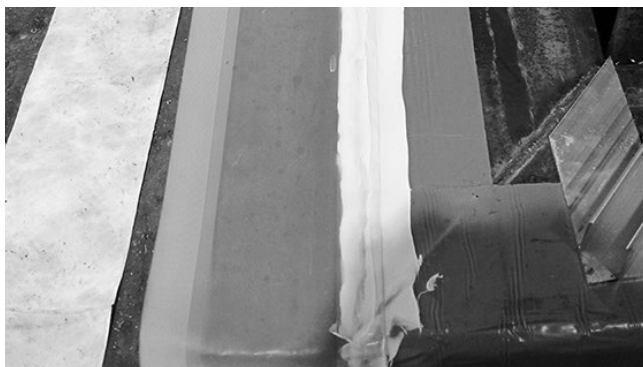
Apply two parallel beads of sealant of ¼ inch to ¾ inch (6 to 9 mm) in diameter to the surface, and then press the silicone strip to the surface. The compressed bead width should be ½ inch (13 mm) or larger, and it can be visually assessed by viewing through the translucent strip.

It has been found that two beads help in mitigating any air infiltration through areas that may not be completely wetted out using hand pressure. Provided full contact can be assured, a single bead of sealant may be used. For best air infiltration and water penetration performance, it is recommended to install and tool sealant at every lap edge of the strip and every lap transition between pieces of the strip, or between strip and corners (Figures 5 and 6). The free edge can be folded and kept out of the way of window installation by folding the flaps into the building and taping them down if needed.

When a strip is hung vertically, it has been found that 10 to 15 foot vertical runs can be attached with sealant without slump. Longer runs may be possible but may require one mechanical fastener at the top to hold the strip in place. Sealant should be tooled over any mechanical fasteners. It has been found that one floor at a time is most feasible for installation.



Figure 4: Sealant attaching strip and corner to air barrier in-field. Lap joints sealed.



Figures 5 and 6: Strip installed with sealant under strip and over lap joint

Openings also may be “wrapped” with the DOWSIL™ Silicone Transition System prior to the fenestration unit installation, meaning the DOWSIL™ Silicone Transition System would run vertically and horizontally around the opening (Figure 7). Using this method, it is recommended that the splice joints be located at the mid span of the fenestration unit opening, at least 12 inches (300 mm) away from a corner (Figure 8). At sills, the strip may be attached with sealant only. At head conditions, the strip, depending on the width being used and length of the run, may be attached with sealant only (Figure 9). If the strip begins to sag, use a mechanical fastener to hold it in place. Ensure there is sealant under the mechanical fastener and also applied over the fastener and tooled.

When installing the strip – and corners, if applicable – it may be found that to keep the strip in place, a mechanical fastener is desired. A screw can be used to punch through the strip and then sealed over by installing a dollop of sealant over the screw head and mechanically tooling the sealant over the screw head. It is critical for air infiltration performance that any area in which a mechanical fastener is used be completely covered with sealant, and the sealant must be tooled over the fastener (Figure 10).



Figure 7: DOWSIL™ Silicone Transition system-wrapped opening



Figure 8: Keep splices a minimum of at least 12 inches (300 mm) from corner



Figure 9: Installing strip at head of fenestration unit using sealant

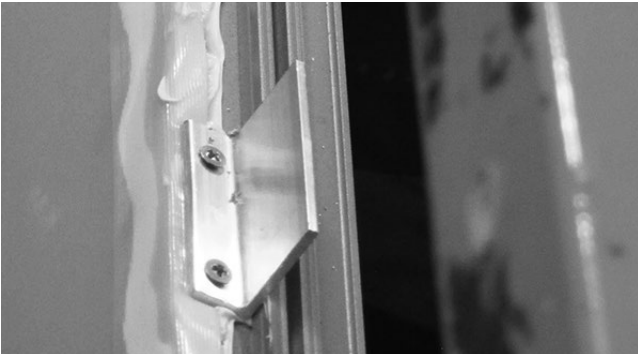


Figure 10: Mechanical fasteners may be used with DOWSIL™ Silicone Transition System. (Sealant also must be applied over this fastener and tooled.)

Installation of corners

Molded corners may be difficult to use in field installations depending on sequence of construction. If the exterior façade material is already in place at the time the opening is wrapped with the DOWSIL™ Silicone Transition System, the corner may not have sufficient building face available to adhere to. In these cases, the strip (installed in the opening) can be spliced and folded around the corner and attached to the fenestration unit using sealant. It is critical to apply sealant at every splice joint and ensure full sealant contact at least ½ inch (13 mm) to either side of the splice and along the entire length of the splice (Figures 11 and 12).

When the exterior façade material is not yet in place, molded corners may be installed at the opening before the fenestration unit is installed. Sealant should be applied using the cleaning and installation techniques previously described; it is critical to seal the lap joints between the DOWSIL™ Silicone Transition System strip and molded corner as shown in Figure 4.

Corners shall be installed such that reverse lapping once the unit is installed is avoided. This is most easily accomplished by installing the sill corners first; then the vertical DOWSIL™ Silicone Transition Strip pieces will lie over the corners. The head corners can then be installed lapping over the vertical strip pieces, achieving the appropriate shingling. However, this order can be changed provided the appropriate pieces are laid over/under as needed to avoid reverse lapping.

System considerations

Once the fenestration unit is installed in the field, the opposing edge of the strip and corner are attached to the mullion using silicone sealant. Dow recommends attaching the strip to the mullion using DOWSIL™ 791 Silicone Weatherproofing Sealant or DOWSIL™ 795 Silicone Building Sealant. Other sealants (DOWSIL™ 756 SM Building Sealant or DOWSIL™ 758 Silicone Weather Barrier Sealant) may be used. For best air infiltration results, Dow recommends two strips of silicone sealant be used for the attachment. Clean the mullion using the two-rag wipe method and solvent. Apply two parallel beads of sealant of ¼ inch to ⅜ inch (6 to 9 mm) in diameter to either the strip or the mullion, and then press the silicone strip to the mullion. The compressed bead width should be ½ inch (13 mm) or larger, and it can be visually checked by viewing through the translucent strip (Figures 13 and 14). It has been found that two beads help mitigate any air infiltration through areas that may not be completely wetted out using hand pressure. Provided full contact can be assured, a single bead of sealant may be used; often, there is only space for one sealant bead on the mullion. Achieving full contact between the strip, sealant and mullion is critical.

When installing the strip – and corners, if applicable – it may be found that to keep the strip in place through the installation process, a mechanical fastener is desired. A screw can be used to punch through the strip and then sealed over by installing a dollop of sealant over the screw head and mechanically tooling the sealant over the screw head. It is critical for air infiltration performance that any area in which a mechanical fastener is used be completely covered with sealant, and the sealant must be tooled over the fastener.

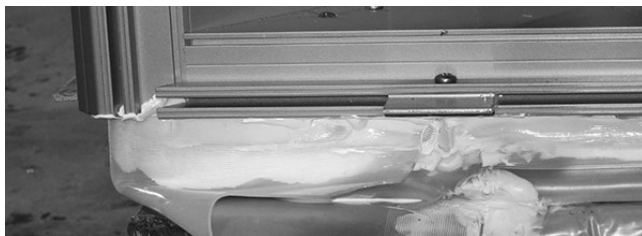


Figure 11: One example of folding corner



Figure 12: Folded and sealed corner



Figure 13: Folding strip onto mullion and attaching with sealant



Figure 14: Finished strip installation

Tech Talks

DEFENDAIR™ 200C Air and Weather Barrier Coating absorption on common sheathing substrates

DEFENDAIR™ 200C Air and Weather Barrier Coating may be specified as a low-build or medium-build fluid-applied air barrier to be installed at a required minimum total dry-film thickness of 15-mil or 17-mil on the surface of the substrate.

To help ensure a robust application of the air barrier and address industry concerns surrounding achieving the appropriate mil thickness on different substrates when using a low-build system, Dow has completed absorption testing on common sheathing substrates and found that the absorption of DEFENDAIR™ 200C Air and Weather Barrier Coating can change by substrate and substrate manufacturer. Based on our testing, some substrates absorb more coating than others and will require a different wet-film application thickness to achieve the required minimum total dry-film thickness on the surface of the substrate.

The total wet-film thickness needed is going to depend on the substrate and the desired final dry-film thickness (low-build or medium-build). A project-specific mockup is recommended to determine the actual wet-film thickness needed which will result in the required minimum total dry-film thickness on the surface of the substrate. It may be possible to utilize DOWSIL™ DEFENDAIR 200 Primer before applying DEFENDAIR™ 200C Air and Weather Barrier Coating to reduce the amount of coating absorbed into the substrate.

Below are estimated wet-film thicknesses needed to achieve a dry-film thickness of 15-mil or 17-mil on common sheathing substrates:

Substrate	Wet Mil	Dry Mil	Wet Mil	Dry Mil
GP DensGlass Sheathing (yellow)	34	15	39	17
Gold Bond eXP Sheathing (purple)	33	15	37	17
USG Securock Brand UltraLight Glass-Mat Sheathing (green)	34	15	38	17
CertainTeed GlasRoc Sheathing (white)	37	15	42	17
Plywood (APA Exposure 1)	33	15	37	17

Coverage rates for your specific substrate may differ and should be verified by completing a mockup.

Please contact your local Dow sales development professional for further assistance.

DEFENDAIR™ 200C Air and Weather Barrier Coating on damp substrates and in rain

Damp substrates

Dow has completed testing of DEFENDAIR™ 200C Air and Weather Barrier Coating on selected wet and damp substrates (on variety of sheathing, plywood, OSB and concrete). Our findings have consistently shown that damp substrates can be effectively coated with DEFENDAIR™ 200C Air and Weather Barrier Coating and adhesion is acceptable.

The adhesion of DEFENDAIR™ 200C Air and Weather Barrier Coating is not affected by the moisture content or “dampness” of most substrates. Testing has shown, however, that when OSB is damp, primer is required for the DEFENDAIR™ 200C Air and Weather Barrier Coating to achieve acceptable adhesion.

Dow always recommends field adhesion testing be completed for job site specific conditions, as not every brand of every substrate, especially sheathing, could be included in the study.

Dry time before precipitation

While damp substrates are acceptable, DEFENDAIR™ 200C Air and Weather Barrier Coating should not be applied when raining or when rain is imminent. Rain will wash the DEFENDAIR™ 200C Air and Weather Barrier Coating off the substrate if the coating is not at least partially dry. DEFENDAIR™ 200C Air and Weather Barrier Coating dry times will depend on the temperature and humidity at the time of application and while it is drying.

In our studies, we have found that if a 30 mil (wet) coating is applied and is allowed to dry for eight hours, rain after that time did not negatively affect the coating. When rain is expected sooner than eight hours, or the weather cannot be predicted, it is possible to apply one 15 mil (wet) coat of DEFENDAIR™ 200C Air and Weather Barrier Coating. At the thinner wet film thickness, rain will not negatively affect the DEFENDAIR™ 200C Air and Weather Barrier Coating after only a four hour drying time. A second coat can then be applied after four hours or when the rain has subsided. This technique allows the air barrier to be applied in more unpredictable weather conditions.

This testing was completed at 70°F and low relative humidity (15%RH) when the DEFENDAIR™ 200C Air and Weather Barrier Coating had potential to dry more quickly than would be seen in high humidity conditions. A higher humidity or lower temperature will lengthen the required drying time prior to the DEFENDAIR™ 200C Air and Weather Barrier Coating being unaffected by rain.

Importance of DEFENDAIR™ 200C Air and Weather Barrier Coating

We understand that a “thick mil” or even sheet applied materials may seem more comfortable, but in reality, the question is: What performs, and what can be installed over and over the same way, and still perform for many years?

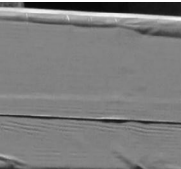
Our versatile air barrier can be specified as either a low-build or medium-build fluid-applied air barrier to be installed at a required minimum total dry-film thickness of 15-mil or 17-mil on the surface of the substrate. This versatility allows building design professionals additional flexibility when considering our product. DEFENDAIR™ 200C Air and Weather Barrier Coating has been ABAA Evaluated to have passed the rigorous material testing set by the ABAA S0008 Standard for Air and Water-Resistive Barriers, providing confidence in its performance. In addition, it's silicone technology enables long-term UV resistance and a remarkable 300°F maximum service temperature rating, which surpasses many competitors.

Sheet applied materials help to achieve a certain thickness. But in application, there are joints, seams and folds to worry about, in addition to achieving 100% adhesion of the adhesive backing. Dow has shown, through our own testing, that not fully sealing the seams, or having a “fishmouth” such as shown below, may yield air infiltration results that do not pass current air barrier standards and/or exceed the infiltration rate of liquid applied membranes.

Thick mil fluid-applied materials must still be applied at the thickness stated and validated for the correct thickness.

Taking care to assess progress, as Dow recommends with any sealant or coating application, is part of a quality installation; and it is not difficult. It is a matter of measuring the wet mil thickness during application using a hand held gauge. It is similar to other measurement or quality control methods in place for any number of construction products.

Please contact your local Dow sales development professional for further assistance with on-site and hands-on training regarding quality control.



DEFENDAIR™ 200C Air and Weather Barrier Coating certified applicators and warranty

DEFENDAIR™ 200C Air and Weather Barrier Coating is offered with a 10-year limited warranty. When DOWSIL™ brand sealants and transition materials are applied with DEFENDAIR™ 200C Air and Weather Barrier Coating, the system qualifies for a 15-year limited warranty.

When sealing the building envelope with DEFENDAIR™ 200C Air and Weather Barrier Coating, it is critical to choose and install the appropriate materials correctly.

Dow has completed extensive hands-on training seminars with our distributors and key contractors specifically for DEFENDAIR™ 200C Air and Weather Barrier Coating (and other associated sealants and materials used with it).

DEFENDAIR™ 200C Air and Weather Barrier Coating is Air Barrier Association of America (ABAA) evaluated. Specifications often call for ABAA certified installers. Dow fully supports this program. It is not a specific Dow requirement, but an ABAA certified installer can be chosen for your quality project.

Please contact your local Dow sales development professional for further assistance.

Note: Not intended for use on single family residential dwellings.



DEFENDAIR™ 200C Air and Weather Barrier Coating compatibility with accessory building products

When sealing the building envelope, many different materials come into contact. DEFENDAIR™ 200C Air and Weather Barrier Coating adheres to and is compatible with a wide range of building substrates including, but not limited to: gypsum-based sheathing, plywood, OSB, brick, concrete, concrete masonry units (CMU), aluminum, and galvanized and stainless steel.

Other common building components that DEFENDAIR™ 200C Air and Weather Barrier Coating may come into contact with include self-adhering flashings, mechanical flashings, other liquid flashings, sealants, weatherstrips and insulation.

DEFENDAIR™ 200C Air and Weather Barrier Coating can be continuously sealed to other mechanical and self-adhering flashings by creating a bridge between the two materials using either DOWSIL™ Silicone Transition Strip or DOWSIL™ 758 Silicone Weather Barrier Sealant. This allows for adhesion between the differing products, creating a continuous air and water tight seal. Mechanically attached flashings do not negatively affect the performance of DEFENDAIR™ 200C Air and Weather Barrier Coating. Furthermore, the asphaltic and/or butyl backings of the self-adhering flashings do not negatively affect the performance of DEFENDAIR™ 200C Air and Weather Barrier Coating.

If a liquid flashing from a company other than Dow is used, it should be fully cured before DEFENDAIR™ 200C Air and Weather Barrier Coating is applied over it. If the liquid flashing is to be applied over the DEFENDAIR™ 200C Air and Weather Barrier Coating, allow the DEFENDAIR™ 200C Air and Weather Barrier Coating to cure a minimum of three days. Verify adhesion of the liquid flashing at the start of the project, as generally only silicone based materials will adhere to DEFENDAIR™ 200C Air and Weather Barrier Coating. Dow is not aware of any liquid flashing currently on the market that would negatively affect the performance of the DEFENDAIR™ 200C Air and Weather Barrier Coating when used either over or under the DEFENDAIR™ 200C Air and Weather Barrier Coating. Project-specific adhesion and compatibility testing can be performed.

DEFENDAIR™ 200C Air and Weather Barrier Coating is compatible with silicone sealants. It can also contact non-silicone sealants with no negative effects, but the non-silicone sealant should be allowed to cure prior to applying DEFENDAIR™ 200C Air and Weather Barrier Coating. In all cases, adhesion between the two materials should be verified with field adhesion testing. In general, DEFENDAIR™ 200C Air and Weather Barrier Coating will adhere to cured sealants of any chemistry. Only silicone sealants would be expected to adhere to DEFENDAIR™ 200C Air and Weather Barrier Coating.

DEFENDAIR™ 200C Air and Weather Barrier Coating is compatible with rigid foam board insulation.

Please contact your local Dow sales development professional for further assistance.

Example of quality control wet mil thickness form

Date _____

Project Name _____

Project Address _____

Reading Number	Elevation	Floor	Location/Drop	Gauge Reading	Initials
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
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Notes

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