PRODUCT BULLETIN
NORTH AMERICA

DUPONT Corian

DUPONT™ CORIAN® EXTERIOR CLADDING MATERIAL

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INTRODUCTION

This document provides an overview of DuPont™ Corian® exterior cladding material in ventilated façade systems for the North American region.

Building practices and codes vary throughout the world. The guidance provided in this document was developed for the United States and Canada and may not be applicable to other countries. For guidance for other countries please check the appropriate country at http://www.corian.com or contact a local DuPont representative. Laws, building and safety codes governing the design, engineering and construction of installations vary widely. It is the responsibility of the purchaser to ensure that proper building practices and codes are followed for the location of the installation.

A. ADVANTAGES AND DESIGN FLEXIBILITY OF DUPONT™ CORIAN® EXTERNAL CLADDING MATERIAL FOR BUILDING FACADES

DuPont™ Corian® exterior cladding material is innovation through beauty, color and depth. It is strength and purity, reliability and performance. But above all, it is inspiration – a maverick, seamless material that can transform any space, whether for interiors or exteriors, through unlimited possibilities. Corian® exterior cladding material brings personality to virtually any type of environment, enhancing and facilitating the lives of those who use and enjoy its unique potential. Crafted into almost anything, in any place, for any purpose and in a wide palette of colors, it offers the freedom to design, explore and create. Long-lasting, durable and elegant, DuPont™ Corian® exterior cladding material has a three-dimensional formability that has been liberating inventive and artistic minds for over 40 years. It is an advanced blend of natural minerals and acrylic polymer. It is a synthetic material – born of human imagination and exploration – and the result of a reflection upon the demands of design. To make the most of Corian® exterior cladding material in a world of changing environments, fashions and modes of communication, the invitation to architects is to transform this limitless material into a meaningful work of form and function.

DuPont™ Corian® exterior cladding material is a solid, non porous, homogeneous surfacing material, composed of about 1/3 acrylic resin (also known as polymethylmethacrylate or PMMA), and about 2/3 mineral, aluminum trihydrate (ATH). For more information on the composition of the material, please consult the Safety Data Sheets (SDS) available via the msds.dupont.com site. Supplied in sheets, it can be fabricated with conventional woodworking tools into virtually any design.

The construction guidelines in this document were developed specifically for use with the DuPont products and third party products recommended for use by DuPont that are referenced in this document. The information set forth herein is furnished free of charge and based on technical data that DuPont believes to be reliable. It is intended for use by persons having technical skill, at their own risk. Since conditions of use are outside our control, DuPont makes no warranties, expressed or implied and assume no liability in connection with any use of this information. Nothing herein is to be taken as license to operate under or a recommendation to infringe any patents.

Advantages of DuPont™ Corian® Exterior Cladding Material for Building Facades

DuPont™ Corian® exterior cladding material offers many advantages in a ventilated façade application:

High performance durability

- Great resistance to impact
- Resistant to humidity
- Resistant to salt fog and sulfur dioxide (SO_2)
- Resistant to fungi and bacteria
- Will not delaminate nor decompose

Structural Performance

- Lightweight for reduced structural load
- Flexural and tensile strength provide excellent resistance to wind loads
- Compatibility with typical building components, structural silicone and sealants

Fire Performance

- Low flame spread
- In the event of fire, DuPont™ Corian® exterior cladding material will not melt and will not create burning droplets
- Low smoke generation
- When burned, it primarily releases carbon oxides and does not contain toxic halogenated gases

Weatherability

- UV stable colors with excellent colorfastness available
- Resistant to bulk water absorption
- Weather-resistant system minimizes leakage from wind-driven rain (ability to seam reduces the number of joints)
- Excellent freeze-thaw resistance
- Excellent resistance to chemicals, detergents and environmental pollutants

Environment – Durability

- Ventilated facade allows for thicker insulation and therefore may lower energy costs
- Is durable, long-lasting. Panels can be repaired, if necessary, rather than replaced (less material is needed or discarded over the life of the building)
- Ventilated façade can be used for cladding renovation to reach new insulation requirements
- Is inert, safe in use and has low VOC content
- Is nontoxic

Maintenance

- There are no pores to trap dirt
- Neither the surface nor the edges need to be sealed, painted or protected
- Colors run through the entire thickness and cannot wear away or delaminate, making the product inherently robust
- Even covered with some of the most difficult dirt and graffiti, the panels can be restored to their original appearance through cleaning and sanding
- Under normal conditions, will require annual cleaning only, with standard agents such as water and detergents

Renewability

If excessive surface damage is incurred after installation, Corian® exterior cladding material has unique repair possibilities. In most cases it can be repaired on site with little difficulty, using abrasive scouring pads and an orbital sander.

Design Flexibility with DuPont™ Corian® Exterior Cladding Material

Large panels

Large panels can be easily built up by adhering standard panels with inconspicuous, reinforced seams. The main limitations are the ability of the substructure to accommodate movement due to thermal expansion, the weight capacity of the mounting system, and the necessary expansion gaps (revealed or open joint designs). The maximum dimensions are typically governed by the capability of the design to accommodate the anticipated thermal movement.

Colors run through the entire thickness, so edges are the same color as the rest of the sheet, and revealed joints will show no black gaps.

Translucency

DuPont™ Corian® exterior cladding material will allow some diffused light transmission, depending on color. In general, solid light colors such as white and beige are the most translucent, and dark colors are the least translucent. The DuPont™ Corian® Illumination Series has been specifically designed with more translucency than the standard colors. Special considerations for these materials are described in the *DuPont™ Corian® Illumination Series Fabrication Bulletin*.

DuPont™ Corian® exterior cladding material can also be fabricated to achieve different levels of light transmission by selectively back-cutting the material to different thickness. As the material is cut thinner, it allows more light to pass through. The effect generated will depend on the combination of material and lighting system variables. See notes below on the potential effects of material removal on material flatness and load capabilities.

Surface Texturing, Patterning and Engraving

There are many different surface treatments that can be applied to DuPont™ Corian® exterior cladding material, including machining or engraving (sanding, routing, sandblasting, water jet, etc.), texturing (thermal molds and presses), and layering (laminating). Different techniques can be used for surface finishing, partial surface cutting or full cutting for different shapes, patterns or inlays. Different finishes (semi-gloss, mat or rough-textured) can be achieved with various sanding or polishing steps. These techniques enable high levels of customization for unique, one-of-a-kind designs.

Surface machining of DuPont™ Corian® sheet is typically done with high-speed routing tools to create desired features or shapes. Since DuPont™ Corian® exterior cladding material is relatively easy to cut and finish, without the need for specialized diamond abrasives and saws, fabrication can be done quickly and with a high level of quality. High-speed routers can achieve a fine level of detail for surface cutting and can also be driven by CNC controls to achieve intricate patterns and textures.

Depending on the extent of material removal from the uniform sheet material thickness, thermoforming may be required to eliminate material warpage to produce flat panels after texturing or machining. Thinning out sections of material also needs to be considered in the façade system engineering, relative to material load capabilities. If significant material removal is planned from the uniform sheet material thickness, use of thicker 19 mm (3/4") material should be considered versus the standard 12 mm (½") sheet material.

Thermoforming

A broad range of geometric or natural patterns of differing textural depth and dimension can be molded into the surface to achieve an unlimited variety of architectural finishes. Surface molding and forming of DuPont™ Corian® exterior cladding material, is typically done with medium-temperature ovens and pressure molds.

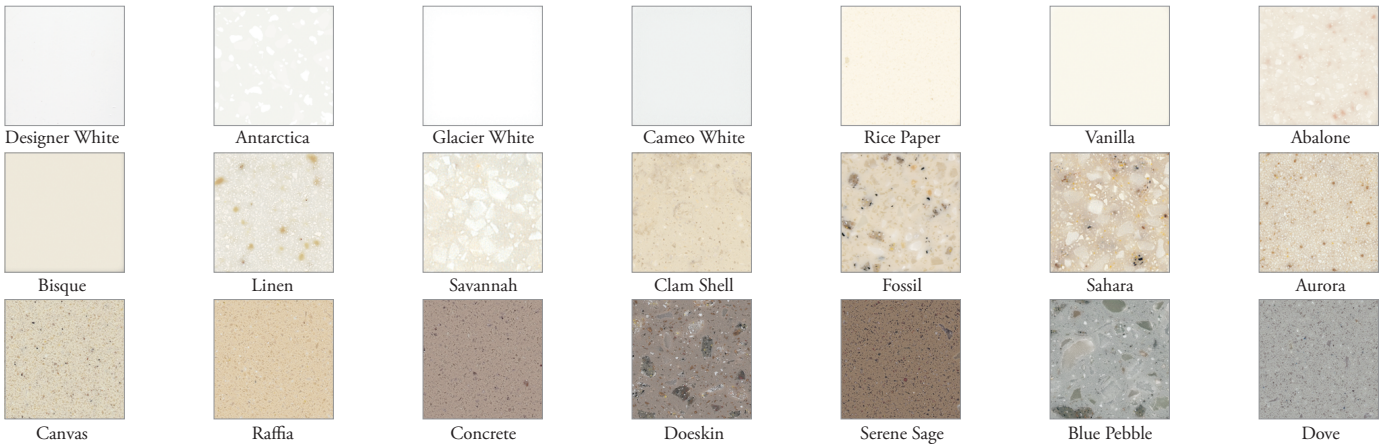
Surface texturing, patterning, engraving, and molding techniques can be combined with shape thermoforming, to create a variety of two and three dimensional structures. Sheets of 12 mm (½") thickness may be formed as small as a 3" (75 mm) inside radius depending on color. Laminating multiple layers of DuPont™ Corian® sheet can be done with flat and thermoformed pieces. The possibilities are almost unlimited.

B. AVAILABLE COLORS AND DIMENSIONS

Many exterior cladding materials fade or discolor in time due to weathering, but in many cases the obtained natural patina may be acceptable or even desirable (e.g. copper roofing). Individual DuPont™ Corian® exterior cladding material colors change differently and most often exhibit changes in gloss and whitening which can be renewed with cleaning and/or sanding. These changes are more obvious in saturated, chromatic and dark colors and least obvious in whites, lighter colors and many of the earth tones. Ultimately it is up to the end user to determine if these characteristics are acceptable in the application.

The following material usage recommendations are based on ASTM G7 and ASTM G155 standards. DuPont™ Corian® exterior cladding material colors are grouped into different categories based on their color stability in exterior cladding applications. The selection below represents colors that are expected to meet architectural guidelines for color change of less than $5\Delta E_{ab}$ units over 10 years (ASTM D2244). Glacier White and Designer White are predicted to have color change of less than $2\Delta E_{ab}$ units over 10 years.

Figure B-1 –DuPont™ Corian® Color Offering



North America DuPont™ Corian® Exterior Cladding Material Prorated 20-Year Limited Product Warranty for Commercial and Residential Exterior Cladding Applications

This warranty applies to DuPont™ Corian® exterior cladding material, supplied in connection with exterior cladding projects and selected from the DuPont™ Corian® exterior cladding portfolio, (the Product).

DuPont warrants to the original purchaser of the Product only that:

- at the time of delivery, the Product will meet the Product specifications,
- during the first 10 years after initial installation, its color will not fade or change by more than 5 ΔE_{ab} (ASTM D2244) units or leach; and
- it will remain free from peeling, swelling, separating and chipping during the first 20 years after initial installation.

This limited warranty requires that the Product has been purchased from DuPont directly or one of DuPont's authorized channel partners and has been stored, handled, applied and maintained in accordance with DuPont's technical instructions and all applicable building codes. This is a Product only warranty, not a fabrication and/or installation warranty.

The warranty herein does not cover DuPont™ Joint Adhesive or DuPont™ Joint Adhesive 2.0, it covers only Corian® sheets products

For more information about this warranty, please contact DuPont Surfaces directly by calling 1-800-426-7426, Option 1. Or contact us via the www.corian.com website.

The following dimensions are available:

Table B-1 – Available Dimensions

		Color	Thickness		Width		Length (Standard)
Price Group (Proposed)	**Terra**	**Color Name**	**1/2-in (12-mm)**	**3/4-in (19-mm)**	**30-in (762-mm)**	**1/2" Thick Only 36-in (914-mm)**	**144-in (3657-mm)**
Standard		Abalone	•		•		•
Premium	Terra	Antarctica	•		•		•
Standard		Aurora	•		•	•	•
Standard		Bisque	•		•		•
Premium	Terra	Blue Pebble	•		•		•
Standard		Cameo White	•	•	•	•	•
Premium	Terra	Canvas	•		•		•
Standard		Clam Shell	•		•		•
Standard		Concrete	•		•		•
Standard		Designer White	•		•		•
Premium	Terra	Doeskin	•		•		•
Premium	Terra	Dove	•		•		•
Standard		Fossil	•		•		•
Standard		Glacier White	•	•	•	•	•
Standard		Linen	•		•		•
Premium	Terra	Raffia	•		•		•
Premium	Terra	Rice Paper	•		•		•
Premium	Terra	Sahara	•		•		•
Standard		Savannah	•		•		•
Premium	Terra	Serene Sage	•		•		•
Standard		Vanilla	•		•		•

Standard products can be ordered in different lengths when technically feasible. Special orders are available at a premium price. A minimum volume is required and delivery will have an extended lead time.

C. PERFORMANCE PROPERTIES OF DUPONT™ CORIAN® EXTERIOR CLADDING MATERIAL

DuPont™ Corian® exterior cladding material has many desirable attributes for decorative exterior applications. These include good color stability, low moisture absorption, and resistance to stains, environmental pollutants, detergents, humidity, and freeze-thaw conditions. Performance properties of DuPont™ Corian® exterior cladding material for an array of industry standards relevant for outdoor use are summarized in Table C-1.

Table C-1 Performance Properties of DuPont™ Corian® Exterior Cladding Material

Structural

Property	Typical Result	Standard
Specific Gravity	1.7	
Weight	4.4 psf (21.5 kg/sq. meter)	
Tensile Strength	6,000 psi (41 MPa)	ASTM D638
Tensile Modulus	1.5 x 10^6 psi (10,350 MPa)	ASTM D638
Tensile Elongation	0.4% min.	ASTM D638
Flexural Strength	10,000 psi (69 MPa)	ASTM D790
Flexural Modulus	1.2 x 10^6 psi (8,275 MPa)	ASTM D790
Izod Impact (Notched Specimen)	0.28 ft.-lbs./in. of notch (0.15 N-m/cm)	ASTM D256 (Method A)
Impact Test Resistance	130 in-lb (14.7 N-m)	ASTM D5420

Fire Performance

Property	Class/result	Standard
Type I, II, III, IV Buildings (U.S. only*)		
Ignitability	No Building Spacing Limitations	NFPA 268
Multistory Propagation	Special Constructions for Heights > 40-feet	NFPA 285
Type V Buildings (U.S. only*)	No Limitations	
Flammability, Surface Burning Characteristics of Building Materials	Class A	NFPA 101® Life Safety Code®
Flame Spread Index Surface Burning Characteristics of Building Materials	Flame Spread Index FSI <25	ANSI/UL 723 (ASTM E84, NFPA 255)
Smoke Developed Index Surface Burning Characteristics of Building Materials	Smoke Developed Index SDI <25	ANSI/UL 723 (ASTM E84, NFPA 255)
Flame Spread Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials	Flame Spread Value 0	CAN/ULC-S102.2
Smoke Developed. Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials	Smoke Developed Value 5	CAN/ULC-S102.2
Self / Flash Ignition	> 430°C	ASTM D1929

Weatherability

Property	Typical Result	Standard
Thermal Expansion	2.2 x 10^{-5}/°F (3.9 x 10^{-5}/°C)	ASTM E228
Thermal Conductivity	< 5.4 BTU/hr/sqft °F (0.78 W/mK)	ASTM C518
Colorfastness	See Exterior Color Recommendations	ASTM G7 & ASTM G155
Water Absorption, Long-term; 30-days	0.6 weight%	ASTM D570
Freeze / Thaw Resistance	No observable changes	ASTM C666
Salt Fog	Surface easily renewed (Concentrated effects of coastal environment exposure.)	ASTM B117
Sulfur Dioxide (SO_2) Resistance	No effect	ASTM G85
Fungus and Bacteria Resistance	Does not support microbial growth	ASTM G21 & ASTM G22
Microbial Resistance	Highly resistant to mold growth	UL 2824 (AST M D6329)

Maintainability

Property	Typical Result	Standard
Hardness	>85	ASTM D785 (Rockwell "M" Scale)
	56	ASTM D2583 (Barcol Impressor)
Nitric Acid / Mortar Resistance	Surface easily renewed (Acid rain and mortar resistance.)	AAMA 605.2
Alkali / Acid Resistance	Surface easily renewed	ASTM D1308
High Temperature (100 °F) with 100% Relative Humidity	Surface easily renewed	ASTM D2247
Detergent Resistance	Surface easily renewed (Resistance to commercial window cleaner solution.)	ASTM D2248

*Not evaluated per CAN/ULC-S134

Corian® Solid Surface Fire Performance Relative to United States International Building Code (IBC)

The IBC divides construction into five building types, Types I through V. There are no IBC code restrictions relative to fire for using Corian® solid surface as an exterior cladding in Type V construction. For Types I to IV buildings, non-combustible or combustible cladding can be used up to 40 feet height per the IBC code. Although Corian® has good fire performance characteristics; it is combustible due to fuel content. There are many fire jurisdictions in the United States. Some may have stricter requirements and some will permit combustible cladding above 40 feet height. Consult the local building jurisdiction.

Above 40 feet in height, cladding must be non-combustible or pass specific requirements per the IBC code for Type I to IV buildings. In addition to meeting a self/flash ignition limit and surface flammability smoke and flame spread requirements, the IBC code requires cladding materials to pass an ignitibility material test (NFPA 268 Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source) and a material assembly fire propagation test (NFPA 285 Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components).

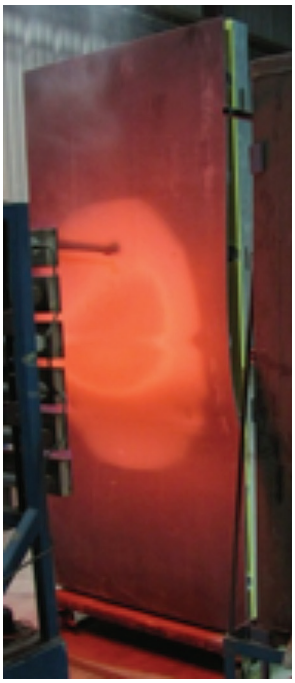
Corian® products pass all the IBC code testing requirements for use above 40 feet on Type I to IV buildings. Corian® products pass the NFPA 268 ignitibility test and a rain screen assembly consistent with the construction outlined in this bulletin has passed the NFPA 285 propagation test. Pictures of these tests appear in Figure C-1. Special construction details are needed to pass the NFPA 285 propagation test. Since Corian® solid surface is not listed as a material in the IBC code, an engineering judgment letter from a qualified fire consultant may be required to apply DuPont's demonstrated technology to a specific building. DuPont can work with architects and designers to meet the IBC requirements and recommend consultants familiar with the technology utilized.

Figure C-1

End of 30 Minute NFPA 285 Test

NFPA 285 Post Test

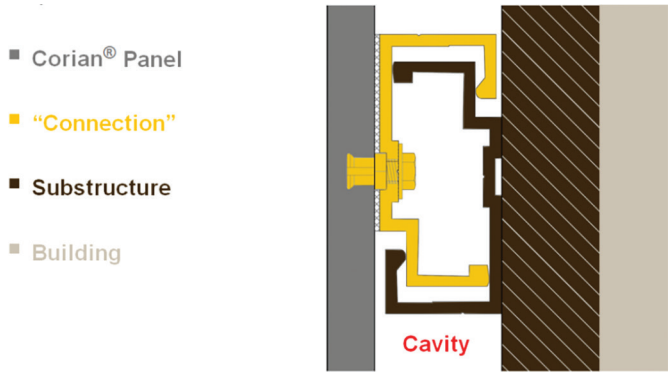
NFPA 268 Test



D. GENERAL FAÇADE GUIDELINES FOR DUPONT™ CORIAN® EXTERIOR CLADDING MATERIAL

For exterior wall cladding applications, DuPont™ Corian® exterior cladding material has typically been installed as a ventilated rain screen façade. Ventilated façades are designed to breath with a space between the cladding and the outer wall – an ideal location for insulation materials. Figure D-1 is one example of an installation. Corian® exterior cladding material panels are mechanically fixed to substructure fixed to the external wall of new or existing (retrofit) buildings. The "breathing" cavity or envelope systems, combined with DuPont™ Tyvek® weather barriers, offer possibilities for high insulation values, with an insulation layer fixed to the external wall, and contribute to a healthy indoor climate.

Figure D-1: Ventilated Façade Clasp / Rail



DuPont™ Corian® exterior cladding material panels must be mounted on an adequate substructure with corrosion resistant fixings in such a way the panels are not subject to any kind of tension and can move freely.

When engineering the substructure, the following aspects are important:

- Wind load
- Density and maximum distances between fixing points
- Ventilation requirements
- Freedom of movement of the panel
- Size of the panels
- Anchoring to existing structural wall
- Applicable legal requirements (local building codes)

The substructure (fixing system) usually used to mount Corian® panels is a mechanical fixing system based on an aluminum grid system, consisting of vertical profiles "T" or "L" shape, mounted on aluminum brackets to connect to the wall. The substructure supplier has to check the substrate, according to official construction recommendations.

The cladding panels are hung on the horizontal profile "C" shape by the brackets (or clamps) with reverse "C" shape, that are attached to the panel with a specific connection method (see chapter "invisible fixing methods").

Figure D-2: Horizontal Cross Section Demonstrating Design Principles (Tyvek® generic)

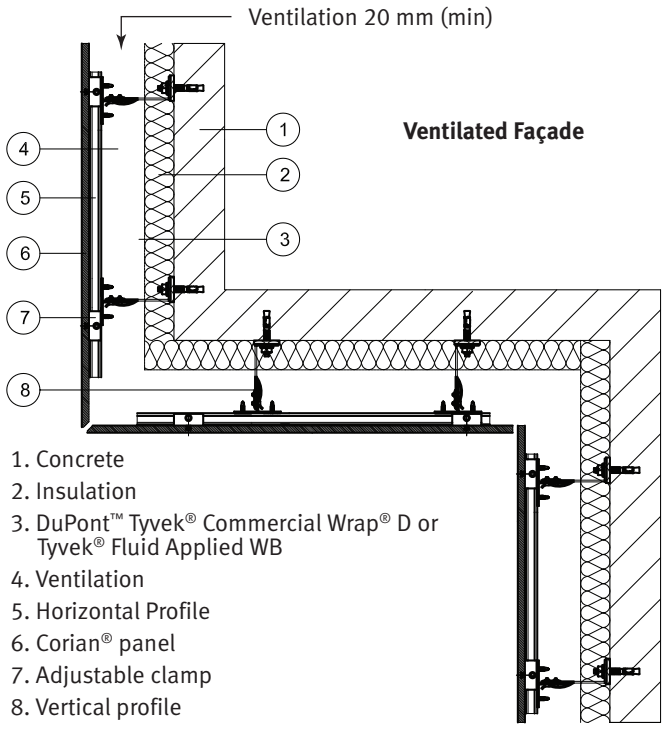


Figure D-2 illustrates the general principles of a DuPont™ Corian® ventilated façade. The substructure has vertical profiles (8) that are anchored into the load bearing wall (1). This wall is generally insulated (2) and protected with DuPont™ Tyvek® Commercial Wrap® D or Tyvek® Fluid Applied WB (3). The ventilation cavity (4) allows passive air convection that provides natural thermal and moisture management. The horizontal profiles (5) attach to the vertical profiles (8). The Corian® panels are mounted to clamps or clasps (7) prior to hanging on the horizontal profile (5).

Detail of Clamps

There are three types of clamps, adjustable, standard, and fixed. Adjustable clamps are used on two or more of the fixture points along the top of the panel. These allow vertical alignment of the panel while allowing horizontal movement. One clamp in the top row is a fixed clamp (created by drilling a hole in the clamp and rail and inserting a bolt). This clamp restricts horizontal movement and is fixed after the panel is in place. It is important that only one fixed clamp is used per panel to allow thermal expansion/contraction. Standard clamps are used on rest of the panel. These allow horizontal and vertical movement, while restricting any movement out of plane.

Figure D-3: Adjustable clamp on rail

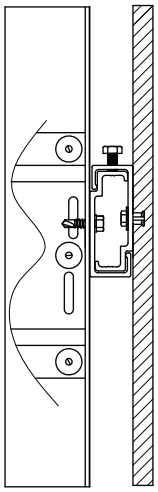


Figure D-4: Standard clamp on rail

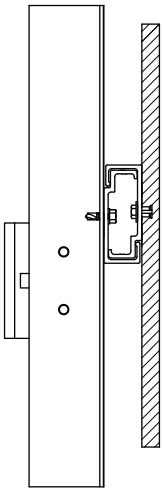
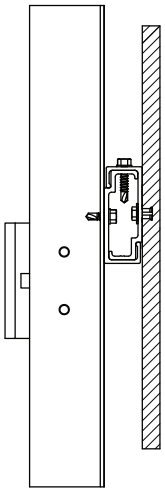


Figure D-5: Fixed clamp on rail



Clamp Fixing Distance

The number of clamps and their spacing is important to both provide sufficient support for Corian® external cladding and to minimize wind load deflections. Clamps should be placed no closer than 2 inches (50 mm) and no farther than 6 inches (150 mm) from any edge of the panel. The recommended maximum spacing between clamps should be provided by the substructure supplier only and be compliant with local building codes and maximum wind load.

Based on different ventilated façade projects around the globe, a typical maximum spacing between clamps is 26 inches both horizontally and vertically for a wind load up to 24 psf (1140 Pa), associated with a wind speed of approximately 100 mph (161 km/h). Higher wind loads will require tighter spacing of clamps.

Important aspects for engineering a ventilated façade with DuPont™ Corian® exterior cladding material:

Expansion Joints and Panel Connections

Panels should be attached to the substructure so they are fully supported, yet able to move relative to the substructure to accommodate thermal expansion and contraction. DuPont™ Corian® exterior cladding material, as any other material, will expand or contract with temperature changes. The thermal expansion coefficient of Corian® material is 2.2 x 10^{-5}/°F (3.9 x 10^{-5}/°C), larger than typical building substructure construction materials. Therefore, the fixings method and expansion gaps (X) should be designed to allow the material to move freely. As general guidance, a variation in length and width of 1/32-inch per foot of panel dimension (3 mm/m) should be considered in the design, based on 120°F (49°C) potential temperature variation from the installation temperature.

Figure D-6: Open Joint

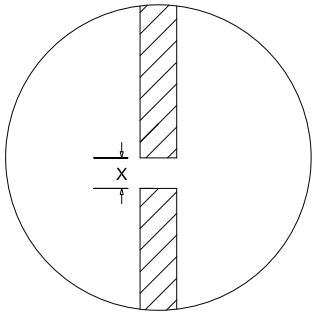


Figure D-7: Sliding Strip

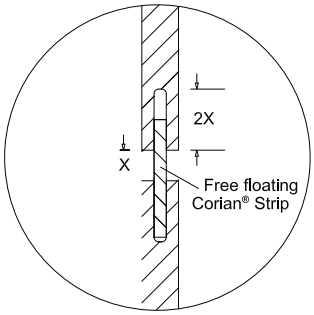
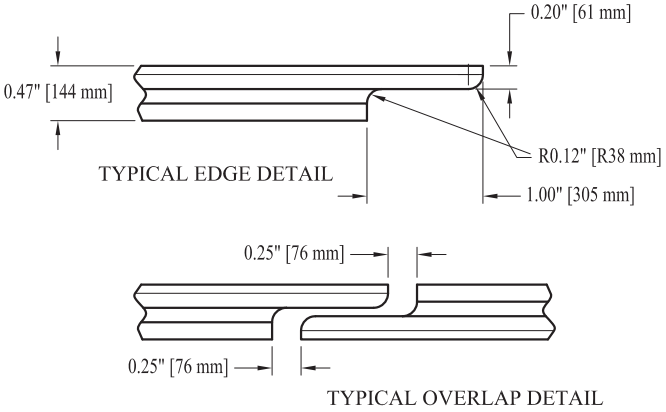


Figure D-8: Overlap Joint



Please note an overlap system with half of the thickness of the sheet will always show small square openings in the corners, reference Figure D-9: Open shiplap and Figure D-10: Closed shiplap. Alternatives to eliminate the gaps and completely "close" the façade include:

1) adding a strip system to the overlap system or

2) routing three levels into the overlap system. Panel corners will not be as damage tolerant if three level panel corners are used.

If the overlap system is combined with the strip system, the number of openings in the façade can be reduced or eliminated for one story structures. In this case the horizontal overlap is done with one third of the thickness of the sheet, so that the horizontal seam-depth is the same as the vertical seam-depth of the strip system. The sliding strip is positioned vertically in the grooved panels. This strip may be longer than individual panels up to the length of Corian® sheet material. The strip is either attached to one panel with silicone in the groove or pinned in place in one location. This allows a gap free façade up to one story high. In between each strip there must be a gap to allow for expansion. By raising the gap above ground level it becomes less visible.

Contact your DuPont representative for suggestions for routing three levels into the overlap system.

Figure D-9: Open Shiplap

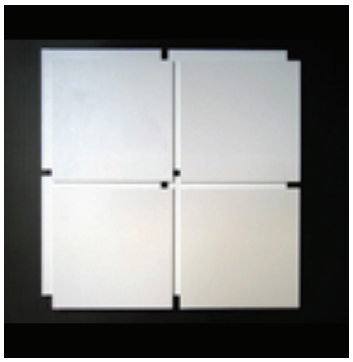
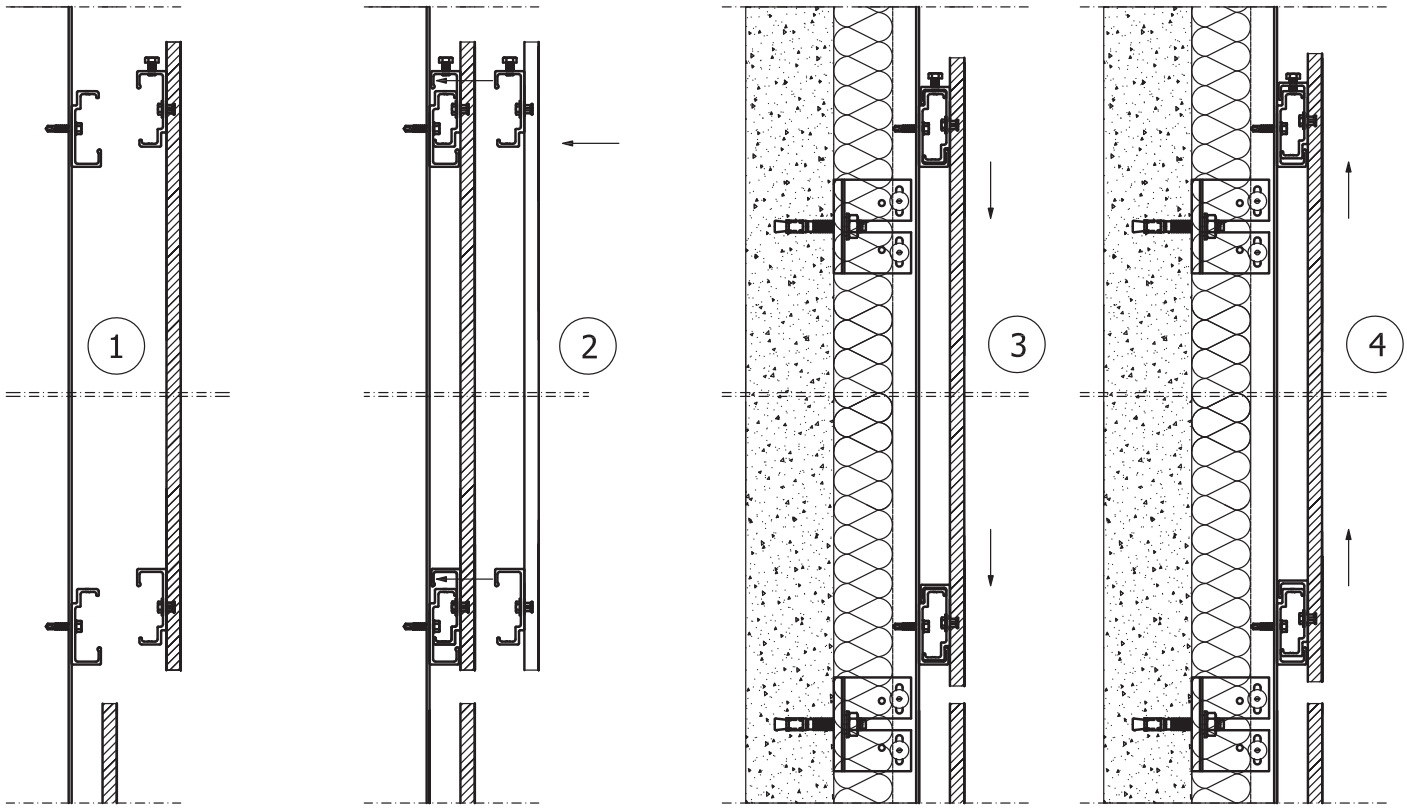


Figure D-10: Closed Shiplap

- All routed material features should have rebated inside minimum radius of 1/16" (1.5 mm) to avoid creating stress risers. It is also recommended to round all edges of outside corners to the same 1/16" (1.5 mm) radius. The rounded edges will be safer to handle and more damage resistant.
- The cladding panels must not have any structural function.

Figure D-11: Installation Process



The panel is positioned in front of the aluminum structure.

The panel is pushed against the structure.

The panel is pushed down, connecting the panel to the structure by the clamps.

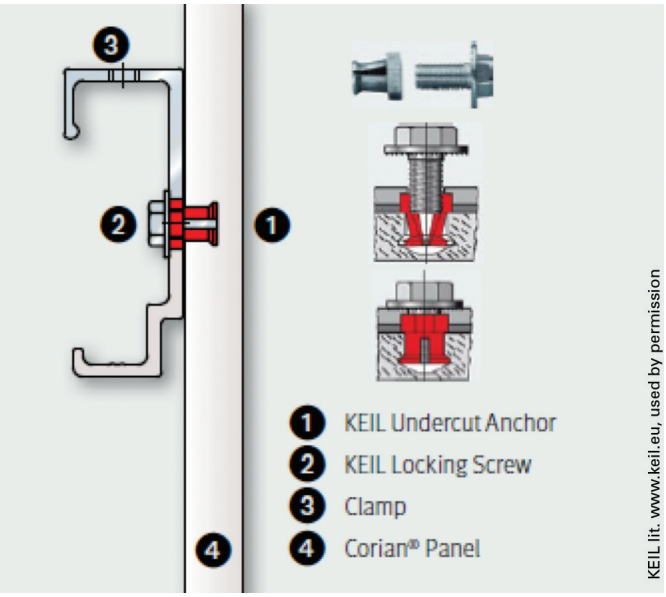
The panel is aligned with other panels and lifted by the screws of adjustable clamps on the top, allowing the vertical expansion of the panel. Finally, one of the clamps is fixed by a screw, to prevent the panel from moving along the horizontal rail

E. INVISIBLE FIXING SYSTEMS

Invisible fixing systems hide the connecting hardware on the back of the DuPont™ Corian® exterior cladding material panels. These systems hold the panels securely, supporting the weight of the panel and providing stiffness to minimize wind deflection.

The KEIL system is an example of a mechanical attachment in which an insert is expanded within an undercut hole. When a bolt is installed in the conical mechanical insert it will expand, locking itself into the undercut of the hole. To properly install the fastener, it is very important all details are precisely calculated for the project, taking into account the length of the insert, the length of the bolt, the thickness of the clasp or attached hardware and the depth of the undercut hole. The clasp or attached hardware are designed to move relative to the underlying substructure to accommodate thermal expansion and contraction. Estimates of thermal movement should consider seasonal temperature changes.

Figure E-1: Invisible Undercut Insert



F. FACADE DETAILS DRAWINGS PROPOSALS

The following drawings illustrate a number of typical design details. It is important gaps (X) are properly sized to allow for thermal expansion of the panels. Measurement X indicate the expansion gap between panels.

All drawings are proposals. As such, DuPont does not approve or disapprove any designs or drawings or assume any liability for the design selected. Any and all liability for a design rests solely with the architect, designer, and/or façade installer and building owner.

Figure F-1: Vertical Cross section of open joint

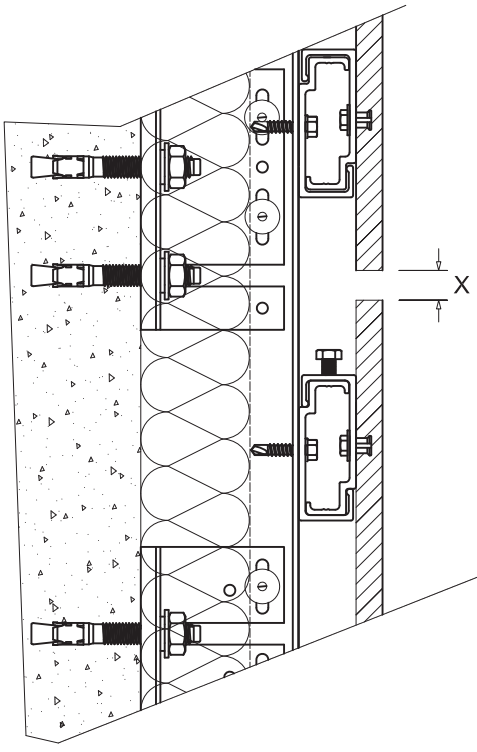


Figure F-2: Horizontal Cross section of open joint

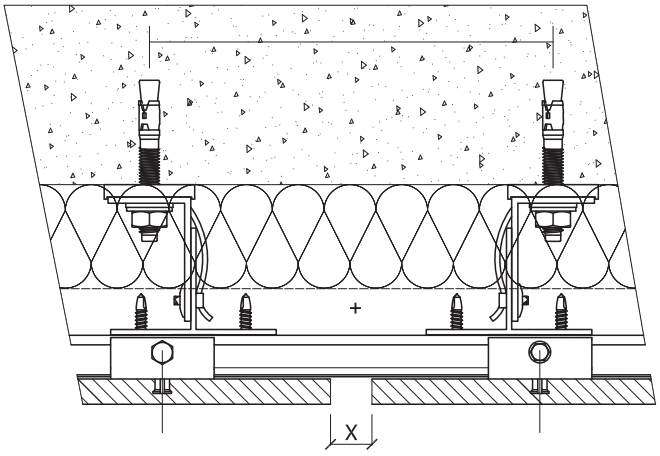


Figure F-3: Horizontal section of open joint with concrete expansion joint

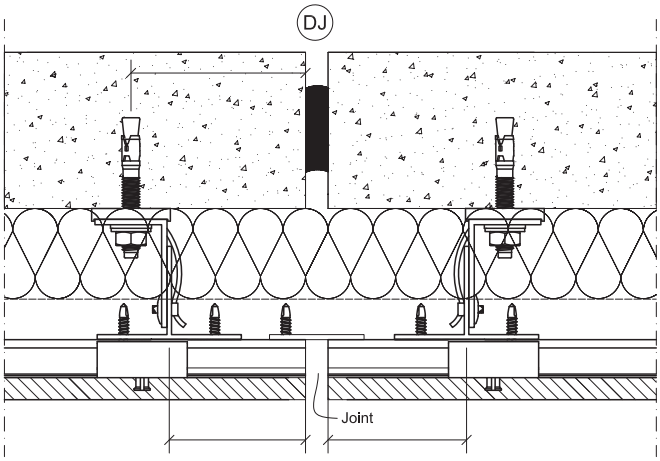


Figure F-4: Internal Corner

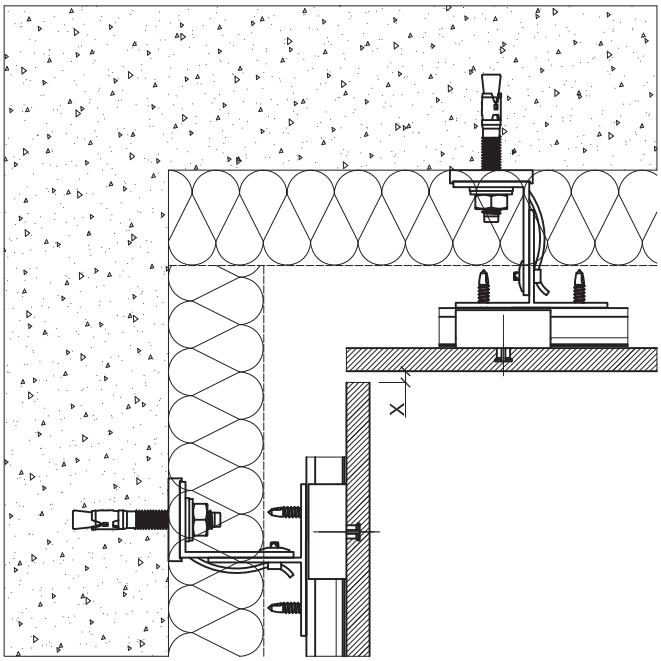


Figure F-5: Internal corner end

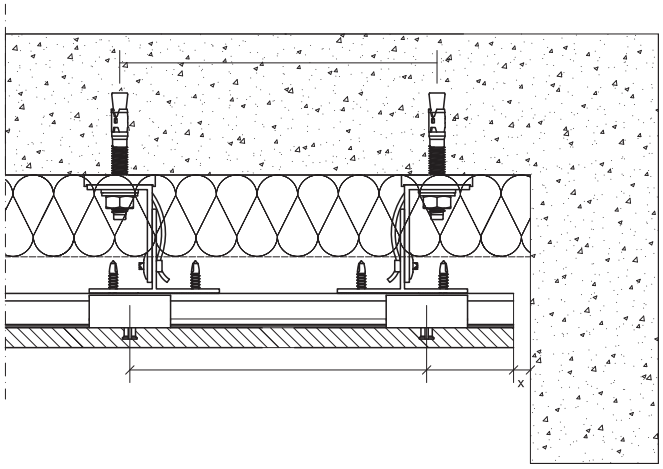
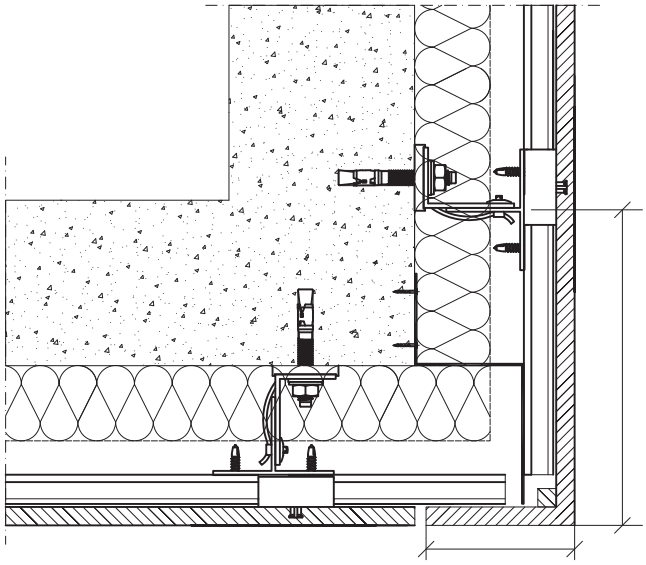


Figure F-6: Outside corner



Solutions for Corners

The ability to inconspicuously seam Corian® exterior cladding material creates a number of options for corners. a few of possibilities are shown below:

Figure F-7: Open 45° corner

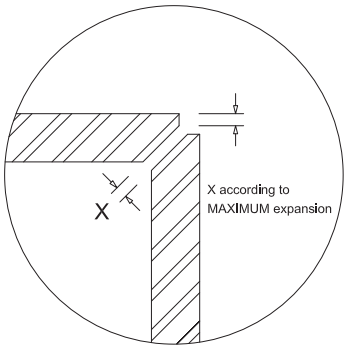


Figure F-8: Open butt corner

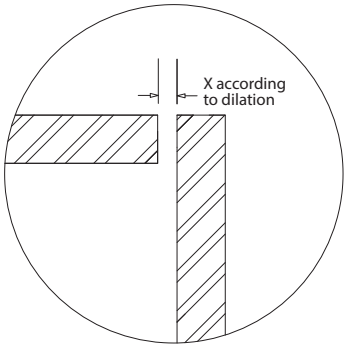


Figure F-9: Angled (glued) corner

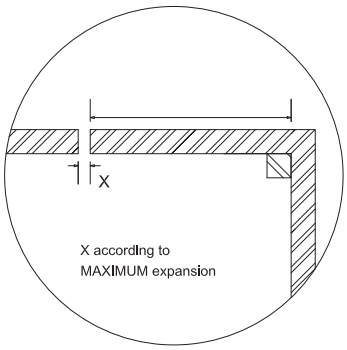


Figure F-10: Angled (glued) corner with overlap

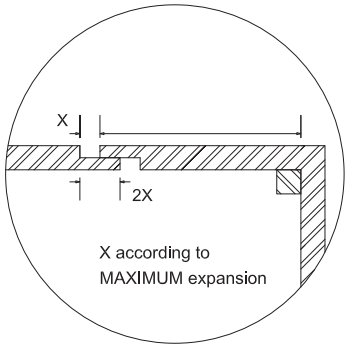


Figure F-11: Thermoformed corner

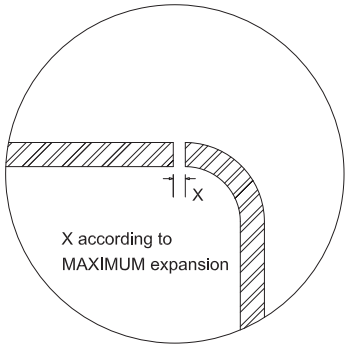
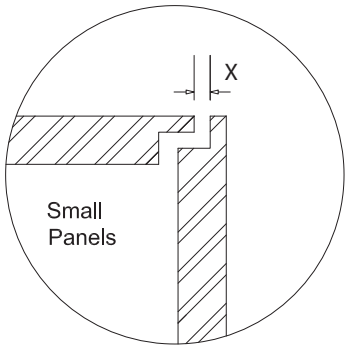


Figure F-12: Rebate corner for small panels



As the name suggests, ventilation is an important aspect of ventilated façade. There must be sufficient clearance behind the panels, as well as the top and bottom to allow air flow.

Figure F-13: Cross section (vertical) of the bottom panel

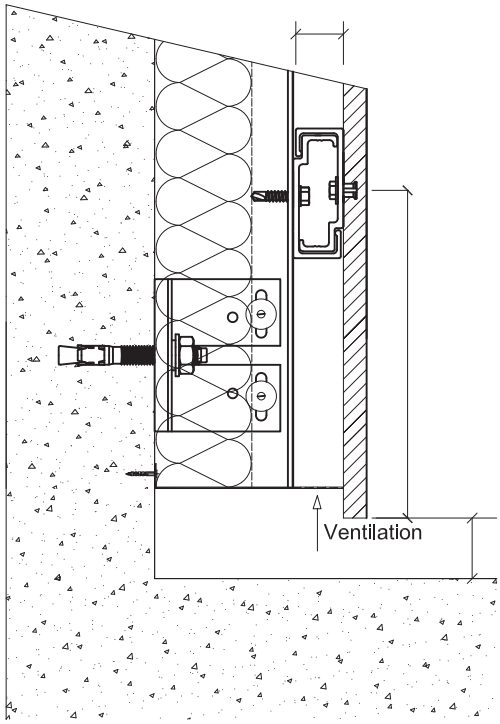


Figure F-14: Cross section (vertical) cornice work

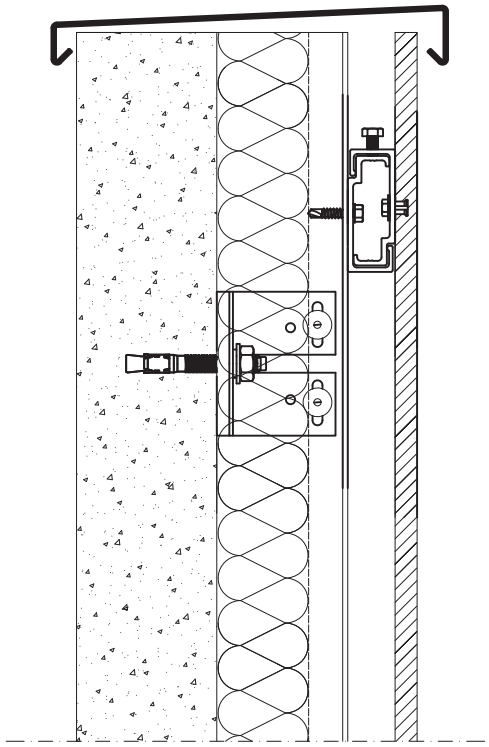


Figure F-15: Joint at fragmentation of substructure

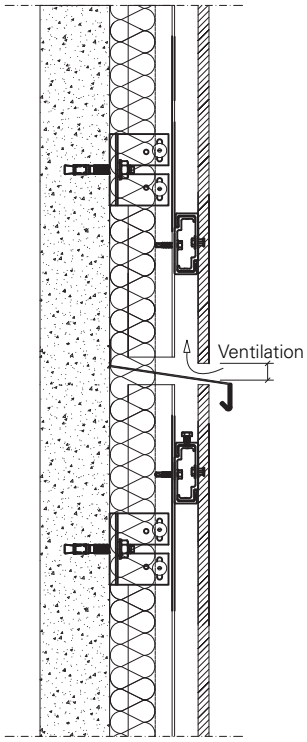


Figure F-16: Bottom of window detail

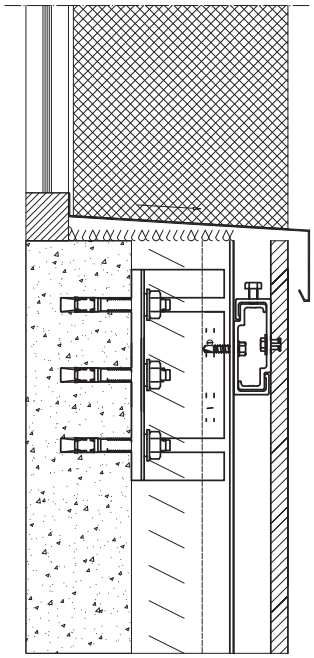


Figure F-17: Vertical Section Bottom window detail 2 (with Corian® cladding) Note: water will flow down on the inside of the cladding

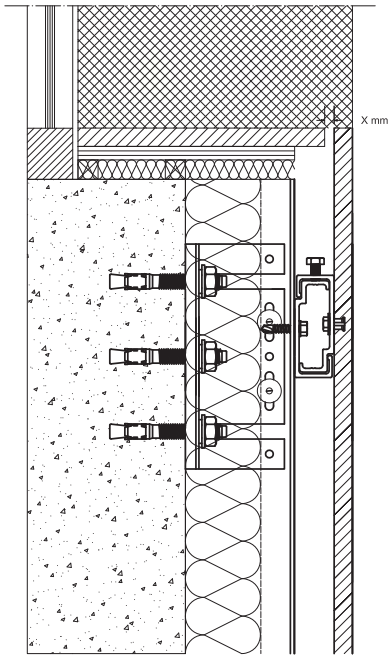


Figure F-18: Bottom of window detail (with Corian® cladding) Note: water will drop down on the outside of the cladding.

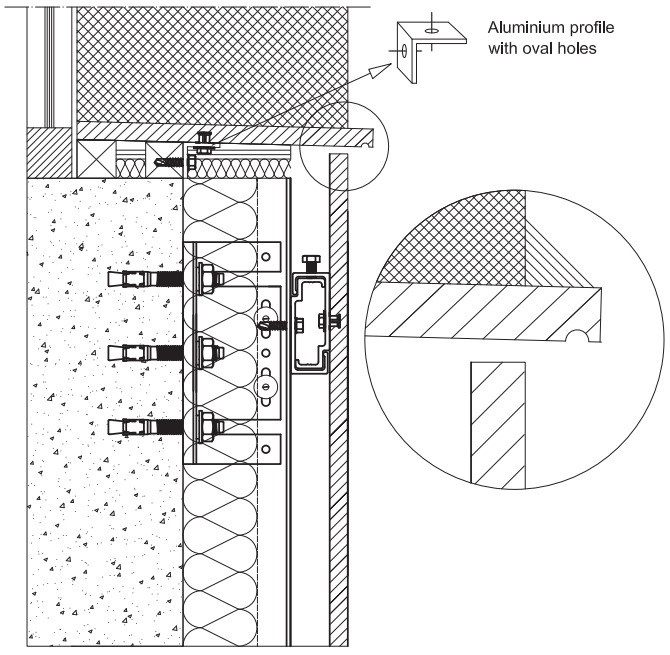


Figure F-19: Top of window detail

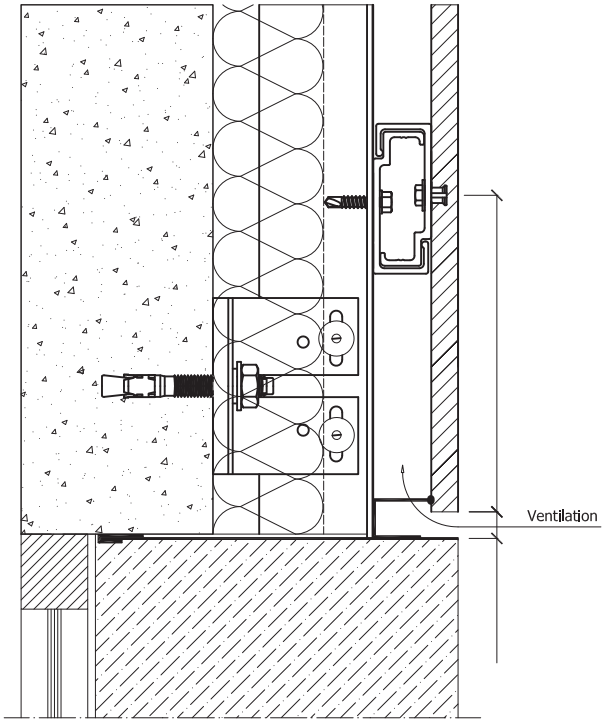


Figure F-20: Top of window detail with Corian® cladding

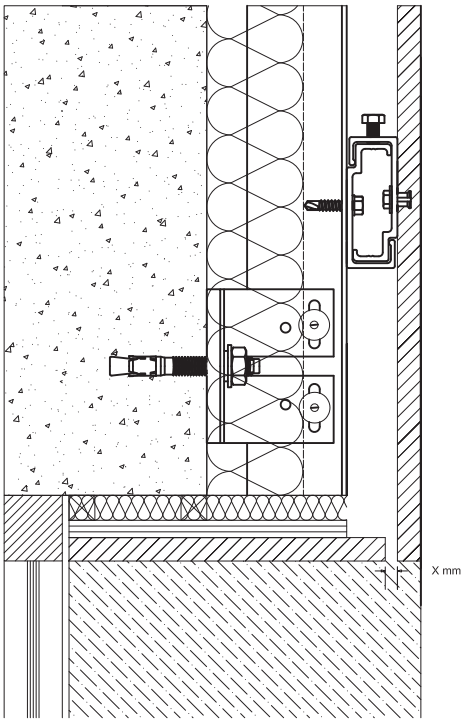


Figure F-21: Side of window detail

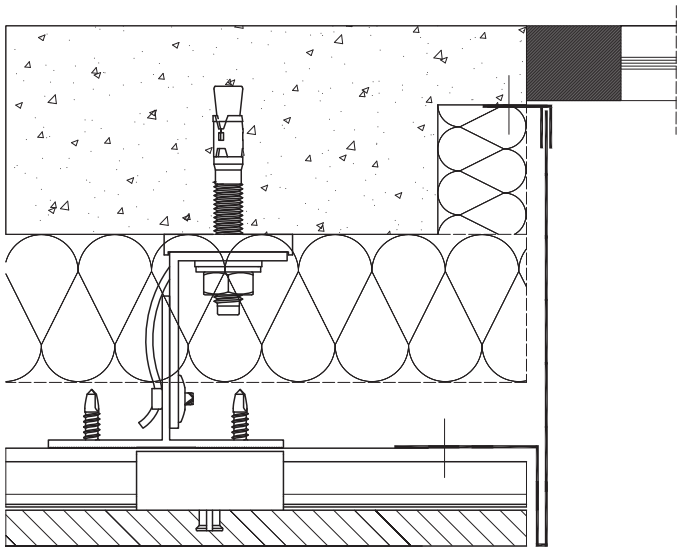
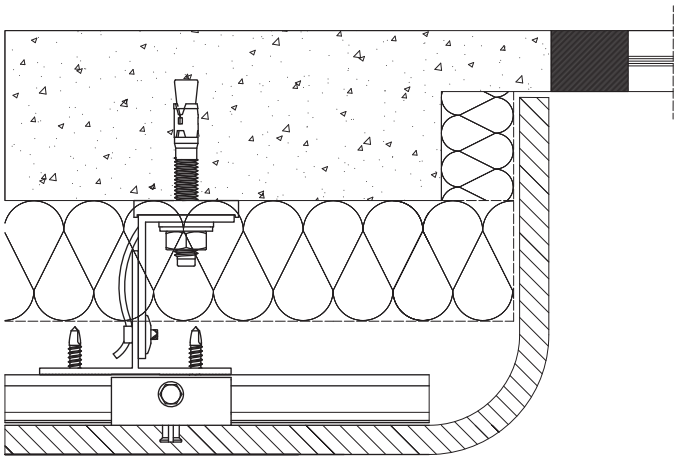


Figure F-22: Thermoformed side of window detail



G. CORIAN® EXTERIOR CLADDING MATERIAL TESTING

AAMA Standards

AAMA 605.2, Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.

ASTM Standards

ASTM B117, Standard Practice for Operating Salt Spray (Fog) Apparatus

ASTM C518, Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

ASTM C666, Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing

ASTM C794, Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants

ASTM D570, Standard Test Methods for Water Absorption of Plastics

ASTM D638, Standard Test Methods for Tensile Properties of Plastics

ASTM D695, Standard Test Methods for Compressive Properties of Rigid Plastics

ASTM D785, Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials

ASTM D790, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials

ASTM D968, Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive

ASTM D1308, Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes

ASTM D1929, Standard Test Method for Determining Ignition Temperature of Plastics

ASTM D2247, Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity

ASTM D2248, Standard Practice for Detergent Resistance of Organic Finishes

ASTM D2583, Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor

ASTM D5420, Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by Falling Weight (Gardner Impact)

ASTM 90, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements

ASTM E228, Standard Test Methods for Linear Thermal Expansion of Solid Materials with a Push-Rod Dilatometer

ASTM E330, Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference

ASTM G7/G7M, Standard Practice for Atmospheric Environmental Exposure Testing of Nonmetallic Materials

ASTM G21, Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi

ASTM G22, Standard Practice for Determining Resistance of Plastics to Bacteria

ASTM G85, Standard Practice for Modified Salt Spray (Fog) Testing, Annex A4 Salt/SO_2 Spray (Fog) Testing

ASTM G155, Standard Practice for Operating Xenon Arc Lighting Apparatus for Exposure of Nonmetallic Materials

NFPA Standards

NFPA 268, Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source

NFPA 285, Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components

UL Standards

UL 723, Standard for Test for Surface Burning Characteristics of Building Materials

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