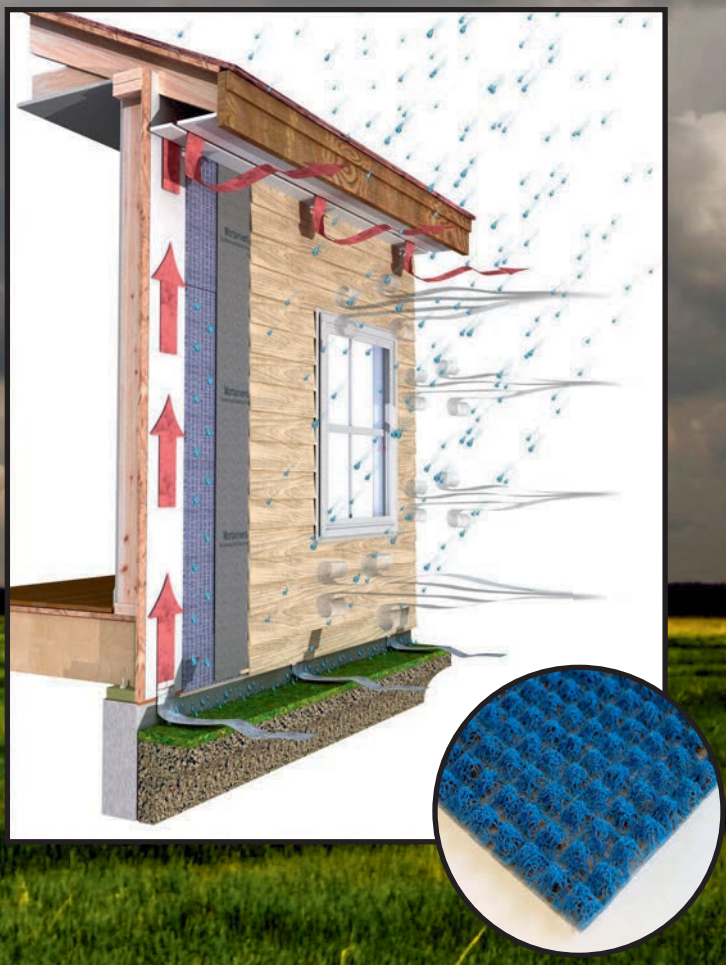
mortairvent®

Advanced Rain Screen Solutions

The Clear Choice™

ENGINEERED RAINSCREEN INSTALLATION GUIDE



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Know The Code!

The 2021 International Residential Code states:

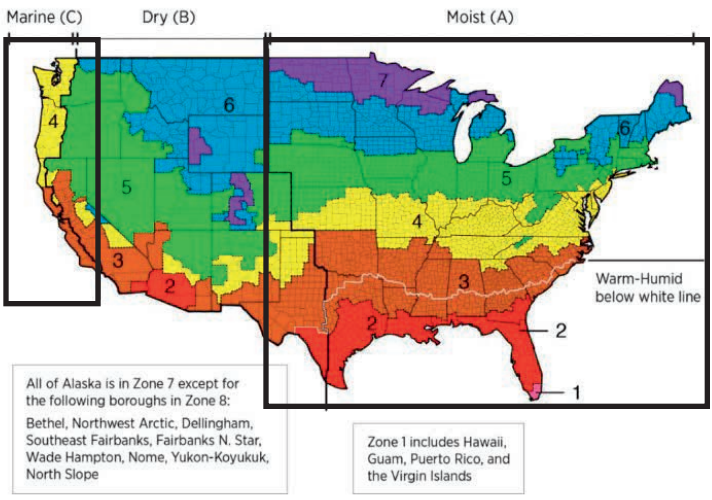
In the Moist (A) or Marine (C) climate zones indicated below, water-resistive barrier shall comply with one of the following:

- 1. In addition to complying with Section R703.7.3.1, a space or drainage material not less than ***3/16 inch (5mm)*** in depth shall be added to the exterior side of the water-resistive barrier.
- 2. In addition to complying with Section R703.7.3.1, Item 2, drainage on the exterior of the water-resistive barrier shall have a drainage efficiency of not less than 90%, as measured in accordance with ASTM E2273 or Annex A2 of ***ASTM E2925***.

The 2021 International Building Code states:

2510.6.2 Moist or marine climates. In Moist (A) or Marine (C) climate zones, water-resistive barrier shall comply with one of the following:

1. In addition to complying with Item 1 or 2 of Section 2510.6.1, a space or drainage material not less than ***3/16 inch (4.8mm)*** in depth shall be applied to the exterior side of the water-resistive barrier.
2. In addition to complying with Item 2 of Section 2510.6.1, drainage on the exterior side of the water-resistive barrier shall have a minimum drainage efficiency of 90 percent as measured in accordance with ASTM E2273 or Annex A2 of ***ASTM E2925***.



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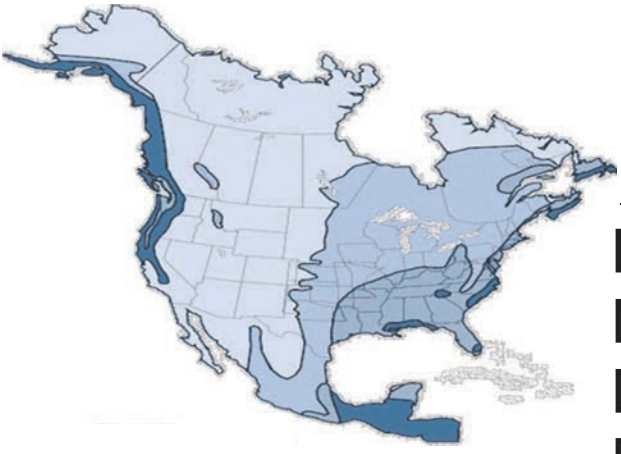
Where to Build With Rainscreen Technology?

According to Building Science Professionals, geographic areas receiving 20” of annual rainfall should have walls designed with a capillary break. As you can see, this encapsulates every state when you also take average annual rainfall, snowfall and wind-driven moisture into account.

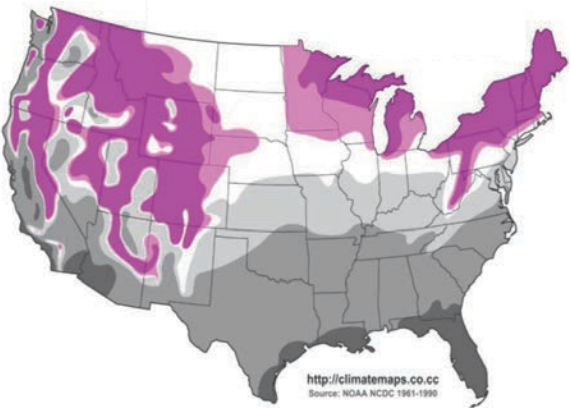
Average Annual Rainfall (in.)



Exposure

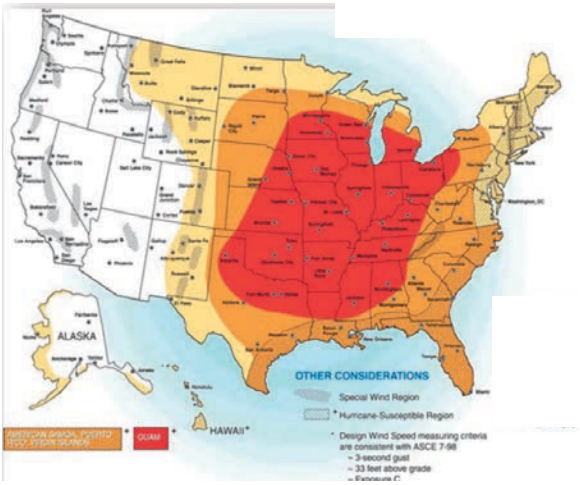
- Extreme Over 60”
- High 40” - 60”
- Moderate 20” - 40”
- Low Under 20”

Average Annual Snowfall (in.)



- 48”+
- 36”
- 24”
- 12”
- .1”
- 0”

Wind Zones



- ZONE 1 (130 mph)
- ZONE 2 (160 mph)
- ZONE 3 (200 mph)
- ZONE 4 (250 mph)

Installation Instructions

- Apply a weather resistant barrier over sidewall sheathing. Note: some regions may require two layers of weather resistant barrier. Check local codes for more information.

- Install Mortairvent® after windows and doors have been properly installed and flashed. Starting at the base of the wall unroll Mortairvent® from right to left with the fabric flap at the bottom, the three-dimensional (blue) polymer matrix against the weather resistant barrier and the fabric facing the exterior of the building. Staple or nail every three square feet (cap nails are recommended). If the channels are installed horizontally, due to cutting and patching, Mortairvent® will perform as intended.

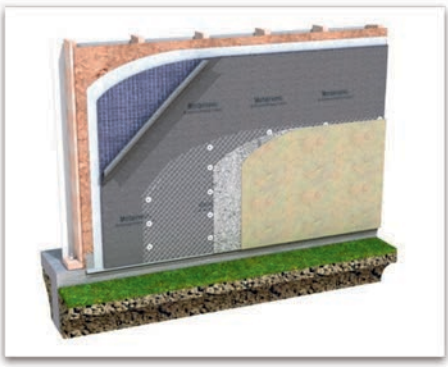
- On the first (bottom) course only, unfold the fabric flap and tuck it between the (blue) polymer matrix and the weather resistant barrier to create an insect screen.

- On intermediate courses, butt blue polymer material together tightly without overlapping. Pull fabric flap over previous course (shingle style) and staple.

- On top course, invert the roll and unroll left to right with the fabric flap at the top. Unfold the fabric flap and tuck it between the (blue) matrix and the weather resistant barrier to create an insect screen.

- Trim the bottom of the Mortairvent® roll (non-flap side) to adjust for height.

- Apply siding over Mortairvent® using manufacturer's recommended fasteners and spacing.



Frequently Asked Questions

- How does moisture penetrate a wall system in the first place?

Driving rain, the force of gravity, wind pressure, condensation, but two of the most major reasons are capillary movement and solar drive. With capillary movement, it's important to know that the smaller the fissure or crack, the greater the drawing power. This is an issue due to the many small cracks that can form in a wall system over time. Solar drive is when the heat from the sun on the exterior cladding pushes moisture deeper into the wall system.

- What are the different practices for moisture defense? Which is best?

Good—One layer of 60 minute or equivalent weather resistant barrier.

Better— One layer of drainable house wrap.

Best—One layer of WRB and a layer of a drainage and ventilation mat.

- Are Rainscreens and Drainable House Wraps the same?

Despite the misconception, no. 1) Drainable house wraps typically have a 1mm void, and although this is better than a standard house wrap, it will not drain as efficiently as a 6mm rainscreen and isn't a large enough gap to create a capillary break for positive airflow and ventilation. 2) Engineered rainscreen products are one SKU for multiple siding applications, while drainable house wraps should not be used with masonry applications. The protrusions will get clogged when installed behind stucco, manufactured stone, brick, or other masonry claddings. 3) Engineered rainscreen products, like Mortairvent®, are tested to the ASTM E-2925 standard. Drainable house wraps do not meet ASTM E-2925 testing standards, and therefore shouldn't take the place of a rainscreen!

- Are Watairvent® Furring Strips structural?

No.

Product Data: Mortairvent

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Core Design:

1. Polypropylene core mesh with cornrow, waffle or random configuration which is spun and heat welded into entangled geomatrix. This creates the pressure-neutralized airspace between the structural envelope and exterior cladding.
2. Filter fabric, which is laminated to the outside of the core mesh in order to block mortar droppings and restrict mortar from entering airspace, maintains uniformity throughout the entangled net channels during installation, and creates an integral bug screen at the base and top of the wall.

Suggested Applications:

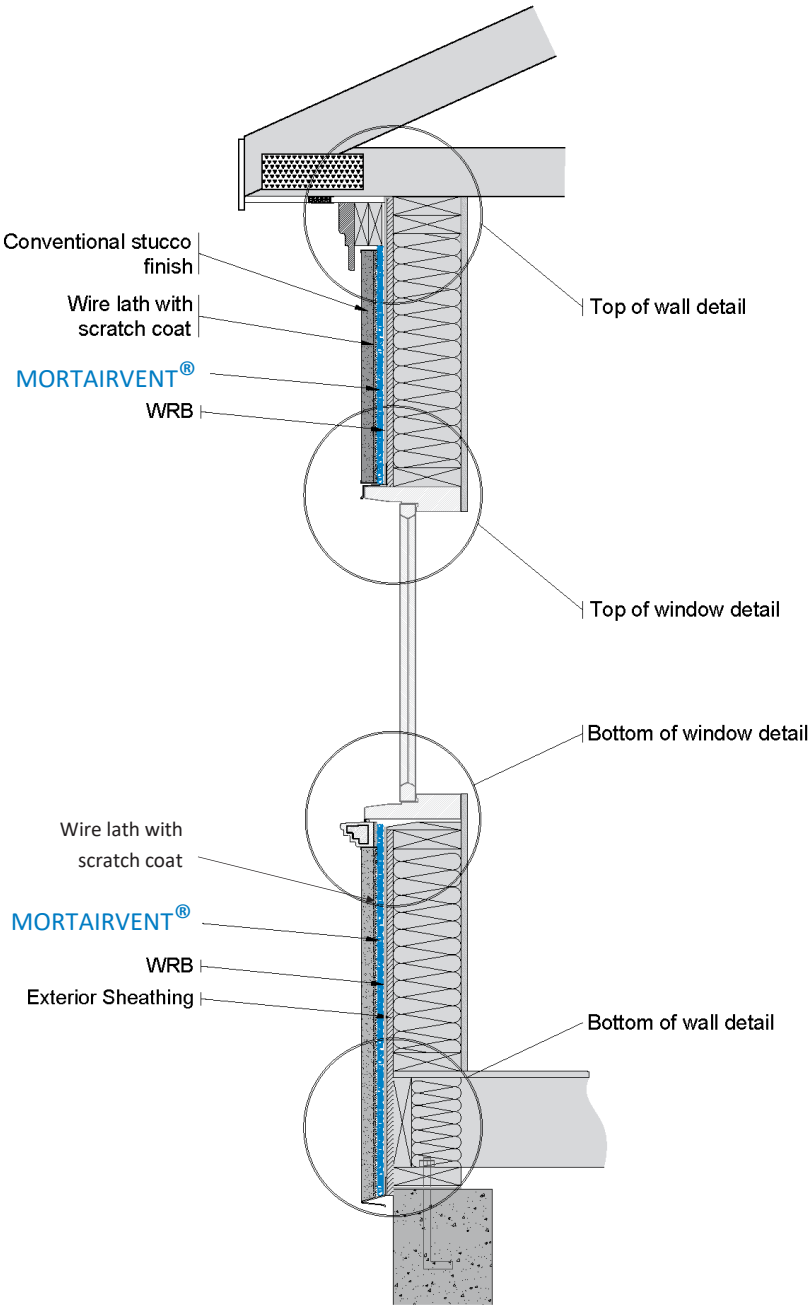
- Stucco Claddings
- Stone & Masonry Veneer Claddings
- Wood Claddings
- EIFS Systems
- Other absorptive claddings

Mortairvent®:

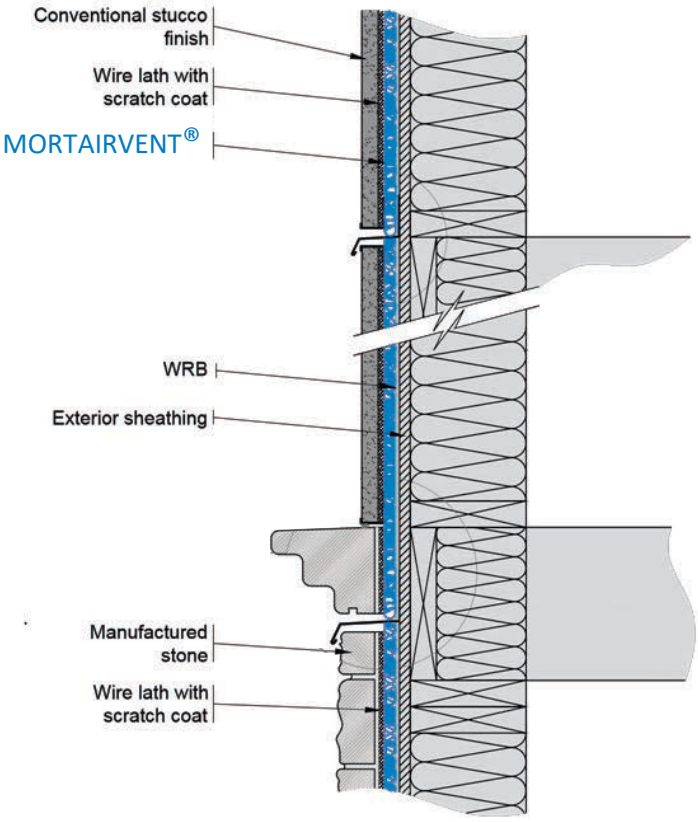
- Voted Most Innovative Product at the World of Masonry
- Meets Section R703.7.3.1 of the 2021 & 2024 IRC
- Meets Section 25010.6.2 of the 2021 & 2024 IBC
- Tested to ASTM E 2925
- Class A Fire Rating per ASTM E84

PHYSICAL DATA	Mortairvent® 201	Mortairvent® 202	Mortairvent® 203
Core Material	Polypropylene (cornrow)	Polypropylene (cornrow)	Polypropylene (waffle)
Thickness	0.125 in. (3mm)	0.25 in. (6 mm)	.40 in. (10 mm)
Roll Length	61.5 ft. (18.75 m)	61.5 ft. (18.75 m)	40 ft. (12.19 m)
Roll Width	39 in. (99.06 cm)	39 in. (99.06 cm)	39 in. (99.06 cm)
Roll Weight	12 lbs. (5.44 kg)	14 lbs. (6.35 kg)	16 lbs. (7.26 kg)
Coverage Area	200 sq. ft. (18.58 m^2)	200 sq. ft. (18.58 m^2)	130 sq. ft. (12.08 m^2)
Rolls Per Pallet	24	18	18

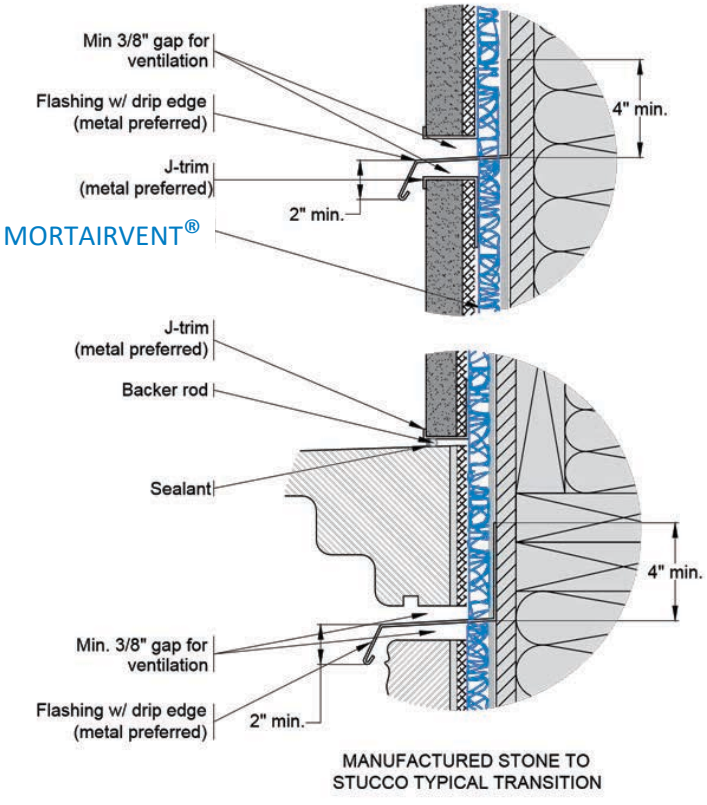
Rainscreen with Conventional Stucco



Stucco to Stucco and Manufactured Stone to Stucco Transition

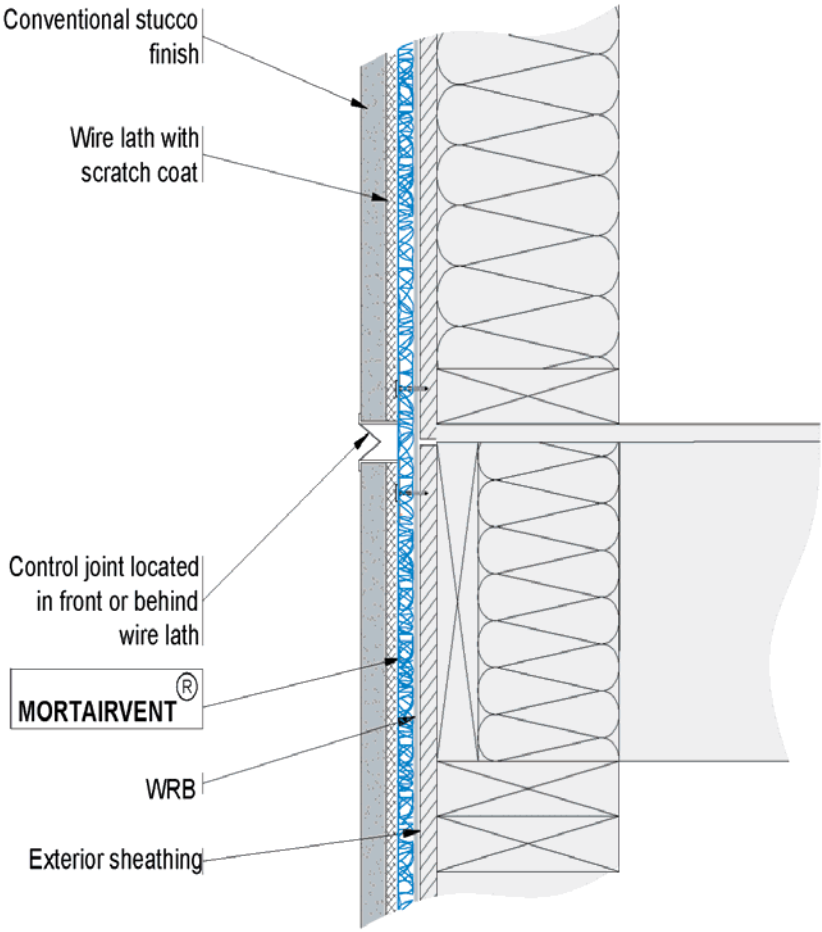


STUCCO TO STUCCO
TYPICAL TRANSITION



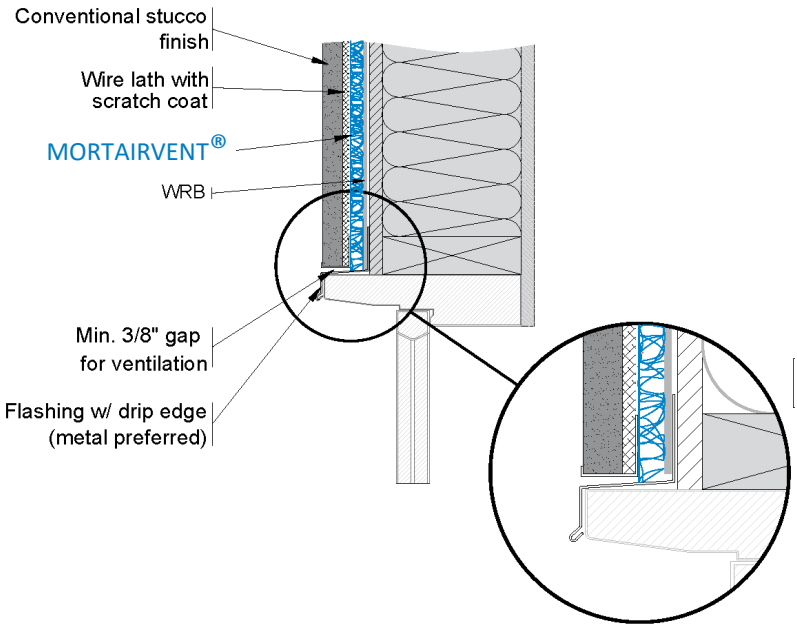
MANUFACTURED STONE TO
STUCCO TYPICAL TRANSITION

Control Joint for Stucco Applications

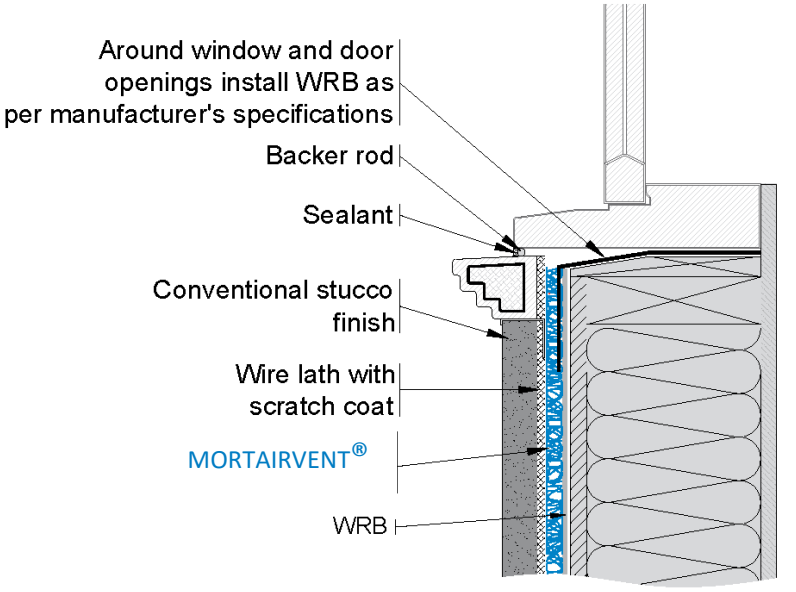


Rainscreen with Conventional Stucco
Window Details

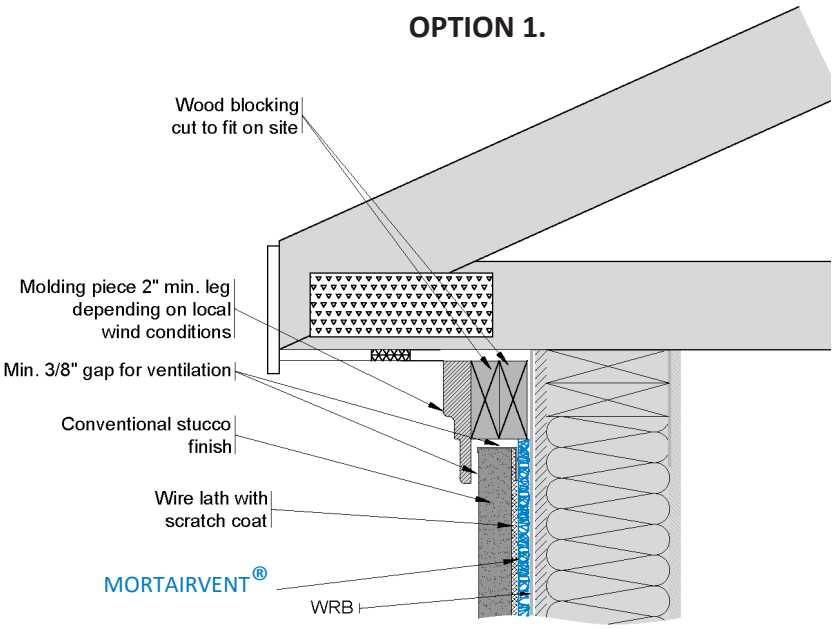
TOP OF WINDOW DETAIL

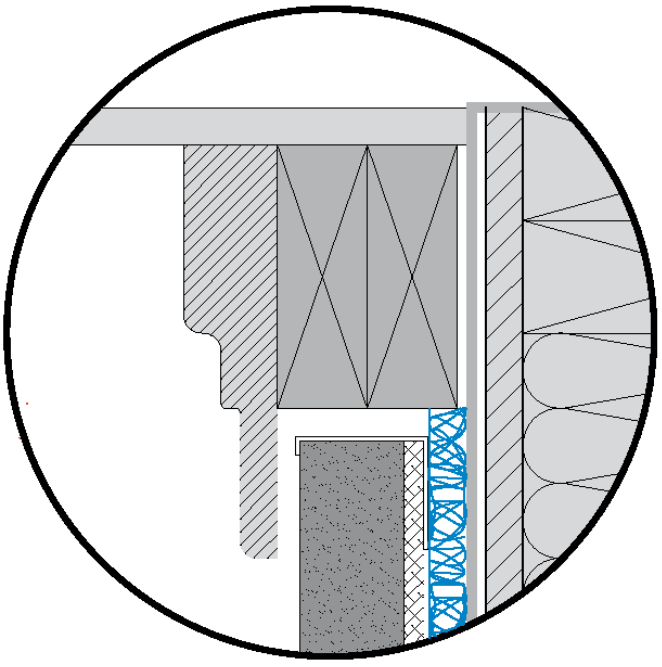


BOTTOM OF WINDOW DETAIL

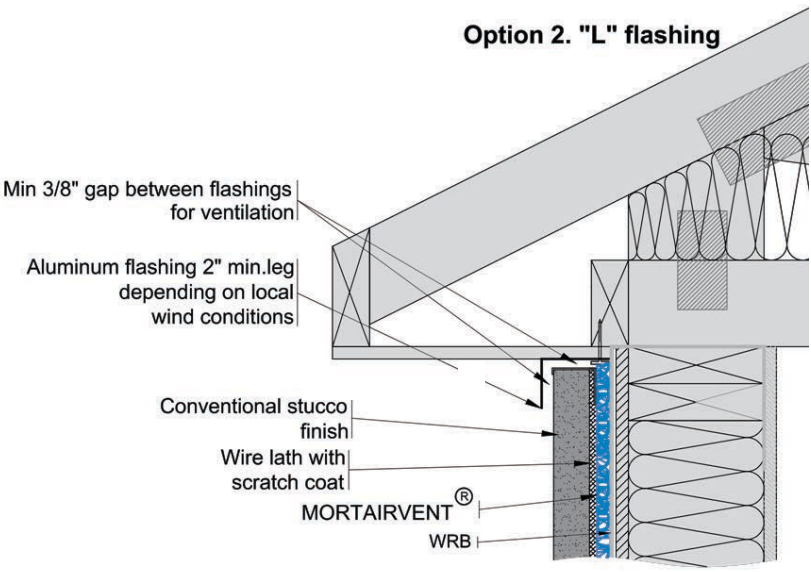


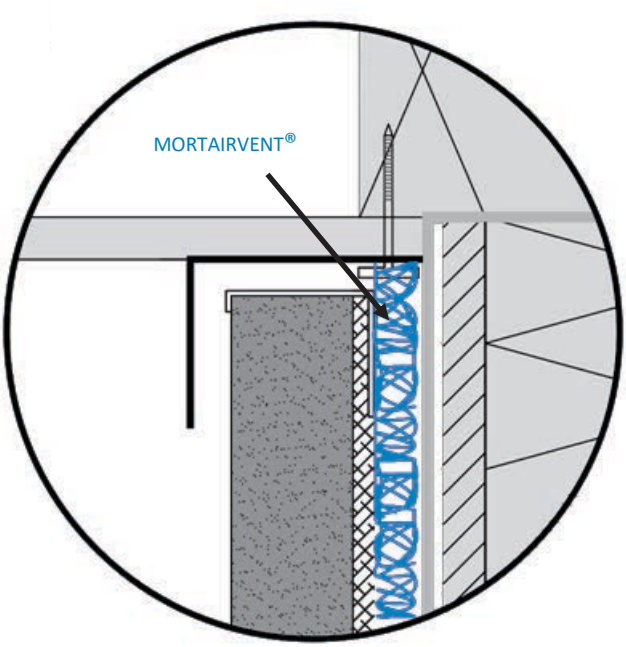
Rainscreen with Conventional Stucco
Top of Wall Detail Option 1





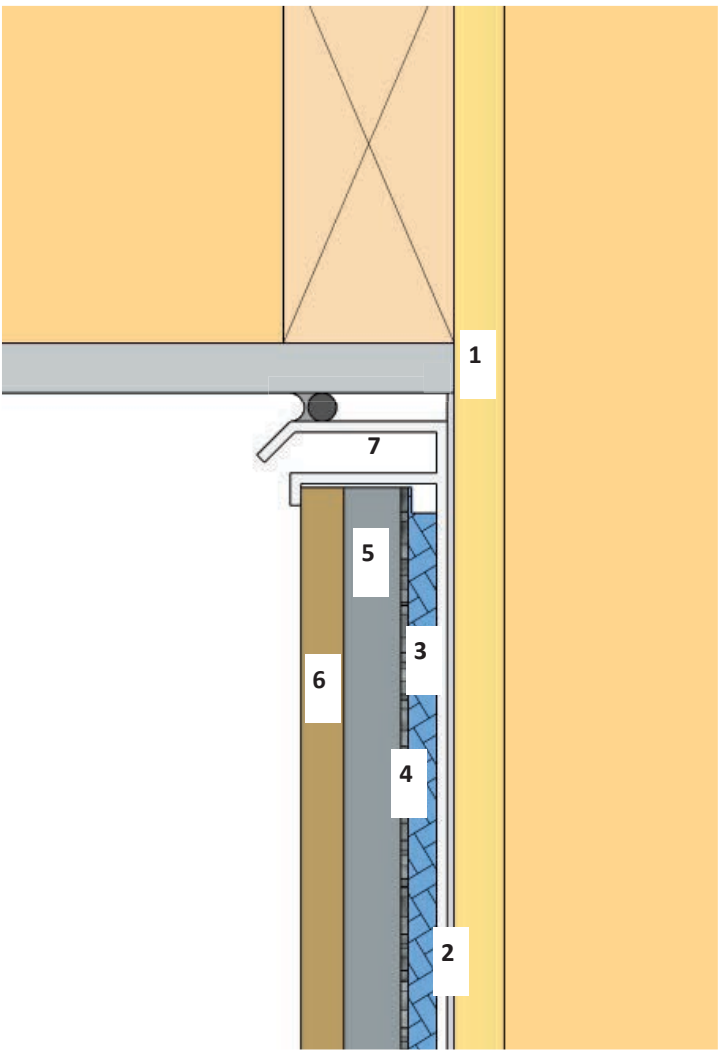
Rainscreen with Conventional Stucco
Top of Wall Detail Option 2





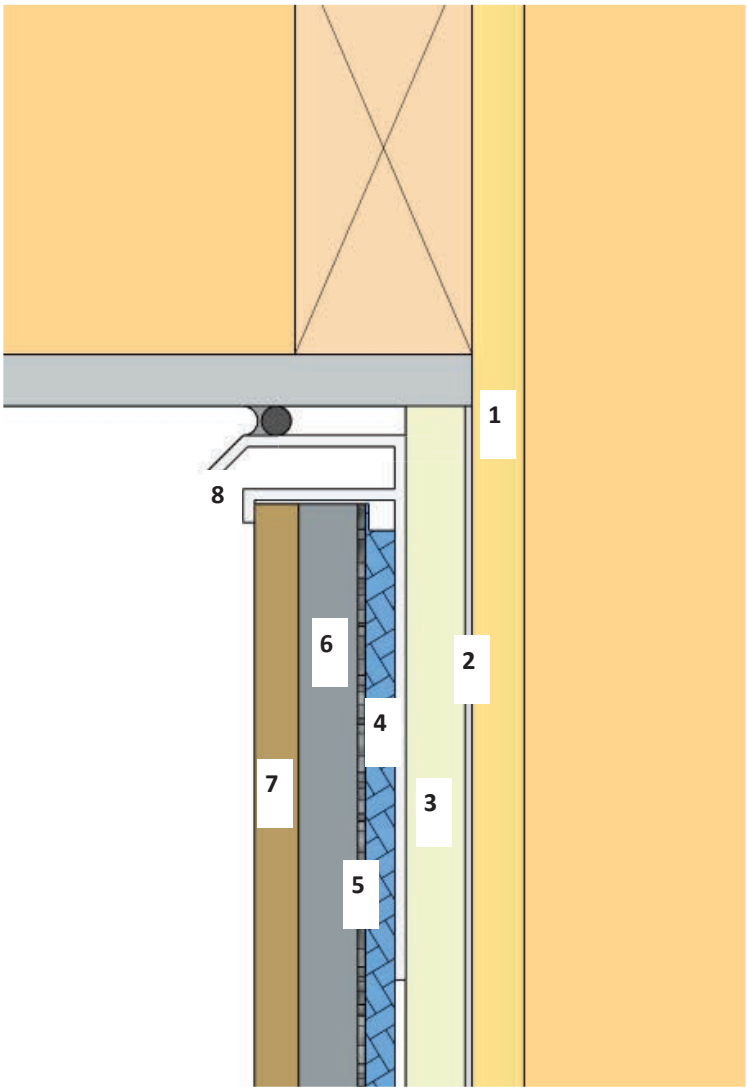
Be mindful of differential movement when the flashing is attached directly to the soffit.

OPTION 3. “Mortairvent® Top Vent” Flashing



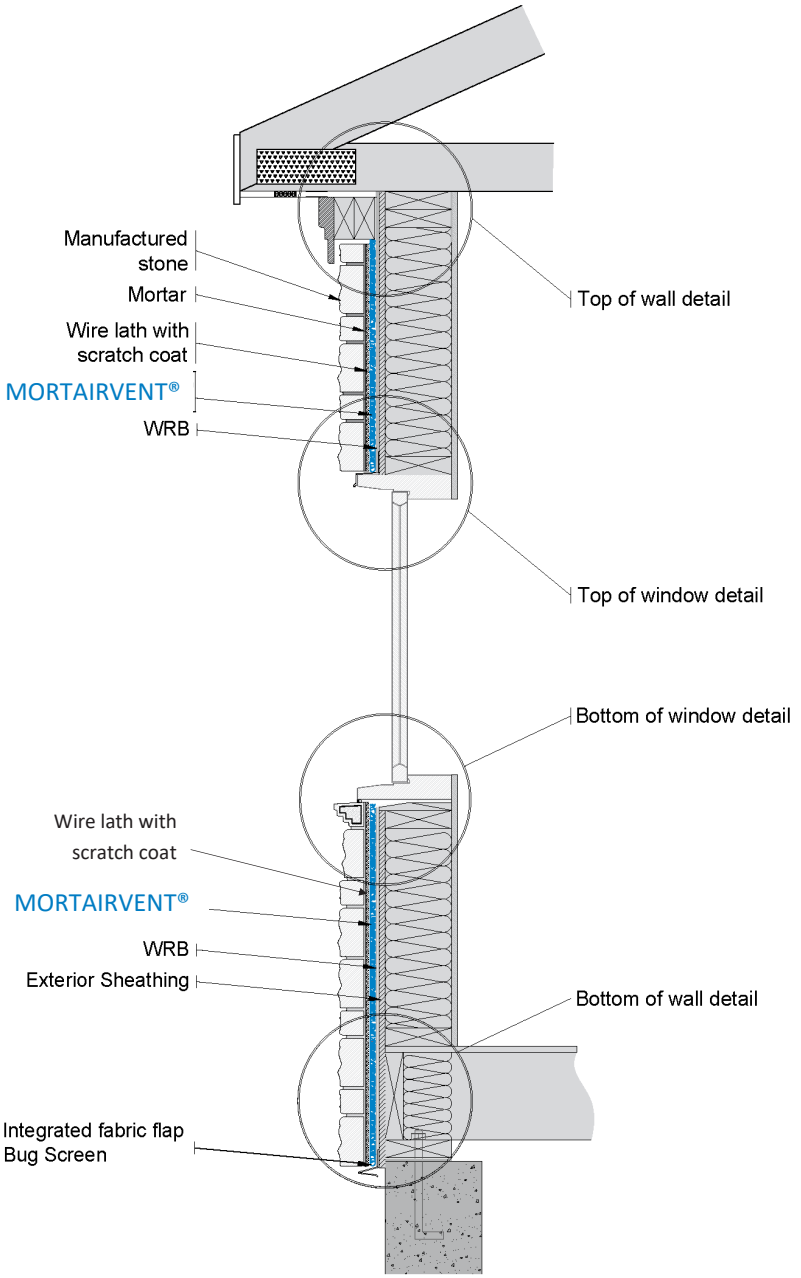
1. Sheathing
2. Weather Resistant Barrier
3. Mortairvent® drainage & ventilation mat
4. Metal Lath
5. Scratch Coat
6. Stucco
7. Top Vent™

OPTION 4. “Mortairvent® with Rigid Foam Insulation

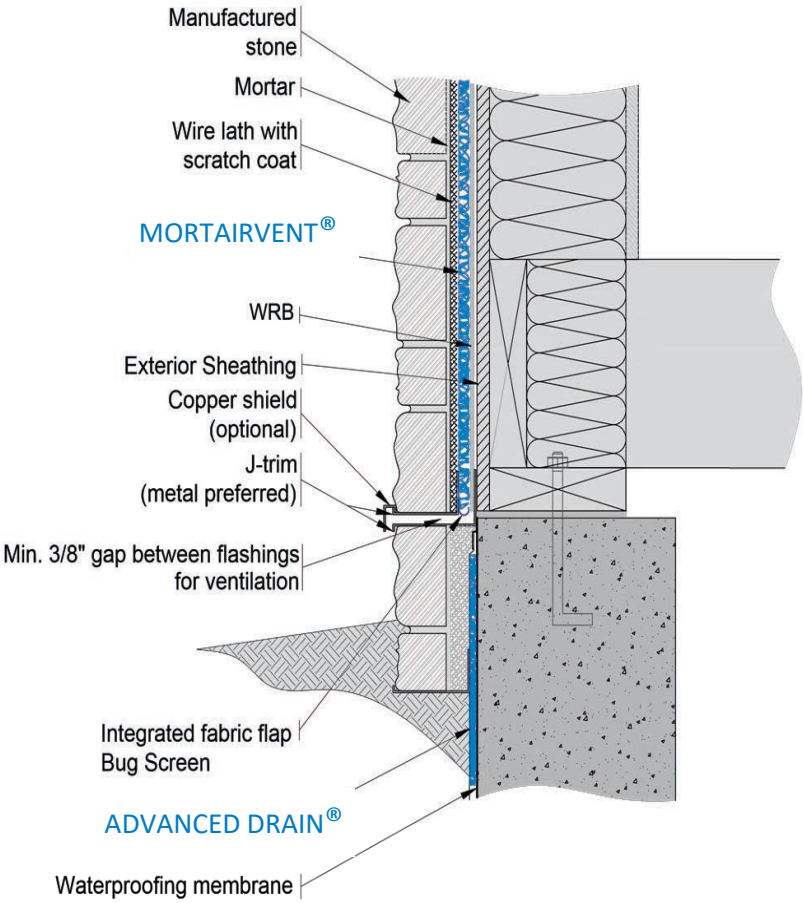


1. Sheathing
2. Weather Resistant Barrier
3. Outboard Rigid Insulation
4. Mortairvent® drainage & ventilation mat
5. Metal Lath
6. Scratch Coat
7. Stucco Cladding
8. Top Vent™

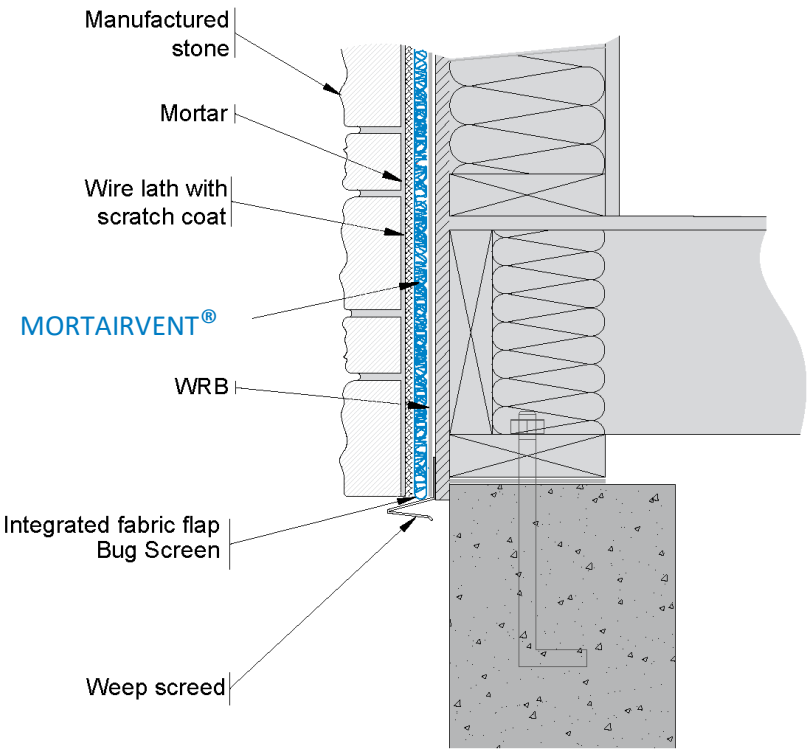
Rainscreen with Manufactured Stone Transition

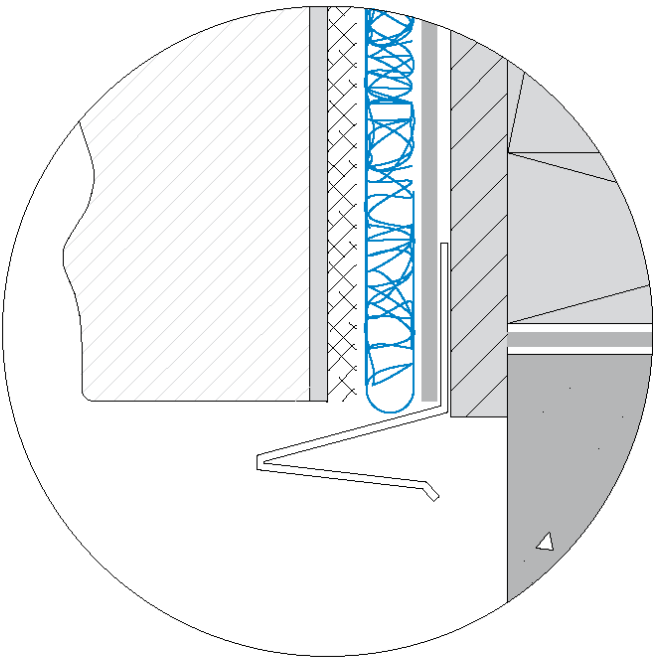


Manufactured Stone with Below Grade

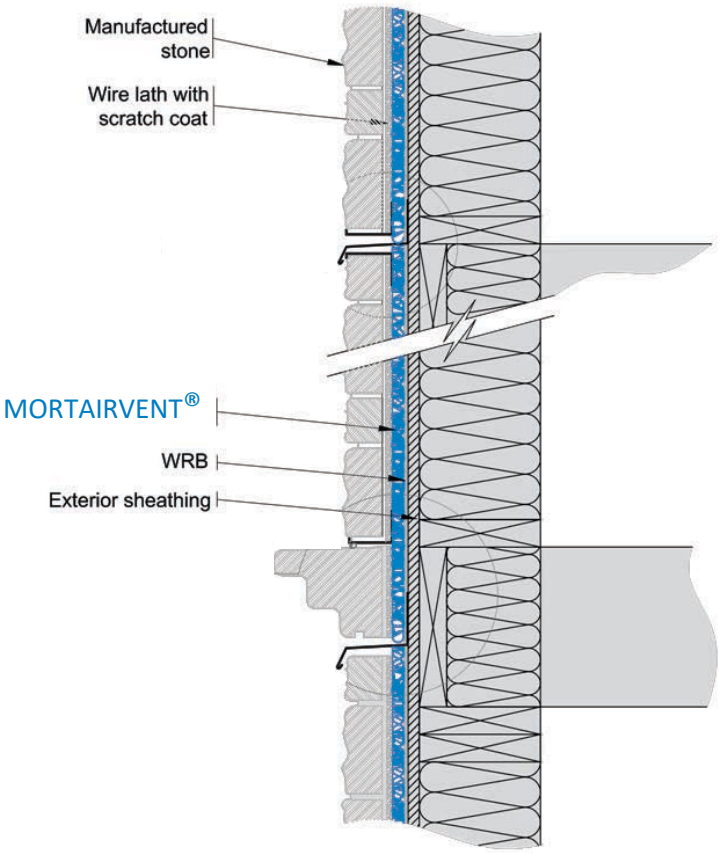


Rainscreen with Manufactured Stone
Bottom of the Wall Weep Screed

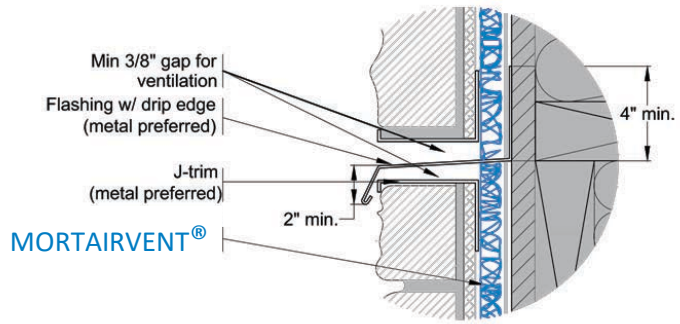


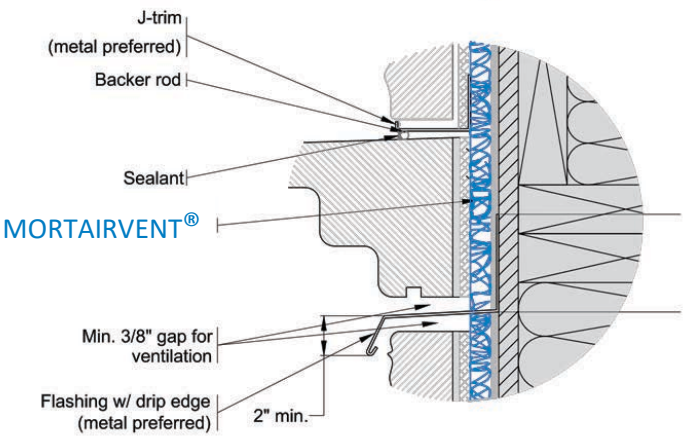


Manufactured Stone Transition



MANUFACTURED STONE TO MANUFACTURED STONE TYPICAL TRANSITION

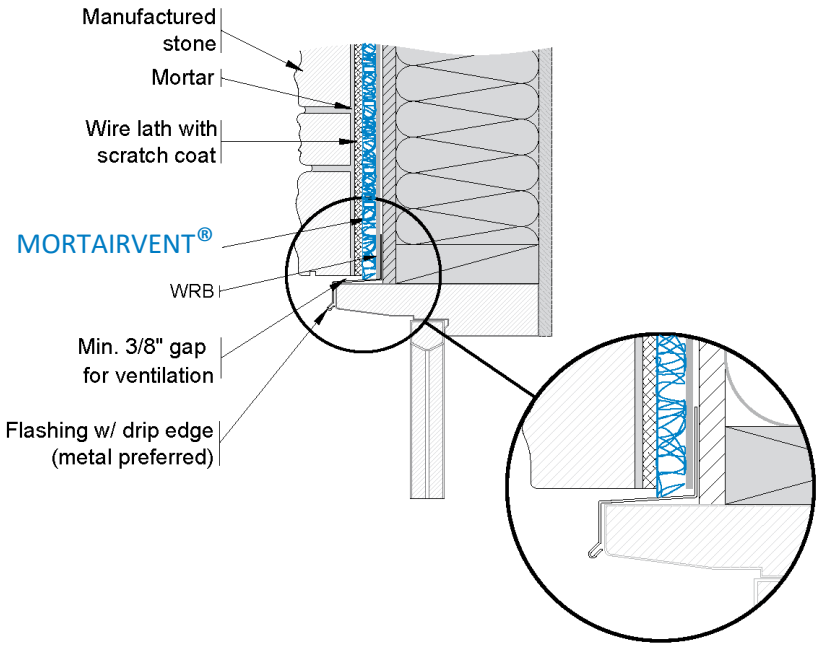




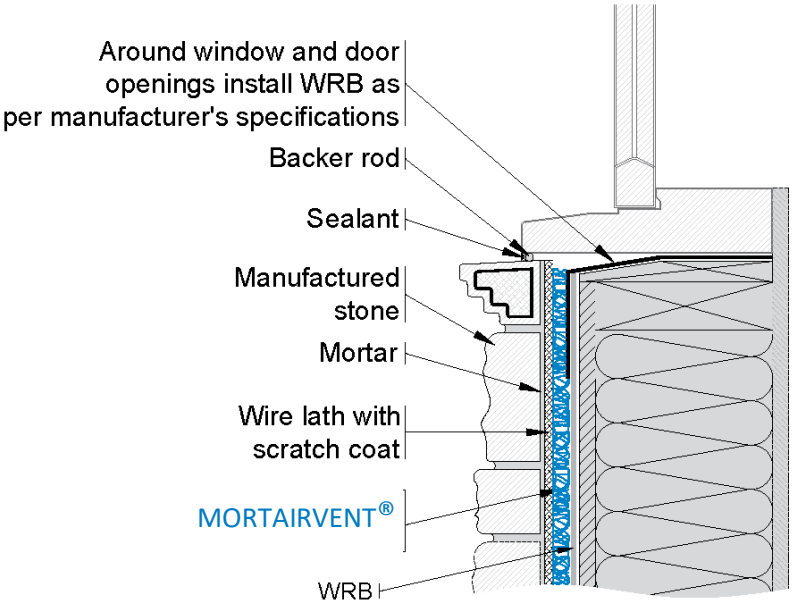
MANUFACTURED STONE TO MANUFACTURED STONE TYPICAL TRANSITION

Rainscreen with Manufactured Stone Window Details

TOP OF WINDOW DETAIL

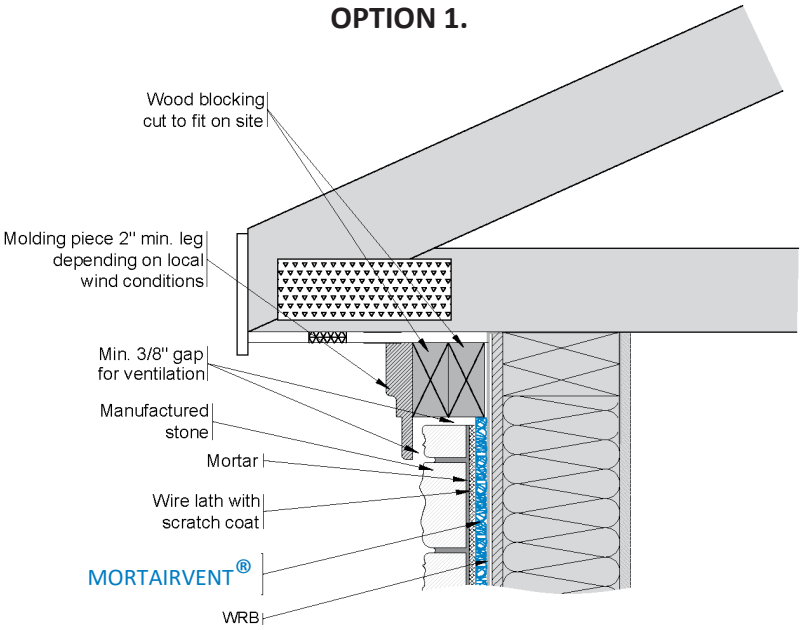


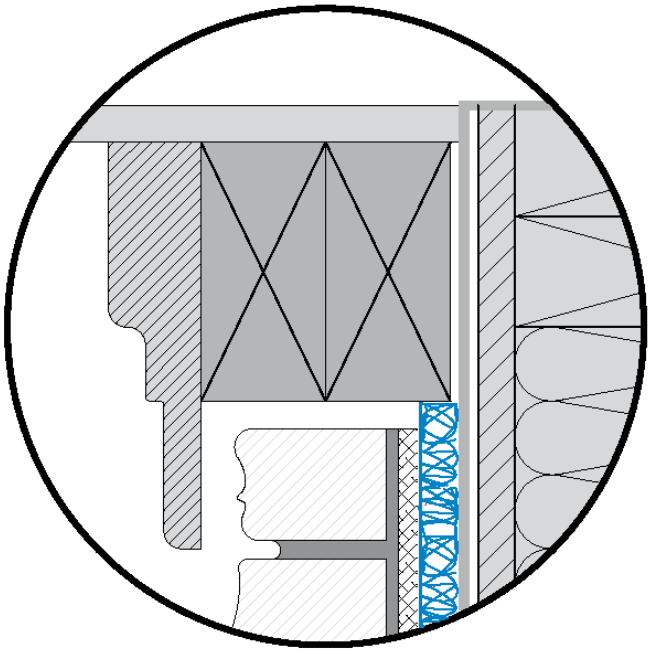
BOTTOM OF WINDOW DETAIL



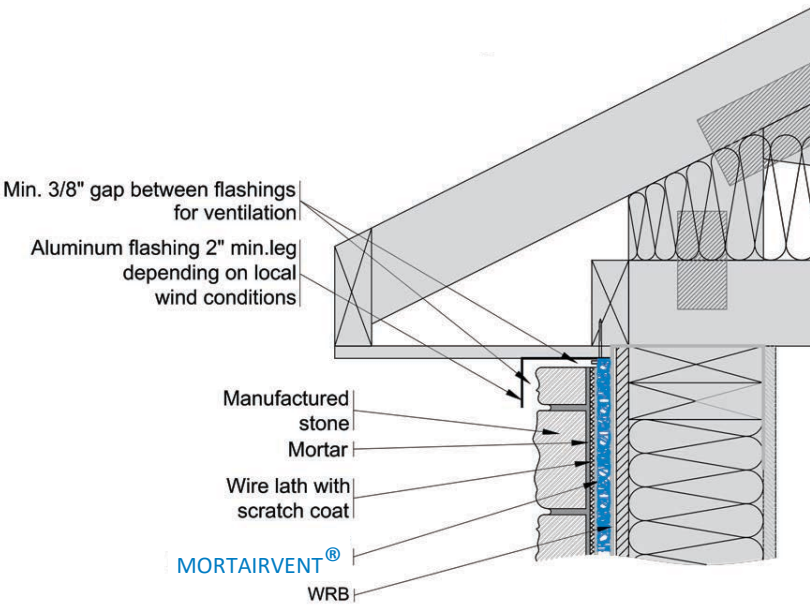
Rainscreen with Manufactured Stone
Top of Wall Option 1

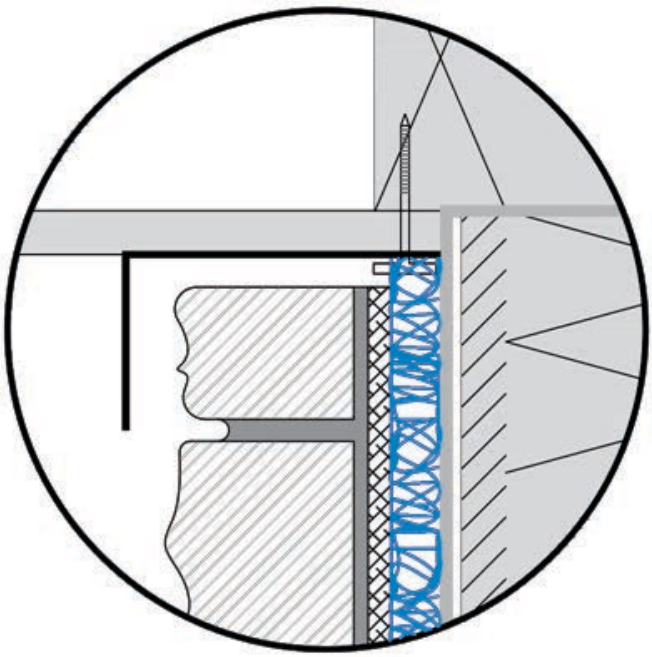
OPTION 1.





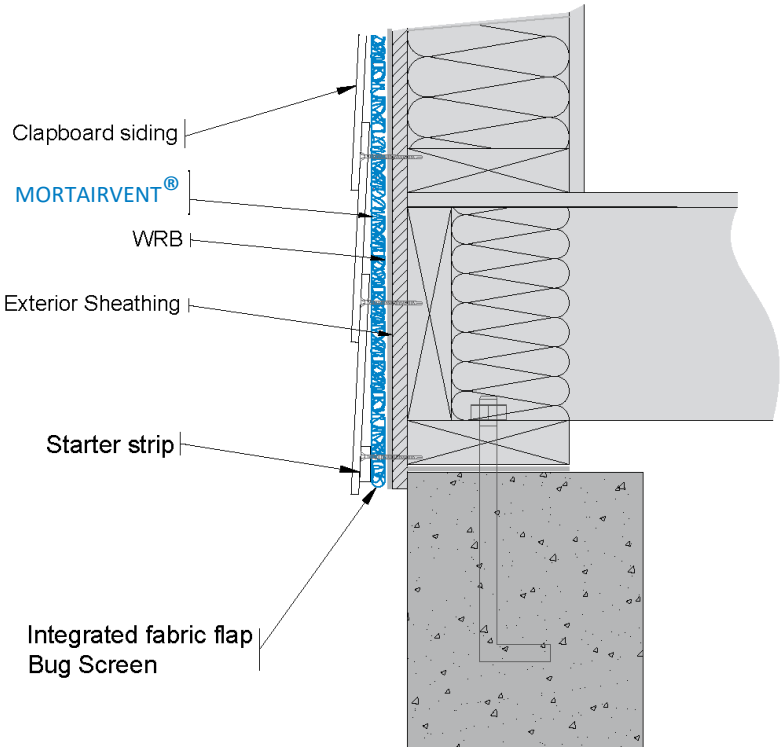
OPTION 2. “L” Flashing

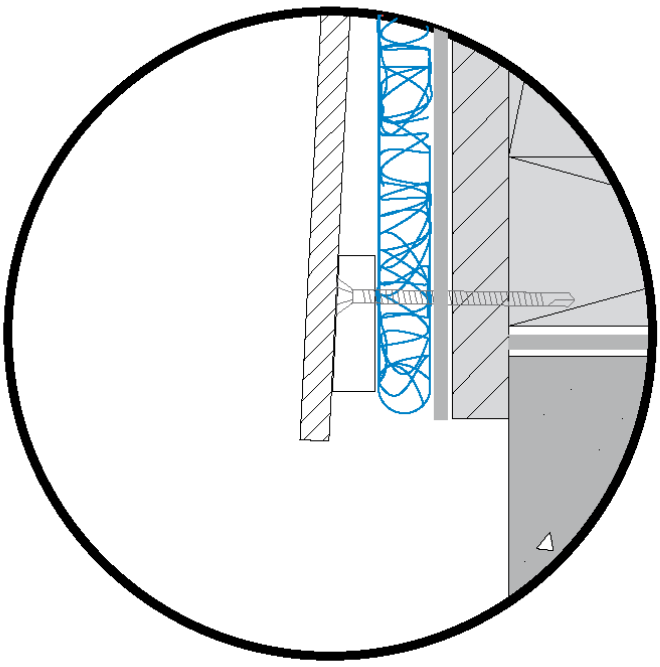




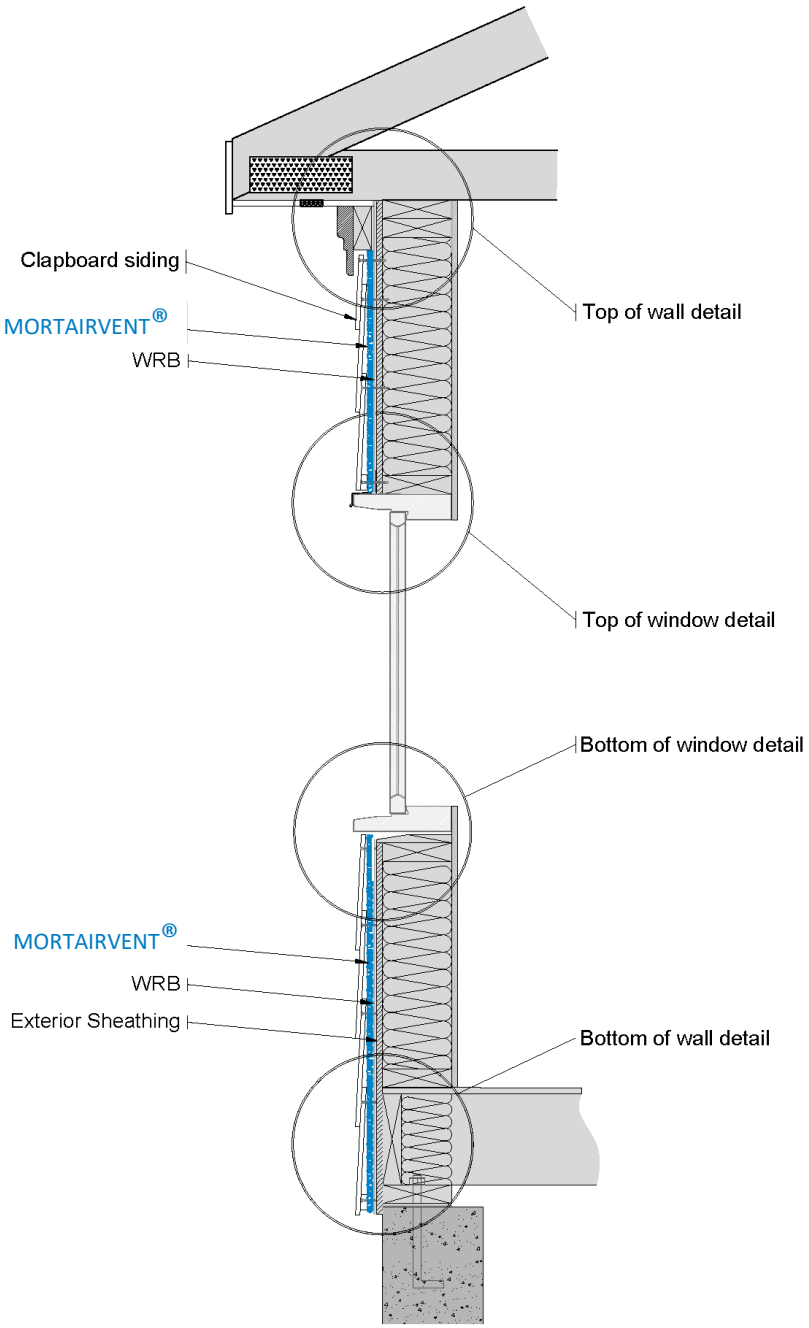
Be mindful of differential movement when the flashing is attached directly to the soffit.

Rainscreen with Clapboard Siding
Bottom Wall Detail



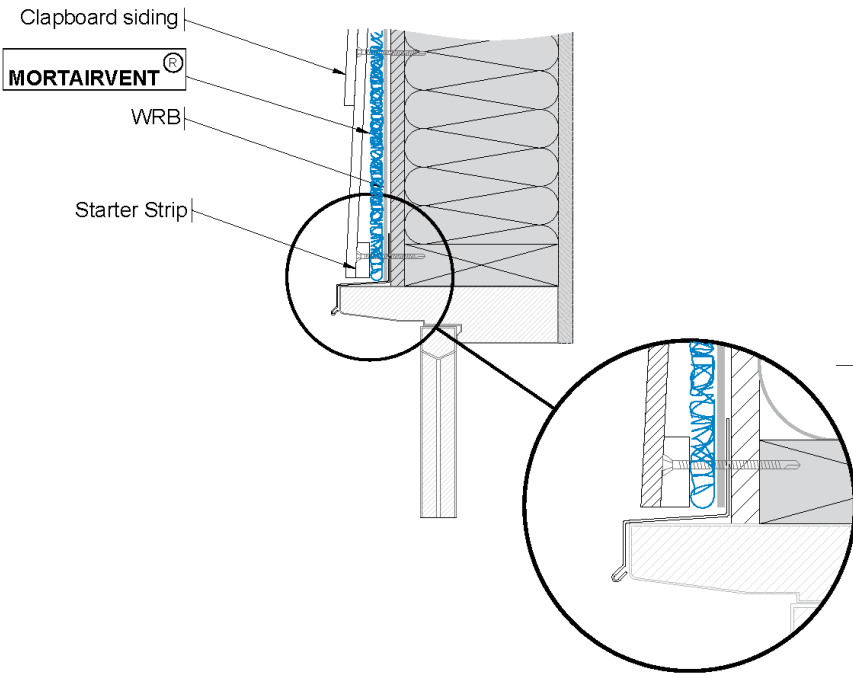


Rainscreen with Clapboard Siding

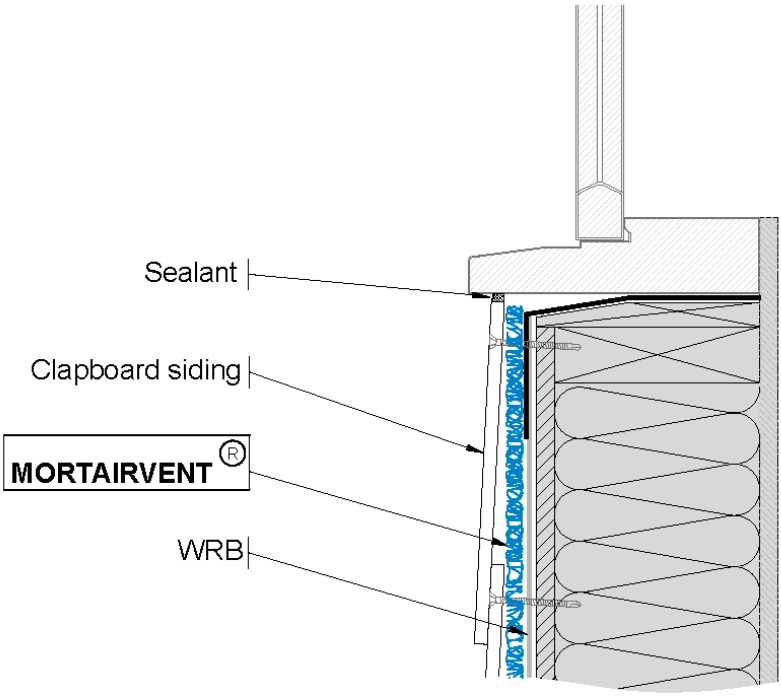


Rainscreen with Clapboard Siding
Window Details

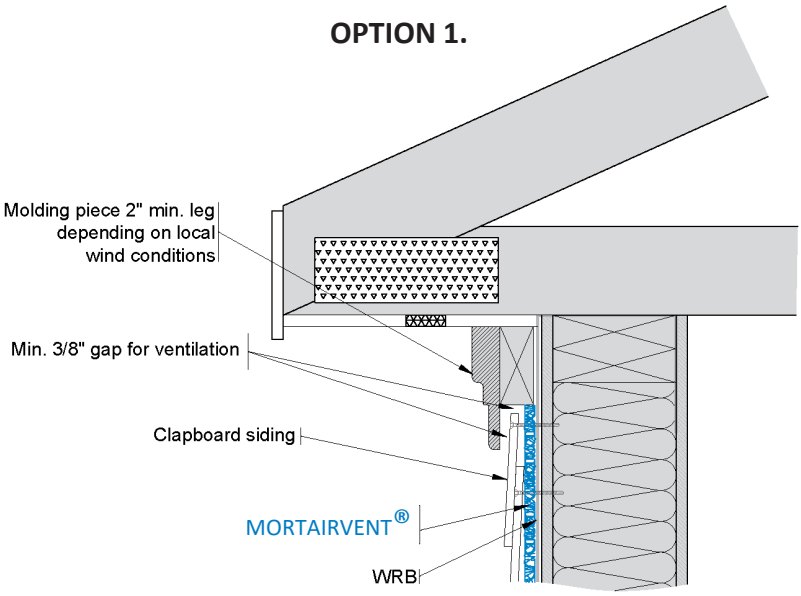
TOP OF WINDOW DETAIL

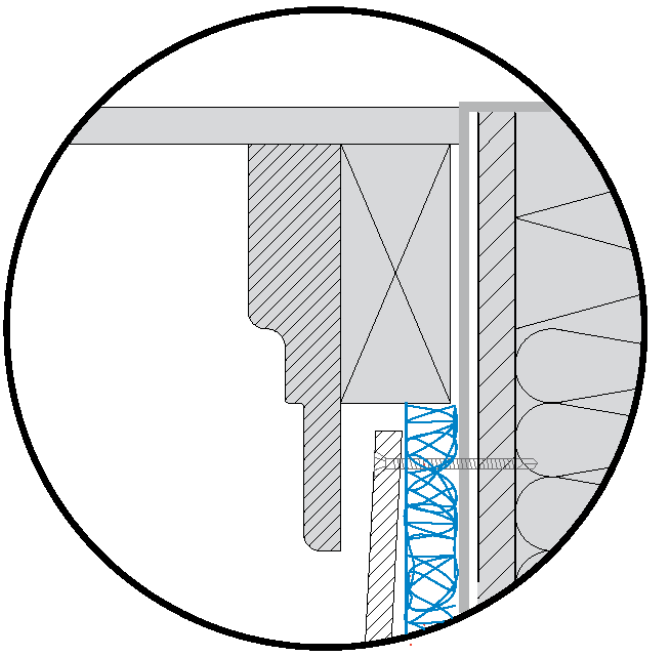


BOTTOM OF WINDOW DETAIL

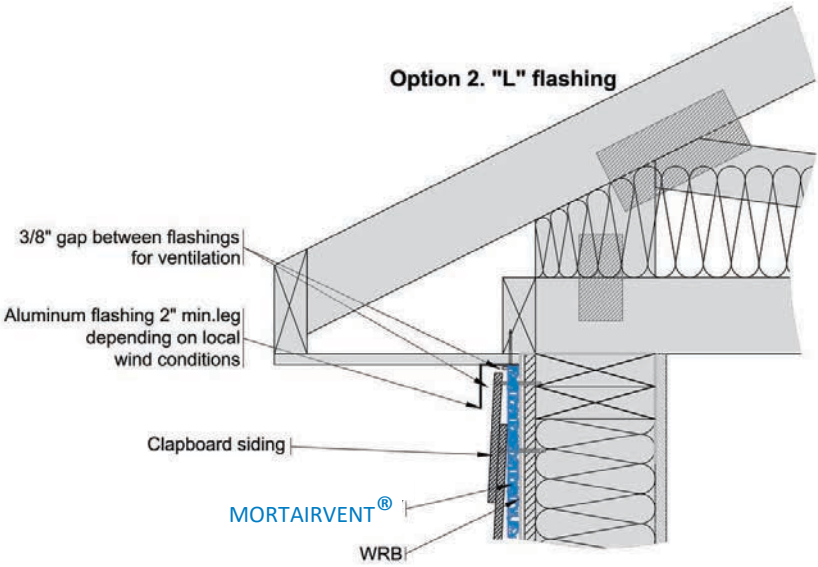


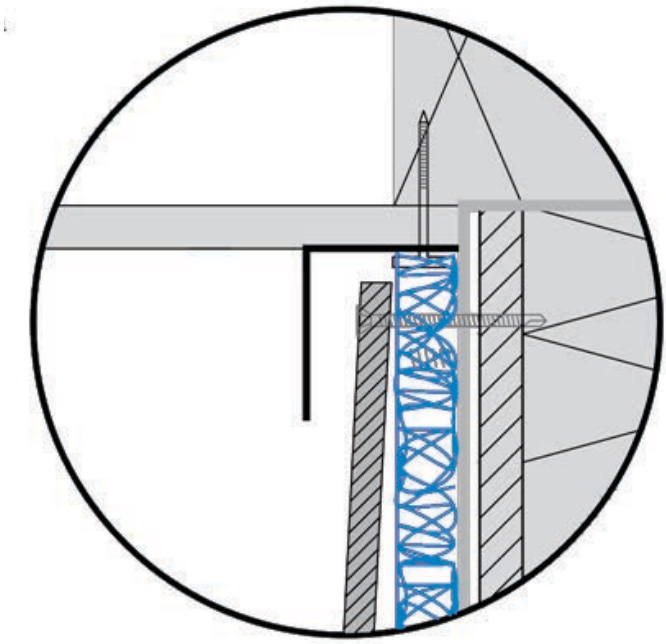
Rainscreen with Clapboard Siding
Top of Wall Detail Option 1





Rainscreen with Clapboard Siding
Top of Wall Detail Option 2





Be mindful of differential movement when the flashing is attached directly to the soffit.

Product Data: Watairvent® Furring Strips

WATAIRVENT® FURRING STRIP

Core Design

1. Solid polypropylene core for structural stability.
2. Vertical channels for proper drainage and ventilation from the backside of the cladding to the front side of the sheathing.
3. Horizontal channels allow for cross ventilation.

Suggested Applications:

- Clapboard Siding
- Cedar Shakes
- Composite Siding

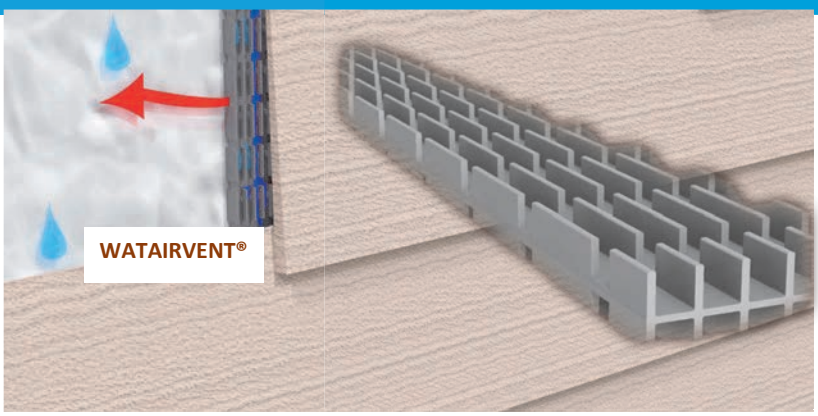
Why Watairvent® Furring Strips?

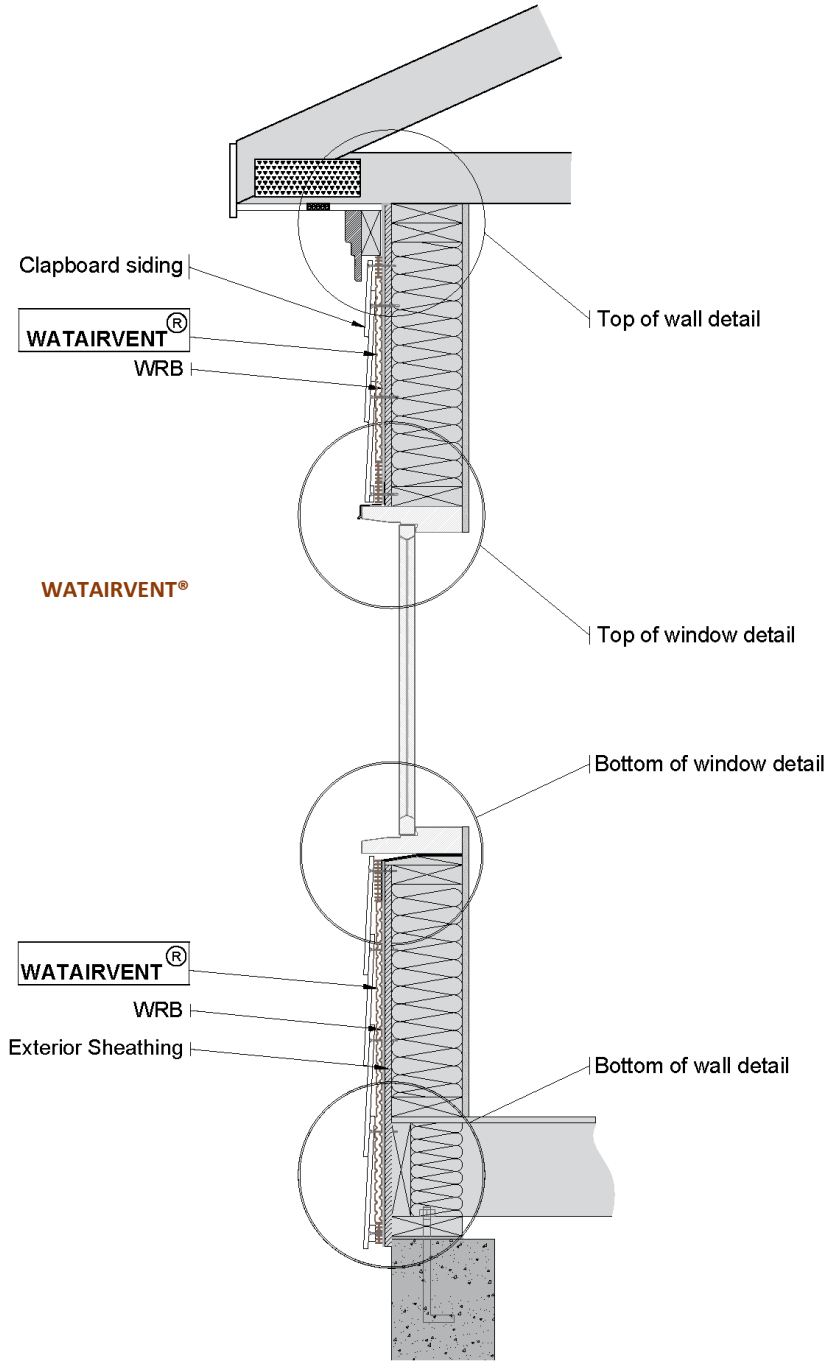
When building with clapboard siding, a wooden batten or furring strip is often used to create a capillary break. The concept is solid; however, there are issues with the design and material used in wood furring strips.

- Wood is an absorptive material, which can lead to rotting and provide a food source for mold. Watairvent® Furring Strips are manufactured from a mold resistant non-absorptive composite material.
- The surface area of the wood furring strips covers an average of 44% (front and back) of the walls surface area, which means 44% of that surface area can trap moisture. The surface area contact between the furring strip and backside of the cladding can allow ghosting on the outside of the cladding. The dual channel design that Watairvent® Furring Strips have reduces surface area contact by 86% when compared to traditional wooden furring strips.
- Wood furring strips allow minimal cross ventilation. Watairvent® Furring Strips are manufactured with dual vertical and horizontal channels on the front and backside of the furring strip. This allows for dual drainage and cross ventilation.

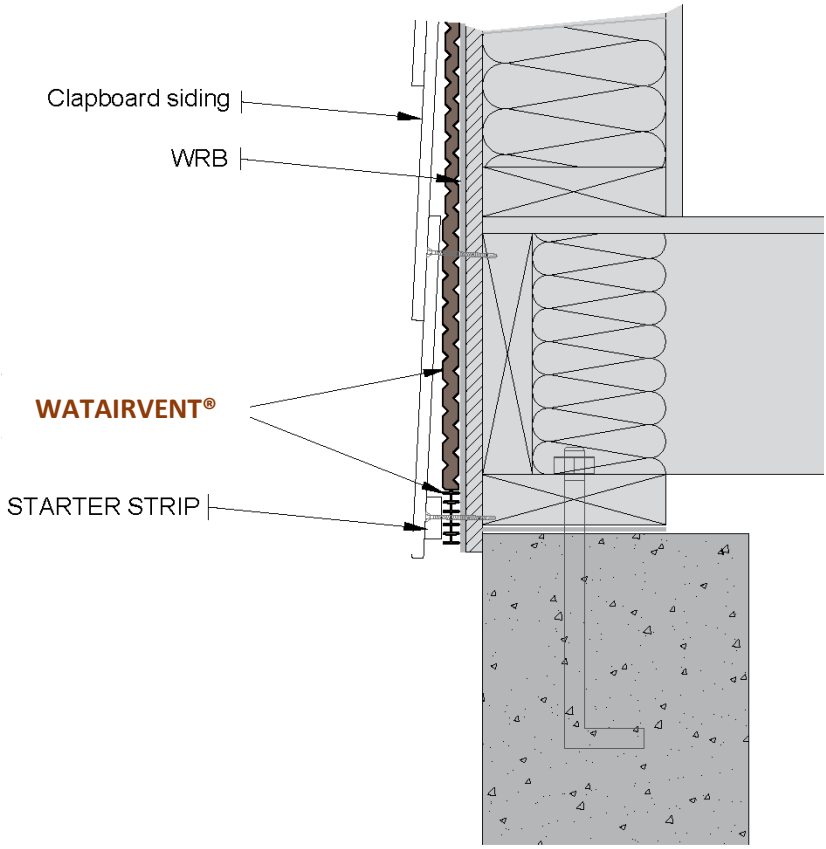
PHYSICAL DATA	Watairvent® Furring Strip
Core Material	Polypropylene Plastic
Thickness	.375
Piece Length	8’
Piece Width	1.75”
Pieces / Box	50
Boxes / Pallet	36

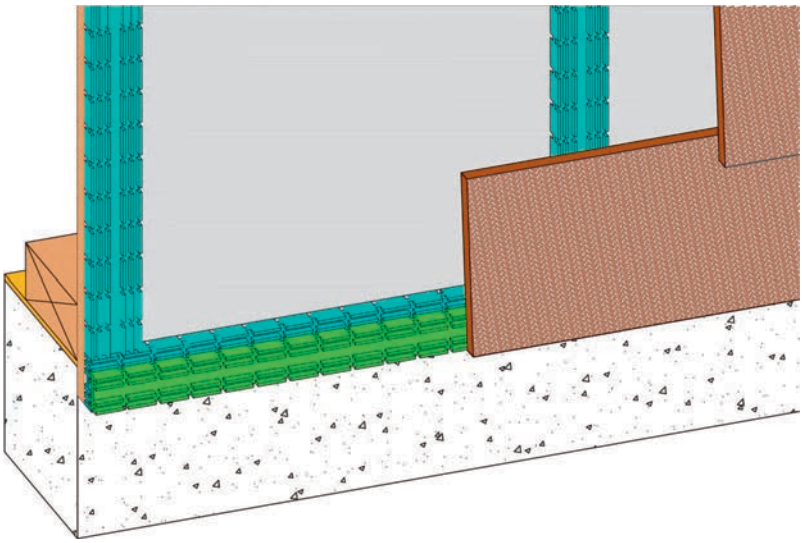
Clapboard Siding and Furring Strips





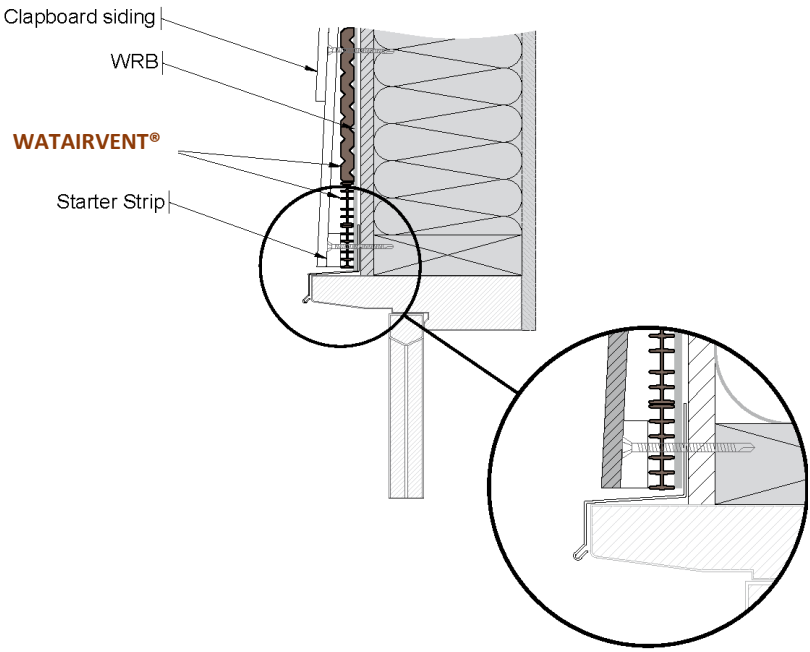
Clapboard Siding and Furring Strip
Bottom Wall Detail



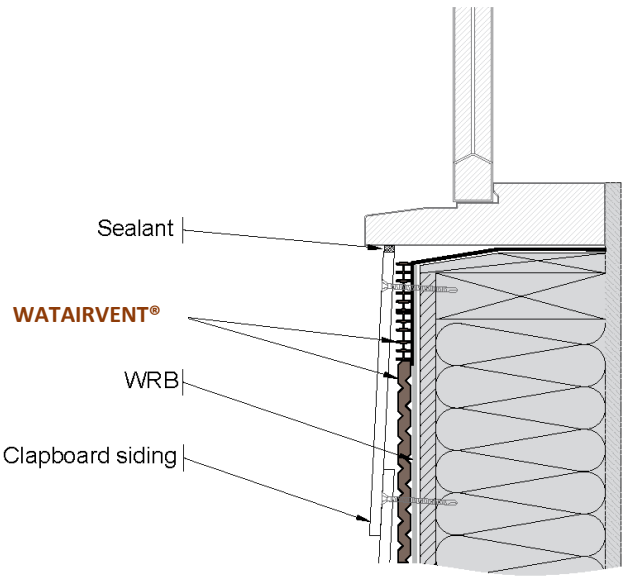


Clapboard Siding and Furring Strip Window Details

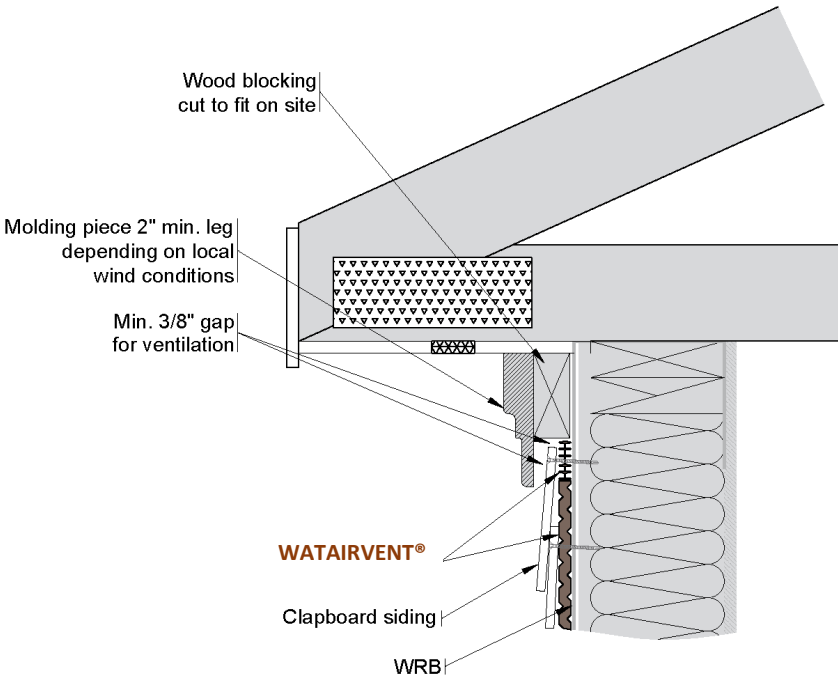
TOP OF WINDOW DETAIL

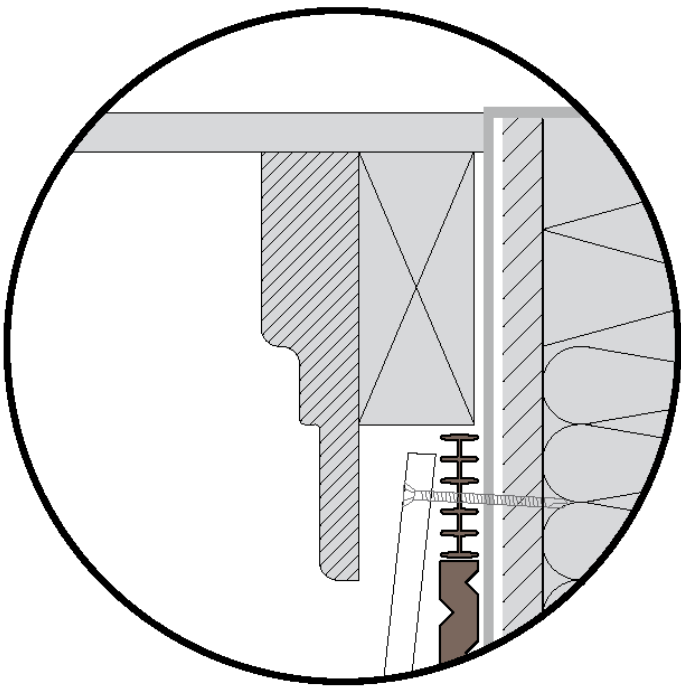


BOTTOM OF WINDOW DETAIL



Clapboard Siding and Furring Strip
Top of Wall





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