



Application Instructions and Best Practices for Installing Air Dry Connect Insulation in Steel and Wood Framed Structures up to 6 Storeys

Product Name: Quik-Therm Air Dry Connect Insulation (ADC)
 Components: Perforated metallic polymer facers - laminated over Type 2 expanded polystyrene
 Dimensions: 4' x 8' Rigid Sheets - Thicknesses from 2" to 6"
 Complies with CAN/ULC S701-05

A. Product Description

Air Dry Connect (ADC) is a vented and perforated outboard continuous rigid insulation technology. It has been designed, tested and engineered for framed hybrid (batt and continuous rigid insulation combined) and empty cavity walls. Battens are hermetically sealed in place by polymer facers. Battens are mechanically connected through insulation panels directly to wall framing studs/members. ADC is permeable. It manages vapour diffusion and channels bulk water to the outside. As a result, ADC reduces the risk of mold and building material degradation.

B. Scope & Purpose

This document describes the recommended best practices for installing Quik-Therm ADC in wood and steel framed structures up to 6 storeys high.

Specific installation conditions may warrant digression from these instructions. In all instances, refer to section 1, "General Installation Guidelines" prior to installation to ensure the technical advantages of the product are maintained.

**** Always adhere to local building codes.

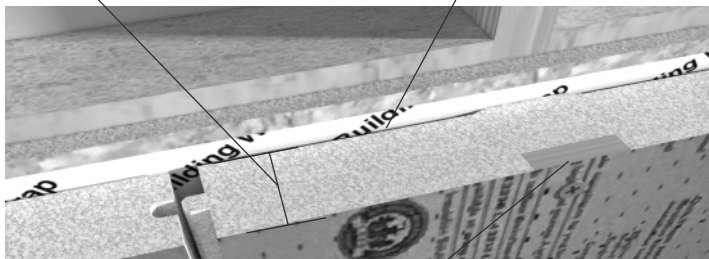
C. Technical Advantages

Moisture resistant continuous insulation system that promotes drainage and drying in walls. It is neither an air nor vapour barrier. Facers are perforated, resulting in NO double vapour barrier. Drying cavities on the inboard panel surface allow walls to drain, dry and disperse moisture.

3/4" thick X 3" wide X 8' long plywood nailing strips/framing are embedded within the ADC insulation panels. The plywood battens attach directly to roofs or wall surfaces or framing. In-turn, cladding materials are fastened to the battens.

Tongue and Groove connections allow for proper panel alignment and sealing at the joints.

Product Thickness (Includes drainage channel) 3/16" x 13" wide channels allow walls to breathe, dry and drain



Battens
 41 cm (16") or 61 cm (24") O.C.
 1.9 cm (3/4") thick x 7.6 cm (3") x 244 cm (96")

*** NOTE:** Allow for channel depth and slight foam compression when finishing around openings.

D. Effective Thermal Resistance

In addition to nominal R-Value testing as per ASTM C518, Quik-Therm Insulation Solutions Inc. has undertaken a program of full scale thermal performance testing to ASTM C1363-05 "Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus."

ADC Thickness	2x4 Wood Frame with R-12 Batt	2x6 Wood Frame with R-20 Batt	Wood Frame Empty Cavity	2x6 Steel Frame with R-20 Batt
2"	23	28	13	19
3"	28	32	17	23
4"	32	36	21	27
5"	36	40	25	31
6"	40	44	29	35

Nominal R-Value Testing ASTM C-518 = R-4.2 | Steel Framing ASHRAE Table A3.13

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Installation Guidelines

Air Dry Connect Insulation

Section 1
General Installation Guidelines

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1.1 Handling & Storage Considerations

1. Store product in a covered area, away from the elements and direct sunlight.
2. Protect product from damage. Although Quik-Therm ADC is rugged and durable, corners and edges are especially susceptible to damage during transport, storage and installation.
3. Although product is lightweight, it is typically shipped in bundles 1' thick consisting of several individual sheets. Bundles may be awkward to handle due to their physical size. Use proper caution to avoid personal injury and/or physical damage to product.
4. Product has an EPS foam core. Keep away from extreme heat.
5. Do NOT walk on product

1.2 Personal Protective Equipment

Follow standard workplace safety protocols including (but not limited to) the use of eye and hearing protection, gloves, and dust masks as required.

1.3 Cutting

The product can be cut using a variety of methods typical for standard foam board insulation, including (but not limited to):

- Utility Knife
- Hand Saw
- Circular Saw
- Table Saw
- Hot Knife

1.4 Suggested Tools and Materials

Hammer, Screw Gun and/or Nail Gun, Utility Knife & Blades, Hand Saw, Circular Saw, Spray Foam and adhesive (PL-300) or compatible adhesive with Polystyrene foam, Coated Deck Screws (Appropriate length), Hammer Drill (Concrete Only), 4' Level, Caulking Gun, Measuring Tape. Optional: Table Saw.

1.5 General Notes:

- Install building wrap and window / door air barrier detailing before installing Quik-Therm Air Dry Connect as per building code requirements and best practices. Consult a building professional as required.
- Windows, Door Openings & Corners: Apply flashing, caulking, WRB and/or air barrier peel and stick products as required. Refer to "[Guide to Attaching Exterior Wall Coverings through Foam Sheathing to Wood or Steel Wall Framing](#)" by the Foam Sheathing Coalition (FSC).

Notes

1. Typical air barrier locations presented herein are as per common construction practise; confirm/consult with design professional.
2. Typical constructions shown herein. Please refer to design drawings specific to your application. Confirm/consult with design professional prior to installing Quik-Therm products.
3. The information presented herein is based upon data considered accurate. Quik-Therm Insulation Solutions Inc. does not assume any responsibility for any misrepresentation or assumptions the reader may formulate. Please check local building codes prior to installing Quik-Therm products.

2.1 General Installation Recommendations

- General instructions apply to wood and steel frame buildings up to 3 stories. For wood frame buildings from 4 to 6 stories, refer to section 2.2. Additional instructions apply.
- Quik-Therm panels should not be exposed to the environment longer than 60 days. For longer exposure periods cover with a synthetic building wrap or cladding materials.
- Determine the wall framing spacing. ADC is available in 16" or 24" O.C. For heavy cladding materials such as cement board siding and stucco, furring strips must match up with vertical wall studs.
- DO NOT over torque fasteners. Set clutch on fastening tool. Wood furring strips and fastener heads should be flush with outer surface of EPS foam panels. Maximum 1/16" furring indent is acceptable. Best practice use counter sunk (flat head) screws. See illustrations.
*** For two layer systems the inner layer may be fastened with dome or hex head fasteners.
- For the application of light weight claddings, ADC can be installed horizontal in buildings from 1 to 3 storeys. For heavier cladding with horizontal ADC orientation fastening schedule engineering is required. Additional furring may be required. Consult with a building professional
- Fasteners should be installed as per FSC guidelines. Depending on orientation, cladding weight, and wind loads an engineered fastening schedule may be required.
- For cementitious stucco - vertical batten application is recommended. For horizontal applications please consult a design professional.
- Tape or foam all connections. Use spray foams and/or adhesives compatible with polystyrene foam insulation (e.g. Hilti CF 812 and PL-300). For cold weather applications, purchase cold weather spray foams and adhesives. For best tape application, use a spatula to apply uniform pressure to ensure a good seal between tape and panels.
- This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. Consult a design professional.

2.2 Buildings from 4 to 6 Storeys

- ADC installed with furring strips in vertical orientation only.
- Refer to CAN/ULC S-101 Fire Test at quiktherm.com
- Screws must penetrate the wall studding as per FSC guidelines.
- All vertical and horizontal joints should be foamed and taped.
- Install cladding as per design requirements.

2.3 Avoiding Convection Looping

For best R-value performance, convection looping between ADC and substrate must be controlled. Apply a horizontal bead of spray foam or compatible sealant (minimum 1/2" thick) to the top of ADC panels located at the top of walls (Detail E-1) and the bottom of window framing (Detail B3-1).



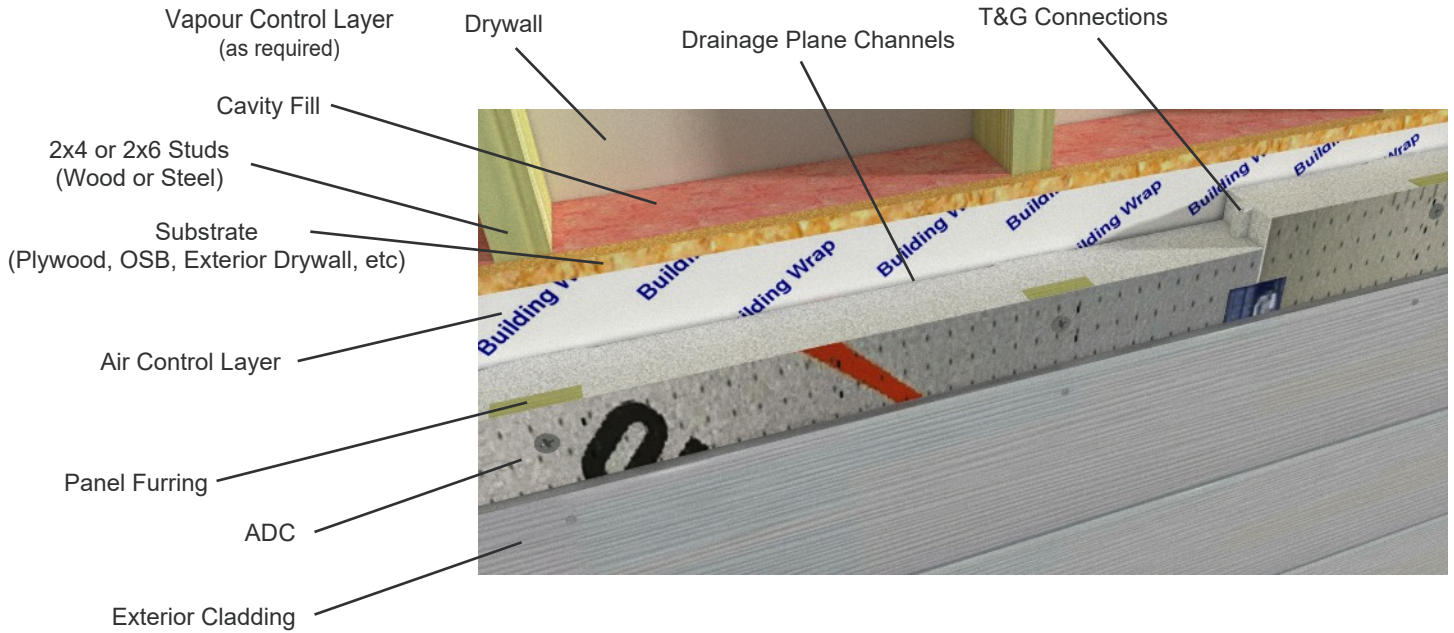
Installation Guidelines

Air Dry Connect Insulation

DETAIL A1
Panel Installation Overview

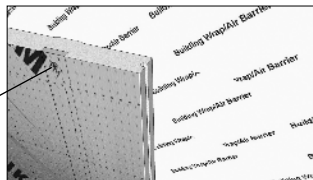
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Panel Installation Overview - Vertical Orientation



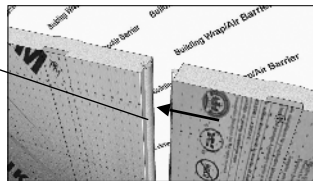
General Instructions

Align built-in furring over framing members



Secure panel through furring to framing members using sufficient length fasteners

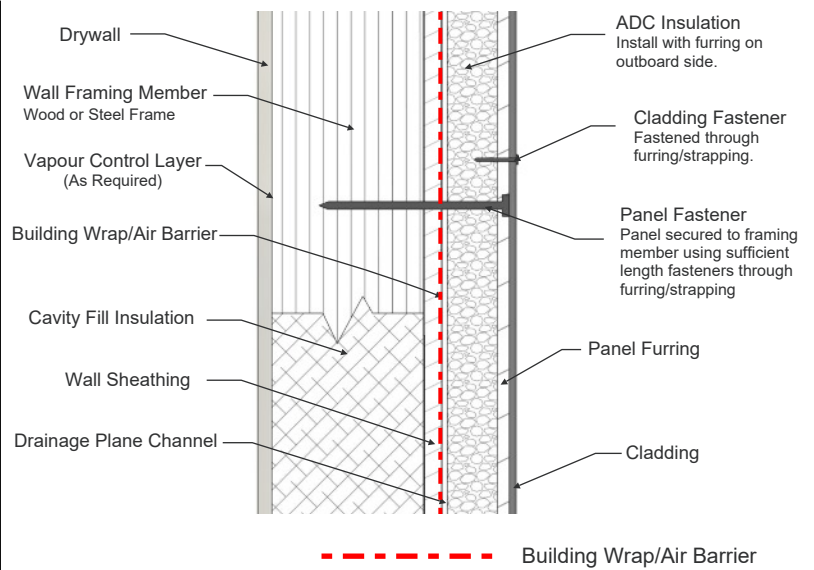
Apply foam in panel groove



Push tongue of next panel securely into groove of fastened panel

Secure panel to wall framing members using sufficient length fasteners through the furring strips

NOTE: Panel joints can be taped in lieu of using foam in the grooves



Typical Wall Cross Section N.T.S.

NOTES:

1. Vapour control layer as required. Check with local building codes.
2. Panels installed in a vertical orientation, with furring oriented towards the outboard side.
3. Foam between panels, or alternatively tape panel joints.
4. Panels secured to wall using fasteners through furring. Fastener length and number required will depend on insulation thickness, cladding choice and overall building design. Fasteners must penetrate framing members sufficiently to support insulation and cladding. Refer to local codes.



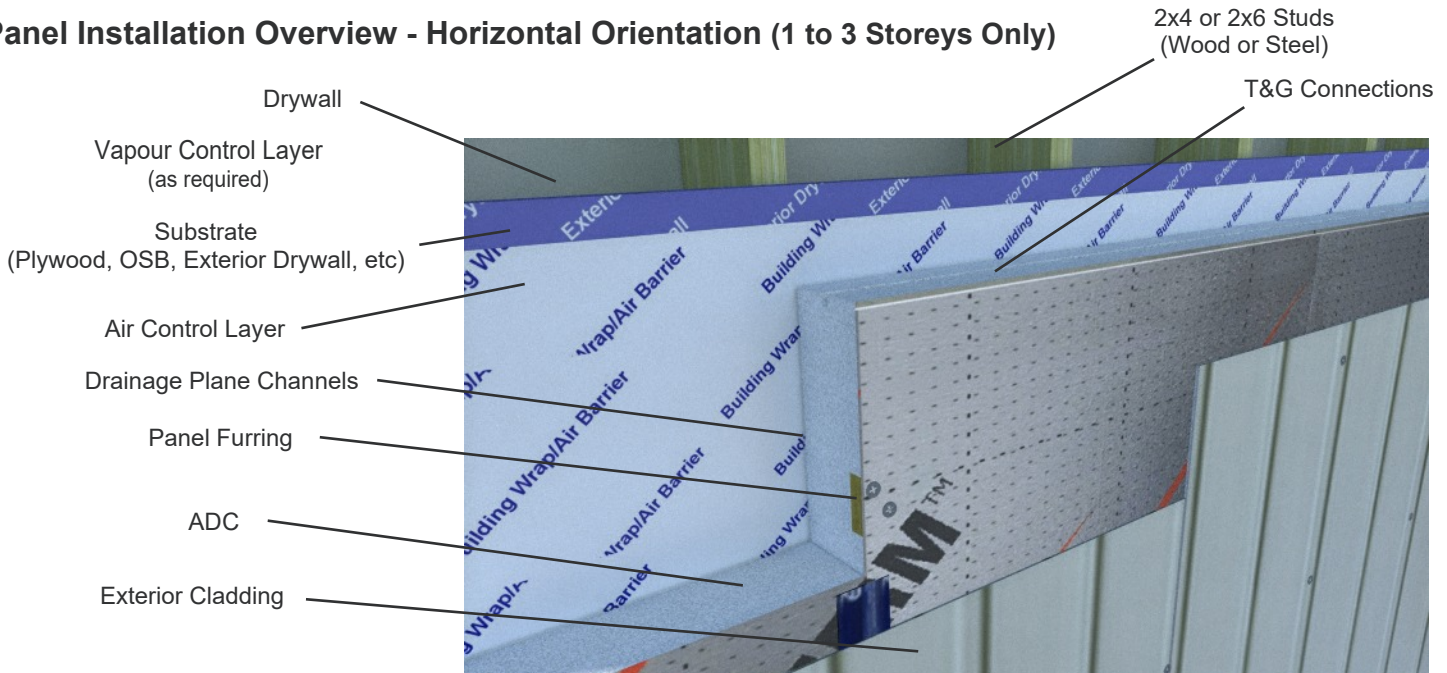
Installation Guidelines

Air Dry Connect Insulation

DETAIL A2
Panel Installation Overview

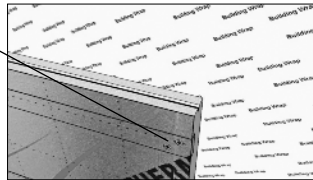
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Panel Installation Overview - Horizontal Orientation (1 to 3 Storeys Only)



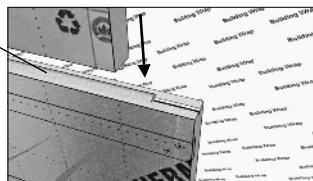
General Instructions

Secure panel through furring to framing members using sufficient length fasteners

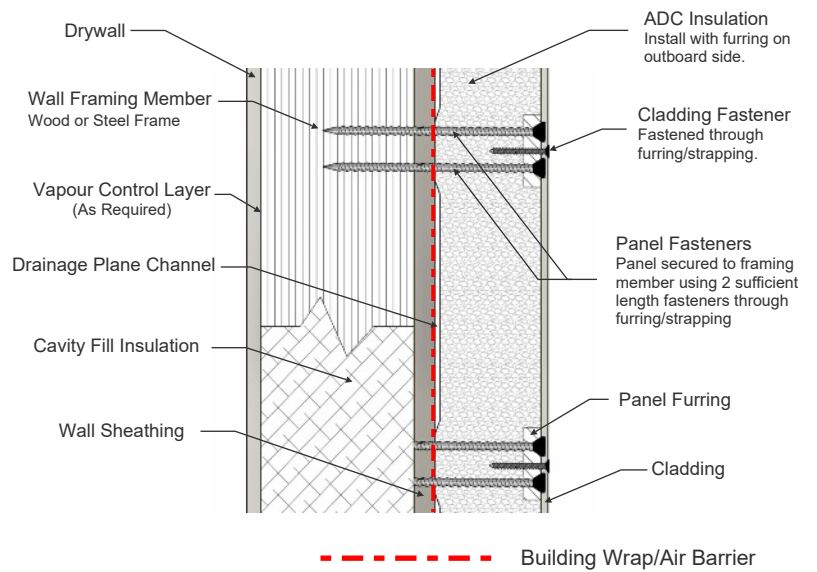


Apply foam in panel groove

Push tongue of next panel securely into groove of fastened panel



Secure panel to wall framing members using sufficient length fasteners through the furring strips



Typical Wall Cross Section N.T.S.

NOTE: Panel joints can be taped in lieu of using foam in the grooves.

NOTES:

1. Vapour control layer as required. Check with local building codes.
2. Panels installed in a horizontal orientation, with furring oriented towards the outboard side (1 to 3 storeys only).
3. Foam between panels, or alternatively tape panel joints.
4. Panels secured to wall using fasteners through furring. Fastener length and number required will depend on insulation thickness, cladding choice and overall building design. Fasteners must penetrate framing members sufficiently to support insulation and cladding. Refer to local codes.



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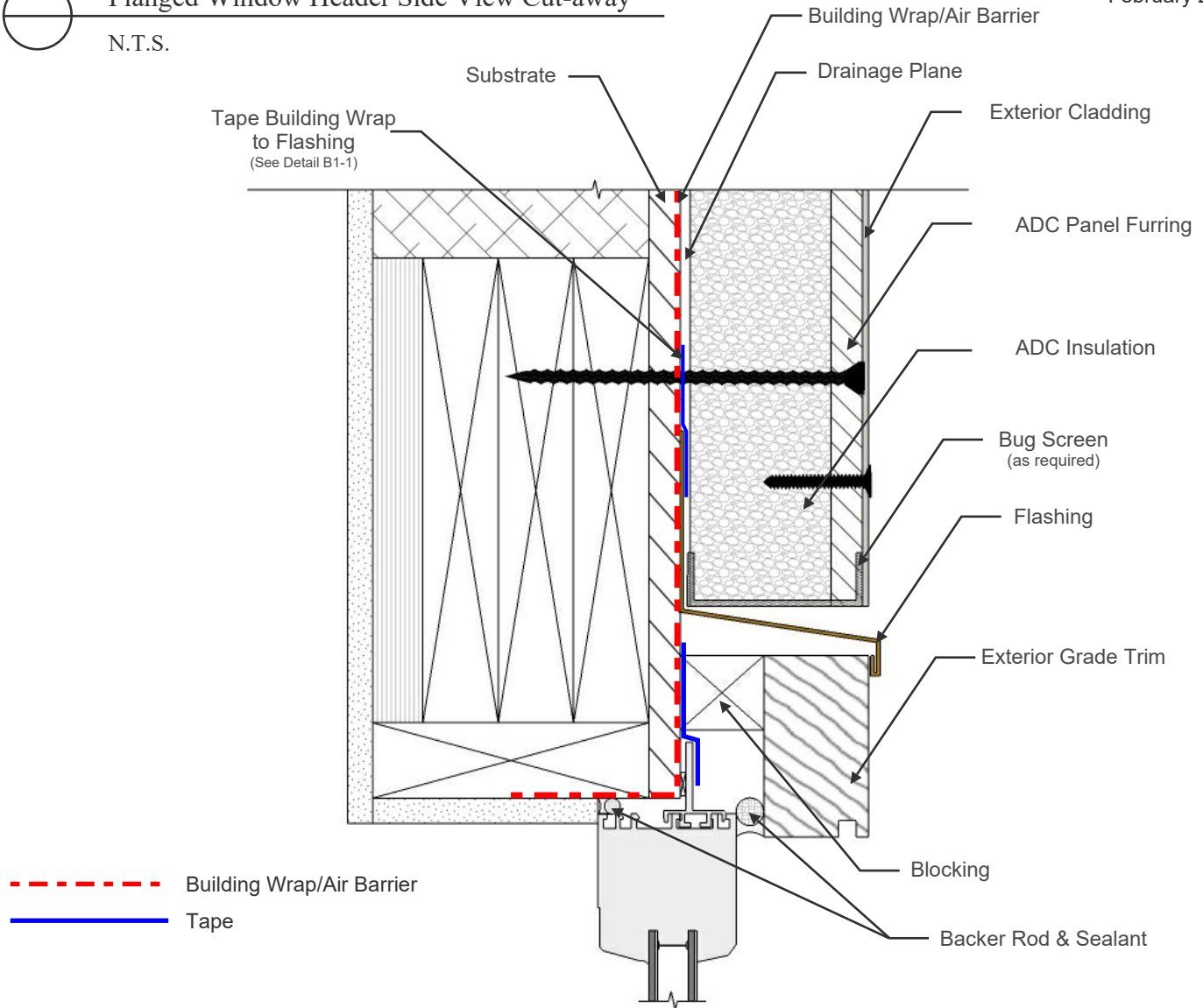
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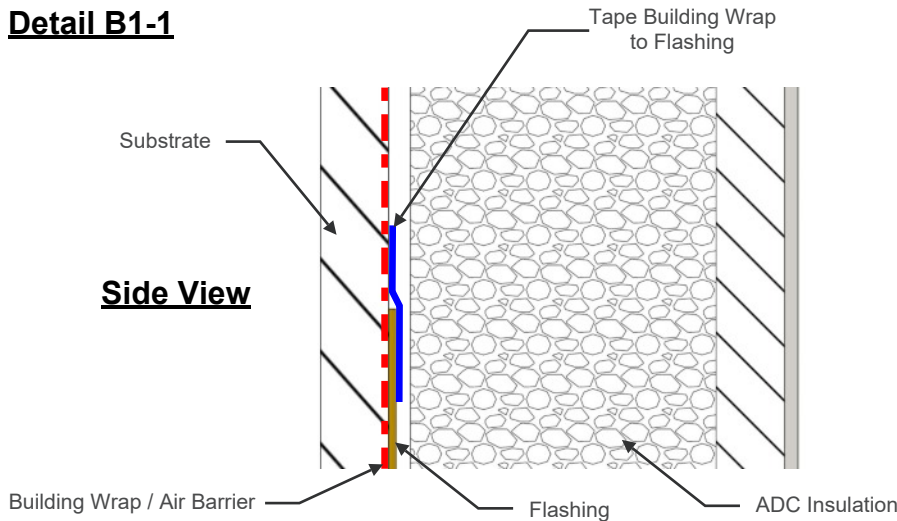
DETAIL B1 Flanged Window Header Side View Cut-Away N.T.S.

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○ Flanged Window Header Side View Cut-away
N.T.S.



Detail B1-1



Notes

1. Typical air barrier location as per common construction practise; confirm/consult with design professional.
2. Typical construction shown. Please refer to design drawings specific to your application. Confirm/consult with design professional prior to installing Quik-Therm products.
3. The information presented herein is based upon data considered accurate. Quik-Therm Insulation Solutions Inc. does not assume any responsibility for any misrepresentation or assumptions the reader may formulate. Please check local building codes prior to installing Quik-Therm products.





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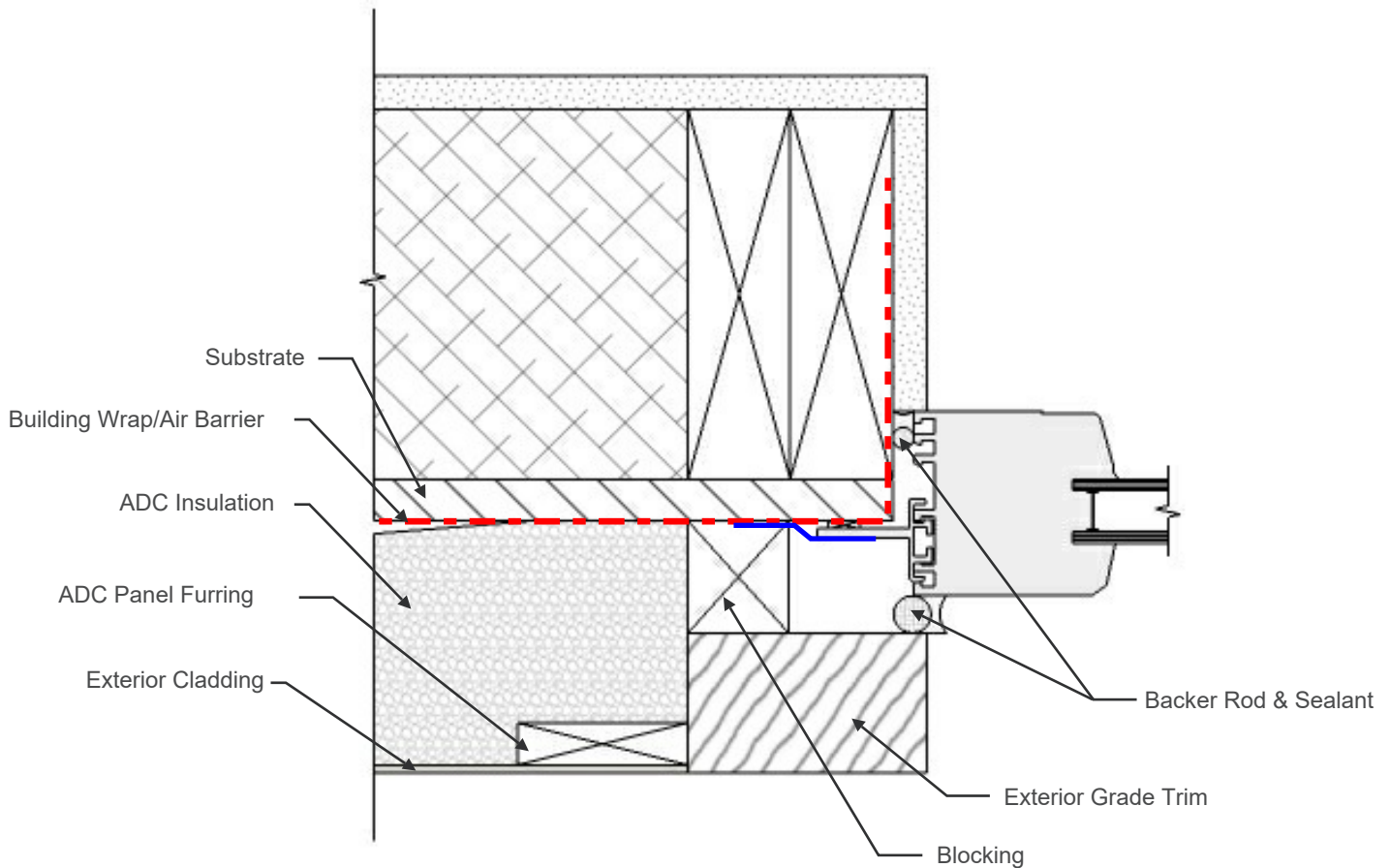
Installation Guidelines Air Dry Connect Insulation


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DETAIL B2 Flanged Window Jamb Top View Cut-Away N.T.S.

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-  Building Wrap/Air Barrier
-  Tape



 Flanged Window Jamb Top View Cut-away
N.T.S.

Notes

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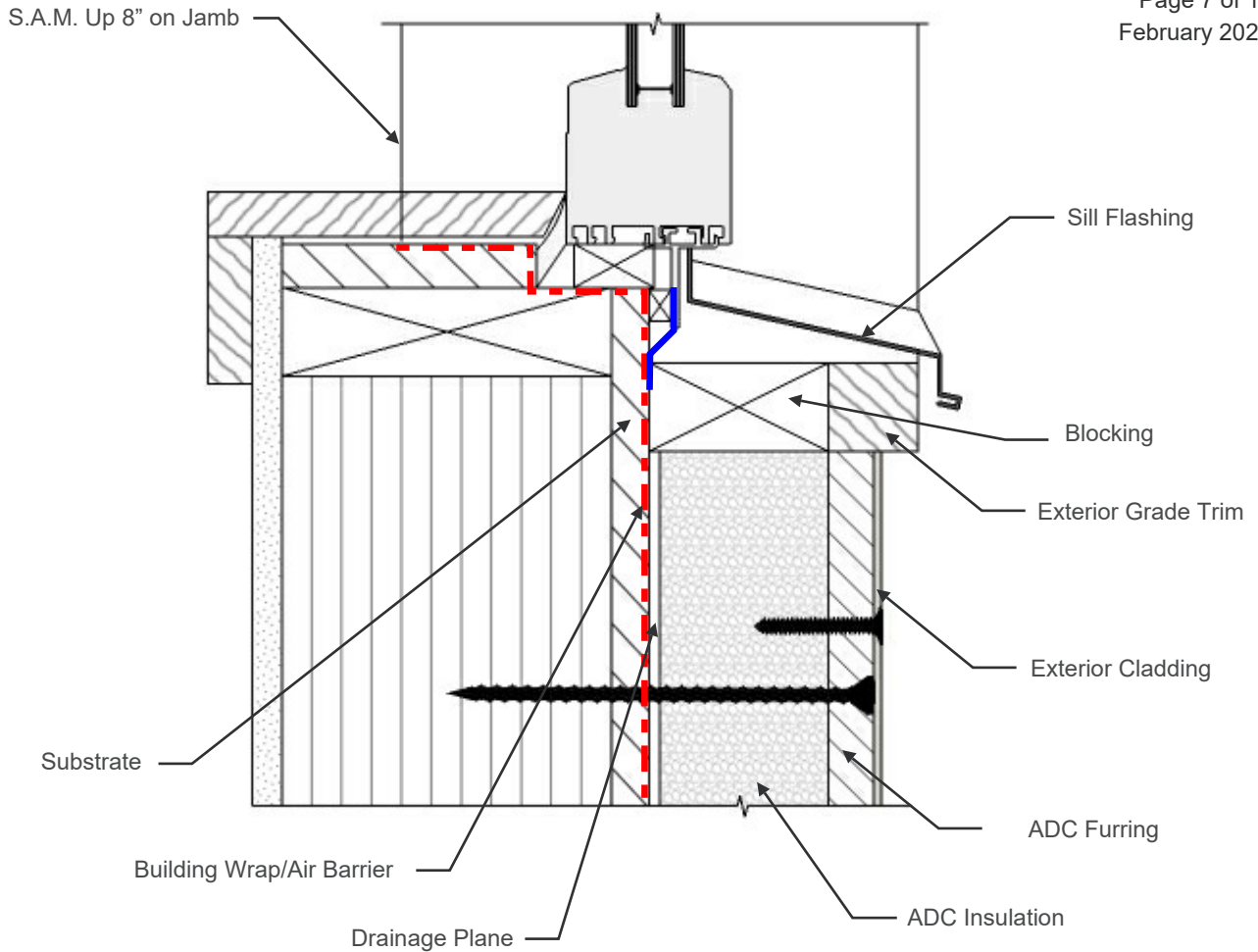
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DETAIL B3 Flanged Window Sill Side View Cut-Away N.T.S.

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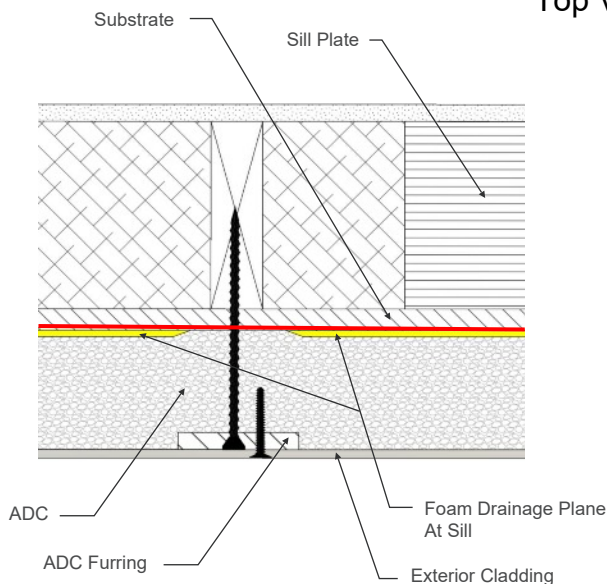
Flanged Window Sill Side View Cut-away

N.T.S.

----- Building Wrap/Air Barrier
 _____ Tape

Detail B3-1

Top View



Notes

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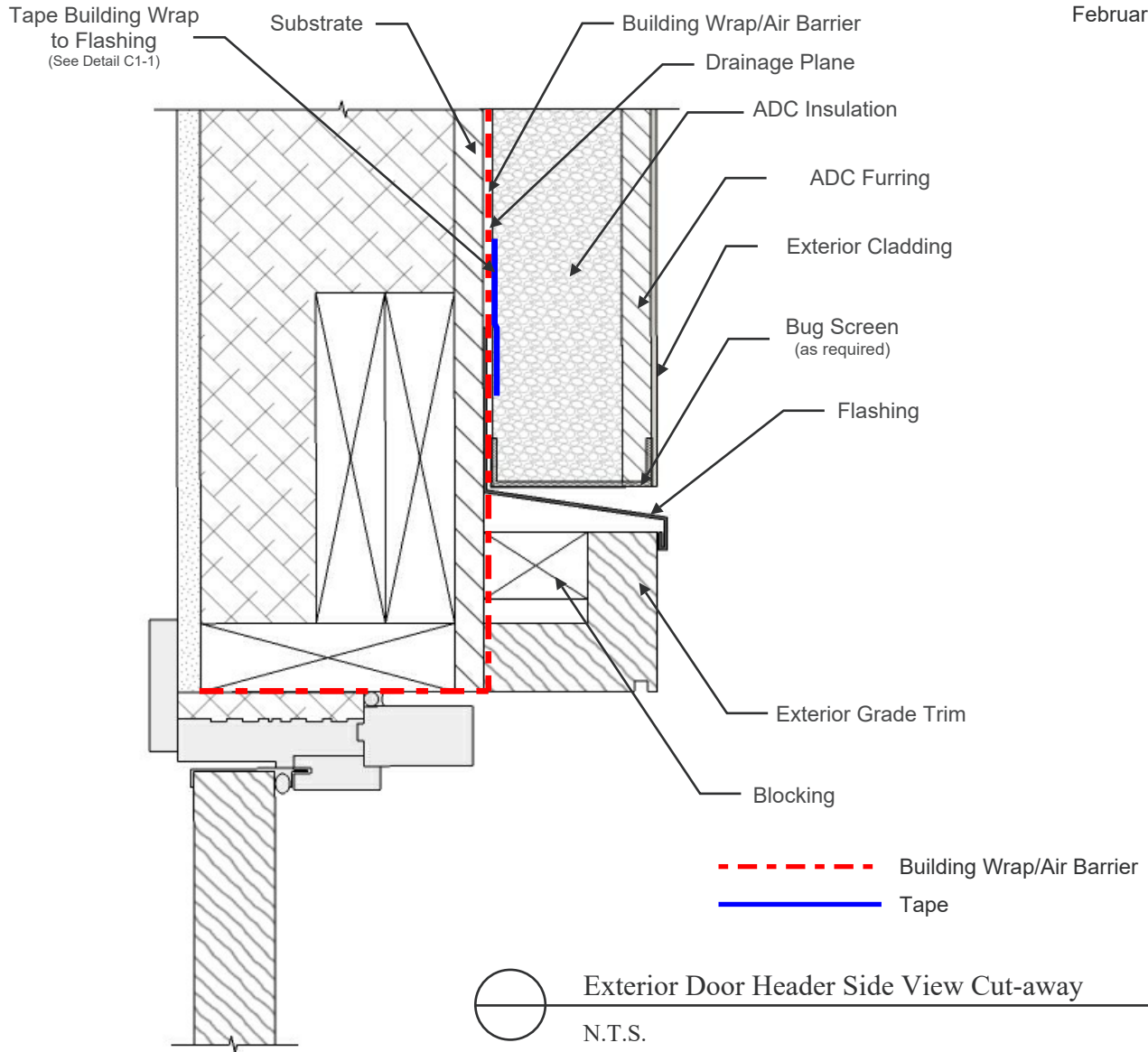
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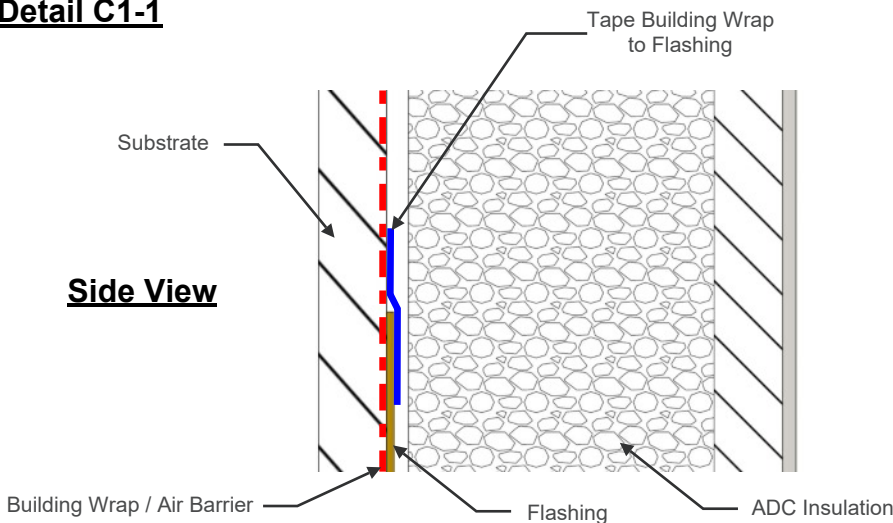
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DETAIL C1 Exterior Door Header Side View Cut-Away N.T.S.

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Detail C1-1



Notes

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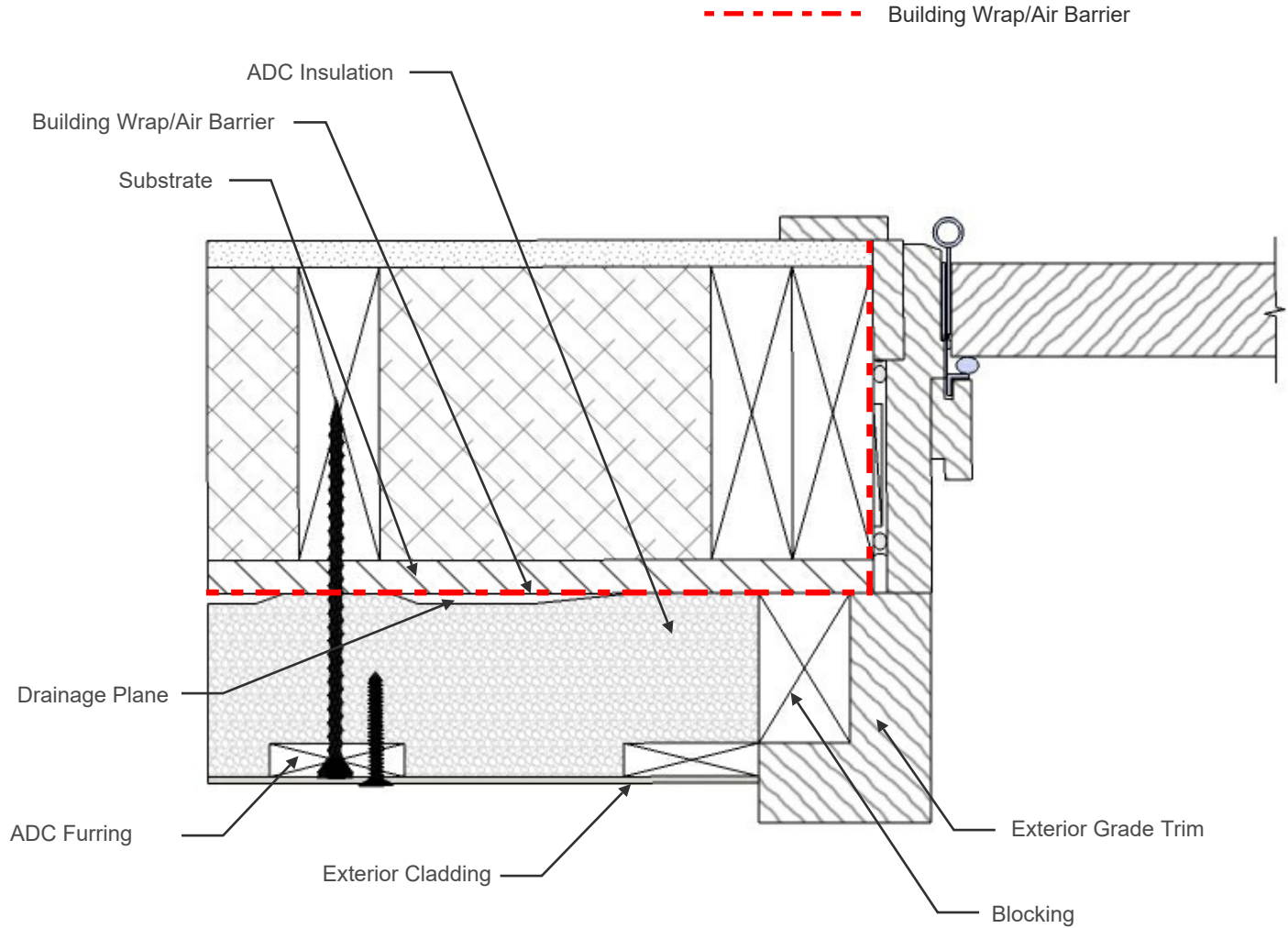
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DETAIL C2 Exterior Door Jamb Top View Cut-Away N.T.S.

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○ Exterior Door Jamb Top View Cut-away
N.T.S.

Notes

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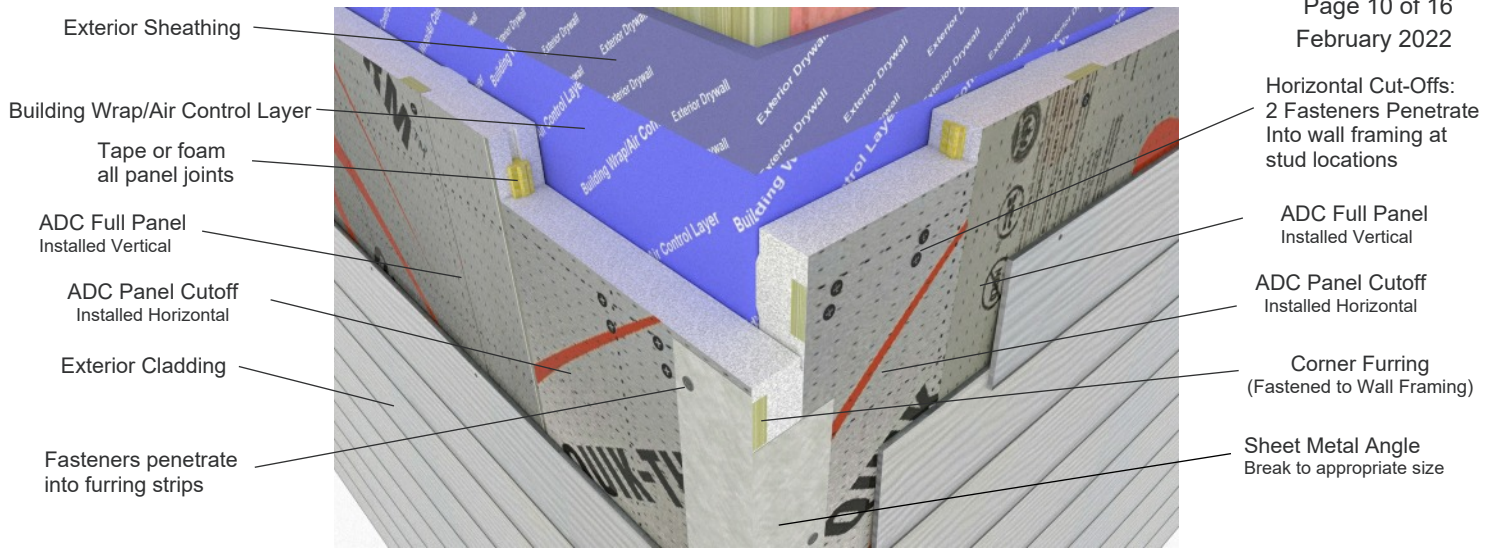
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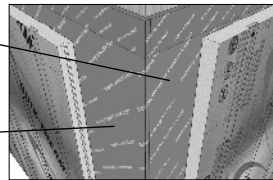
DETAIL D1 Outside Corners Option 1 N.T.S.

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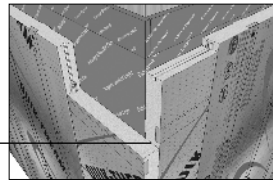
General Instructions

Measure from the end of first panel to corner and cut ADC panel to fit width in horizontal orientation.



Measure distance from end of second panel to corner, and add thickness of ADC. Cut ADC panel to fit width in horizontal orientation.

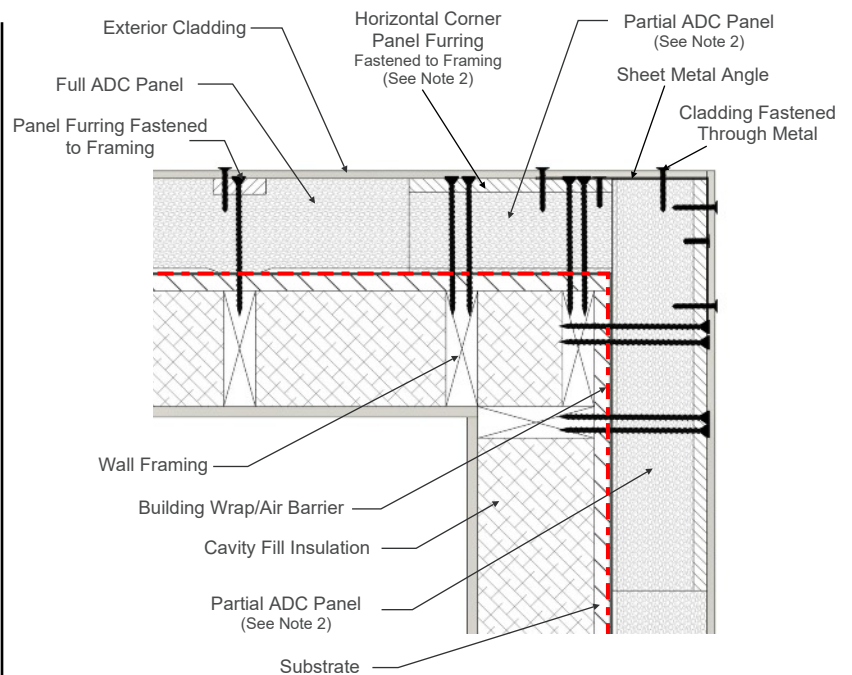
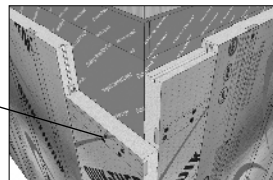
Apply foam to panel joints and install cut pieces.



Cut pieces overlap on corner

NOTE: Panel joints can be taped in lieu of using foam.

Secure corner pieces to wall framing members using sufficient length fasteners through the panel furring strips.



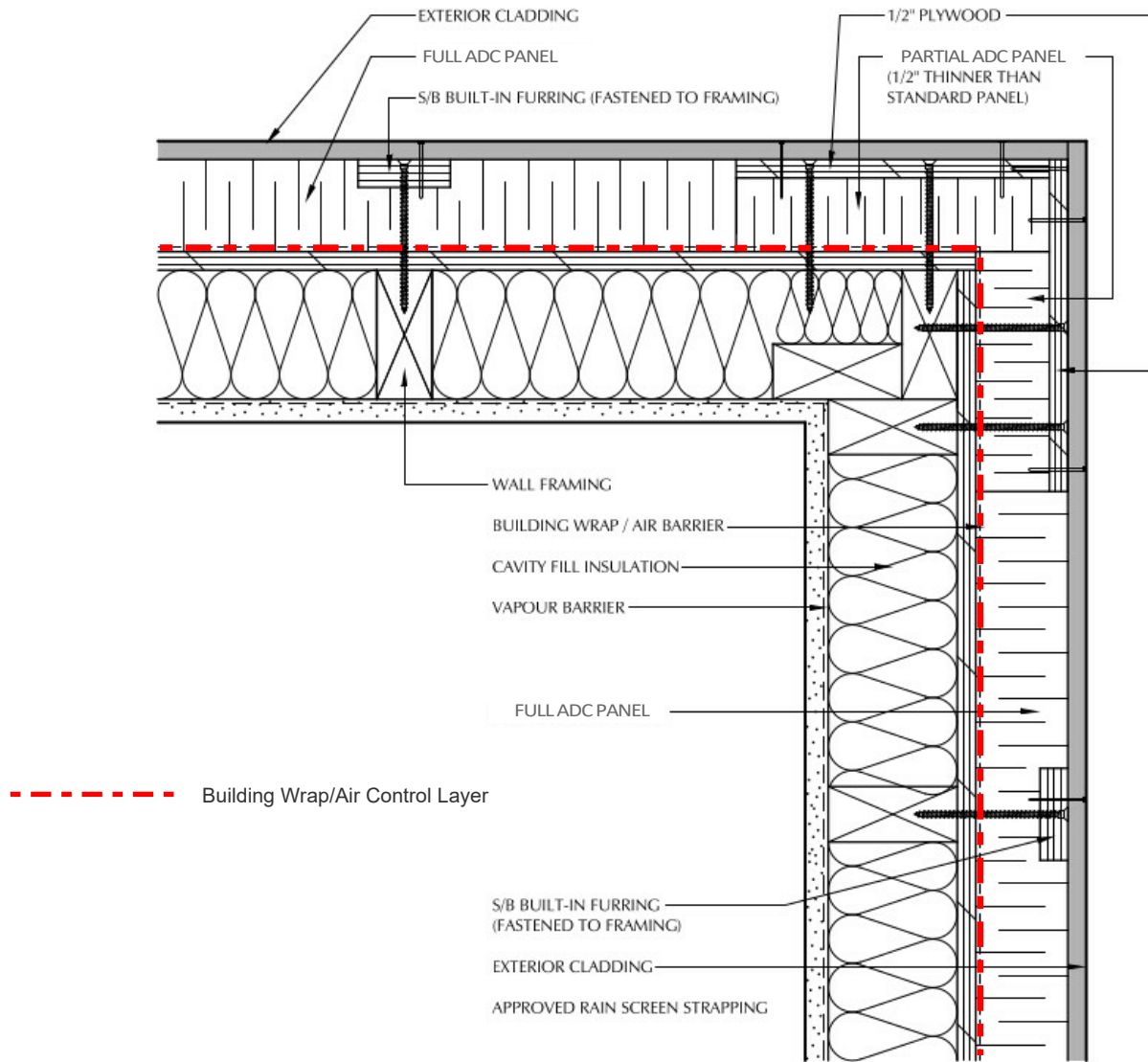
Top View

----- Building Wrap/Air Barrier

1. There are numerous ways to finish corners. Any technique must provide sufficient areas for attaching corner moldings and trim.
2. To cover corners, cut and install custom width ADC panels as required with battens horizontal (as shown). Fasten to framing using 2 fasteners at each framing member.
3. Tape and foam all joints.
4. Please refer to design drawings and/or a building professional for alternative orientations.

Notes

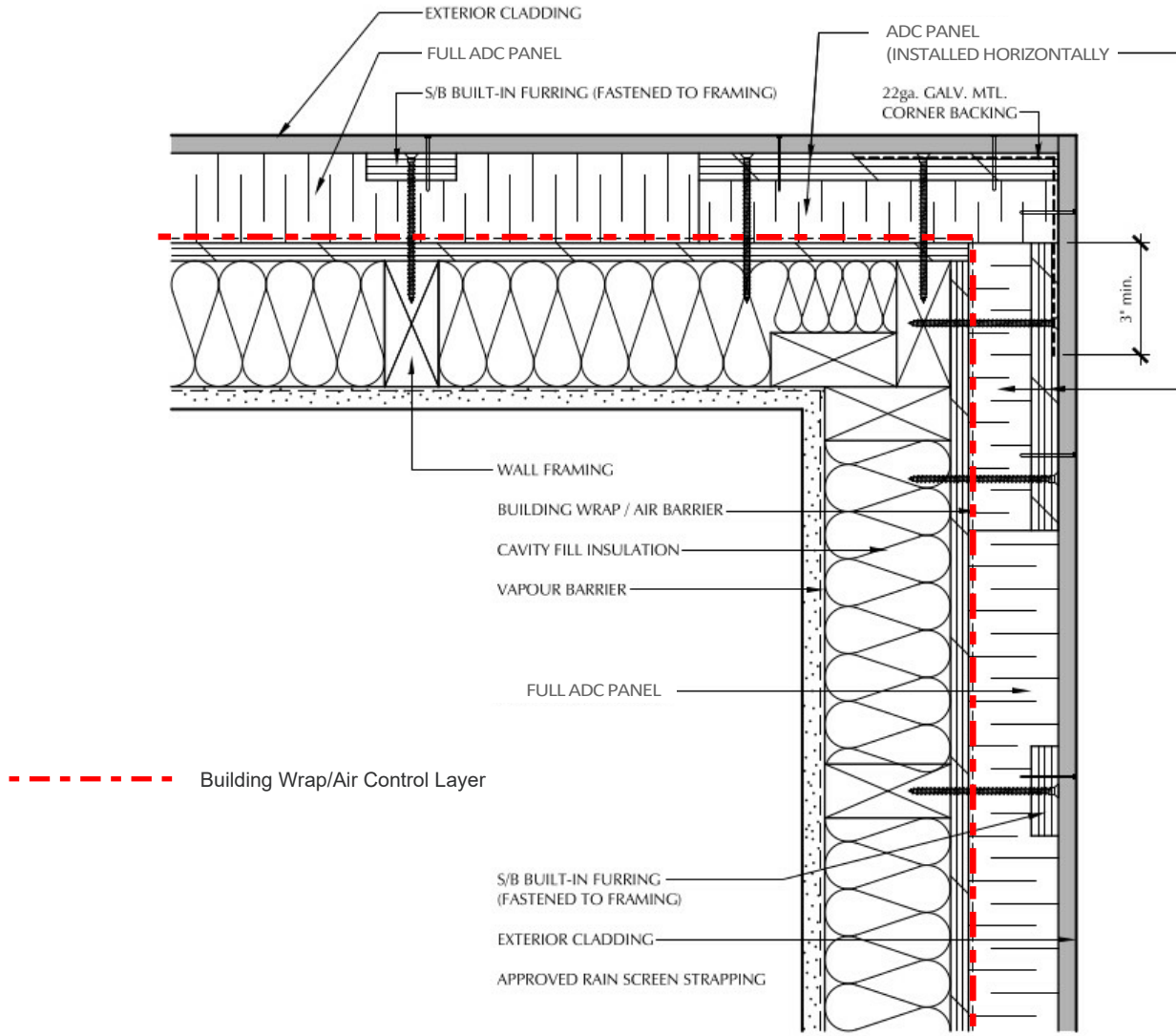
5. Typical air barrier location as per common construction practise; confirm/consult with design professional.
6. Typical construction shown. Please refer to design drawings specific to your application. Confirm/consult with design professional prior to installing Quik-Therm products.
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OUTSIDE CORNERS - NO RAINSCREEN
(PLYWOOD OVER RIGID INSULATION CORNER)

Notes

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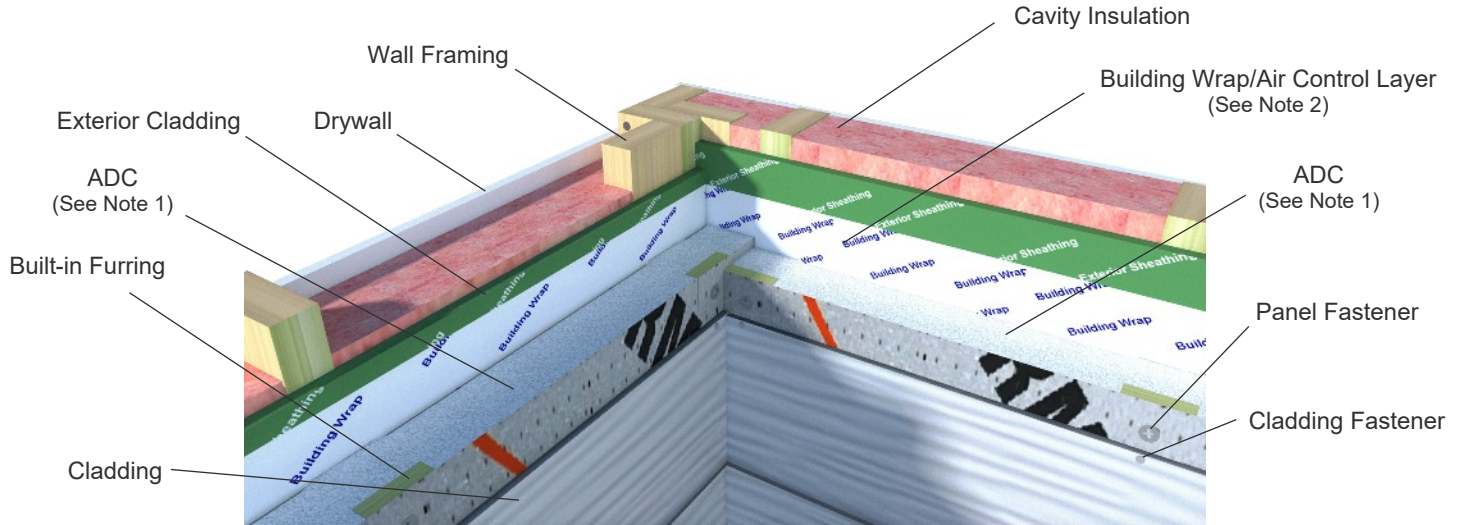
OUTSIDE CORNERS - NO RAINSCREEN
(HORIZONTAL ADC PANEL CORNER)

Notes

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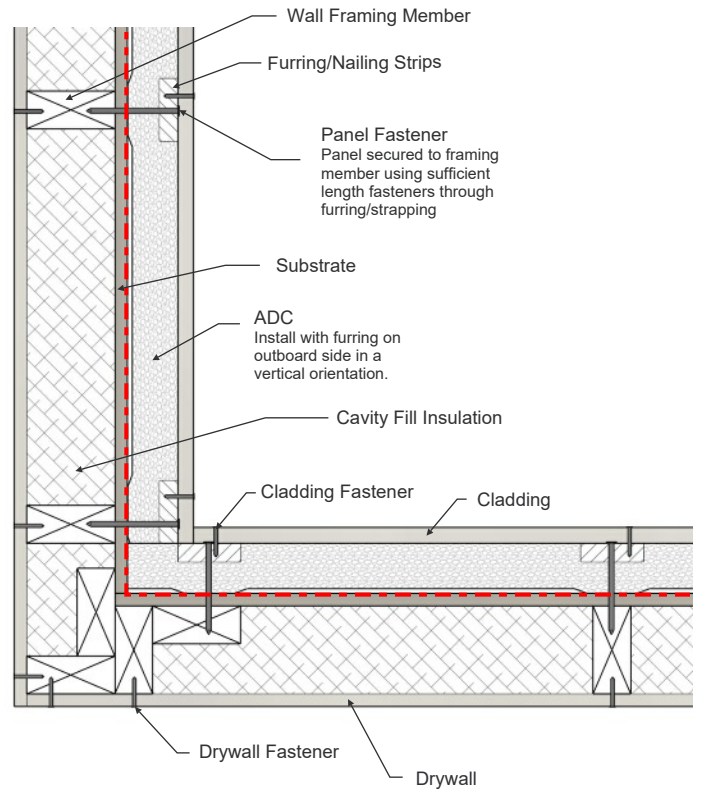


Installation Overview



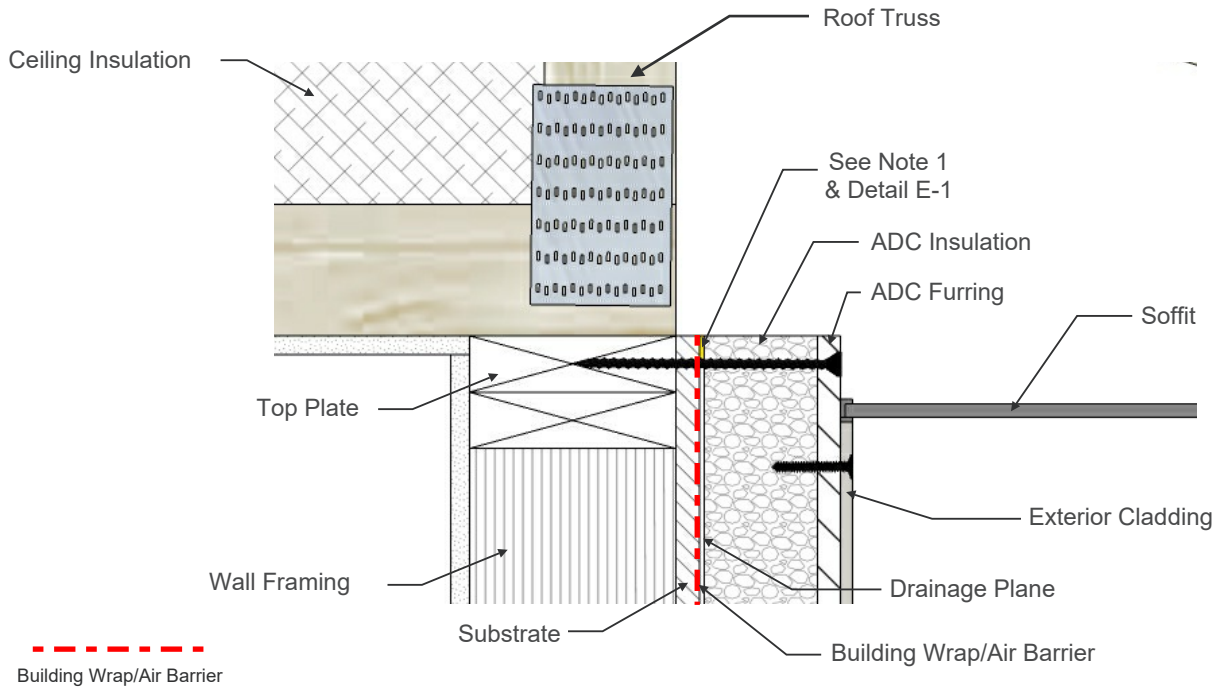
Notes

1. Cut first ADC panel at batten location. Cut second panel at batten location plus panel thickness to allow panels to overlap in corner.
2. Typical air barrier location as per common construction practise; confirm/consult with design professional.
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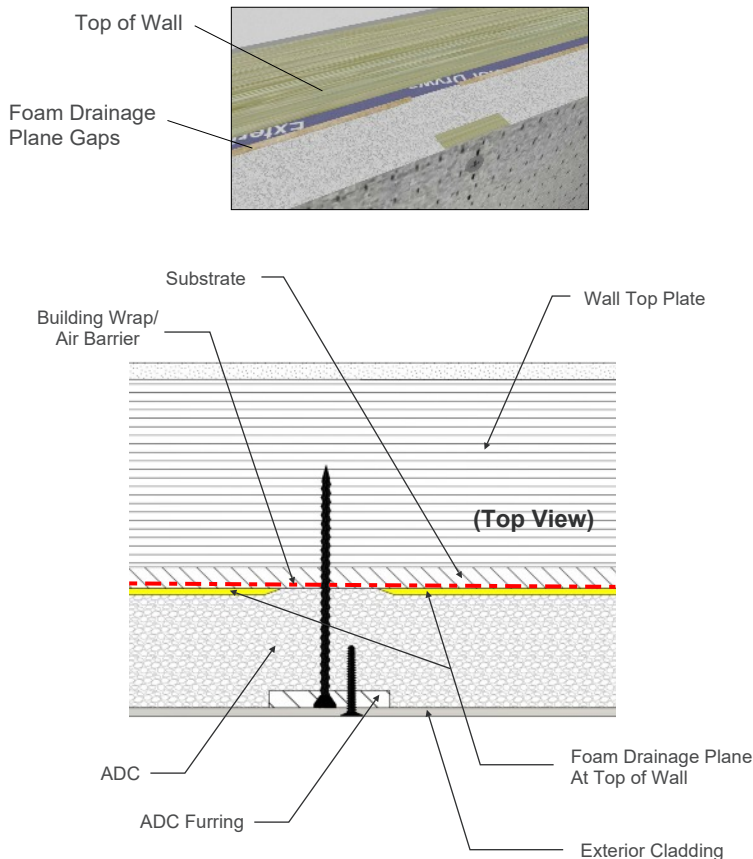


----- Building Wrap/Air Control Layer

○ Wall Top View - Typical Corner N.T.S.



Detail E-1



Notes

1. For best R-value performance, convection looping between ADC and substrate must be controlled. Apply a horizontal bead of spray foam or compatible sealant (minimum 1/2" thick) to top of the ADC panels (or top of wall).
2. Ensure ADC covers top plate to minimize thermal bridging in this area.
3. Typical air barrier location as per common construction practise; confirm/consult with design professional.
4. Typical construction shown. Please refer to design drawings specific to the application. Confirm/consult with design professional prior to installing Quik-Therm products.
5. The information presented herein is based upon data considered accurate. Quik-Therm Insulation Solutions Inc. does not assume any responsibility for any misrepresentation or assumptions the reader may formulate. Please check local building codes prior to installing Quik-Therm products.



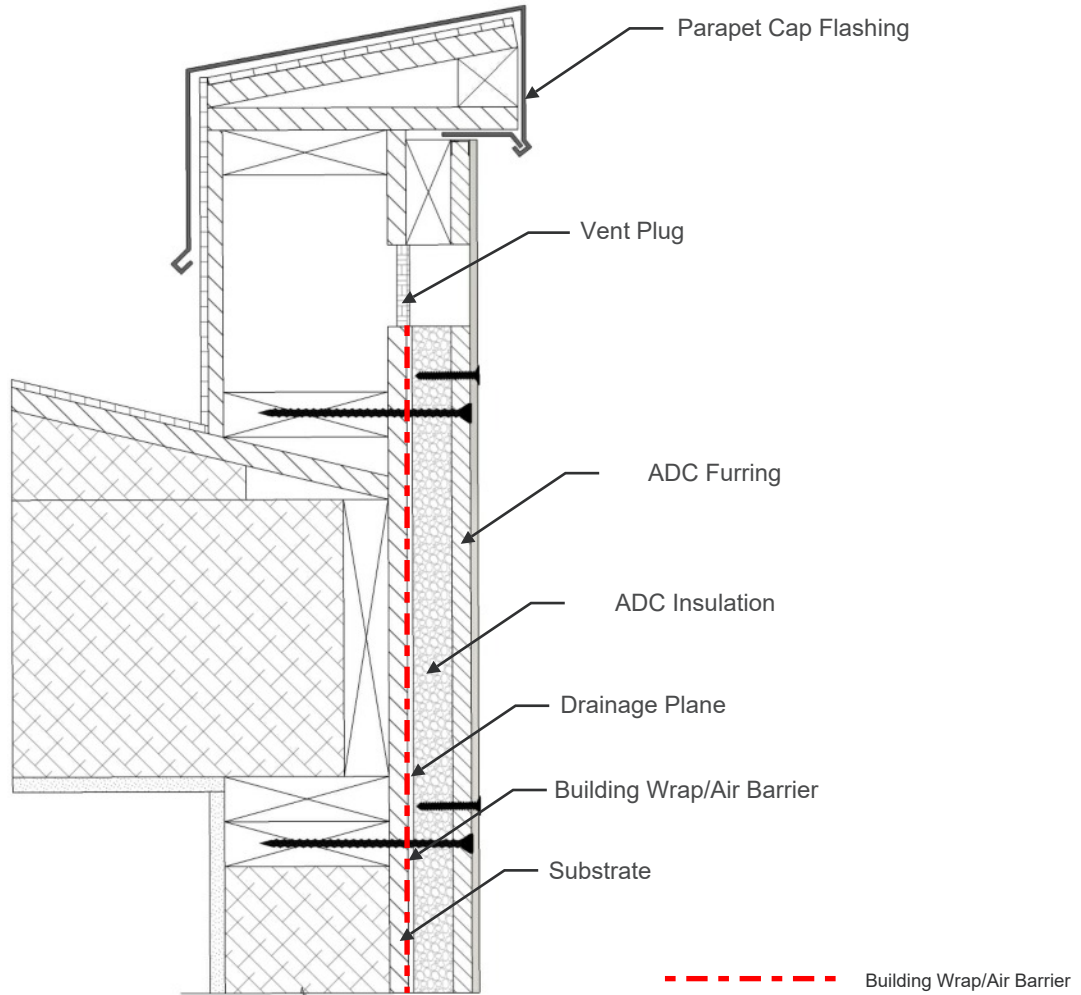
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DETAIL G Wall to Parapet Transition Side View Cut-away N.T.S.

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Wall to Parapet Transition Side View Cut-away

N.T.S.

Notes

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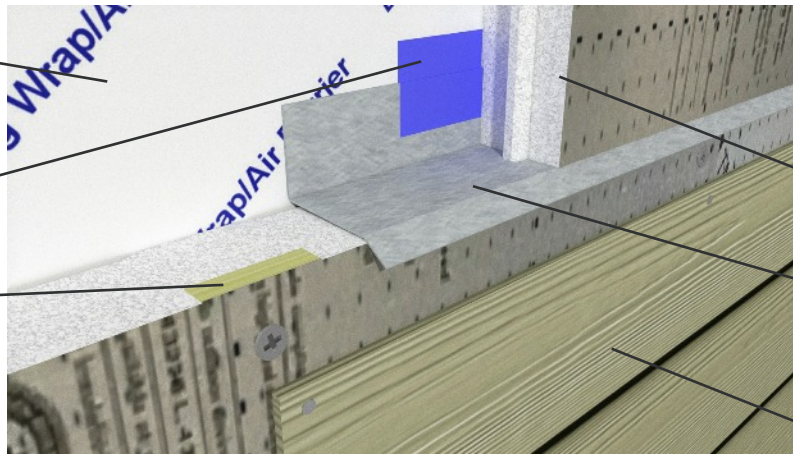
DETAIL H Floor Transitions N.T.S.

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Building Wrap/
Air Control Layer

Peel & Stick
Air Barrier

ADC Furring



ADC

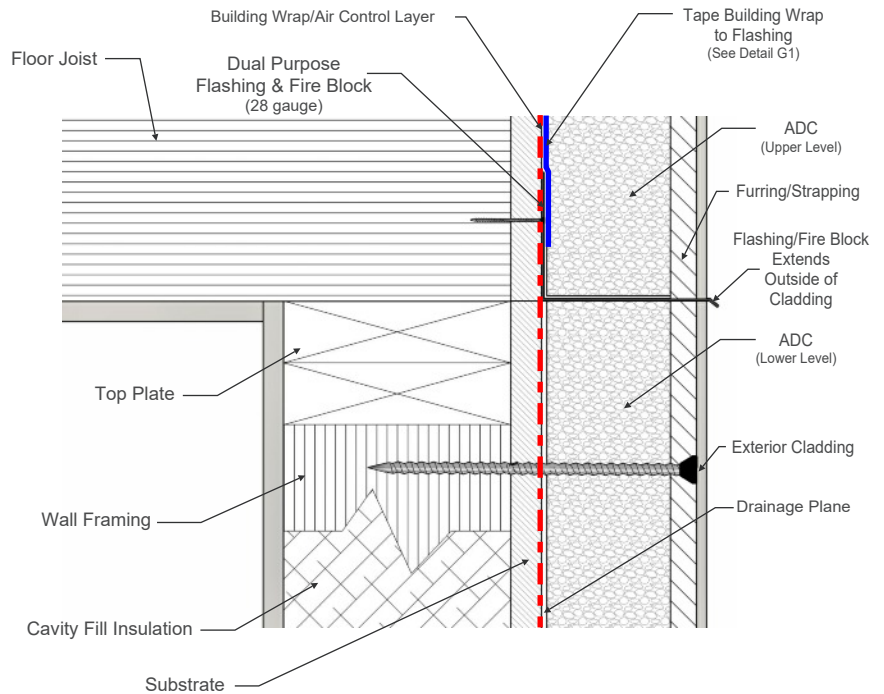
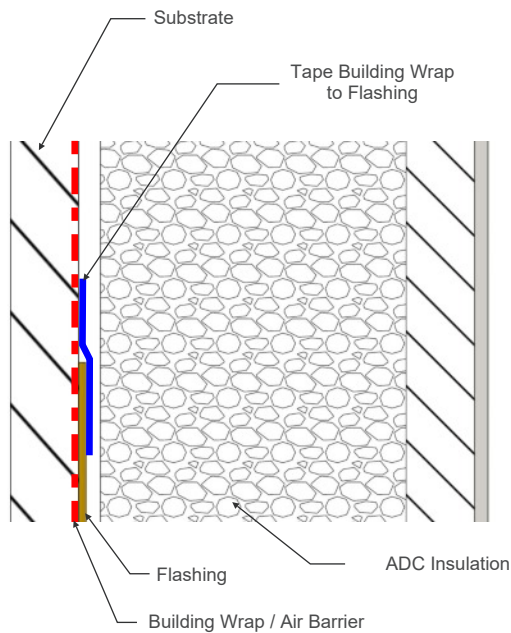
Dual Purpose
Flashing &
Fire Block*
(28 gauge)

Exterior Cladding

* Fire Block as Per NBCC 2015

3.1.11.2. Fire Blocks in Wall Assemblies
9.10.16.2. Required Fire Blocks in Wall Assemblies
9.10.16.3. Fire Block Materials

Detail G-1



--- Building Wrap/Air Barrier
— Tape

Side View

Side View

Notes

1. Typical air barrier location as per common construction practise; confirm/consult with design professional.
2. Typical construction shown. Please refer to design drawings specific to your application. Confirm/consult with design professional prior to installing Quik-Therm products.
3. The information presented herein is based upon data considered accurate. Quik-Therm Insulation Solutions Inc. does not assume any responsibility for any misrepresentation or assumptions the reader may formulate. Please check local building codes prior to installing Quik-Therm products.



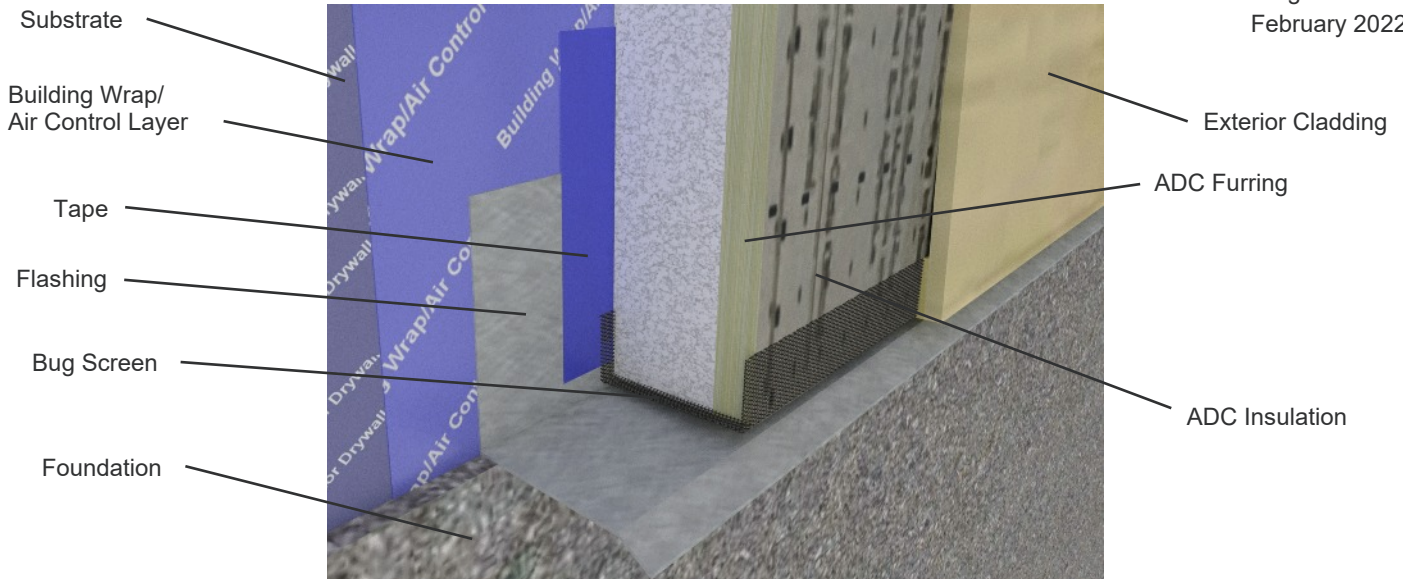
Quik-Therm Insulation Solutions Inc.

Installation Guidelines Air Dry Connect Insulation

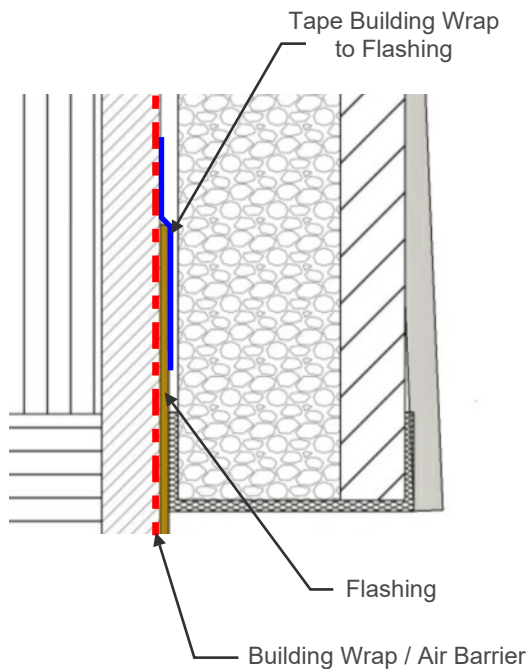
quiktherm.com (888) 735-3012 (204) 736-3012

DETAIL I Base of Wall N.T.S.

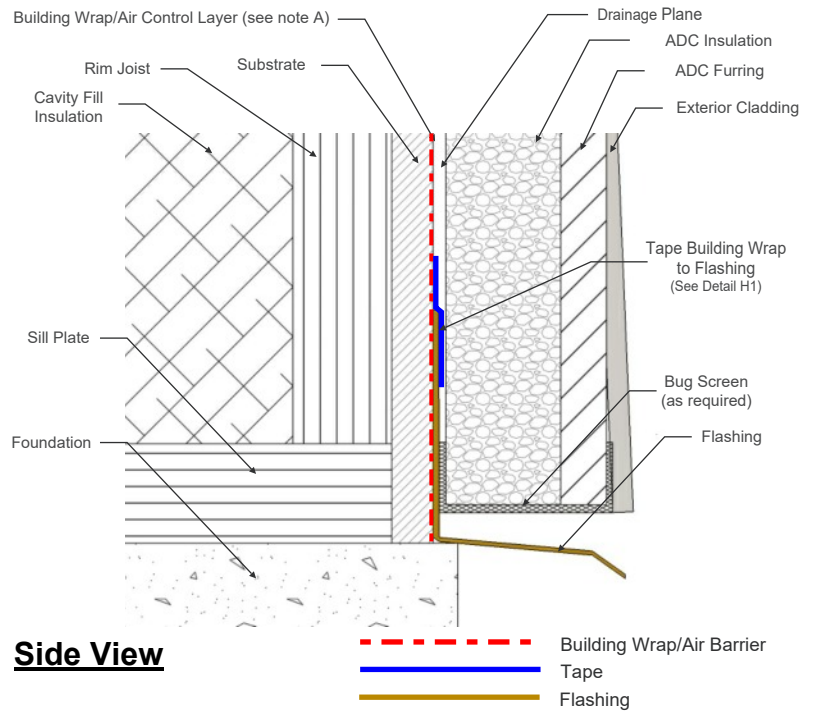
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February 2022



Detail I-1



Side View



Side View

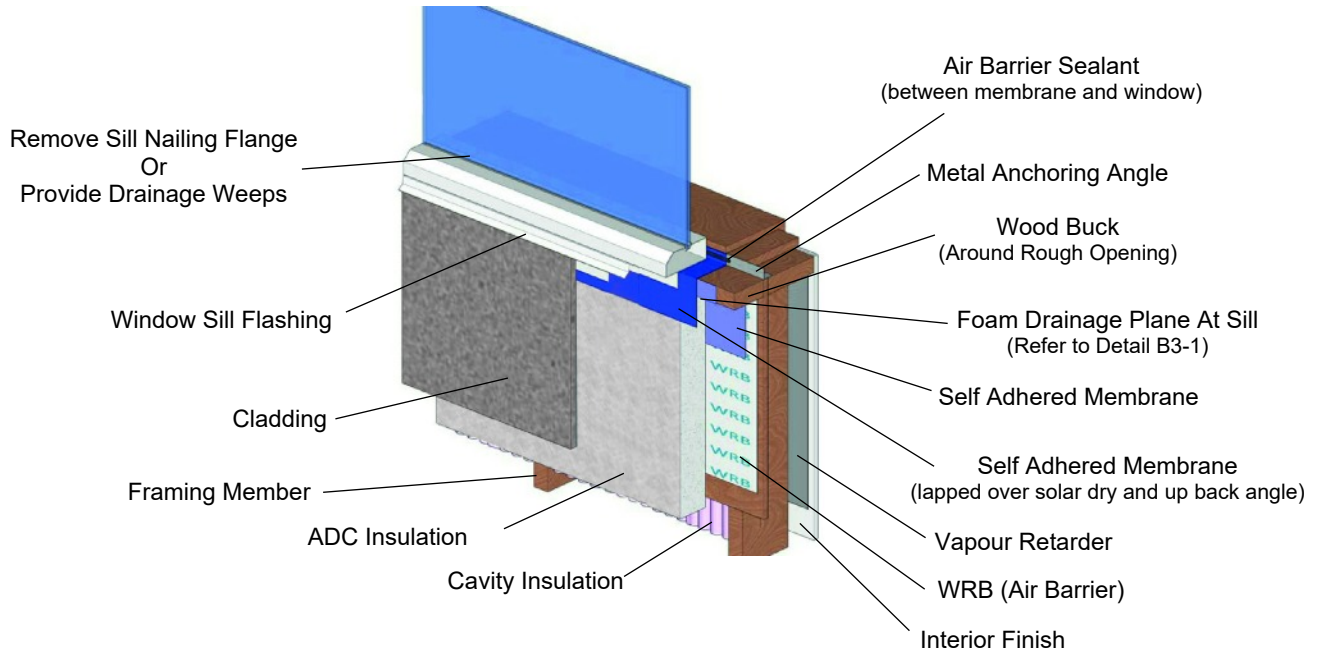
- A. Tape flashing to building wrap/air control layer. Apply sealant as required to prevent moisture infiltration.
- B. Leave a small gap between bug screen / ADC and base of wall to accommodate drainage.

Notes

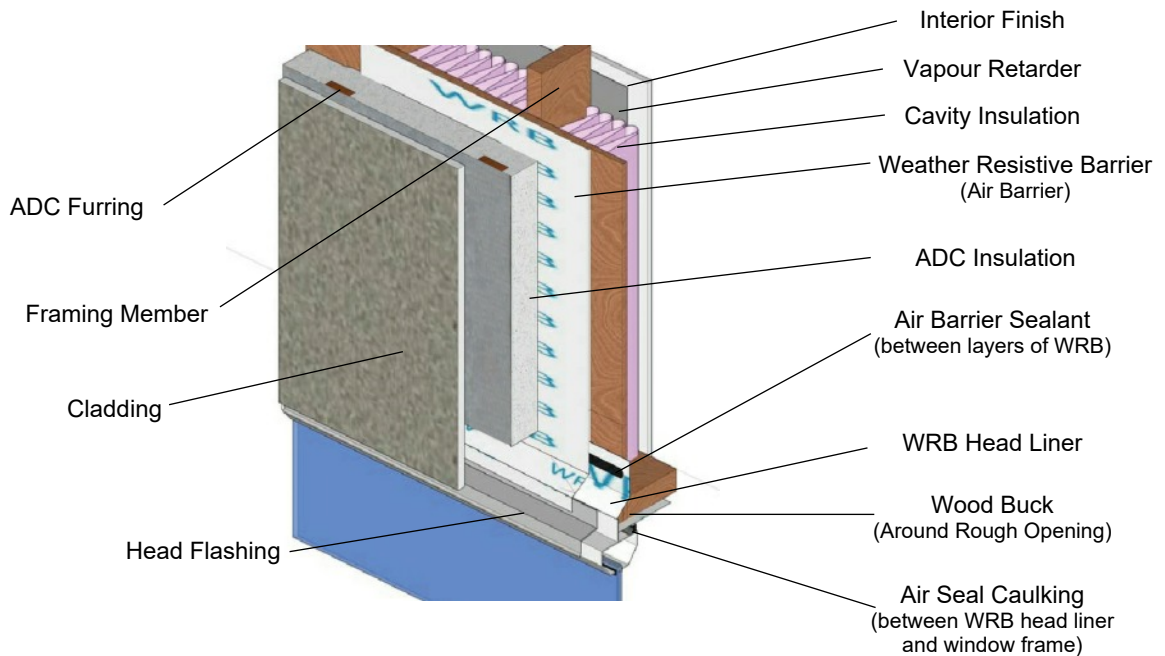
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Window Sills & Doors



Window & Door Headers



Notes

1. Although a wood frame building is shown, these general instructions are also applicable to metal framed structures.
2. The techniques shown below are applicable for window and door frame openings.
3. Apply flashing, caulking and peel & stick products to be installed ensuring there is no air or moisture penetration. Consult with local building professional and refer to peel & stick manufacturer recommendations.
4. Adhere to local building codes, manufacturer instructions and best practices as outlined by a building design professional.