FGIA/WDMA Installation Committee Approval	Wall Interface Council Approval	Technical Steering Committee Approval
Successful Ballot #22-1013 Successful Ballot #22-1023 Unsuccessful Ballot 22-1068 Successful Ballot 23-1027 Successful Ballot 24-1035 Successful Ballot #25-1033 **Out for Ballot #25-1058**	Successful Ballot #24-1048 Successful for Ballot #25-1034 **Out for Ballot 25-1059**	

FMA/AAMA 100-XX
DRAFT #10
DATED 9/5/25

Standard Practice for the Installation of Windows with Mounting Flanges~~/ or Mounting with Flanges or Mounting Fins in Wood Frame Construction~~ for ~~Extreme Wind/Water Conditions~~Membrane Drainage Systems

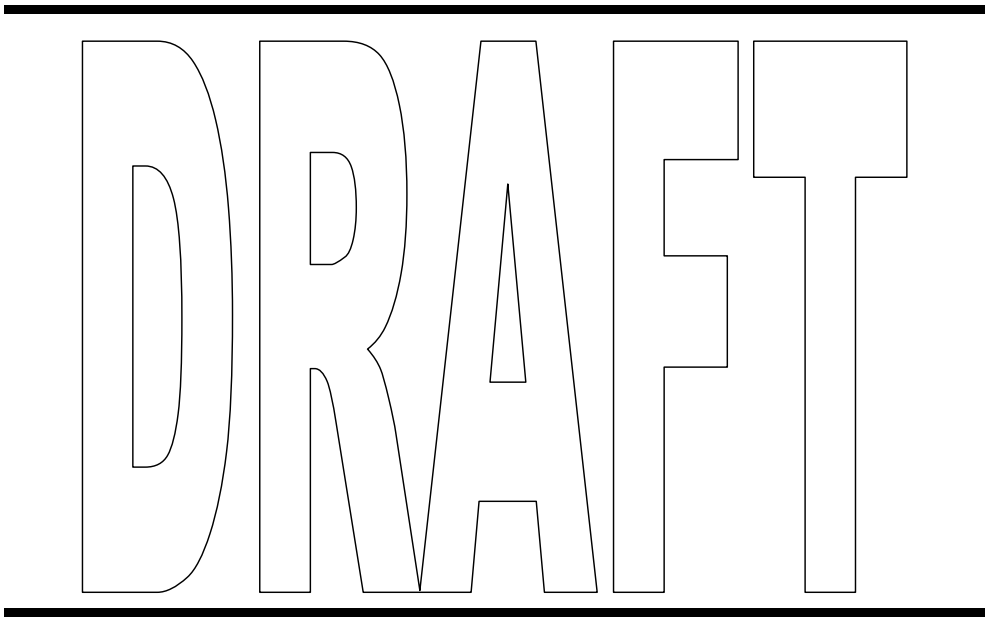

TABLE OF CONTENTS

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0.0 INTRODUCTIONFOREWORD

This standard practice includes procedures for the installation of windows with mounting flanges into new construction residential and light commercial buildings of not more than three stories above grade in height. This standard practice presumeswith a membrane /drainage plane is present behind the facade.

The techniques demonstrated in this standard practice have been developed specifically to allow incidental liquid water entering from superficial cracks, either in the cladding, window joinery or installation joints around the perimeter of the window, to drain onto the membrane drainage plane and to exit to the building exterior.

This standard is specifically designed for installations subject to extreme wind/water climate exposure, particularly in the coastal southeast United States, and addresses buildings that will be at high risk for water intrusion. Thus, preventative measures shall be taken that are above normal installation practices (such as those referenced in ASTM E2112).

1.0 SCOPE

1.1 This standard practice covers the installation of windows in wood frame new construction residential and light commercial buildings of not more than three stories above grade in height, utilizing a membrane /drainage system. It is expected that all referenced components shall meet all applicable building code requirements in force at the time of installation.

1.2NOTE: To simulate extreme exposure conditions and demonstrate the effectiveness of the standard practice, installation methods that are consistent with this document have been water tested in a third party laboratory up to a test pressure of 575 Pa (12 psf) using the ASTM E547 or E331 water test. This does not advocate field or lab testing to those levels as a requirement for this standard practice.

1.32 This practice applies to windows structurally anchored through a mounting flange, exterior casing or through the frame of the window. which employ a mounting flange, or fin that is attached to the window perimeter frame and is designed as an installation appendage.

NOTE: These windows may contain various integration features such as J-Channel, casing or other cosmetic accessories.

1.23 This practice addresses a separate water–resistive barrier (WRB) layer applied to sheathing and the resulting water management considerations.

***CAUTION**: This standard practice's tested method is limited to a WRB or drainage plane that consists of a correctly shingled mechanical lap of a water-resistive material over any joints or seams in the structural sheathing. For integrated WRB and fluid applied WRB materials, check with manufacturer for installation and water management assistance.*

Formatted: Strikethrough

Commented [AB1]: FGIA Staff action: Which water test was used to validate this?

Commented [AB2R1]: This information is likely not available. I am checking with Guy Long and other members.

Commented [AB3R1]: Information is no longer available. No edits needed.

Commented [AB4]: Stricken by the group on 9/5/2025

1.34 This standard practice covers the installation process for windows from pre- to post-installation. It does not include factory or field fabrication techniques that would be required to join individual windows to each other, either horizontally or vertically. For mulled assemblies, follow the manufacturer's instructions.

1.45 This standard practice provides recommended requirements for window installation based on current best practices. If the window manufacturer provides installation instructions, the manufacturer's instructions shall take precedence.

1.56 This standard practice provides installation instructions to enhance water management performance of the interface of the window with the opening.

1.6 Details for insulating between the rough opening and the product frame are beyond the scope of this document.

1.7 This standard practice does not address safety concerns, either from the installation process or those that may be present at the building site. It shall be the responsibility of the user of this standard practice to ensure that all appropriate health and safety practices have been implemented.

1.8 Accessibility requirements (such as ADA) are beyond the scope of this standard practice.

~~1.9 Consult the manufacturer for installation instructions to enhance water management performance of the interface of the window system with the opening.~~

1.~~10~~ 9 This standard practice does not address issues with drainage requirements of adjacent cladding or with integrating drainage requirements of the installation with the adjacent cladding. In all circumstances, the General Contractor is expected to follow ~~local~~ all applicable building code requirements and best practices for integration with membrane ~~/~~drainage wall systems.

Commented [AB5]: Recommended to remove this language in a future version of the 100 to align with changes made to the 300.

Commented [AB6R5]: *Language change for a future publication.

1.~~11~~ 10 This document was developed in an open and consensus process and is maintained by representative members of ~~FMA, and AAMA~~ FGIA and WDMA as advisory information.

2.0 REFERENCED PUBLICATIONS

2.1 References to the standards listed ~~below~~ shall be to the edition indicated. Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as ~~to~~ referring to the latest edition of that code or standard.

2.2 AAMA, Fenestration and Glazing Industry Alliance (FGIA) ~~Standards~~

AAMA 711-22~~00~~7, ~~Voluntary~~ Specification for Self- Adhering Flashing Used for Installation of Exterior Wall Fenestration Products

AAMA 712-23~~14~~11, ~~Voluntary~~ Specification for Mechanically Attached Flexible Flashing

AAMA 713-2408, Voluntary Test Methods to Determine Evaluate Chemical Compatibility of Freshly-Applied Sealants with Freshly-Applied Liquid and/or Self-Adhered Flexible Flashing Materials

AAMA 714-221912, Voluntary Specification for Liquid Applied Flashing Used to Create a Water-Resistive Seal around Exterior Wall Openings in Buildings

AAMA 800-1610, Voluntary Specifications and Test Methods for Sealants

AAMA 812-04(2010)2519, Voluntary Practice for Assessment of Frame Deflection When Using Propellant Expanding Foam Sealants for Air-Sealing Rough Openings of Fenestration InstallationsVoluntary Practice for Assessment of Frame Deflection When Using Single One Component Aerosol Expanding Polyurethane Foams for Air-Sealing Rough Openings of Fenestration Installations

FG-242, FGIA Glossary

2.3 ASTM International (ASTM)

ASTM C794-18(2022)10, Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants

ASTM C920-1811, Standard Specification for Elastomeric Joint Sealants

ASTM C1281-03(2009)16(2023), Standard Specification for Preformed Tape Sealants for Glazing Applications

ASTM E331-00(202309), Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference

ASTM E547-00(201609), Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference

ASTM E2112-2307, Standard Practice for Installation of Exterior Windows, Doors and Skylights

2.4 ICC Evaluation Service (ICC ES)

AC 38-2016(2021)52004, Acceptance Criteria for WeatherWater-Resistive Barriers (WRBs)

3.0 DEFINITIONS

Please refer to the most current version of the FGIA Glossary for all definitions.

AIR SEAL, n. – A continuous seal put into the air gap area around the interior side, exterior side or both sides of the window perimeter to restrict infiltration or exfiltration of air past the fenestration product.

BACK DAM, n. – The rear upturned leg of a masonry sill, sill pan or subsill designed for the purpose of diverting liquid water. A sealant joint can also be used to form a back dam provided it is part of a continuous air seal.

BUILDING PAPER, n. – A membrane material made of cellulose paper impregnated with asphalt (to inhibit passage of liquid water through the material) and which is commonly used as a concealed water-resistive barrier (WRB), similar to polymer house wraps, in membrane/drainage walls.

COMPATIBILITY, n. – When materials maintain physical and functional properties when in direct contact or close proximity to each other.

END DAM, n. – Any means provided to stop the flow of water out of the ends of a sill, panning system or subsill and into the wall cavity, such as sealant, upstands, plates or gasketing. End dams shall be of a height equal to the height of the back dam or higher.

FRONTAL FLANGE (A.K.A. FLANGE*), n.* – Refers to a type of window which includes a permanent appendage projecting parallel to the plane of the wall, located at or near the exterior surface of the window for the purpose of installing the window against a backstop, buck, receptor or other such stepped features that have been incorporated into the rough opening.

FLASHING, n. – Water resistant material that bridges the joint between the window/door frame and the adjacent construction to prevent water penetration. See *Mechanically Attached Flashing, Self Adhering flashing, Pan Flashing*.

HOUSE WRAP, n. – A polymer-based sheet material provided in a variety of dimensions and used as a water-resistive barrier (WRB) (Users of this product should defer to manufacturer's instructions).

MECHANICALLY ATTACHED FLASHING, n. – Flashing (as defined above) which is permanently attached using screws, staples or other mechanical fasteners. Mechanically attached flashing shall meet the performance requirements of AAMA 712.

MEMBRANE/DRAINAGE SYSTEM, n. – A wall system employing a concealed water-resistive barrier in which the exterior building surface, e.g., stucco, brick veneer, siding, is not the sole method of protecting the building from moisture penetration.

MOUNTING FLANGE (A.K.A. *MOUNTING FIN, INTEGRAL FIN), n.* – An appendage protruding from the body of a window or door frame, used as either an installation attachment feature or part of the water-resistive barrier interface between the product and the wall, or both.

PAN FLASHING (A.K.A. *SILL PAN), n.* – A type of flashing used at the base of a rough opening to divert water to the exterior or to the exterior surface of a concealed WRB. Pan flashings have upturned legs at the rear interior edge (back

~~dam) and right and left sides (end dams), to form a three-sided pan that has the front open for drainage. They are intended to collect and drain water toward the exterior, including water that may enter through the window unit or around the window (between the rough opening and the fenestration).~~

~~*DISCUSSION: The pan flashing must be integrated with other flashings and the window assembly to capture water that may otherwise penetrate to the sill framing and allow it to freely drain to the exterior. For this reason, sill pans shall not be sloped to the interior. For this reason, sill pans shall not be sloped to the interior. The window, flashings and pan flashing must be sealed in a manner that reliably inhibits air and moisture flow to the interior.*~~

~~Pan flashing can be made from self-adhered flashing or from rigid or semi-rigid material, such as metal or a semi-rigid polymer.~~

~~*SEALANT (CONSTRUCTION), n.* – Any of a variety of compounds used to fill and seal joints or openings. For the purpose of this standard practice, sealant shall have the capability of allowing for joint movement and appropriate adhesion as required for construction applications.~~

~~*SEALANT, AEROSOL FOAM, n.* – In building construction, a sealant that expands in volume as it is dispensed from a container, using propellant under pressure, to form a rigid or semi-rigid cellular mas~~

~~*SELF-ADHERING FLASHING, n.* – Flashing (as defined above) which is coated completely or partially on at least one side with an adhesive material and which do not depend on mechanical fasteners for permanent attachment.~~

~~S*HIM, n.* – A material used to raise, level or plumb a fenestration product frame during installation.~~

~~*WATER-RESISTIVE BARRIER (WRB), n.* – The surface or surfaces of a wall system which complies with ICC AC38 and is responsible for preventing water infiltration to the building interior. A membrane, which can be a house wrap or building paper, whose primary function is to act as a drainage plane for liquid water, which has a permeance low enough to keep liquid water from penetrating through the surface.~~

4.0 SIGNIFICANCE AND USE

4.1 This standard practice recognizes that the effective performance of installed window products is highly dependent upon following proper installation procedures, using appropriate materials, and quality workmanship.

4.2 This standard practice recognizes that the coordination of trades and proper sequencing are essential for effective window installation. Responsibilities of trades are outlined in Appendix A. The general contractor shall be responsible for the necessary coordination of trades and proper construction sequencing of the installed fenestration product.

4.3 This standard practice recognizes that improper installation ~~of units~~ may contribute to excessive air infiltration, water penetration, sound leakage, insufficient structural integrity and condensation.

4.4 This standard practice presumes the installer/contractor has a working knowledge of applicable federal, state and local codes and regulations; specifically, but not limited to required means of egress, requirements for safety glazing materials and structural requirements based on the applicable codes.

4.5 This standard practice presumes the installer has a working knowledge of the tools, equipment and methods necessary for the installation of specified fenestration products. It further requires the installer to have familiarity with flashing and sealing techniques, application of caulking and sealants, finishes (where applicable), and an understanding of the fundamentals of construction that affect the installation of these units, including their compatibility with other materials.

4.6 This standard practice presumes that the products supplied have been furnished for the applicable installation and that their locations within the structure have been pre-determined to comply with all the applicable building codes and regulations.

5.0 RELATED ISSUES AND PROCEDURES

5.1 Continuity

Continuity shall be maintained between all elements of the surrounding wall, ~~and~~ the window product and the ~~water-resistive barrier~~WRB.

5.2 Joints and Anchorages

Joints and anchorages between the building envelope (~~water-resistive barrier~~WRB assembly) and window shall be designed to accommodate differential thermal expansion and contraction, as well as the structural requirements within the window/wall assembly.

5.3 Construction Damage

The building shall be constructed in such a manner as to secure or support the installation materials, including the flashing and ~~water resistive barrier~~WRB. The walls shall not be left unprotected or uncovered without cladding for longer than recommended by the WRB / flashing manufacturer. The installed ~~water-resistive barrier~~WRB and flashing shall be protected from damage during construction. Any damage to the ~~water-resistive barrier~~WRB or flashing created during the installation shall be repaired prior to completing the installation of the window and/or applying the exterior cladding.

5.4 Sealant Selection

Prior to using sealant, the general contractor, design professional or builder shall ensure that the sealant meets required specifications or standards. ~~seek input from the sealant manufacturer regarding sealant selection.~~ This includes proper chemical compatibility, proper adhesion to the substrates and joint design., ~~material (chemical) compatibility, and proper adhesion to the substrates that the sealant will be in contact with.~~ If unsure, seek input from the sealant manufacturer regarding sealant selection. Clean and prep surfaces according to the sealant manufacturer's recommendations.

Commented [AB7]: Added on 7/11 for clarification per comment 3 from Jaron to Section 7.6.1.

Commented [AB8R7]: Edits are a result of PE resolution on 7/11

- Gunnable sealants shall comply with AAMA 808.3 per AAMA 800 Section 5.0 or ASTM C920 Class 25 Grade NS or greater for proper joint expansion and contraction. If preformed tapes are used, they shall meet ASTM C1281. If low expansion foams are used, they shall be tested in accordance with AAMA 812.
- All materials, such as, but not limited to coatings, flashings and sealants that come into contact with each other shall exhibit chemical compatibility, per AAMA 713. If unsure, seek input from the sealant manufacturer.
- Adhesion of sealants to the substrates shall be verified by the sealant manufacturer per ASTM C794.
- The design professional, general contractor or builder shall ensure the sealant joint is designed to accommodate the joint gap and expected joint movement between window and the wall opening for the intended purpose. If unsure, seek input from the sealant manufacturer.

~~5.4.1 Chemical Compatibility~~

~~All materials, such as, but not limited to coatings, flashings and sealants that come into contact with each other shall exhibit chemical compatibility, per AAMA 713. If unsure, seek input from the sealant manufacturer.~~

~~5.4.2 Adhesion of Sealants~~

~~Adhesion of sealants to the substrates they will contact shall be verified by the sealant manufacturer peel adhesion per ASTM C794.~~

~~5.4.3 Sealant Joint Design~~

~~The design professional, general contractor or builder shall consult with the sealant manufacturer to ensure the sealant joint is designed to accommodate the joint gap and expected joint movement between window and the wall opening for the intended purpose. If unsure, seek input from the sealant manufacturer.~~

~~5.4.4 Sealant Performance Specifications~~

~~Gunnable sealants shall comply with AAMA 808.3 per AAMA 800 Section 1.45 or ASTM C920 Class 25 Grade NS or greater for proper joint expansion and contraction. If preformed tapes are used, they shall meet ASTM C1281. If low expansion foams are used, they shall be tested in accordance with AAMA 812.~~

5.5 Flashing Materials

~~5.4.5~~Flashing materials shall meet the respective performance standard for the product type.

Self- adhering flashing shall meet the performance requirements of AAMA 711.

-

- ~~5.4.6~~ Liquid applied flashing shall meet the performance requirements of AAMA 714.
- Mechanically ~~applied~~attached flashing shall meet the performance requirements of AAMA 712.

Commented [AB9]: Remove this reference in a future publication and once the updated AAMA 800 is published.

Commented [AB10R9]: *Language change for a future publication.

Commented [AB11]: Recommended language for a future version of 100.
All interfacing materials shall exhibit chemical compatibility, per AAMA 713 or the appropriate standard. If unsure, seek input from the applicable manufacturers.

Commented [AB12R11]: *Language change for a future publication.

Commented [AB13]: Changed to align with FGIA glossary.

5.~~5~~ 6 ~~Stucco and Other~~ Exterior Cladding

~~Stucco and other~~ Unless otherwise specified, exterior cladding shall not be installed prior to window installation.

5.~~6~~ 7 Shims

Shims shall be installed per the manufacturer's installation instructions between the window frame and the rough opening in such a manner to support the product in a plumb, level, square and true position. Shims shall not interfere with continuity of air/water seals (see Section 7.6~~7~~.2).

NOTE 2: ASTM E2112 provides additional guidance regarding the structural requirements for shims.

6.0 WINDOW PRE-INSTALLATION PROCEDURES

6.1 Rough Openings

6.1.1 Size and tolerances of the rough openings shall be determined from the window manufacturer's instructions and this standard practice. Remedy any discrepancies.

Commented [AB14]: Recommended update in future version of 100:
Rough opening clearances shall be determined by the door manufacturer's instructions and this standard practice. Remedy any discrepancies.

Commented [AB15R14]: *Language change for a future publication.

6.1.2 The rough opening shall be plumb, level, square~~,~~ and true prior to the installation of the window. No more than 6 mm (1/4 inch) deviation from square, height~~,~~ and width and 3 mm (1/8 inch) deviation from plumb shall be allowed, unless otherwise specified by the manufacturer's instructions.

6.2 Water-Resistive Barriers (WRBs)

This standard practice recommends that the WRB be installed prior to the window installation. The installation method described in this standard practice is based on this sequence. In the event that the WRB is installed after the window installation, refer to ASTM E2112 (Methods A and B), WRB manufacturer and/or window manufacturer for various sequencing considerations.

Commented [AB16]: Recommend updated language in a future publication:
This standard practice recommends that the WRB be installed prior to the exterior door installation, refer to ASTM E 2112 Method A1. The installation method described in this standard practice is based on this sequence. In the event that the WRB is installed after the exterior door installation refer to ASTM E2112 Method A. In all cases, consult with the WRB manufacturer and the door manufacturer for various sequencing considerations.

Commented [AB17R16]: *Language change for a future publication.

*NOTE 3: ~~*Proprietary s*~~Systems which integrate the WRB with the wall sheathing ~~*systems*~~ are not covered in this document and instructions should be obtained from the sheathing system manufacturer.*

6.2.1 The application of the WRB involves covering the vertical surfaces of the wall, lapped, fastened, taped, and sealed per the WRB manufacturer's instructions.

6.2.2 Penetrations through the WRB for the installation of windows shall be made in accordance with the WRB manufacturer's recommendations or this standard practice.

6.2.3 The WRB shall be applied in weatherboard ~~water shedding~~ fashion (shingled), starting at the base of the wall and working towards the top. The WRB shall be applied to the face of the building framing or sheathing.

Commented [AB18]: This language should be used throughout ILO of shiplap, weather shedding, etc.
FGIA Staff reviewed to confirm.

Commented [AB19R18]: *Clarification

6.2.4 ~~Under extreme wind/water exposure, it~~Traditional methods, such as those described in ASTM E2112, have always dealt with management of incidental water that may migrate behind the WRB due to penetrations, fasteners, or cladding attachment above the head of the window. ~~It is possible that~~ this ~~incidental water that migrates behind the WRB due to penetrations, fasteners, or cladding attachment and may migrate into the window rough opening at the jamb areas as well. While these other WRB penetrations are outside the scope of this standard practice, it is recommended that steps are taken to mitigate this potential incidental water intrusion by creating a water seal between the WRB and sheathing at the window rough opening at the window head and jamb areas.~~ Incidental water infiltration occurring through the WRB (at penetrations / seams / flashings etc.) is outside the scope of this standard practice and shall be brought to the attention of the contractor and / or discussed with the manufacturer of the WRB for potential resolutions.

6.2.5 Two Layer Water-~~-~~Resistive Barrier (WRB) Systems

If required, a two-layer WRB or building paper (BP) system shall be used in accordance with state and local codes. The window shall be flashed/integrated with inner layer WRB.

Commented [AB20]: Recommended language change for a future version of 100 to align with 300:
If required, a multi-layer WRB system shall be used in accordance with state and local codes. The exterior door frame shall be flashed/integrated with the innermost WRB layer/application.

Commented [AB21R20]: *Language change for a future publication.

6.3 Pre-Window-Installation Inspection

6.3.1 Before window installation, the installer shall inspect the WRB to ensure that it is installed in accordance with this standard practice and the WRB manufacturer's instructions. Any tears, penetrations or defects within the window installation scope of work ~~within 305 mm (12 in) of the rough opening area~~ shall be sealed per the WRB manufacturer's instructions.

NOTE 4: Any tears, penetrations or defects in the WRB should be reported to the contractor and corrected prior to installation of cladding.

Commented [AB22]: The language in 100 should be aligned with Section 6.4.1 in 300 in a future publication:
Before door installation, the installer should inspect the WRB to ensure that it is installed in accordance with this standard practice and the WRB manufacturer's instructions. Any visible damage or defects in the WRB should be reported to the contractor and corrected prior to installation.

Commented [AB23R22]: *Language change for a future publication.

6.3.2 The installer shall verify that the rough opening is within acceptable tolerances for plumb, level, square, and true. The installer shall notify the contractor to remedy any discrepancies per this standard practice.

Commented [AB24]: Add "dimensionally-correct" to 100 in a future publication.

Commented [AB25R24]: *Language change for a future publication.

6.3.3 Installer shall inspect the fenestration product for damage prior to installation. Any damage shall be reported to the contractor~~and repair or replace if necessary~~.

7.0 WINDOW INSTALLATION PROCEDURES

7.1 Preparation of the Water-~~-~~Resistive Barrier (WRB)

This practice ~~recommends that~~ details ~~a~~ methods where the underside of the WRB ~~be~~ is sealed at the rough opening at the jamb areas, per discussion in Section 6.2.4. There are ~~a variety of ways to do this successfully~~three WRB prep methods that have been tested and approved. ~~, tThe recommended method is described . Three representative methods are as follows as is described as~~ Method A1-100~~, per~~ is described in Section 7.1. Methods B1-100 and C1-100 ~~, which are also~~

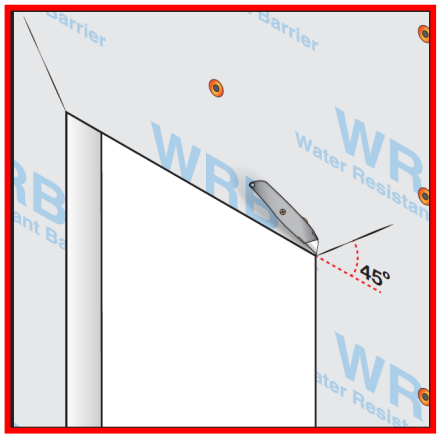
~~approved,~~ are described in Appendix ~~x.~~B. Always follow WRB manufacturer's instructions for proper modification and treatment of WRB.~~:~~

7.1.1~~.1~~ Water-~~-~~Resistive Barrier (WRB) Method A1-100

Box cut the WRB around the rough opening. Create a flap above the head with 45-degree cuts extending outward from each corner exposing sufficient area to apply head flashing to the ~~sheathing~~drainage plane (see Figure 1). Trim~~.~~ ~~Repeat this step on the opposite corner. Trim~~ 25 mm (1 inch) off~~off~~ the bottom of the WRB head flap for proper integration with the mounting~~head~~ flange at the head of the window. Raise the bottom edge of the flap created in the WRB up and temporarily tape it to the exterior face of the WRB above (Figure 2). This is done ~~in order~~ to allow for installation of the ~~exterior~~ window ~~and head flashing later~~and head flashing later.

~~, seal~~

~~7.1.2 Create a water resistant seal at the WRB termination along the jamb with a minimum 100 mm or 150 mm (4 in or 6 in) self-adhered~~sealed ~~flashing or adhesive tape between the jamb corners at the head down to the sill, such that self-adhered the flashing or tape covers 50 mm (2 in) on the WRB as well as into the rough opening return. Apply the flashing or adhesive tape along the entire length of both jamb areas. at least to the depth of the window, and the sill (see Figure 1). Apply sealant at jamb/head interfaces (see Figure 32). See Schematic 1 for jamb detail.~~



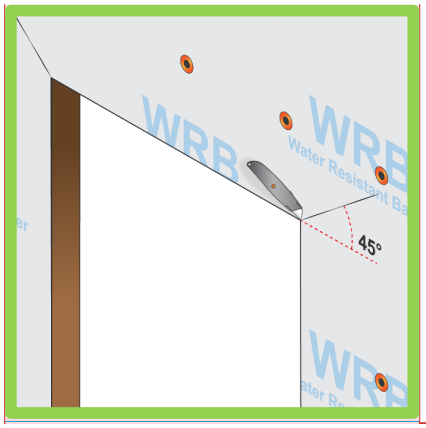


FIGURE 1

Commented [AB26]: Comment 1 - B. Meyers

Section 7.1 - The sentence makes sense until the "25mm (1.0 inch), and then it doesn't make sense. This needs to be reworded.

Commented [AB27R26]: Langauge reverted back to original for clarification.

Found to be PE on 7/11.

Commented [AB28]: Future edit needed to show 1" trim of WRB.

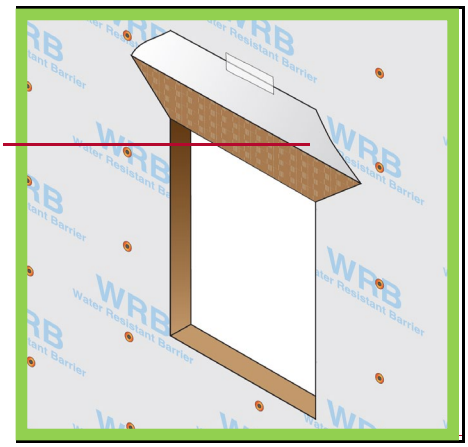
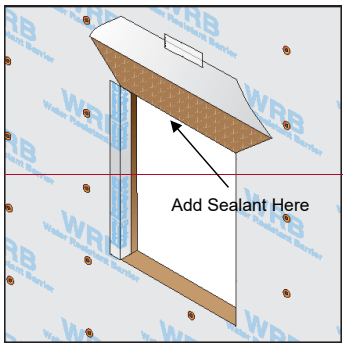
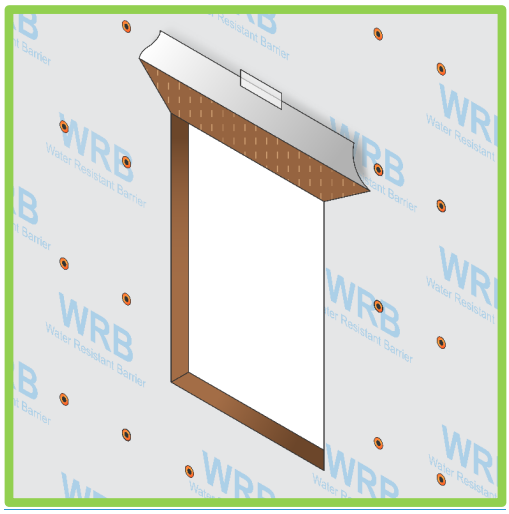


FIGURE 2~~1~~





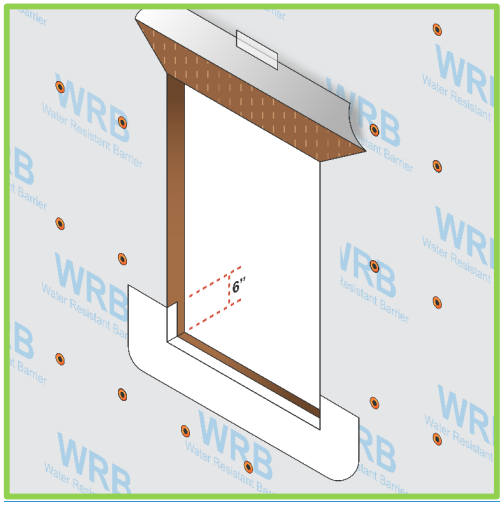


FIGURE 3~~2~~

7.2 Applying a Sill Pan Flashing

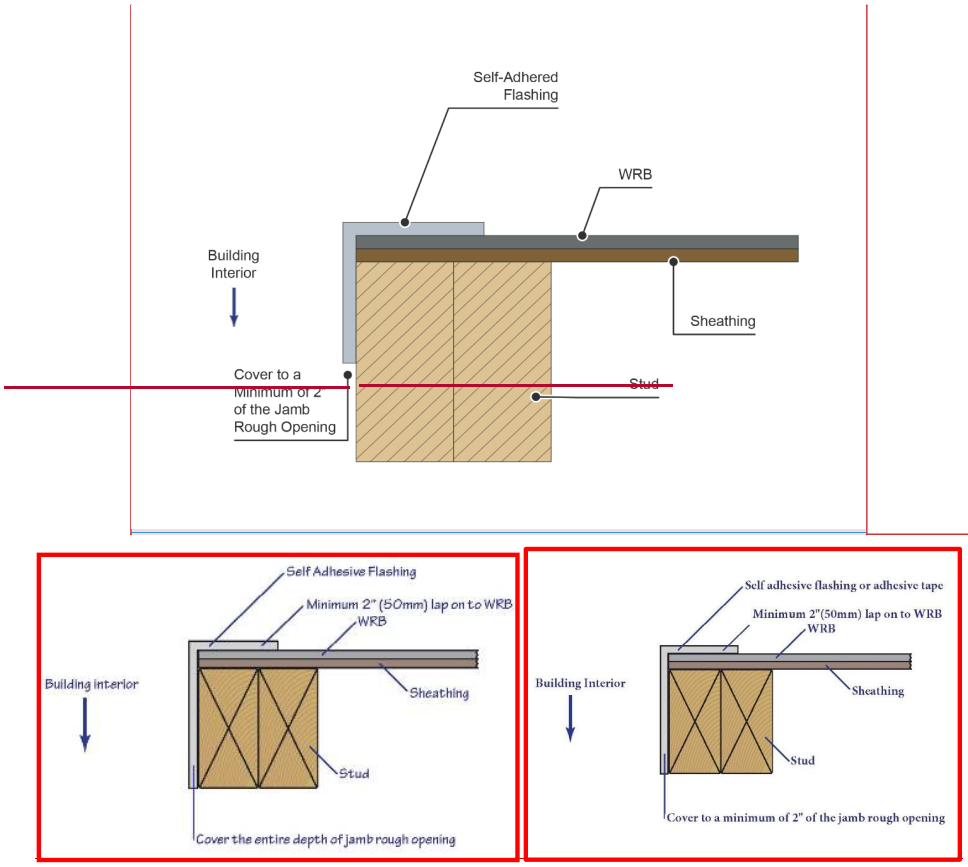
7.2.1 Ensure that the rough opening sill area is clean and free of debris.

7.2.2 There are a variety of sill pan systems available. The pan flashing shall direct water to the exterior or to the membrane drainage plane for subsequent drainage to the exterior of the building. Refer to FMA/AAMA/WDMA 300 or ASTM E2112 for more details on sill pan systems. This method does not recognize mechanically attached flexible flashing for sill pan flashing.

7.2.3 When self-adhering flashing is used as a sill pan, cut to a length equal to the rough opening width plus at least 300 mm (12 inches), such that 150 mm (6 inches) minimum is used at each jamb to form end dams (See Figure 3).

7.3 Create a water-resistant seal at the WRB termination along the jamb with a minimum 100 mm (4 inches) self-adhering flashing between the jamb corners at the head down to the sill. Apply the flashing tape along the entire length of both jamb areas and return it into the rough opening to meet or exceed the depth of the window frame. Apply sealant at jamb/head interfaces (see Figure 5). See Figure 4 for jamb detail. Liquid applied flashing may also be used to create the water-resistant seal at the WRB termination along the jamb.

NOTE 5: Check with manufacturers for installation methods and to ensure compatibility, including adhesion, between WRB, flashing, and sealant materials.



Figure~~Schematic~~ ~~4~~1 (Top View)

~~7.1.2 WRB Method B Integration after Window is Installed (per Section 7.3.6)~~

Commented [AB29]: Updated Image

Commented [AB30R29]: Arrow added to clarify the direction of interior on 7/11. To align with 300.

Commented [AB31]: Comment 2 - J. Vos

The note on Figure 4 could be improved to read: "Cover to a minimum of 1/2" beyond the depth of the window frame."

Commented [AB32R31]: Editorial change made to Section 7.3 to clarify the intent of a "minimum 2" lap of SAF into the RO at the jambs.

Found to be PE on 7/11.

Box cut the WRB around the rough opening. Create a flap above the head with 45-degree cuts extending outward from each corner exposing sufficient area to apply head flashing to the sheathing (see Figure 1).Box cut WRB around rough opening and mMake cuts 150 mm (62 in) wider than the flashing to be used onto the face of the wall at each jamb corner and fold back jambs as with head flap ensuring that the jamb cuts at the sill are angled upwards (Figure 3). After the window is installed (per Section 7.3.6), apply sealant along jambs and fold over the previously folded over WRB jamb flap allowing it to integrate with the window frame (see Figures 4 and 4A). Press down on sealant bead under WRB. Integrate WRB to the window with sheathing tape or self-adhering flashing. See Schematic 2 for jamb detail.

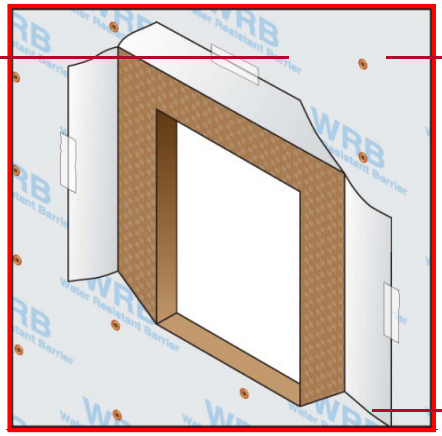


FIGURE 3

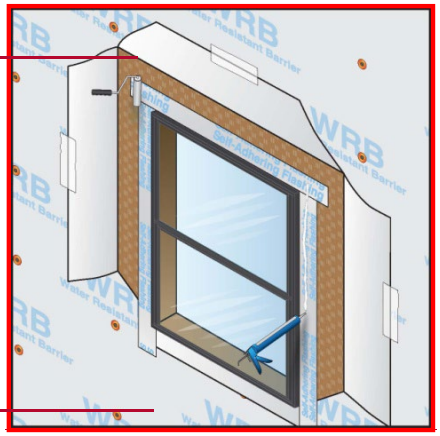


FIGURE 4

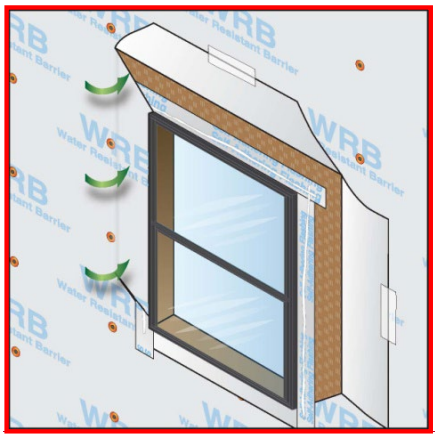
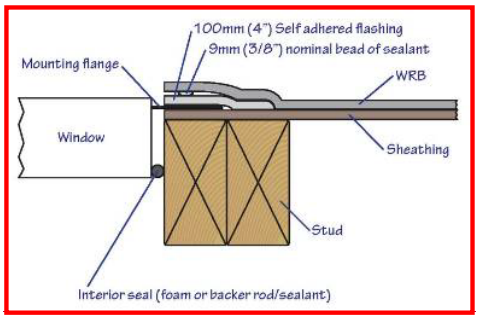


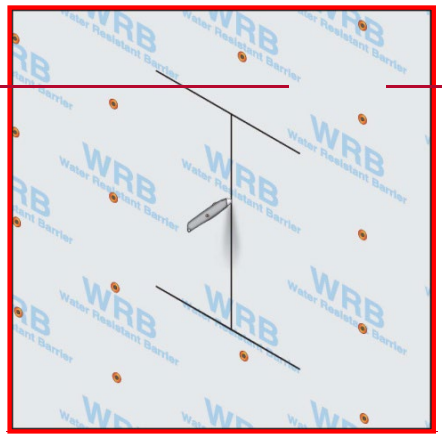
FIGURE 4A



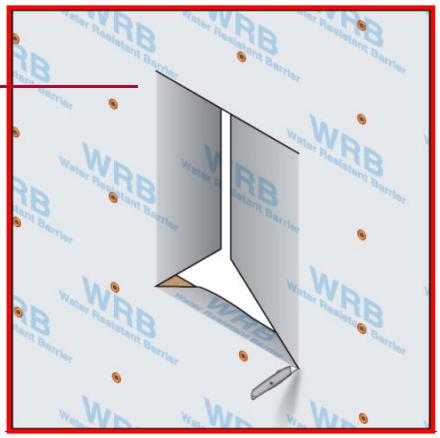
SCHEMATIC 2

~~7.1.3 WRB Method C~~

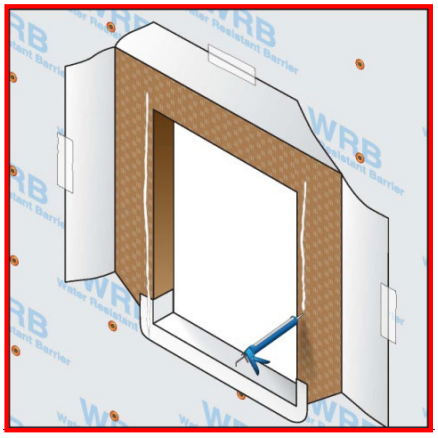
~~Full I-Cut of WRB (see Figure 5) or modified I-Cut (Figure 5A), Apply sealant onto sheathing under WRB at jambs (Figure 6), and wrap into cavity and secure (Figure 7). Attach the WRB into position on the inside of the rough opening, and trim any excess as required (Figure 8). Press down on sealant bead below WRB. See Schematic 3 for jamb detail.~~



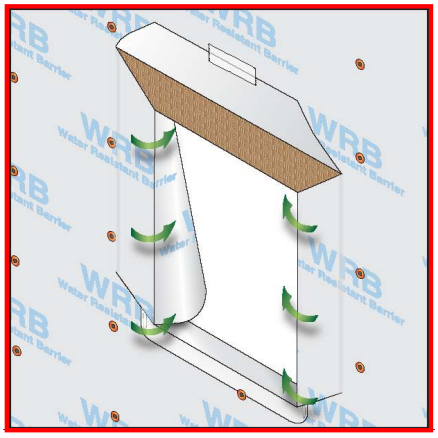
~~FIGURE 5~~



~~FIGURE 5A~~



~~FIGURE 6~~



~~FIGURE 7~~

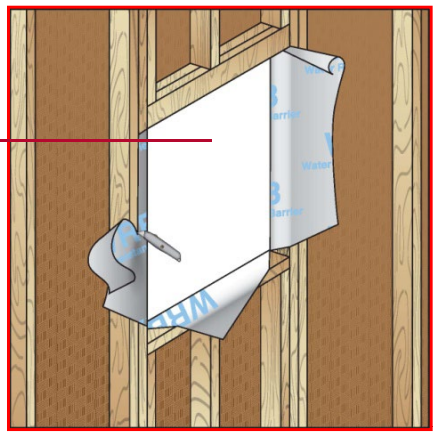
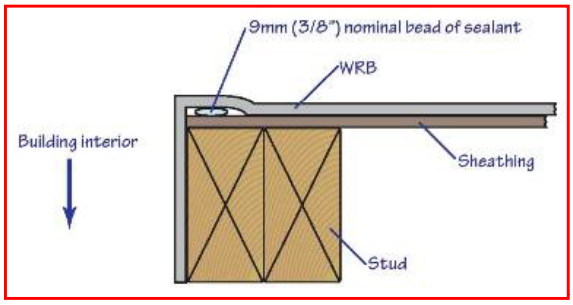


FIGURE 8



SCHEMATIC 3

7.1.4 For all WRB Wrap methods

At the head of the opening, starting at the top corner of the exterior window (rough) opening, measure from the corner horizontal and then vertical a distance equal to the roll width of the flashing to be applied. At a 45° angle, carefully cut the WRB on a diagonal (see Figure 9). Repeat this step on the opposite corner. Trim 25 mm (1 in) off the bottom of the WRB head flap for proper integration with the head flange of the window. Raise the bottom edge of the flap created in the WRB up and temporarily tape to the exterior face of the WRB above (Figure 10). This is done in order to allow for installation of the exterior window and head flashing later.

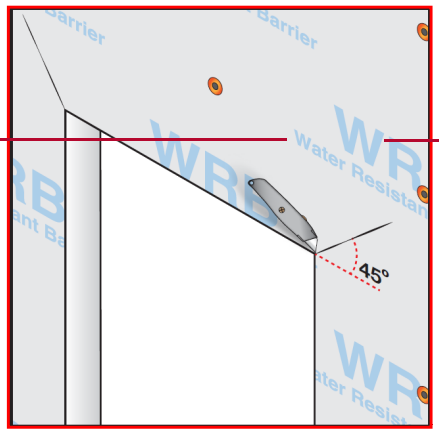


FIGURE 9

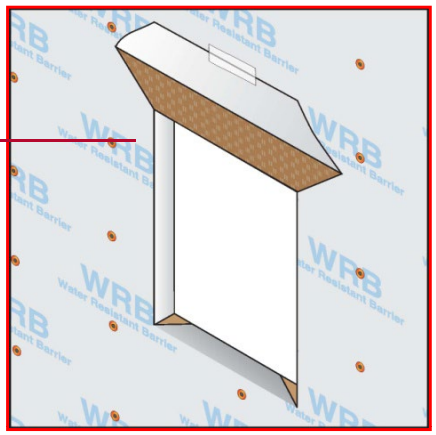


FIGURE 10

7.2 Applying a Sill Pan Flashing

7.2.1 Ensure that the rough opening wood sill area is clean and free of debris.

7.2.2 There are a variety of sill pan systems available. The pan flashing shall direct water to the exterior or to the membrane drainage plane for subsequent drainage to the exterior of the building. Use of self-adhered flashing or semi-rigid pan flashing is acceptable. This method does not recognize mechanically attached flexible flashing for sill pan flashing. This method does not recognize mechanically attached flexible flashing for sill pan flashing.

7.2.3 When self-adhering flashing is used as a sill pan, cut to a length equal to the rough opening width plus at least 300 mm (12 in), such that 150 mm (6 in) minimum is used at each jamb to form end dams (See Figure 411).

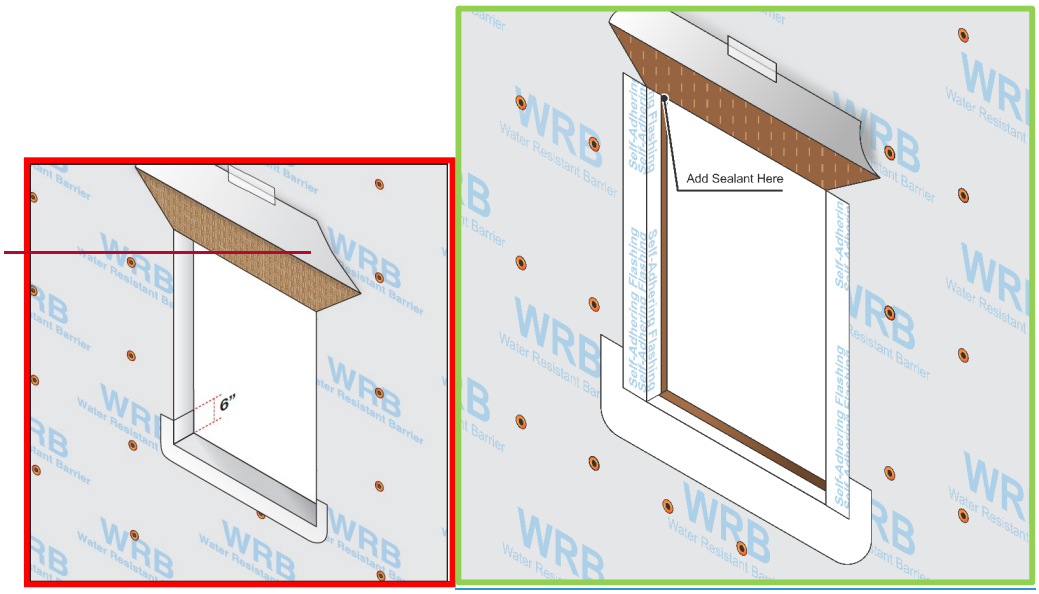
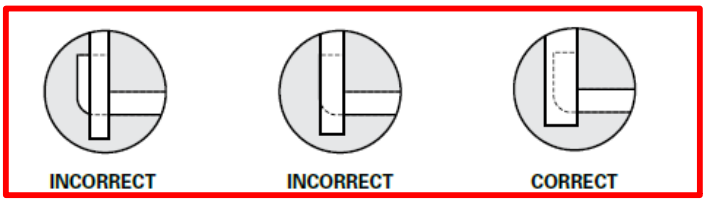


FIGURE 54 ~~11~~

The self-adhering flashing sill pan system shall cover the sill to at least the depth of the window, plus at least 50 mm (2 inches), ~~but not more than 75 mm (3 in),~~ which shall lap onto the face of the WRB drainage plane. ~~The 75 mm (3 in) maximum is specified to ensure that jamb flashing of 100 mm (4 in) width will adequately lap over the sill flashing.~~ The upturned leg of the sill flashing shall extend horizontally onto the face of the ~~sheathing~~drainage plane only to the extent such that it will be completely covered by the jamb flashing for proper lapping, as illustrated on Figure 45.



~~Figure 5~~

NOTE 6~~5~~: Refer to the fenestration or flashing manufacturer for other acceptable self-adhering~~ed~~ flashing methods.

7.32.14 If a rigid or semi-rigid sill pan system is used, follow the manufacturer's instructions for installation details and integration with the WRB and flashing.

7.3.2 If liquid applied flashing is used to create the sill pan flashing, refer to AAMA 714.

7.3.2.1 Ensure that the rough opening sill area is clean and free of debris per manufacturers guidelines.

7.3.2.2 The liquid applied flashing shall be installed in a manner to direct water to the membrane drainage plane for subsequent drainage to the exterior of the building.

7.3.2.3 Apply liquid applied flashing into sill rough opening and up jambs 150 mm (6 inches) and out onto the face of ~~sheathing~~ the drainage plane a minimum of 50 mm (2 inches), but no more than 75 mm (3 inches), or per manufacturer's instructions.

7.3.2.4. If liquid applied flashing is to be used to treat the entire rough opening, apply liquid applied flashing into rough opening past the interior face of the window/door system and out onto the ~~sheathing~~ drainage plane 100 mm to 150 mm (4 to 6 inches).

7.3.2.5 Integrate liquid applied flashing to various WRB's per manufacturer's instructions.

~~*NOTE 6: Refer to FMA/AAMA/WDMA 300 for more details on rigid or semi-rigid sill pan systems.*~~

7.4~~3~~ Installation of Window into Rough Opening

7.4~~3~~.1 Inspect and clean the back side (interior surface) of the exterior window mounting flange. Look for any sealant gaps or misaligned welding (particularly for vinyl products) at the corner joinery. If corner seals of the flange are missing in whole or part, contact the window manufacturer for the recommended remedy. Consult with the manufacturer for the removal of any protruding weld flashing.

7.4~~3~~.2 After cleaning the mounting flange, carefully run a continuous 10~~9~~ mm (3/8 inch) nominal diameter bead of sealant on the back surface (interior face) of the mounting flange~~in~~ (see Figure 6~~56~~12) of window at the head and both jambs. Apply sealant in line with any pre-punched holes or slots in the mounting flange. Connect that bead of sealant across any joinery on the window frame at all four corners. As an option, the sealant shall be permitted to be applied to the wall surface as opposed to the back of the mounting flange.

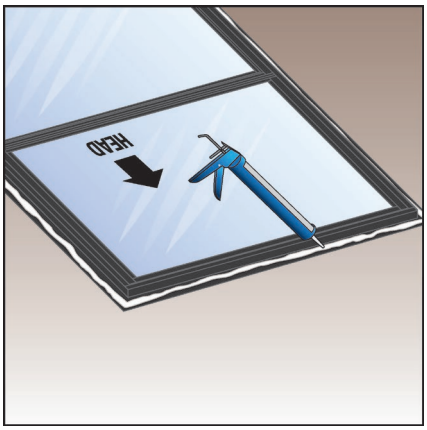


FIGURE 65612

7.43.3 Apply a discontinuous bead of sealant on the interior surface of the mounting flange at the sill. The bead of sealant shall be discontinuous, leaving two 50 mm (2 inches) voids within 100 mm (4 inches) of each jamb (see Figure 76713) and subsequent 50 mm (2 inches) voids shall be spaced 300 mm (12 inches) on center. Any alternative to the discontinuity in the bead of sealant at the exterior sill area shall be approved by the window manufacturer.

NOTE 7: Placement of shims or other thin spacers behind the nail flange at the sill may help ensure proper drainage.

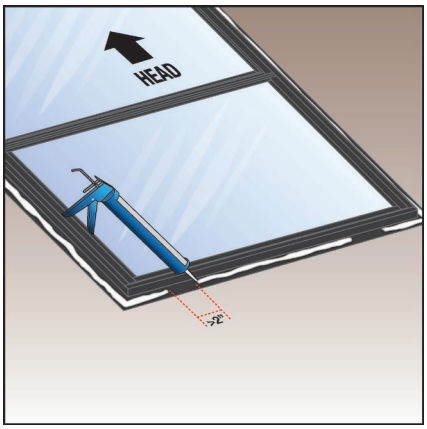
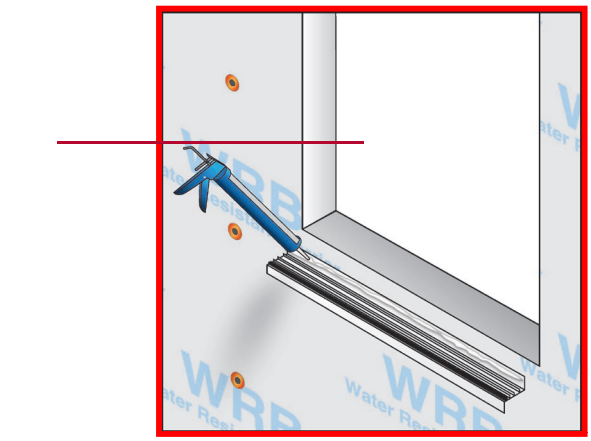


FIGURE 76713

7.43.4 If a rigid or semi-rigid sill pan is used, apply a continuous bead of sealant to the outboard side of the upturned leg of the pan where it will integrate with the interior side of the window and form an air/water seal (Figure 87814).



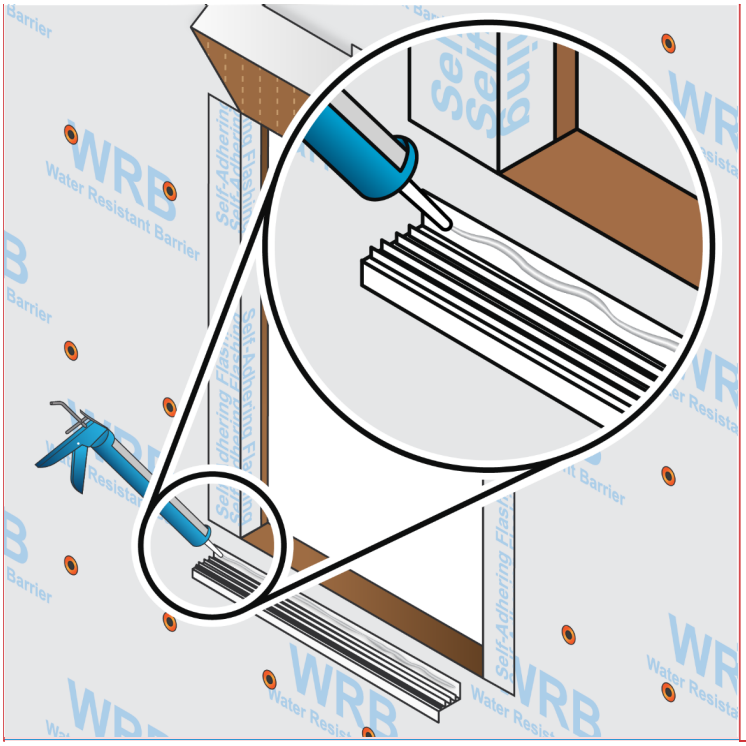


FIGURE 87~~814~~

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7.43.5 Immediately set the window in the opening (see Figure 98~~915~~).

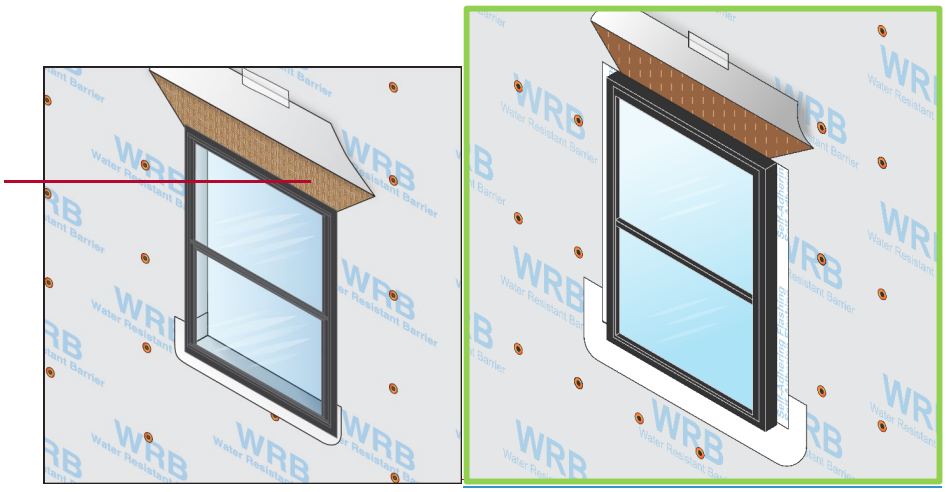


FIGURE 98915

7.43.6 Hold the window temporarily into position and~~and apply shims as required to ensure the window is set plumb, level, square and true. F~~fasten the window perimeter securely into position in accordance with the manufacturer's instructions. Apply shims as required to ensure the window is set plumb, level, square and true, and is separated from the rough opening sill per manufacturer's instructions.~~.~~

NOTE ~~1~~8~~7~~: Additional fasteners may be required at locations such as locking mechanism or hinges, per manufacturer's instructions.

7.43.6.1 For proper sealant coverage, ensure squeeze out under flange and in fastener holes (see Figure 1091~~91016~~). Tool excessive squeeze out flat prior to applying self-adhering~~ed~~ flashing.

NOTE 9~~8~~: Ensure compatibility between the flashing and sealant per Section 5.4.1.

7.43.7 Install shims according to fenestration manufacturer's installation instructions and in such a manner that ~~they are not permitted to~~does not damage the WRB and does not interfere with the application of ~~the~~ a continuous air seal~~, which will be applied~~ on the interior side in the steps that follow.

FIGURE 1091016

~~*NOTE 29: In the following two sections: either self-adhesive flashing (see Section 7.4) or mechanically attached flashing (see Section 7.5) shall be permitted to be used for jamb and head flashing, per the following steps.*~~

7.4.8 Prior to the installation of flashing, check the window to ensure proper operation.

7.54 Jamb and Head Flashing Installation ~~Using Self Adhering Flashing~~

There are three options for jamb and head flashing installation covered in this section, which are as follows: Self-Adhering Flashing (see Section 7.5.1), Mechanically Attached Flexible Flashing (see Appendix C) and Liquid Applied Flashing (see Section 7.5.3).

7.5.1~~—~~ Self-Adhering Flashing

7.54.1.1 Apply flashing over the mounting flange of the window at both jambs per manufacturer's instructions. The self-adhering flashing shall conform to the requirements of AAMA 711~~ and be a minimum of 100 mm (4 in) in width~~.

NOTE ~~3~~10: Local job site conditions, application temperatures, or specific materials may require the application of primer ~~to any exposed wood~~ as required by the flashing manufacturer.

7.54.1.2 Cut the jamb flashing to a ~~measurement~~ length equal to ~~twice the roll width of the flashing being used, plus~~ the height of the rough opening plus sufficient length allow the head flashing to overlap the jamb flashing and the jamb flashing to overlap the sill flashing~~, minus 25 mm (1 in) and apply onto window jamb~~ (see Figures 110a and 110b~~117~~). The jamb flashing shall completely cover the upturned area of the sill flashing on the exterior ~~sheathing~~drainage plane, per Figure 121~~5~~.

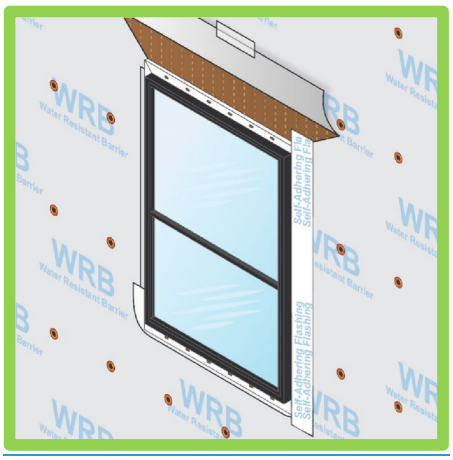


FIGURE 1101a

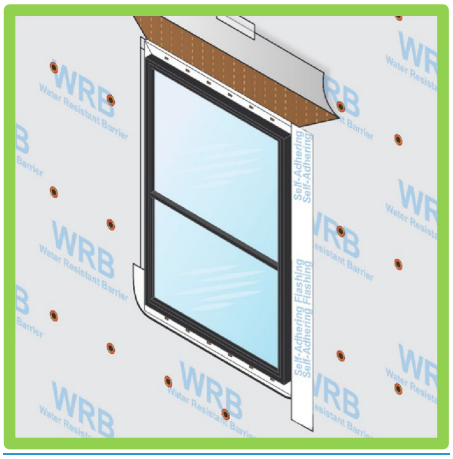
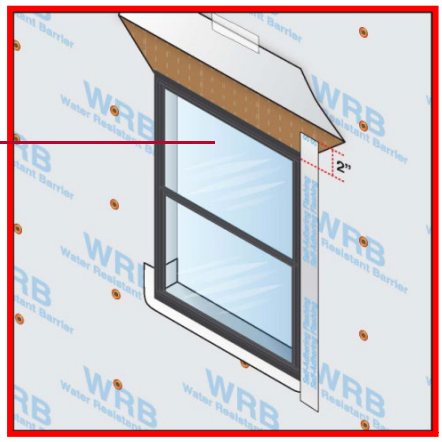


FIGURE 1101b



~~FIGURE 117~~

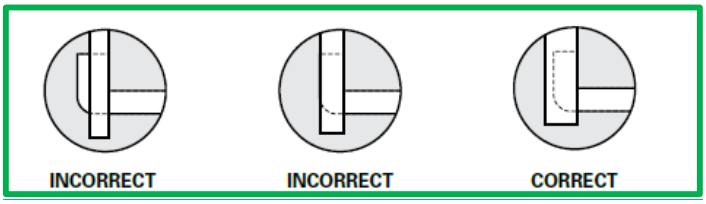


Figure 121~~5~~

7.54.1.3 ~~Adhere~~ Apply the jamb flashing in such a fashion that the top end of the jamb flashing ~~50 mm (2 in)~~extends above the ~~rough opening~~installed window flange at a distance that allows for the head flashing (installed later) to adhere to the ~~sheathing~~drainage plane by at least 50 mm (2 inches). The head flashing, when installed, ~~, such that the head flashing (applied later) will~~shall completely lap over the jamb flashing ~~by at least 50 mm (2 in).~~ (see Figure 13~~27~~).

Do not interfere with the WRB flap at the head. Tuck the top of the jamb flashing under the flap of the ~~water-resistive barrier~~WRB at the head.

7.54.1.4 Use firm pressure to apply the ~~self~~ self-adhering flashing to promote seal to window flange and WRB. Use of a J-Roller is recommended.

NOTE 11: A J-Roller was used to apply the self-adhered flashing during validation of this installation method. Always consult with the manufacturer for proper application of self-adhered flashing.

7.54.1.5 Apply a piece of flashing across the head of the rough opening. The head flashing shall be cut to the width of the rough opening plus two times the roll width of the flashing, plus ~~50~~ 100 mm (~~2~~4 inches).

7.54.1.6 Adhere the self-adhering flashing with firm pressure (use of a J-Roller is recommended) across the head of the window on top of the mounting flange and beyond the rough opening on each side extending it 50 mm (2 inches) over the outside edge of the flashing at the jambs (see Figure 13~~28~~).

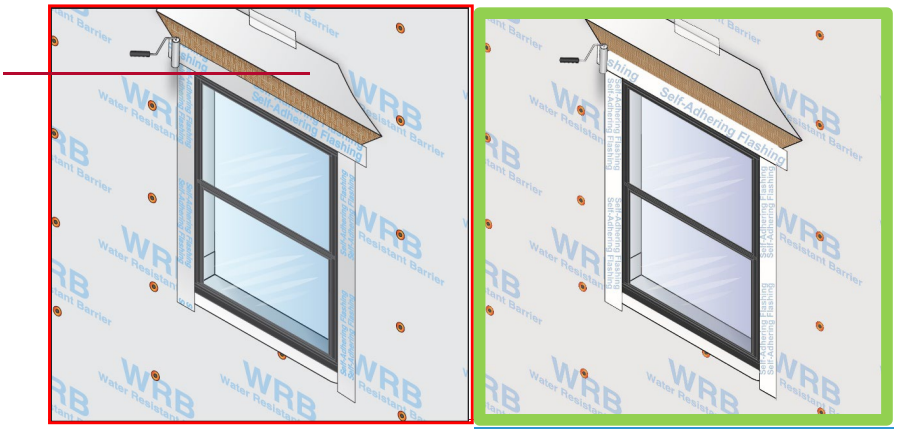


FIGURE 13~~28~~

7.54.1.7 Remove the previously applied tape which holds the flap of the ~~water-resistive barrier~~WRB at the head. Allow the flap to lay flat over the head flashing. Apply a new piece of sheathing tape or ~~100 mm (4 in)~~ self-adhering flashing over the WRB flap and the entire diagonal cut made in the ~~water-resistive barrier~~WRB. The tape should be compressed against the WRB and the head flashing, which extends over the jamb (see Figure 14~~39~~). Placing discontinuous lengths of tape across the width of the head seam between the WRB and the head flashing is acceptable~~,~~ but may result in increased air infiltration around the WRB.

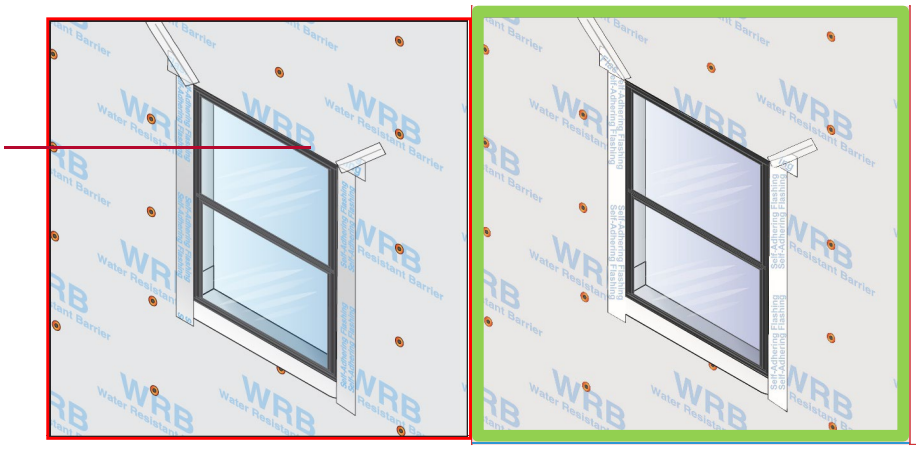


FIGURE 1439

Commented [AB35]: Future edit needed to show 1" trim of WRB. Also need to show horizontal tape across the head flap in future revisions.

Commented [AB36R35]: *Change for a future publication.

~~7.5 Jamb and Head Flashing Using Mechanically Attached Flashing~~

~~7.5.2 Cut jamb flashing to a measurement equal to twice the roll width of the flashing being used, plus the height of the rough opening, minus 25 mm (1 in).~~

~~7.5.1 Apply a continuous 9~~ 10 ~~mm (3/8 in) nominal diameter bead of sealant over sheathing (wall surface) and the exterior face of the mounting flange and in line with any pre-punched holes or slots, starting 216~~ 215 ~~mm (8 1/2 in.) above the rough opening (see Figure~~ 1420~~) continuing down the jambs to the bottom of the sill mounting flange.~~

~~*NOTE 11: Sealant should not be allowed to skin over prior to the installation of any flashing.*~~

~~FIGURE~~ 1420

~~7.5.2 Cut jamb flashing to a measurement equal to twice the roll width of the flashing being used, plus the height of the rough opening, minus 25 mm (1 in).~~

~~7.5.3 Apply jamb flashing with the edge being between the sealant and the windowin line with any pre-punched holes/slots in the mounting flange and cover any fastener heads (see Figure 1521).~~

~~FIGURE 1521~~

~~7.5.4 Cut a piece of head flashing that is the width of the rough opening, plus two times the roll width of the flashing, plus 50 100 mm (24 in).~~

7.5.5 Apply a continuous 9 10 mm (3/8 in) nominal diameter bead of sealant along the head. Apply an additional 910 mm (3/8 in) nominal diameter bead of sealant horizontally 216215 mm (8 ½ in) above the rough opening in line with the top of the jamb flashing (see Figure 1622) or as a sloped roof design (see Figure 1622A).

7.5.6 Apply mechanically attached flashing to head over sealants and secure with mechanical fasteners (see Figure 2316).

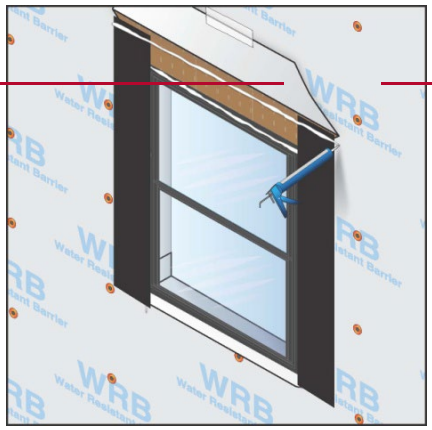


FIGURE 1622

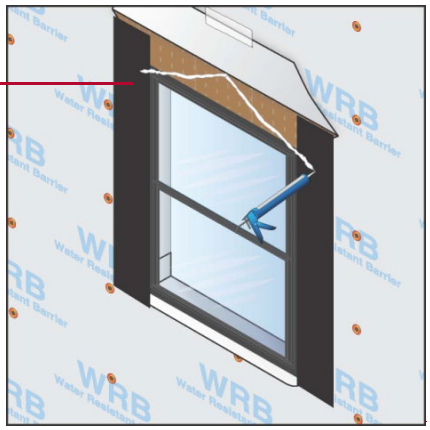


FIGURE 1622A

7.5.6.1 Use fasteners (in accordance with the flashing manufacturer's recommendations) to secure mechanically attached flashing at the head. (see Figure 1723). Cover fasteners with WRB or sealant whenever possible.

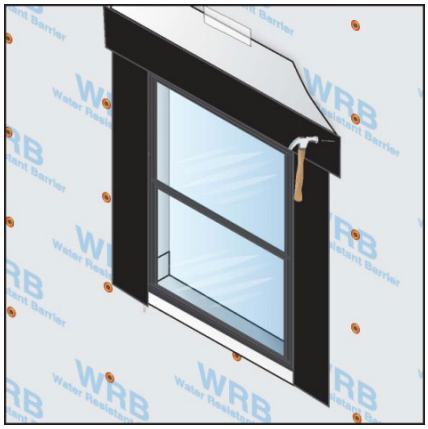


FIGURE 1723

7.6 5.7 The following steps apply when using both self-adhering and mechanically attached flashing.

7.5.2 Mechanically Attached Flexible Flashing

See Appendix C: Recommendations When Using Mechanically Attached Flashing.

7.5.3 Liquid Applied Flashing (LAF)

7.5.3.1 Apply LAF over the mounting flange of the window at the head and both jambs per manufacturer's instructions. The LAF shall cover the outer edge of the mounting flanges and continue at least 2 inches onto the ~~WRB and/or sheathing~~ drainage plane. Spread the wet LAF over the mounting flanges and ~~sheathing~~ onto the drainage plane per manufacturer's recommended mil thickness to create a seamless membrane. Do not seal the sill (bottom) mounting flange to ensure drainage. LAF shall conform to the requirements of AAMA 714.

NOTE 12: The degree of coverage on the flange depends on the window mounting system type and the manufacturer's recommendations.

7.5.3.2 As detailed in Appendix B: WRB Prep Method B-100, apply a continuous 10 mm (3/8 inch) nominal diameter bead of sealant onto skinned-over LAF over the mounting flanges and wet-set WRB into it. Apply another bead of sealant at the edge of the WRB and trowel it to seal the leading edges of the WRB (building paper).

NOTE 13: Check with manufacturers to ensure adhesion and chemical compatibility between LAF, sealants and WRB.

7.6

Remove the previously applied tape which holds the flap of the ~~water-resistive barrier~~WRB at the head. Allow the flap to lay flat over the flashing. Apply a new piece of sheathing tape or ~~100 mm (4 in) self~~ self-adhering flashing over the WRB flap and the entire diagonal cut made in the ~~water-resistive barrier~~WRB. The tape should be compressed against the WRB and the head flashing, which extends over the jamb (see Figure 15~~824~~). Placing discontinuous lengths of tape across the width of the head seam between the WRB and the head flashing is acceptable~~,~~ but may result in increased air infiltration around the WRB.

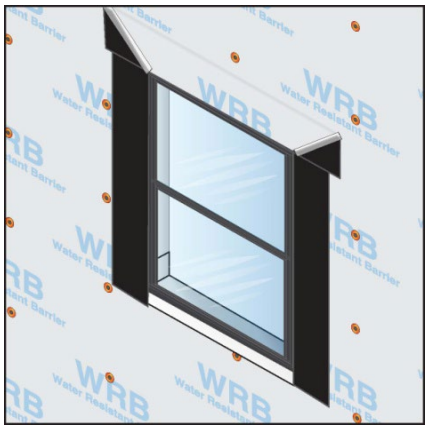


FIGURE 15~~824~~

7.~~7~~ ~~6~~6 At the interior, using a sealant recommended in Section 5.4 and appropriate bond breakers or backer rod, apply a bead of sealant (see Figures 16 ~~1925~~ and 17~~2026~~), or low- ~~expansion~~ pressure aerosol foam sealant conforming to Section 5.4.~~4~~ (see Figure 18~~217~~), or other window manufacturer approved material between the window and the rough opening on all sides to form a continuous air seal.

NOTE 14~~4~~: If a low- pressure foam sealant is used, care should~~must~~ be taken to ensure a water- tight seal at the sill. Additionally, care should be taken to maintain a proper drainage path.

NOTE 15: It is recommended to provide a minimum ¼ in. gap to accommodate proper backing and sealant installation between the perimeter of the window and the rough opening.

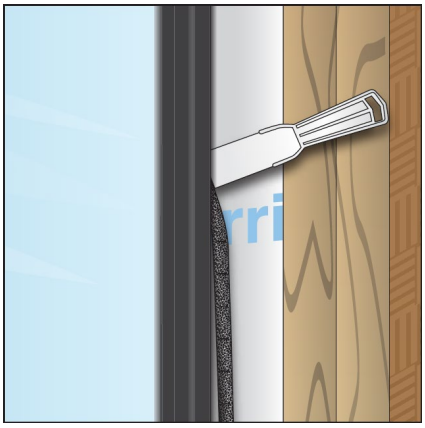


FIGURE 16~~1925~~

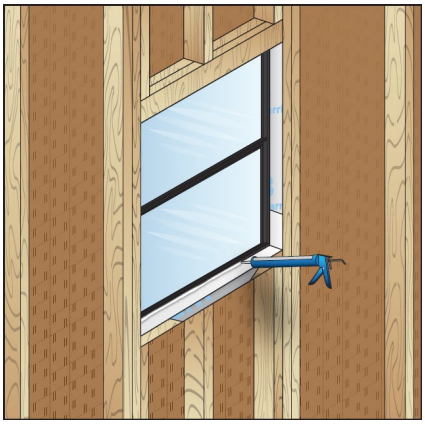


FIGURE 17~~2026~~

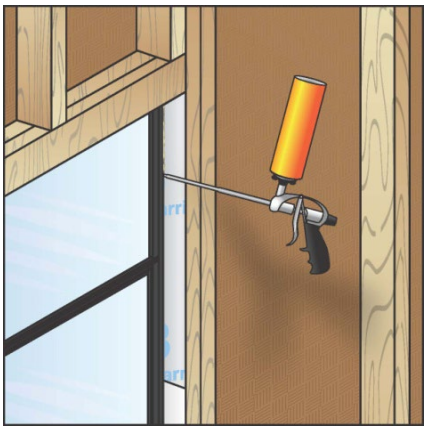


FIGURE 18~~217~~

7.~~7~~6.1 For drainage sill pan methods, this interior seal effectively forms a back dam to prevent water intrusion into the interior, thus the integrity (adhesive bond strength) of this seal is critical. A raised upturned leg on the interior plane of the sill pan made from a rigid material can also be used, if properly air sealed. If a rigid or semi-rigid sill pan was used, recheck the seal between the sill of the window and the upturned leg of the sill pan and reseal as needed (see Figure 19~~228~~).

FIGURE 19~~228~~

7.~~7~~6.2 In cases where shims, clips, or anchoring devices cause interference with the application of the interior air and water seal, trim, remove or take steps necessary to seal such obstructions to allow for a continuous air/water seal (see Figure 20~~439~~). In all cases make sure the entire perimeter joint has been sealed, creating an air/water-tight condition.

Commented [AB37]: Comment 3 - J. Vos

Notes 7.6.1, 7.6.2 or 7.6.3 could be improved with some additional language about the importance of the flashing material surfaces being free from dirt and debris and recommending that the sealant be applied immediately after window installation to facilitate a clean surface condition.

Commented [AB38R37]: Clarification was added to Section 5.4 to emphasize the importance of surface prep and cleaning per manufacturer's instructions.

Found to be PE on 7/11.

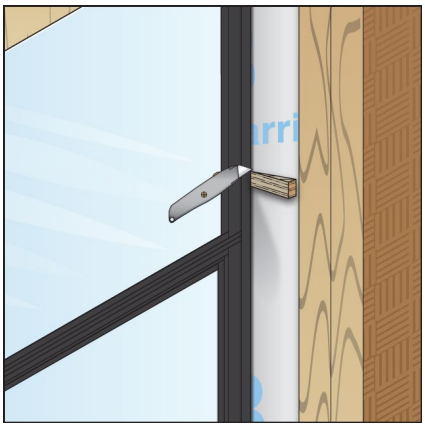


FIGURE 20~~439~~

7.~~7~~6.3 To ensure adequate protection against extreme wind driven water, it is critical that the perimeter interior air and water seal between the window and the sill pan flashing is able to withstand this pressure load without air and water leakage. Special caution needs to be used when applying perimeter air and water seals to the interior corners.

8.0 POST INSTALLATION PROCEDURES

8.1 Verify that the window frame and sash are installed plumb, level, square and true, within the specified tolerances (see Section 6.0).

8.2 Check of Operable Elements – Verify that the operable sashes move freely within their frames and that weather stripping or compressible seals make full contact with mating surfaces.

8.3 Verify that operable hardware such as locks, cranks, latches and hinges operate smoothly and that all locking mechanisms engage and operate properly.

8.4 Verify that all accessories and other components of the fenestration product assembly are present, such as screens and hardware as applicable.

8.5 Verify that Drainage holes are free from any blockages or obstructions.

~~9.0 KEYWORDS~~

~~9.1 Flashing; Sealant; Sill pans; Water-resistive barrier (WRB); Window; Installation; Mount flanges; Air seal.~~

APPENDIX A: ~~NEEDS TITLE~~STAKEHOLDER RESPONSIBILITIES

A1.0 This appendix provides users of this standard practice with general guidelines for determining which entities involved in construction projects are typically responsible for various tasks or functions. These guidelines are informative only and are not intended to be mandatory. It is recommended that specific responsibilities for any given project be agreed upon by all involved entities~~,~~ and be documented in applicable project contracts.

A2.0 General Contractor / Design Professional

The General Contractor/Design Professional is typically responsible for the following:

- ~~A2.1~~ The necessary coordination of all trades.
- ~~A2.2~~ The proper sequencing of construction activities.
- ~~A2.3~~ Ensuring that all framed rough openings are of the correct size, square, plumb, level and true, per Section 6.1.~~1.~~2.
- Remedying any discrepancies identified by the Installation Contractor during the pre-installation inspection described in Section 6.1.1.
- ~~A2.5~~ Determine and specify appropriate performance requirements of the window units as required by local code per Section 4.6.

A3.0 Installation Contractor

The Installation Contractor is typically responsible for the following:

- ~~A3.1~~ Conducting the pre-installation inspection of the framed opening per Section 6.1.1 and notifying the General Contractor of any discrepancies.
- ~~A3.2~~ Installing the WRB per Section 6.1.2 and 6.2.
- ~~A3.3~~ Installing the window per Section 7.0.
- ~~A3.4~~ Verifying the window is properly installed per Section 8.0.

A4.0 Window Manufacturer

The Window Manufacturer is typically responsible for the following:

- ~~A4.1~~ Providing window products that are designed to comply with the design pressure and wind load requirements specified by the General Contractor/Design Professional for the project.

- ~~A4.2~~ Providing suitable instructions for proper window installation.

APPENDIX B: – ALTERNATIVE WATER-RESISTIVE BARRIER (WRB) WRAP METHOD OPTIONS, METHODS B1-100 AND C1-100

B.1.0 Water-Resistive Barrier (WRB) Method B1-100

B.1.1 Box cut the WRB around the rough opening and create a flap above the head with 45-degree cuts as described and illustrated in Section 7.1.1.

B.1.2 Make cuts 50 mm (2 inch) wider than the flashing to be used onto the face of the wall at each jamb corner and fold back jambs as with head flap ensuring that the jamb cuts at the sill are angled upwards (Figure 2154).

B.1.3 Apply sill pan flashing as per Section 7.2.

B.1.4 Install the window per Section 7.3,

B.1.5 Apply jamb and head flashing per Section 7.4.1 for self-adhering flashing, or Section 7.4.25 for mechanically attached flashing, or Section 7.4.3 for liquid applied flashing.

B.1.6 Integration of the WRB with the Jamb Flashing. Two options are acceptable B1.6.1 or B1.6.2:

B.1.6.1 Apply sealant along jambs and fold overre-apply the previously folded over WRB jamb flaps allowing themit to integrate with the window frame (see Figures 2265A and 2365BA). Press down on sealant bead under WRB. See Figure 2476sa and 2b for jamb detail. WRB to be installed per manufacturer's installation instructions.

B.1.6.2 Cut the WRB back 1 inch beyond the edge of the rough opening. Integrate WRB to the window with sheathing tape or self-adhering flashing. See Figure 2587Schematic 2b for jamb detail. WRB to be installed per manufacturer's installation instructions.

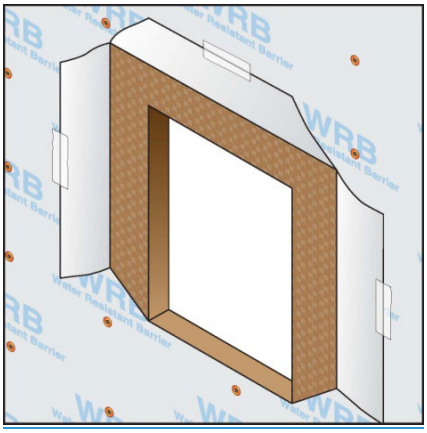
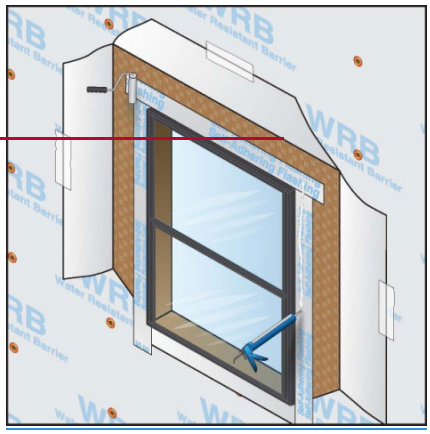


FIGURE 2154



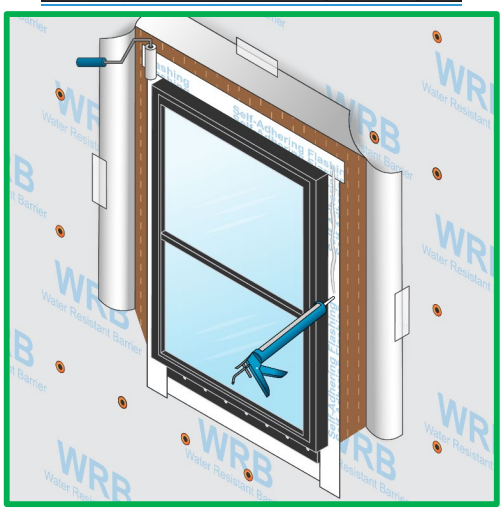
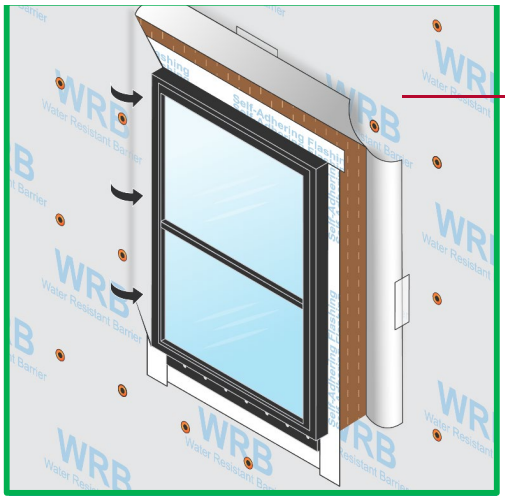
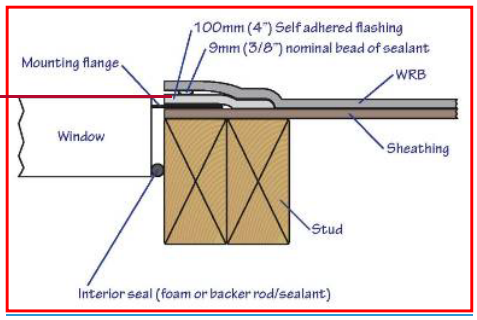


FIGURE 22~~65~~A





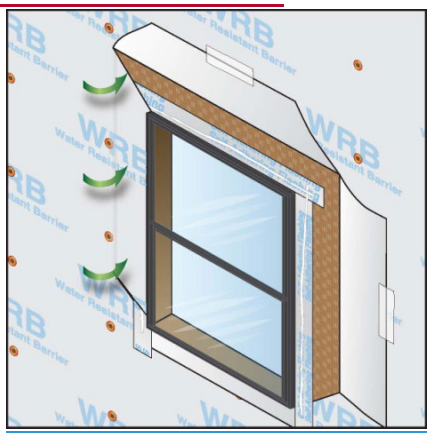
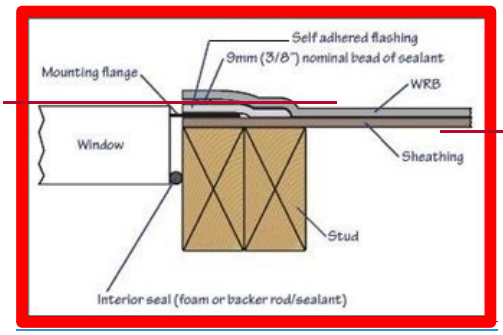
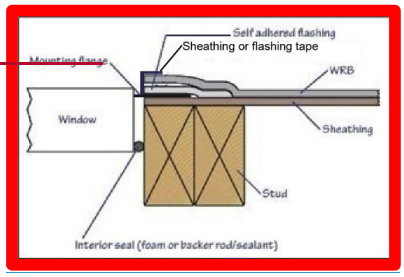


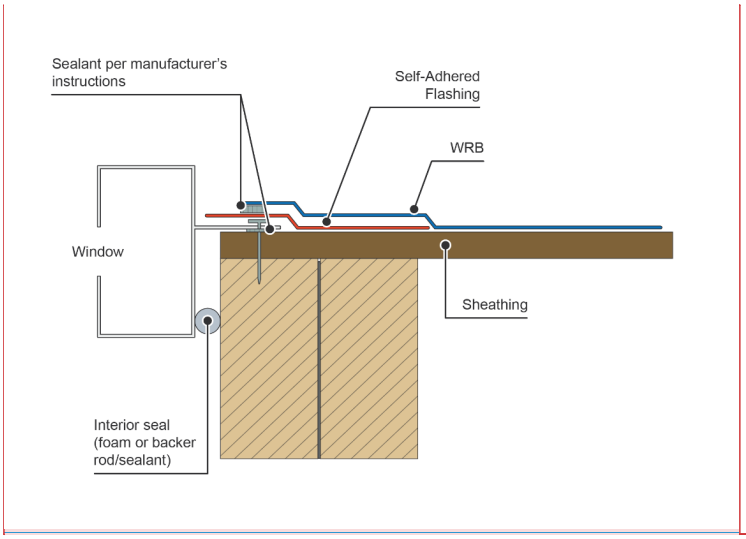
FIGURE 2365BA



SCHEMATIC 2



SCHEMATIC 2a



SCHEMATIC 2aFIGURE 2647

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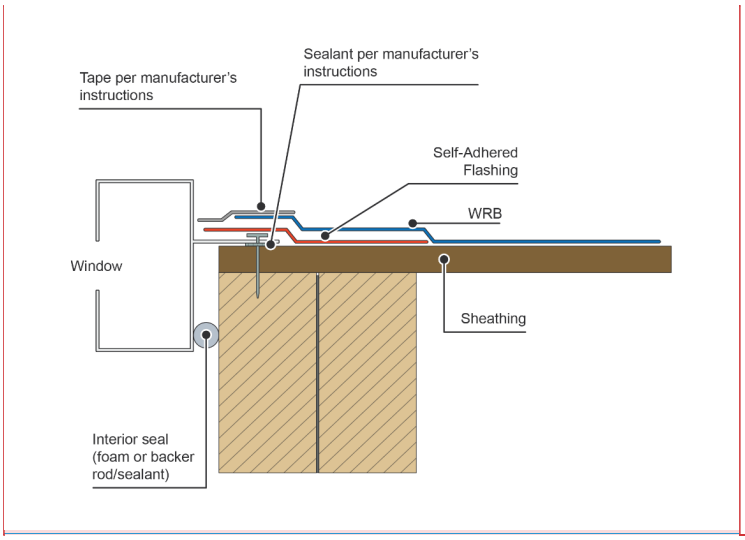


Commented [AB41]: Updated image

Commented [AB42R41]: *Reference

FIGURE 25~~87b~~

B.1.7 Complete installation per Sections 7.5~~6~~ and 7.6~~7~~.

B.2.0 Water-Resistive Barrier (WRB) Method C1-100

B.2.1 Cut the WRB per Full I-Cut (see Figure 26~~986~~). ~~or modified I-Cut (Figure 296A),~~

B.2.2 Apply sill flashing per Section 7.2.

B.2.3 Apply sealant onto ~~sheathing~~the drainage plane under WRB at jambs (Figure 27~~30297~~), and wrap into cavity and secure (Figure 28~~1028~~). Attach the WRB into position on the inside of the rough opening and trim any excess as required (Figure 29~~2129~~). Press down on sealant bead below WRB. See Figure~~Schematic~~ 30~~332~~ for jamb detail.

B.2.4 Install the window per Section 7.3 and follow remaining steps per Section 7.4 through 7.6~~7~~.

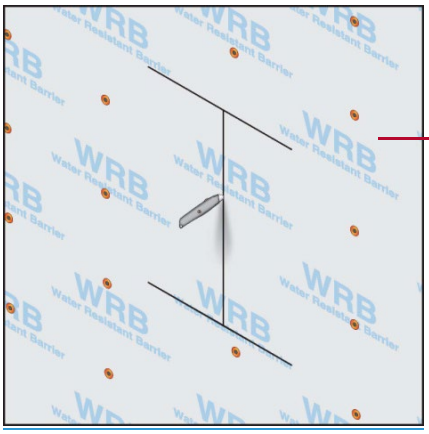


FIGURE 26986

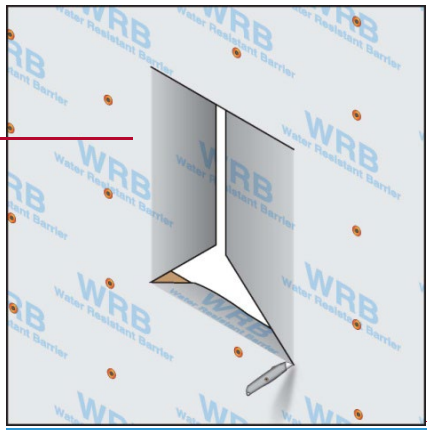


FIGURE 296A

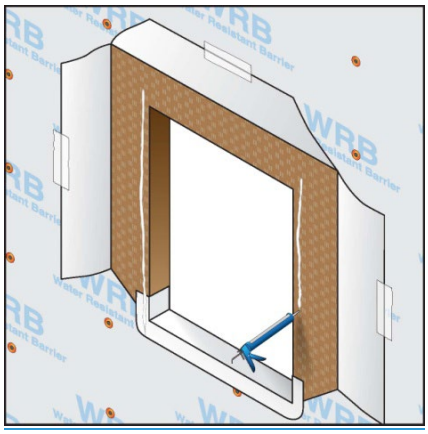


FIGURE 27~~30297~~

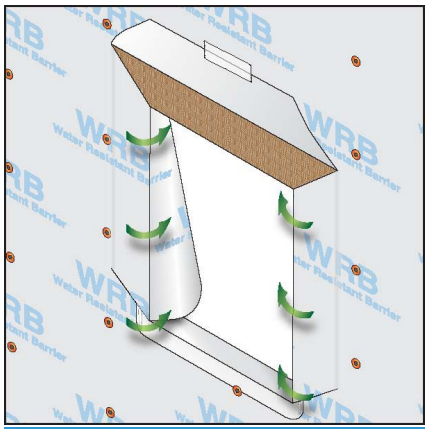
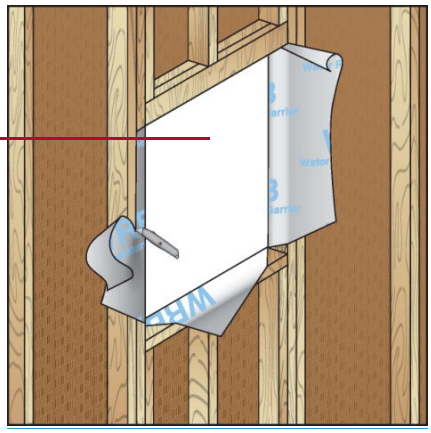


FIGURE 28~~1028~~



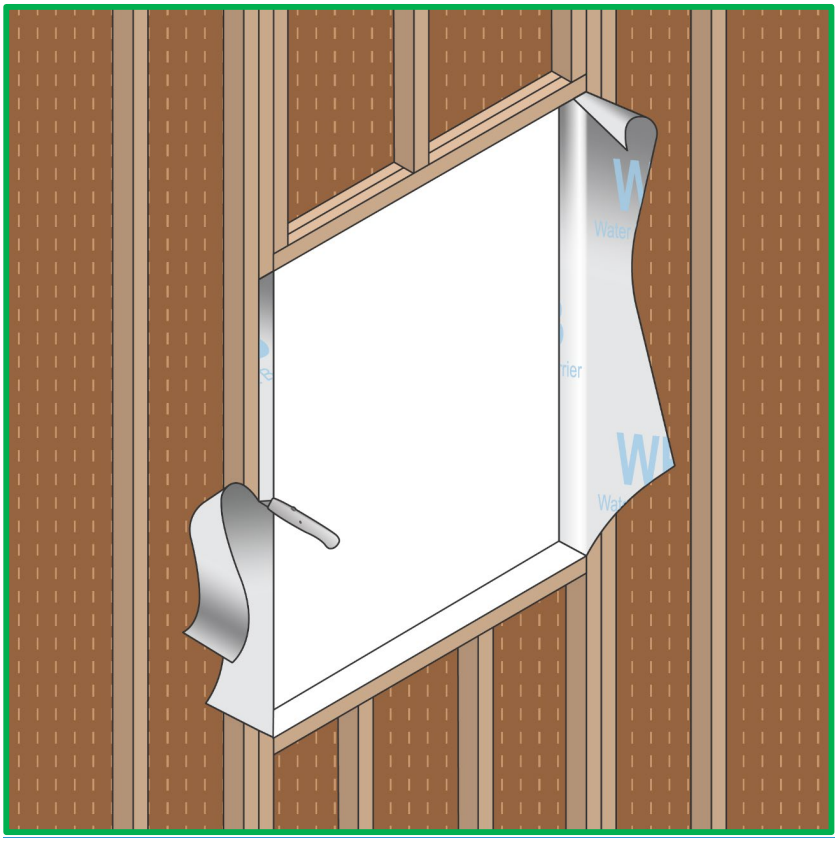
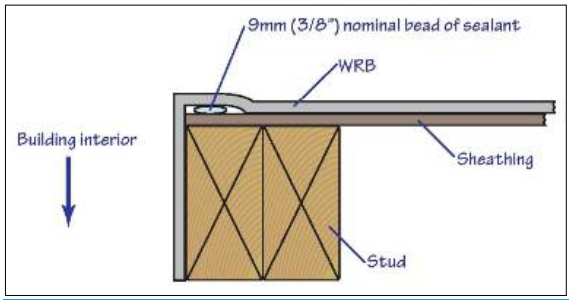


FIGURE 29~~2129~~



FIGURE~~SCHEMATIC~~ 30~~32~~

APPENDIX C: RECOMMENDATIONS WHEN USING MECHANICALLY ATTACHED FLASHING

~~7.4.2 Mechanically Attached Flexible Flashing~~

C1.0 Apply flashing over the mounting flange of the window at both jambs per manufacturer's instructions. The mechanically attached flexible flashing shall conform to the requirements of AAMA 712.

C1.1 Cut jamb flashing to a measurement equal to twice the roll width of the flashing being used, plus the height of the rough opening, minus 25 mm (1 inch).

C1.2 Apply a continuous 10 mm (3/8 inch) nominal diameter bead of sealant over the drainage plane (wall surface) and the exterior face of the mounting flange and in line with any pre-punched holes or slots, starting 215 mm (8 1/2 inches) above the rough opening (see Figure 31) continuing down the jambs to the bottom of the sill mounting flange.

NOTE 16: Sealant should not be allowed to skin over prior to the installation of any mechanically attached flashing.

FIGURE 31

C1.3 Apply jamb flashing with the edge being between the sealant and the window (see Figure 32).

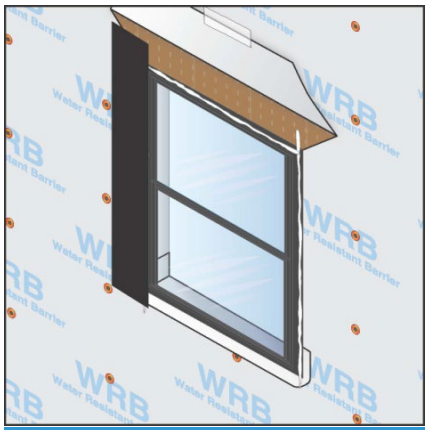


FIGURE 32

C1.4 Cut a piece of head flashing that is the width of the rough opening, plus two times the roll width of the flashing, plus 100 mm (4 inches).

C1.5 Apply a continuous 10 mm (3/8 inch) nominal diameter bead of sealant along the head. Apply an additional 10 mm (3/8 inch) nominal diameter bead of sealant horizontally 215 mm (8 ½ inches) above the rough opening in line with the top of the jamb flashing (see Figure 33) or as a sloped roof design (see Figure 34).

C1.6 Apply mechanically attached flexible flashing to head over sealants and secure with mechanical fasteners (see Figure 35).

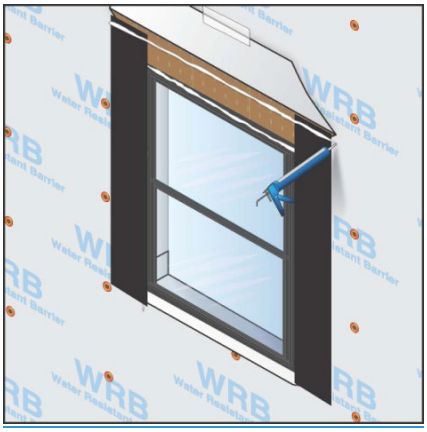


FIGURE 33

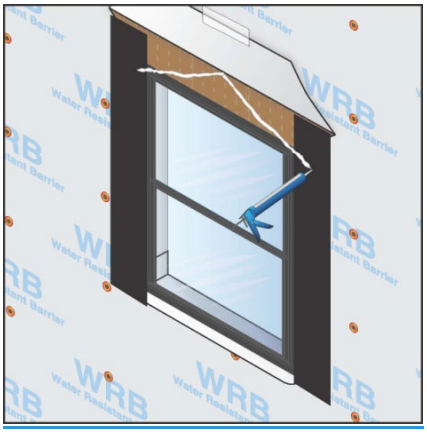


FIGURE 34

C1.7 Use fasteners (in accordance with the flashing manufacturer's recommendations) to secure mechanically attached flexible flashing at the head. (see Figure 35). Cover fasteners with WRB or sealant whenever possible.

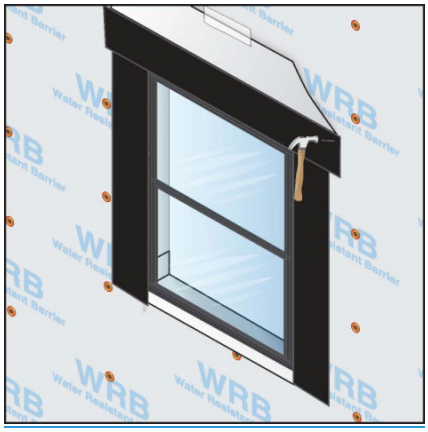


FIGURE 35