

Installation Guide DELTA®-VENT SA



Flashing Systems for
REBATE WINDOWS



Dörken – Leading Through Technical Competence

Dörken Systems Inc. (ISO 9001-2008) is a subsidiary of the Dörken Group that has over 100 years of experience in the construction industry. Developed from innovative ideas and manufactured on state-of-the-art production lines, the premium quality products for moisture management in building enclosures set standards for reliability, durability, and energy savings. Located in Beamsville, Ontario, Canada, Dörken provides customized solutions and products of outstanding quality. Dörken Systems Inc. is and always will be a trustworthy and highly respected partner for designers, architects, distributors and installers.

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Introduction

DELTA®-VENT SA water-resistive barrier and air barrier

This Installation Guide covers the preparation of rough window openings with DELTA®-VENT SA Water-resistive Barrier and Air Barrier and its components.

The following diagrams present a step-by-step sequence for all installations. There are several options for these installation sequences. For example, window placement within the rough opening will depend on the rebate frame depth, the window manufacturer's specifications, and architectural considerations such as flashing and trim. All installations, regardless of variations, will follow the same fundamental approach.

The membrane's primary purpose is to function as a vapor permeable water-resistive barrier and continuous air barrier. Special attention is paid to interface areas to ensure that water or air cannot penetrate the assembly. Following the steps outlined in this Installation Guide will help ensure best practice installations.

These diagrams for DELTA®-VENT SA are intended only as a guide and are for the convenience of architects, specifiers, contractors and other interested parties. The final application and details are the sole responsibility of the design authority on record for the project.



Additional Technical and Installation Guides are available

Method Selection Guide

Strip-in methods for rebate windows

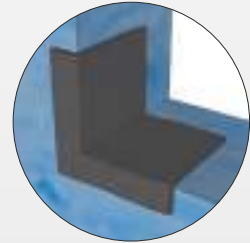
Rebate Windows



Strip-in method



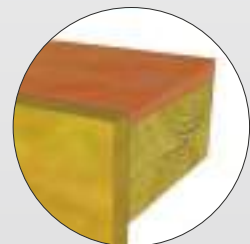
1. DELTA®-FAS CORNER (page 6)



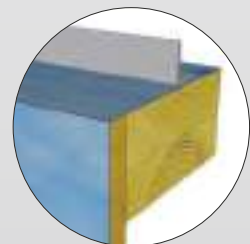
2. Flat sill (page 14)



3. Sloped sill (page 22)



4. Backdam (page 30)

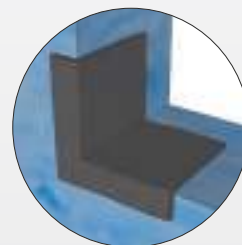


Cut-out methods for rebate windows

Cut-out method



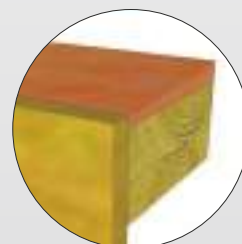
1. DELTA®-FAS CORNER (page 38)



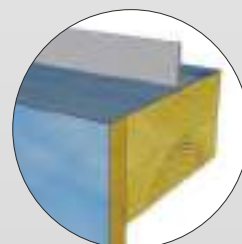
2. Flat sill (page 44)



3. Sloped sill (page 50)

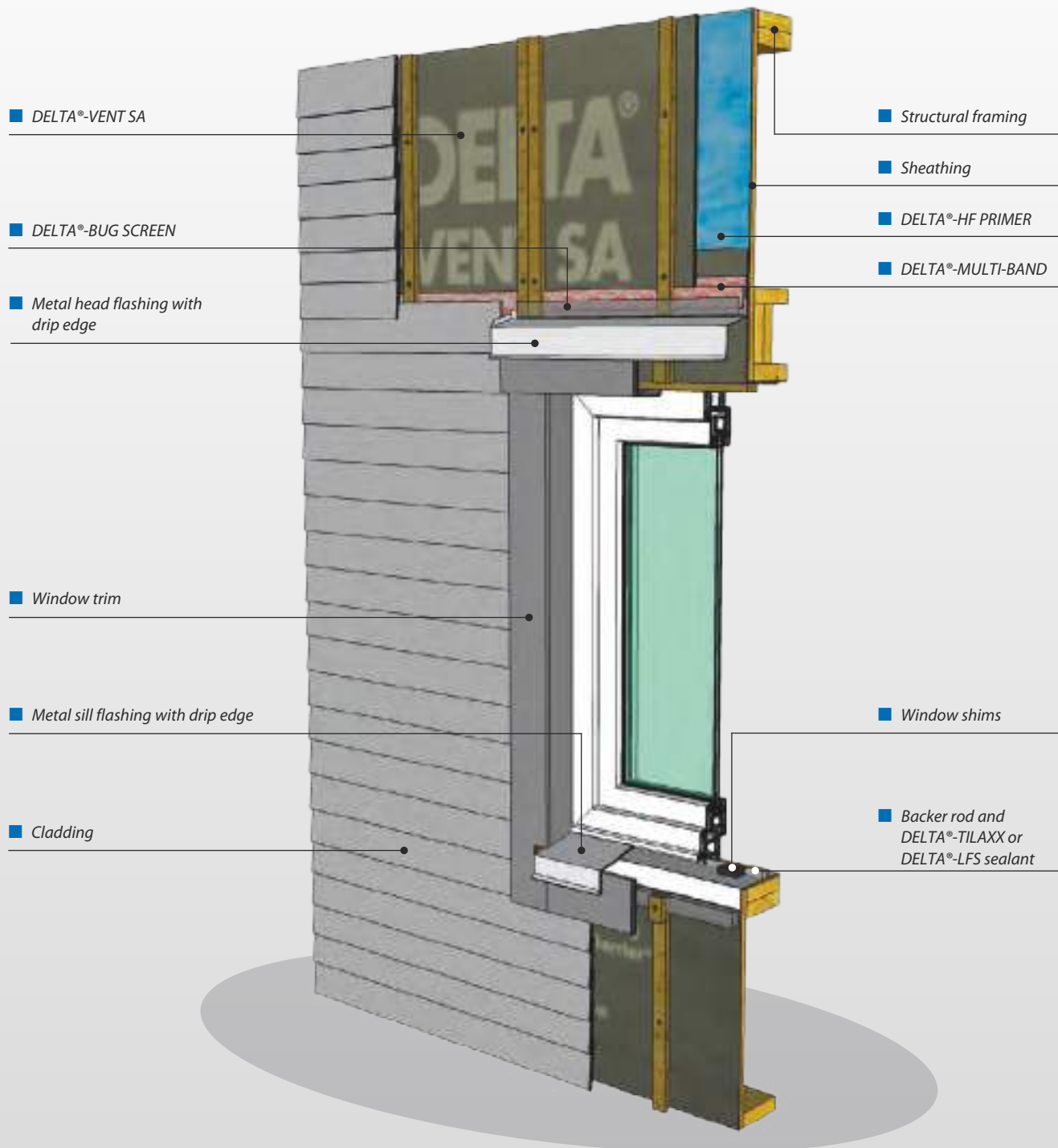


4. Backdam (page 56)



Strip-in method

1. With DELTA®-FAS CORNER



Step 1



Framing

Step 2



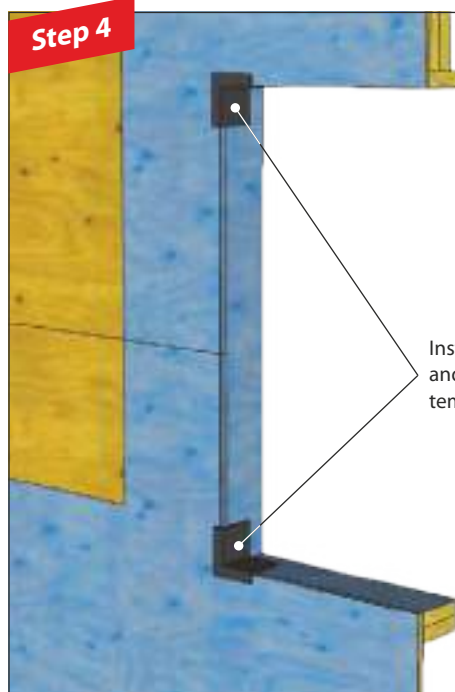
Sheathing

Step 3



Prime substrate with
DELTA®-HF PRIEMER
before applying
DELTA®-VENT SA.

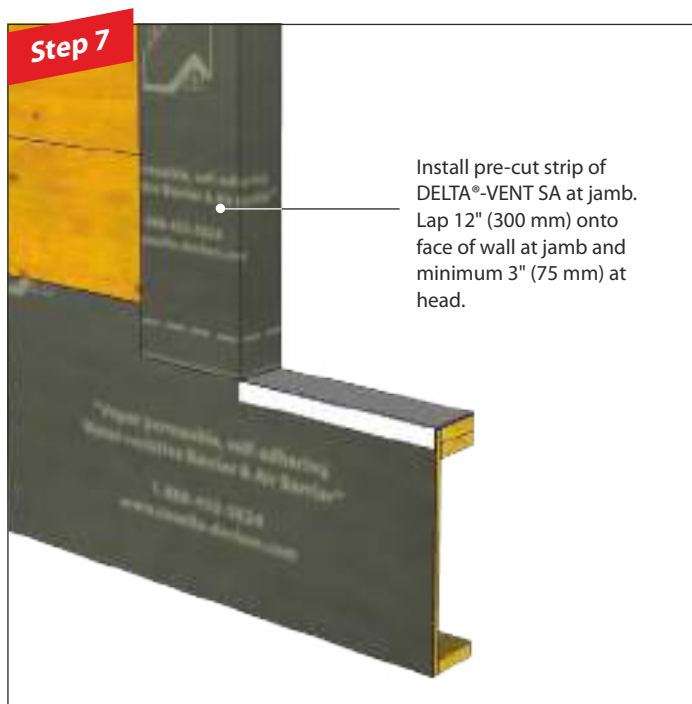
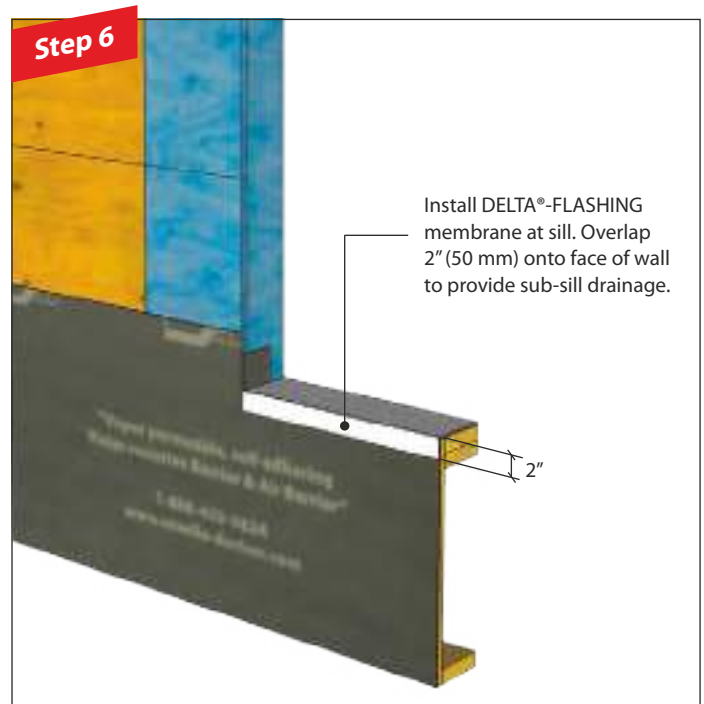
Step 4

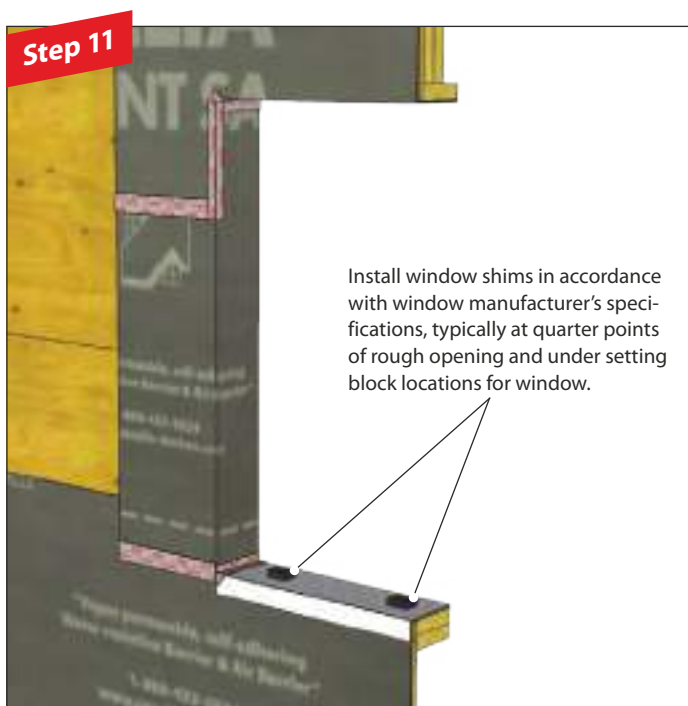


Install DELTA®-FAS CORNERS
and staple on vertical leg to
temporarily hold in place.

Strip-in method

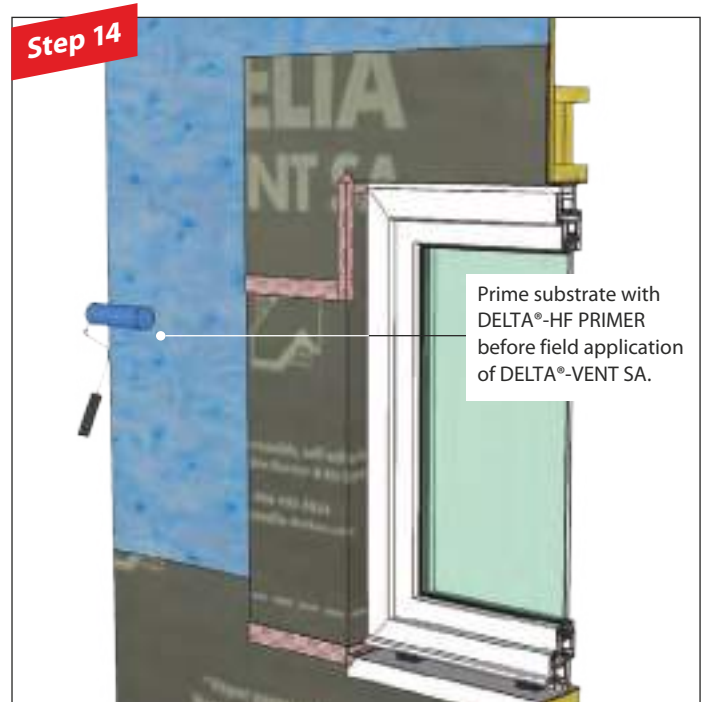
1. With DELTA®-FAS CORNER



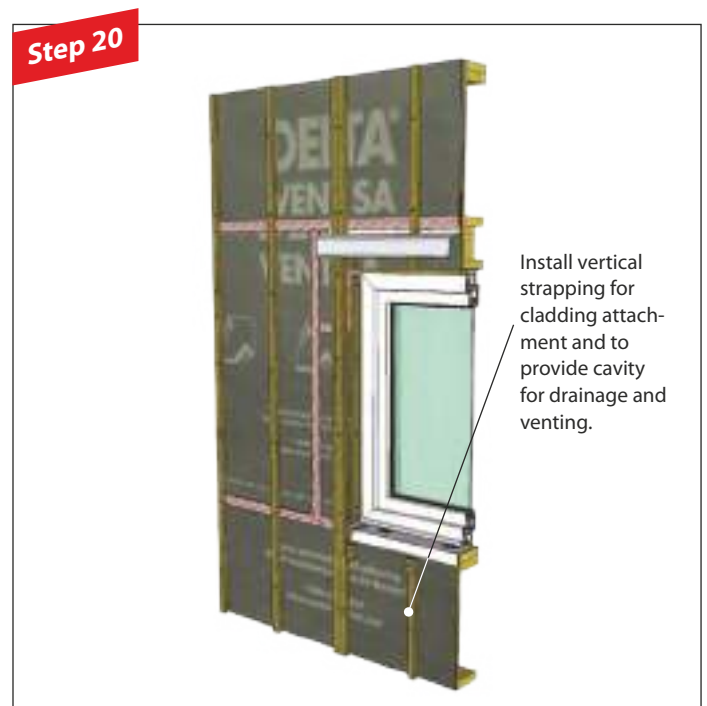
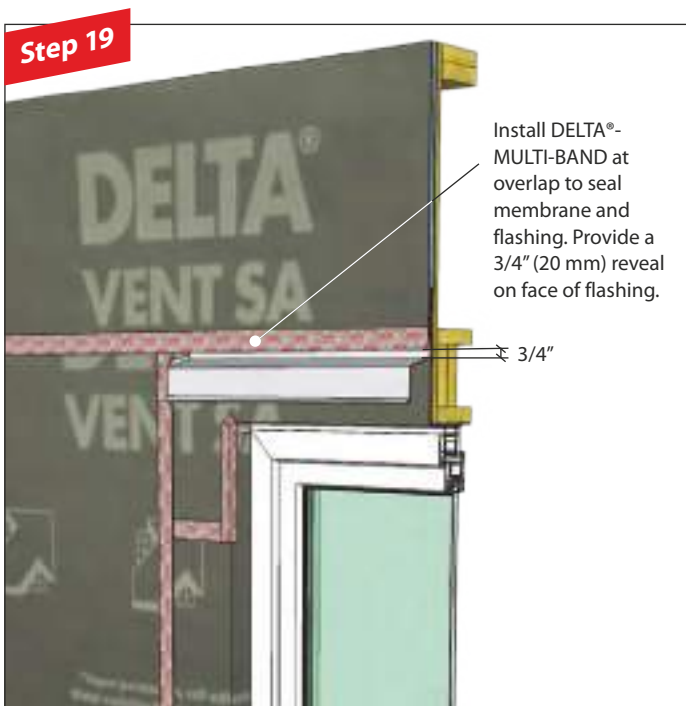


Strip-in method

1. With DELTA®-FAS CORNER



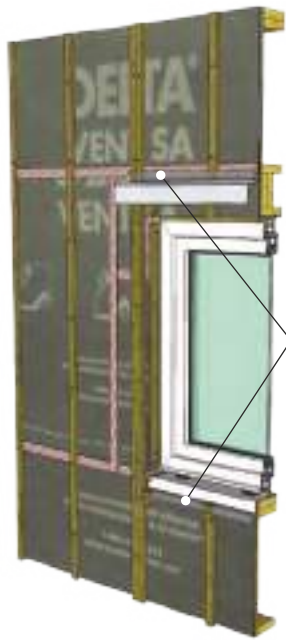
* Not required where there is a self-adhered edge.



Strip-in method

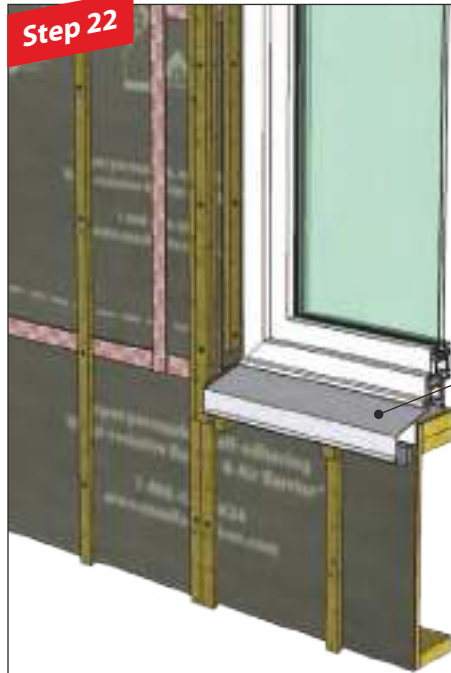
1. With DELTA®-FAS CORNER

Step 21



Install DELTA®-BUG SCREEN at cladding openings. Fasten in place with nails.

Step 22



Install metal window sill flashing as part of water-shedding surface.

Step 23



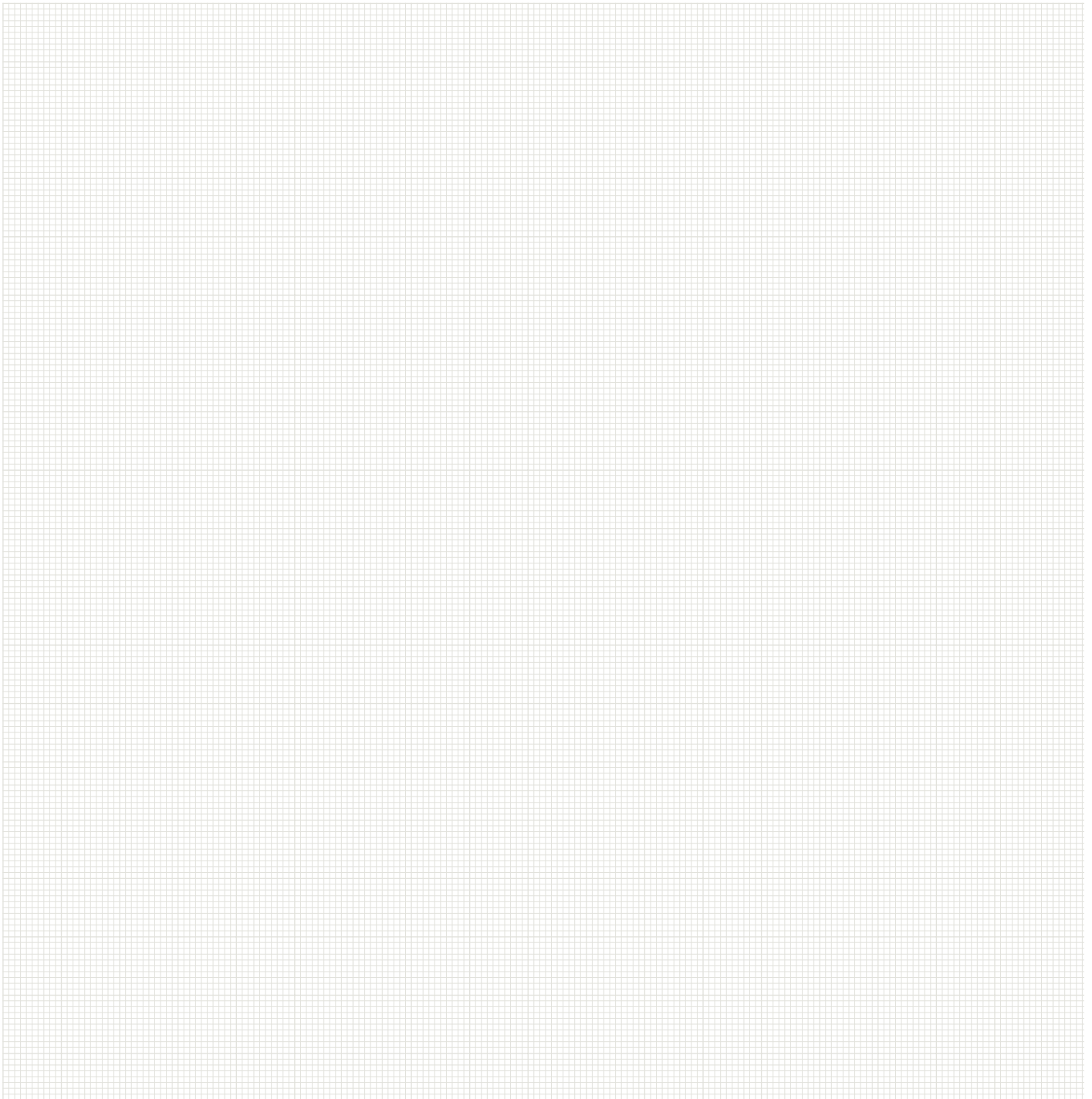
Install cladding and window trim.

Step 24



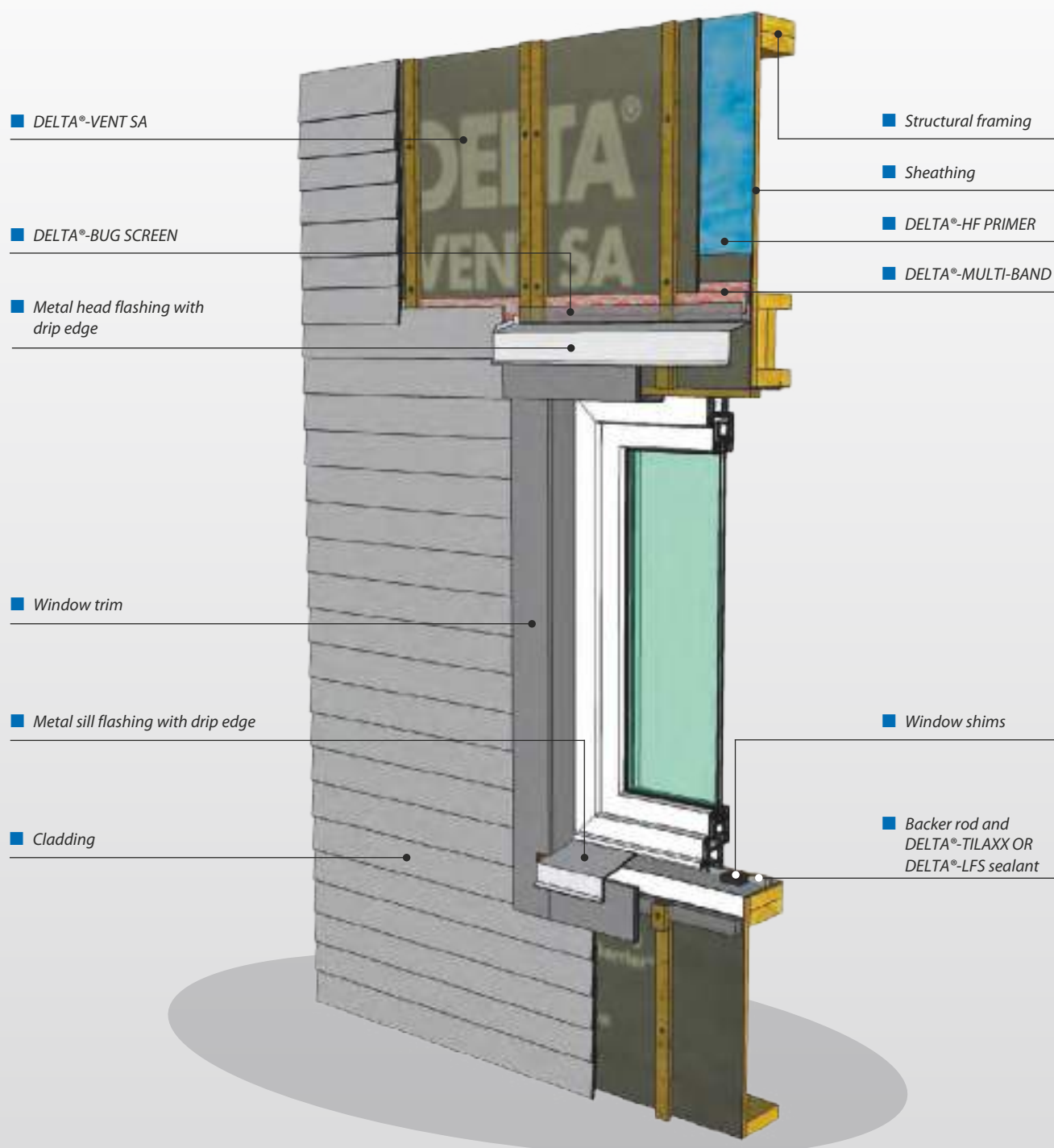
Install sealant around perimeter of window frame, between trim and frame.

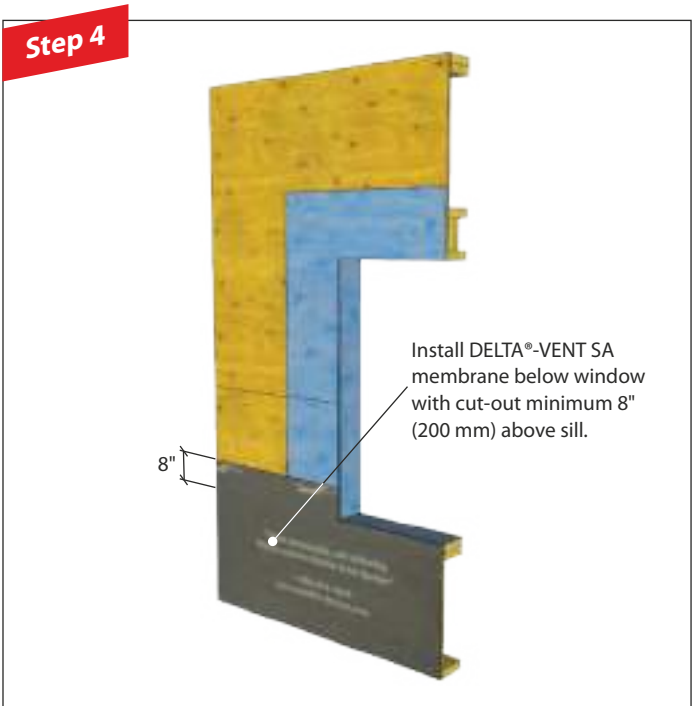
Notes



Strip-in method

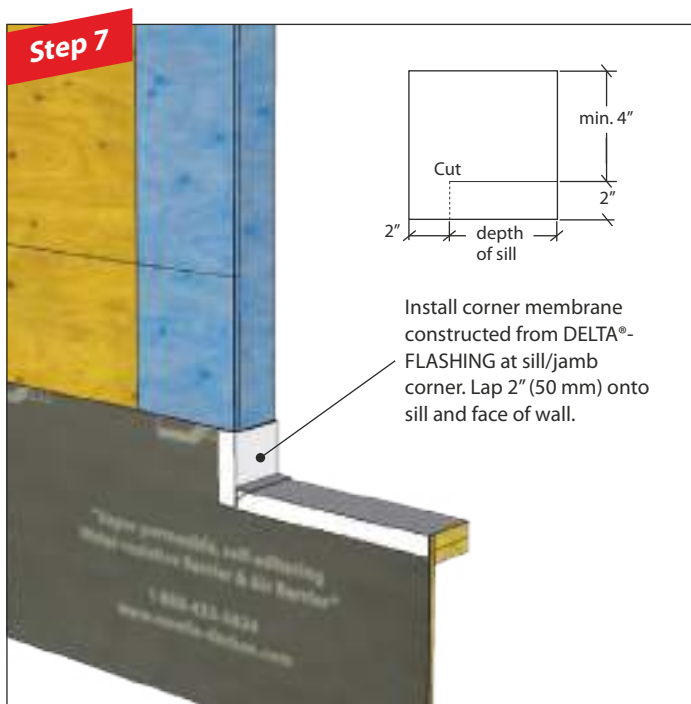
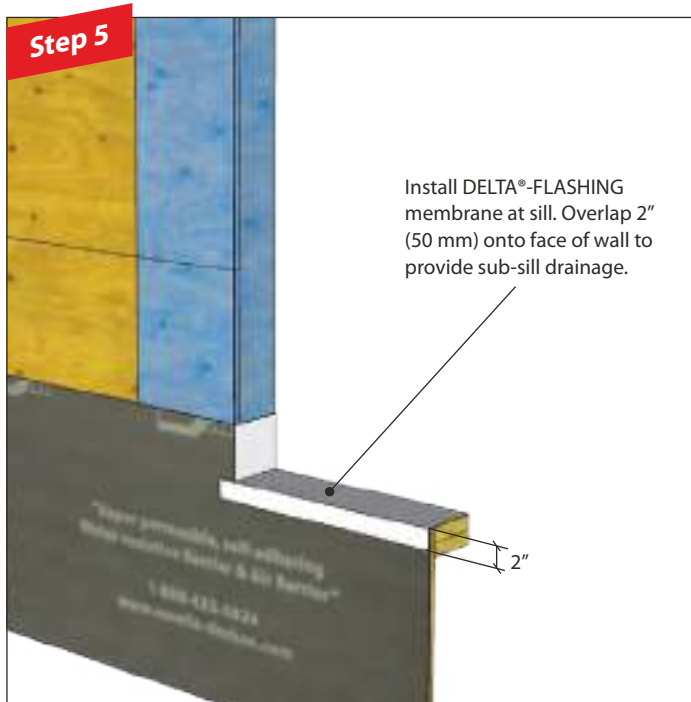
2. With flat sill

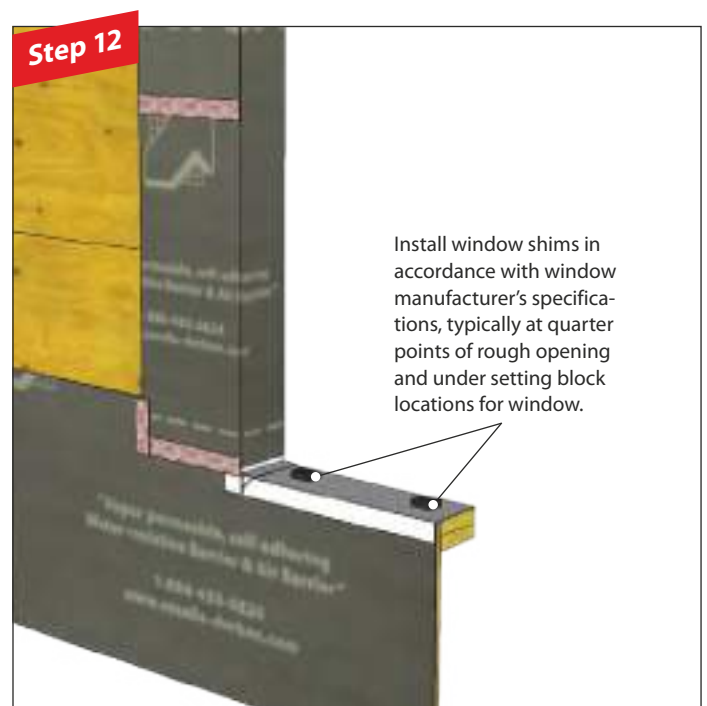




Strip-in method

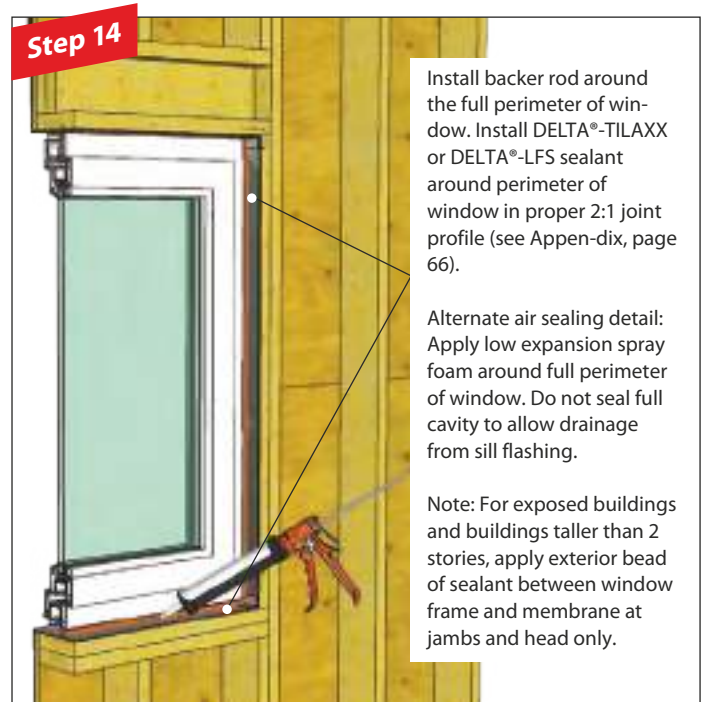
2. With flat sill

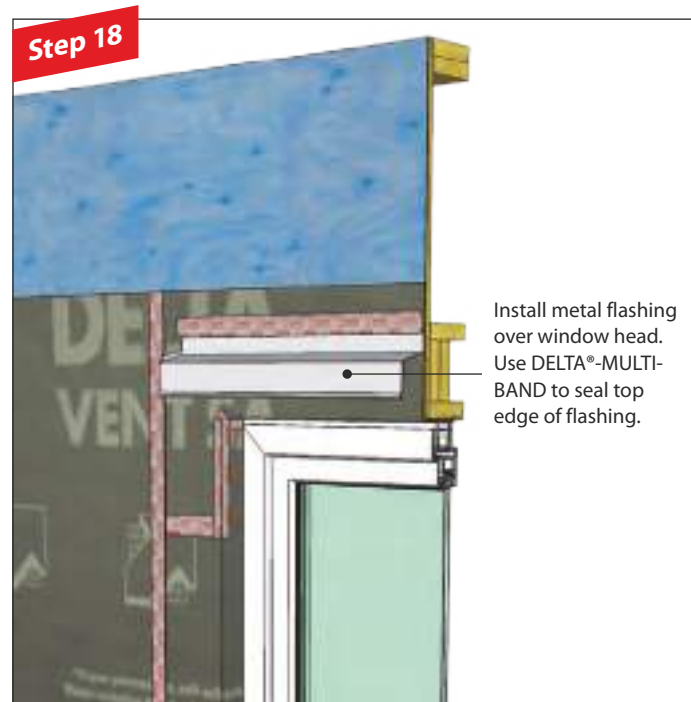




Strip-in method

2. With flat sill



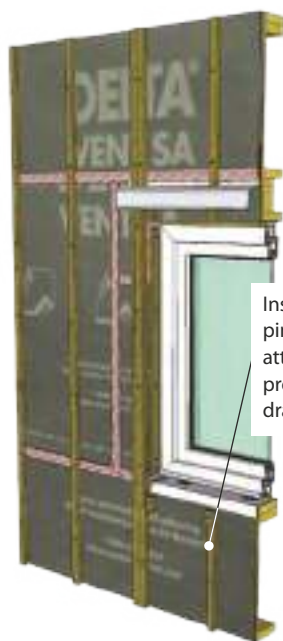


* Not required where there is a self-adhered edge.

Strip-in method

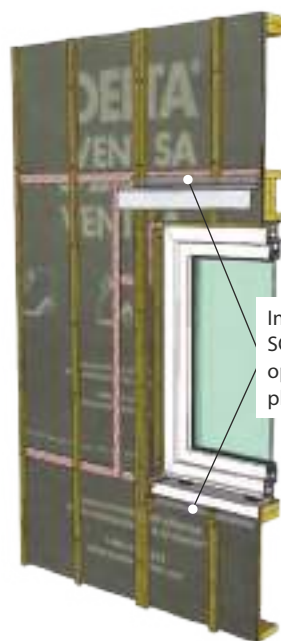
2. With flat sill

Step 21



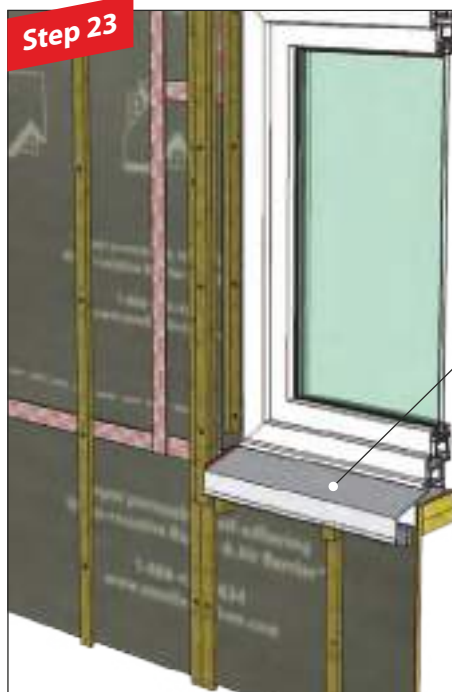
Install vertical strapping for cladding attachment and to provide cavity for drainage and venting.

Step 22



Install DELTA®-BUG SCREEN at cladding openings. Fasten in place with nails.

Step 23



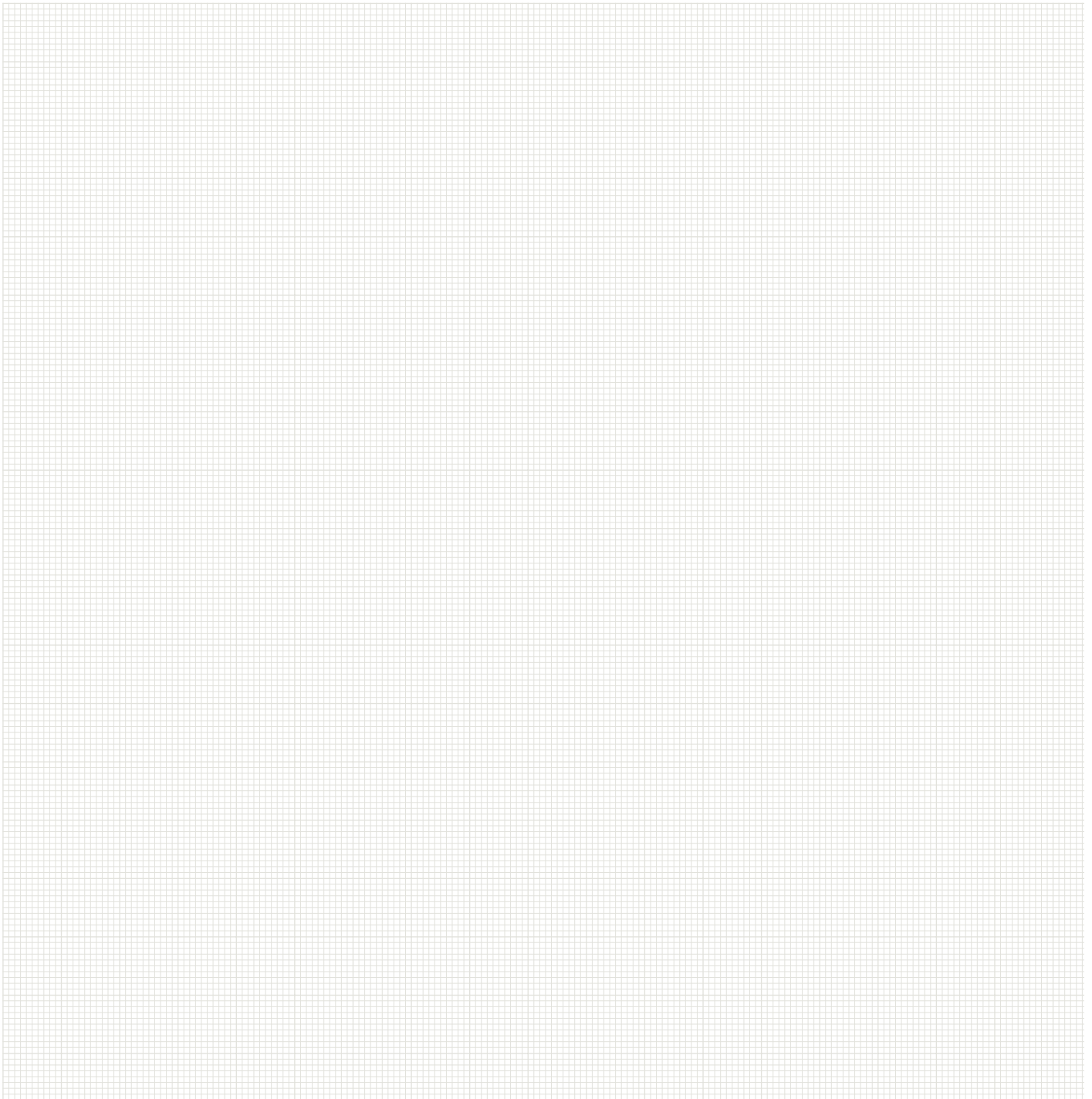
Install metal window sill flashing as part of water-shedding surface.

Step 24



Install cladding and window trim. Install sealant around perimeter of window frame, between trim and frame.

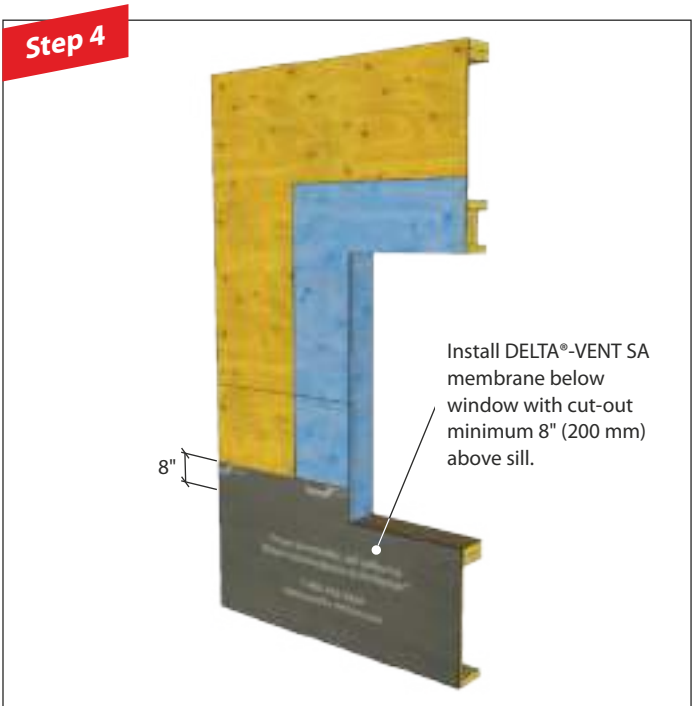
Notes



Strip-in method

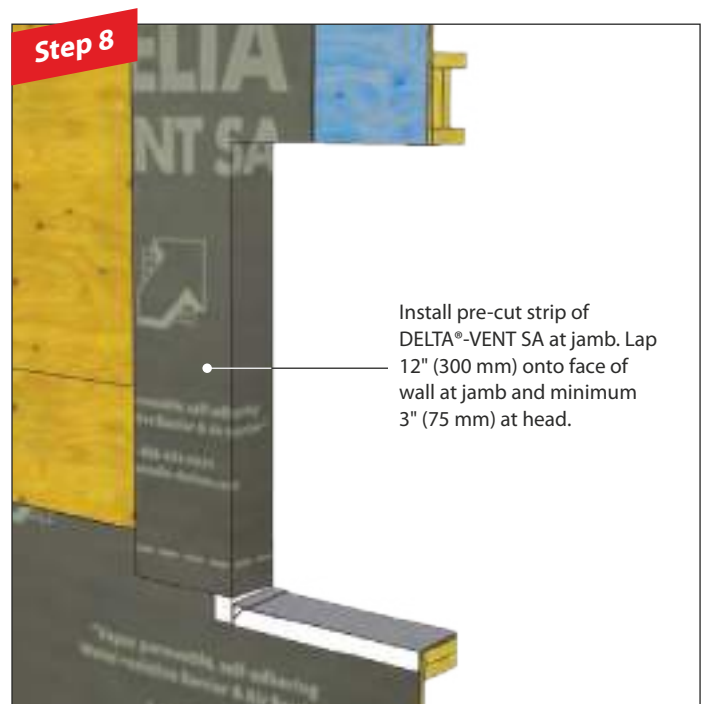
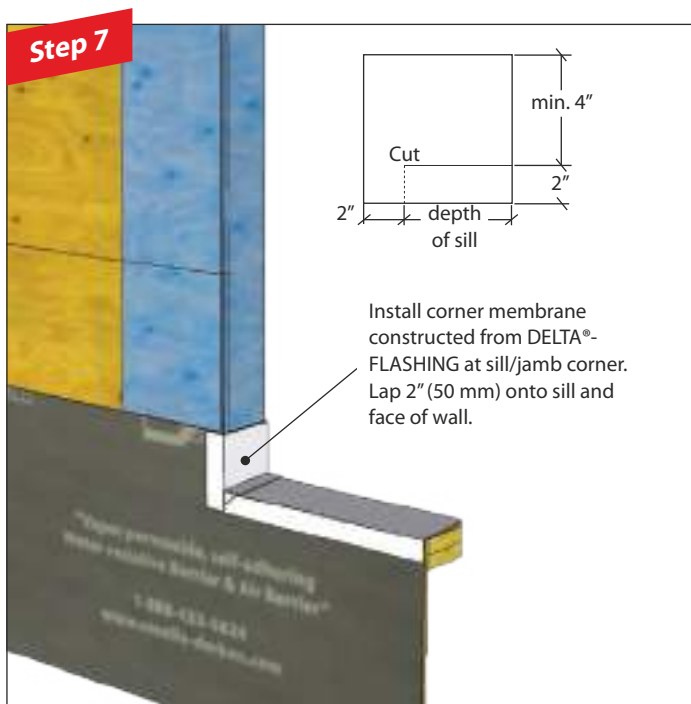
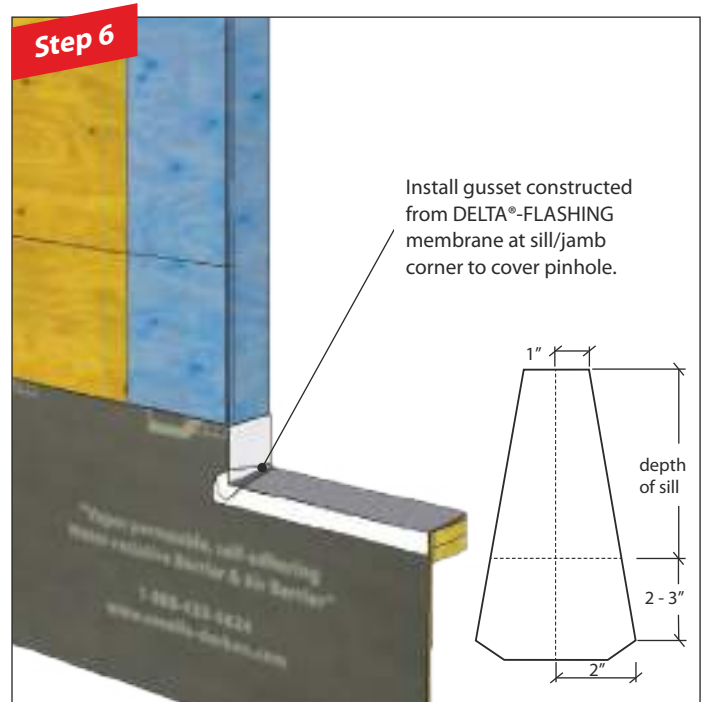
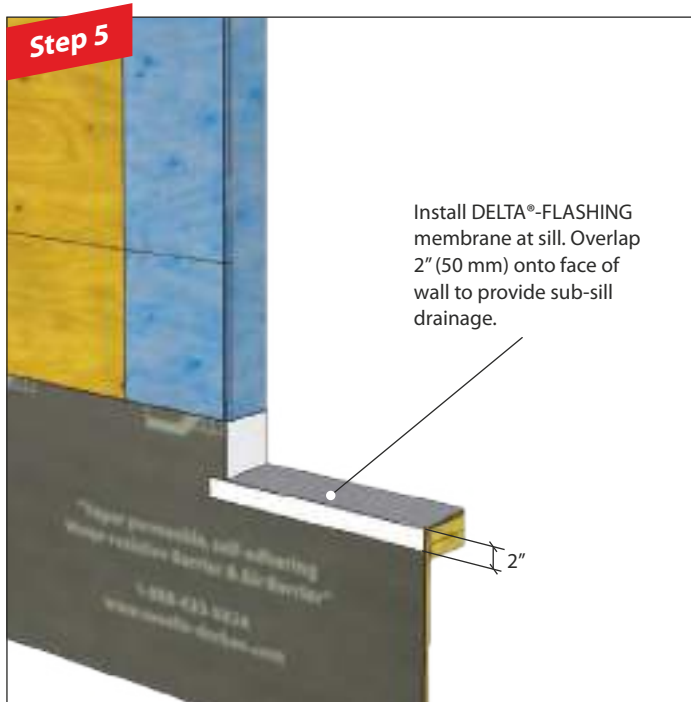
3. With sloped sill

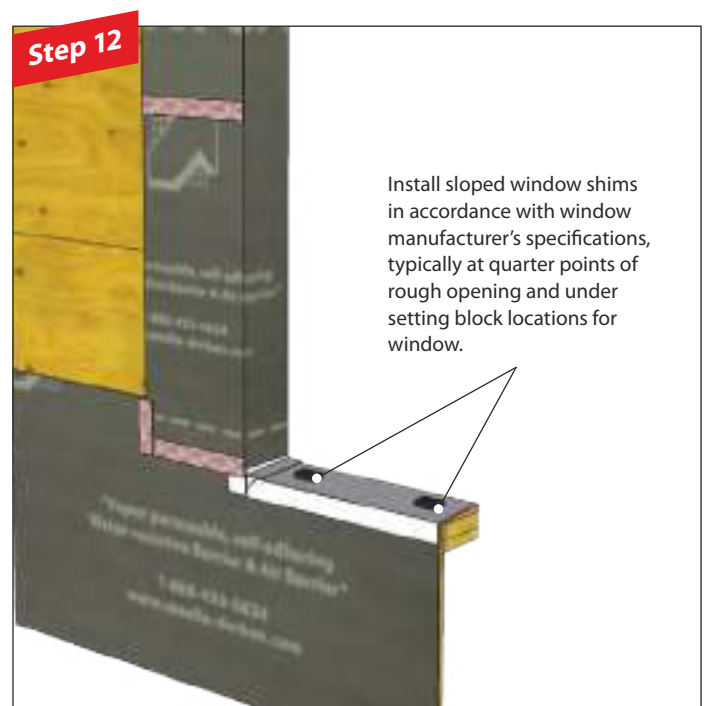
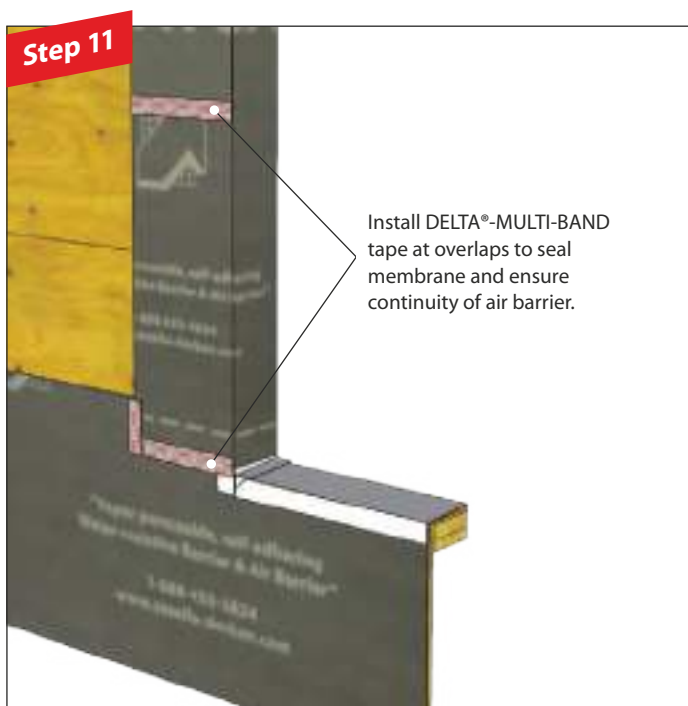
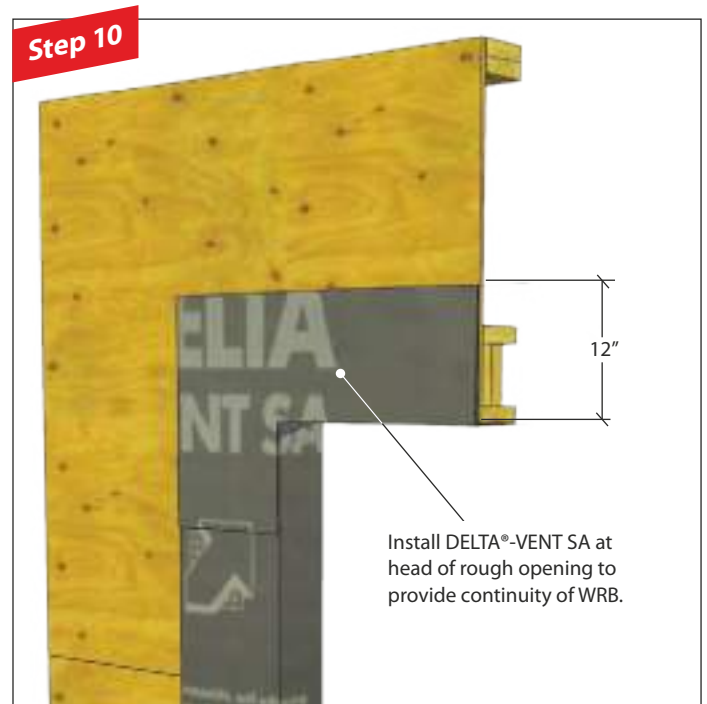




Strip-in method

3. With sloped sill

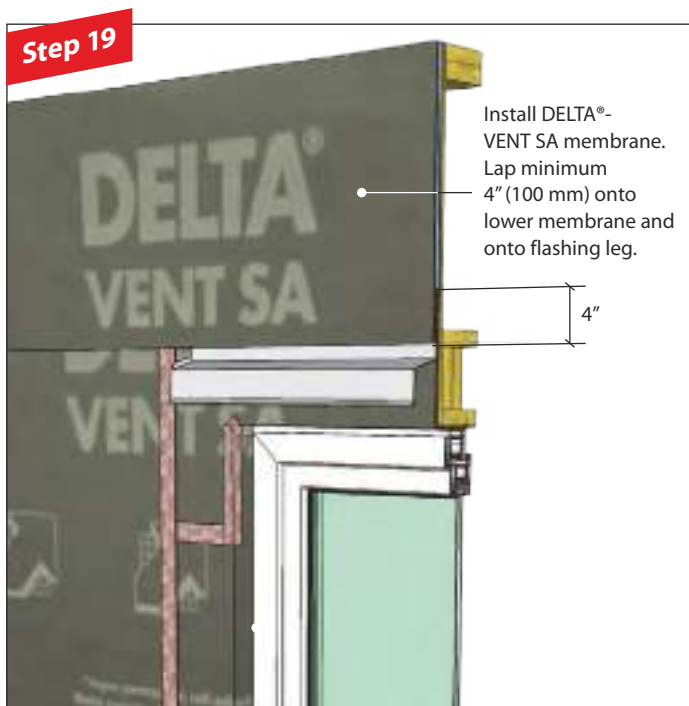
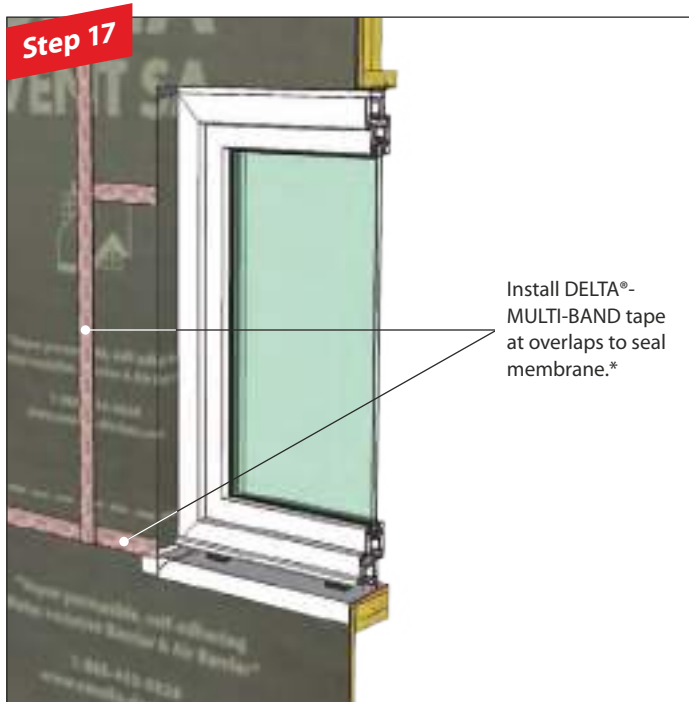




Strip-in method

3. With sloped sill



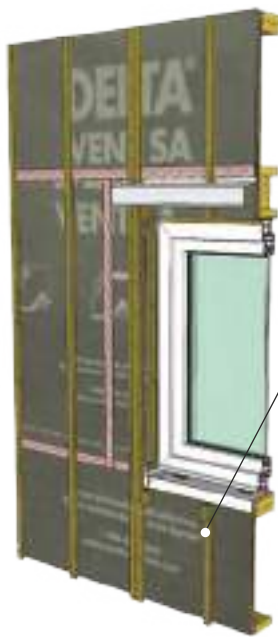


* Not required where there is a self-adhered edge.

Strip-in method

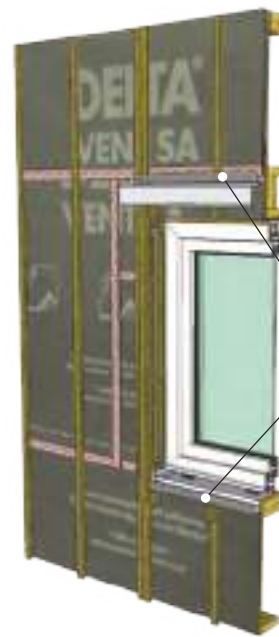
3. With sloped sill

Step 21



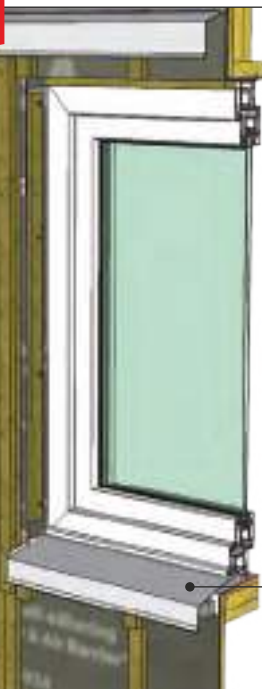
Install vertical strap-
ping for cladding
attachment and to
provide cavity for
drainage and venting.

Step 22



Install DELTA®-
BUG SCREEN
at cladding open-
ings. Fasten in
place with nails.

Step 23



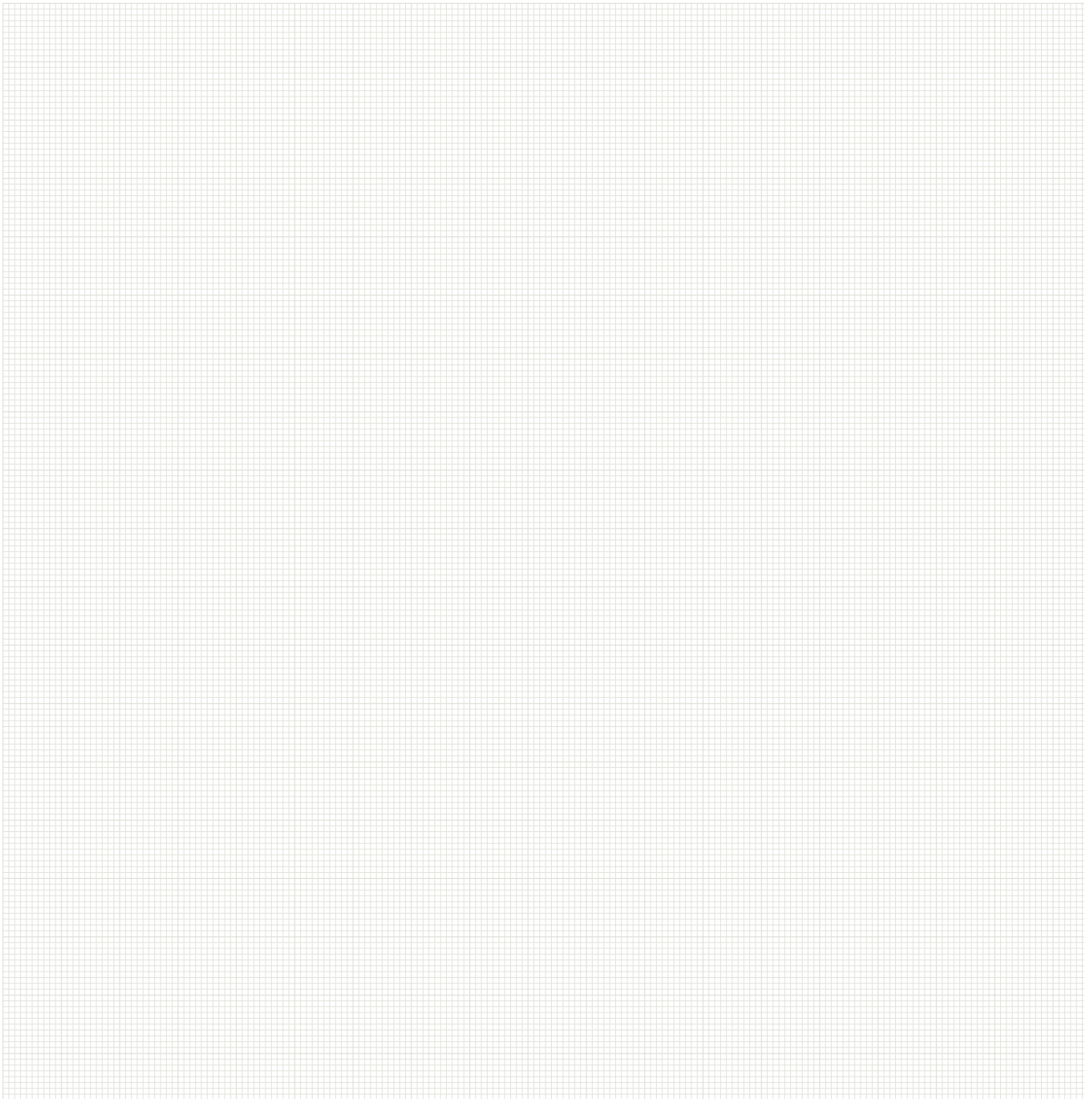
Install metal
window sill flashing
as part of water-
shedding surface.

Step 24



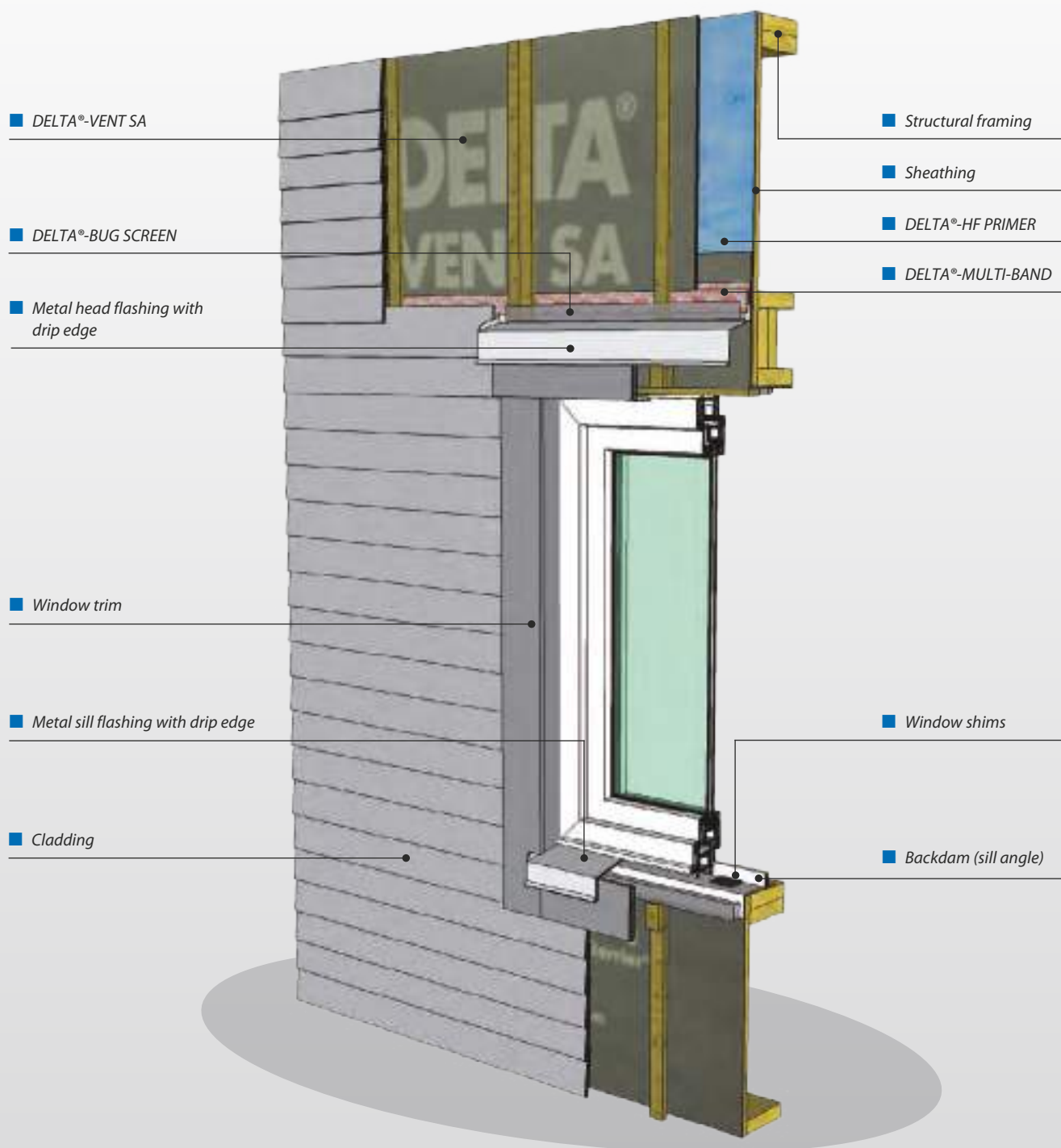
Install cladding
and window trim.
Install sealant
around perimeter
of window frame,
between trim and
frame.

Notes



Strip-in method

4. With backdam



Step 1



Framing

Step 2



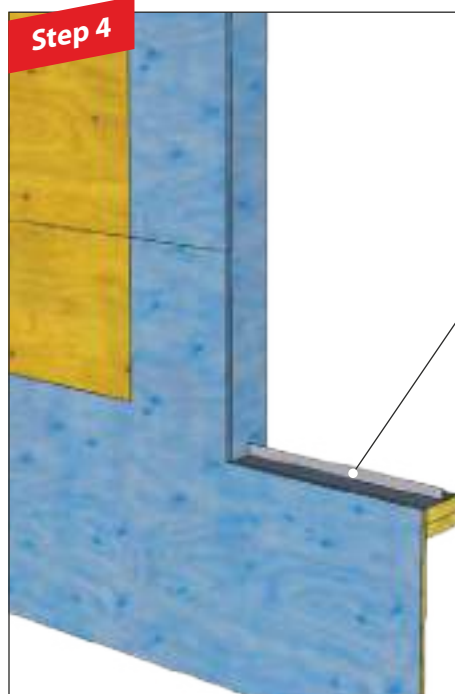
Sheathing

Step 3



Prime substrate with
DELTA®-HF PRIMER
before applying
DELTA®-VENT SA.

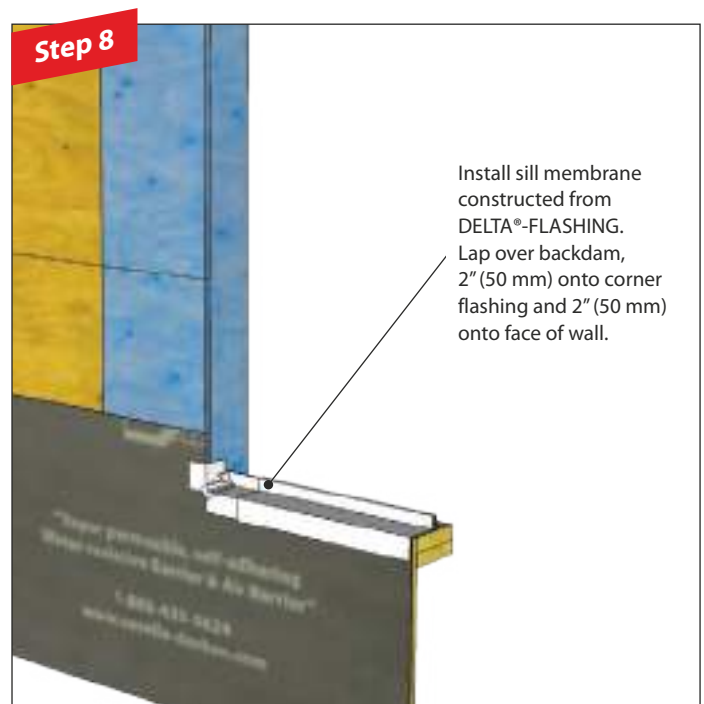
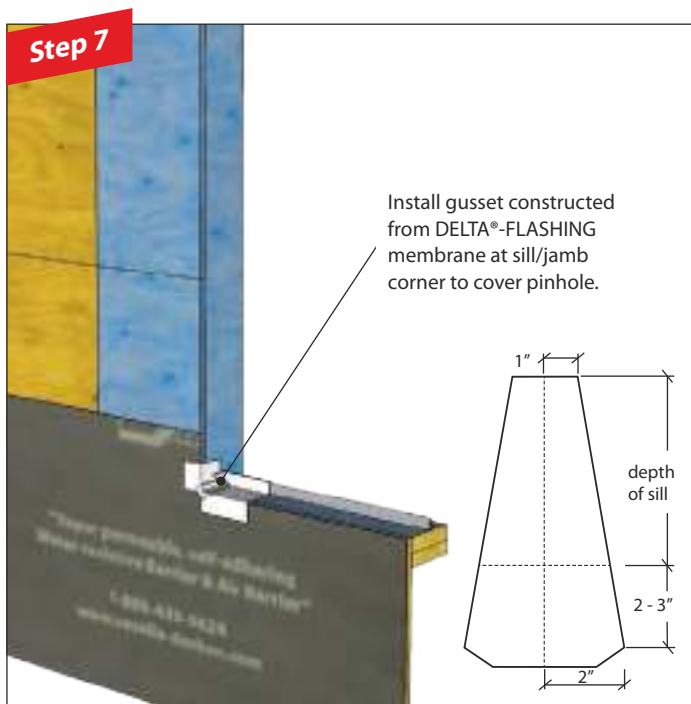
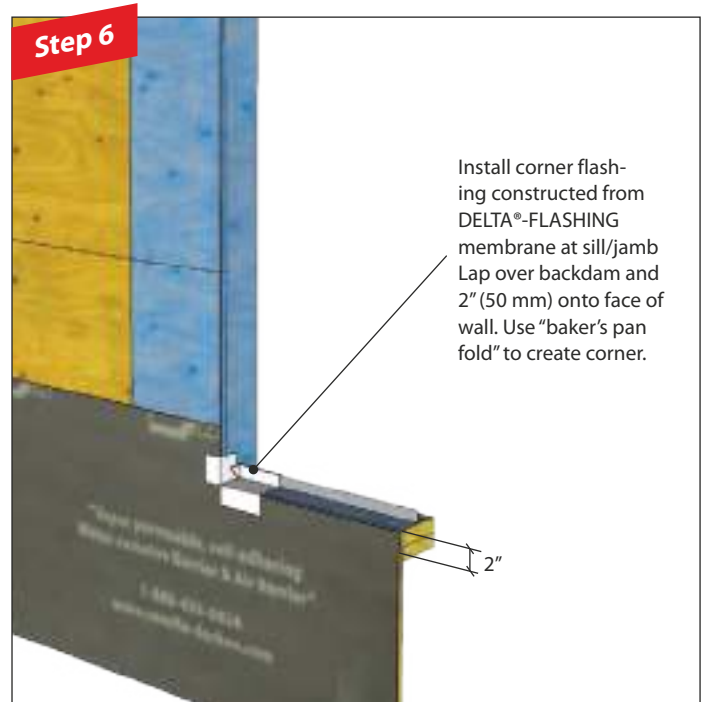
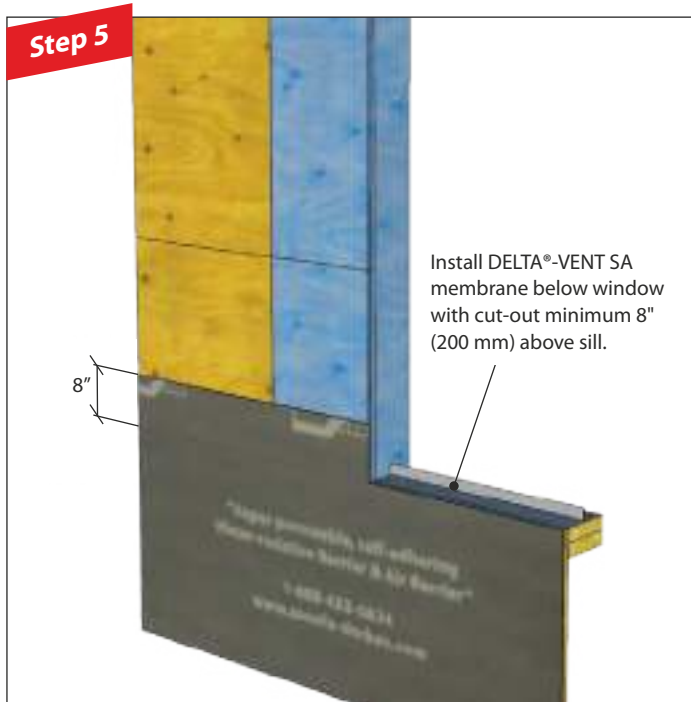
Step 4

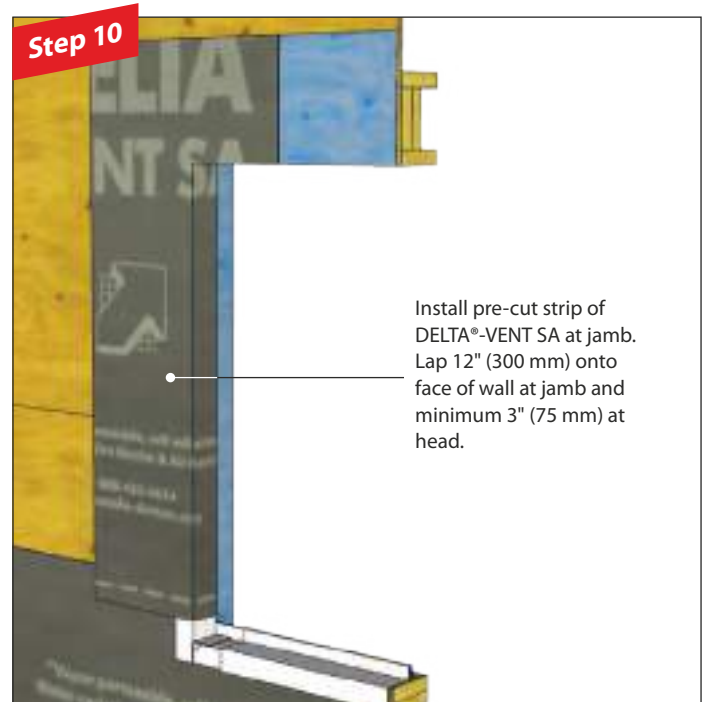
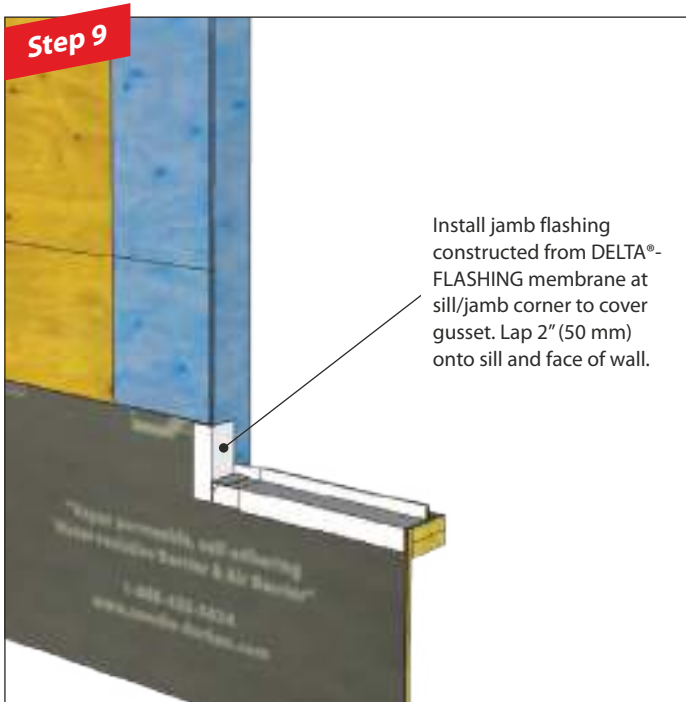


Install backdam
at expected
depth of window.

Strip-in method

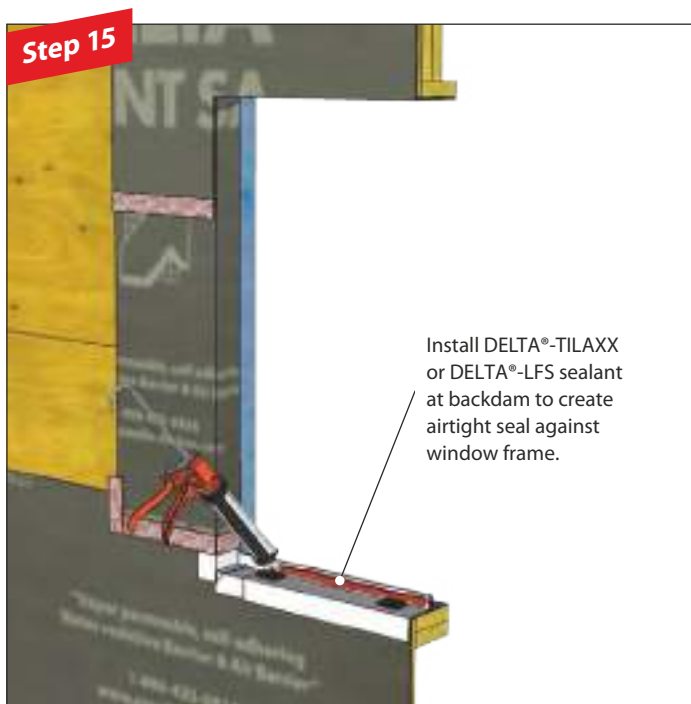
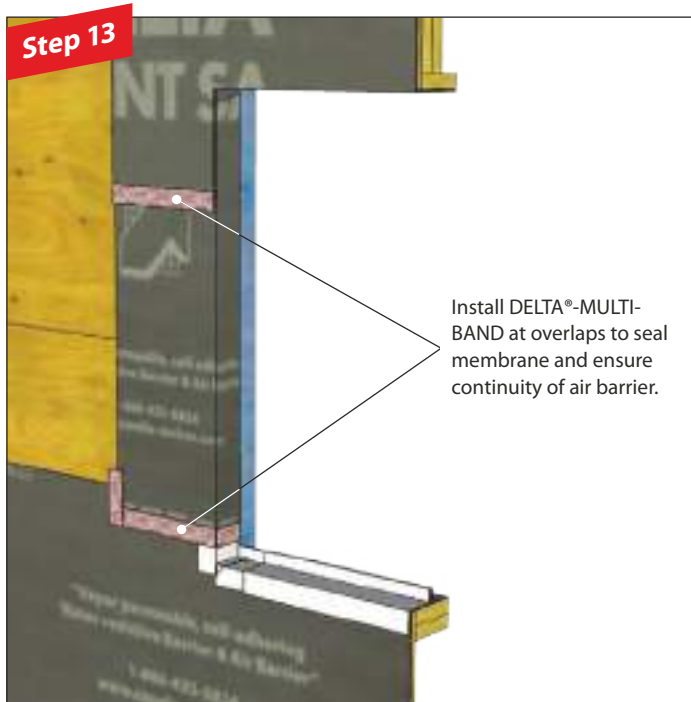
4. With backdam





Strip-in method

4. With backdam

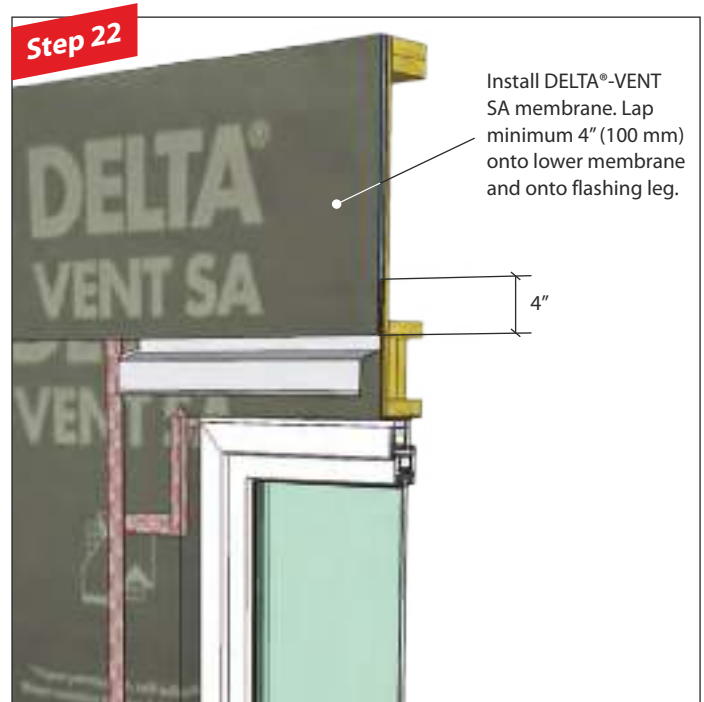




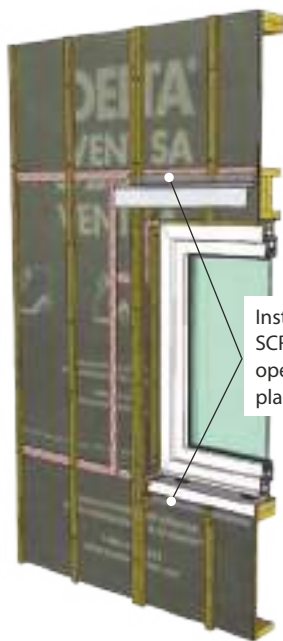
* Not required where there is a self-adhered edge.

Strip-in method

4. With backdam

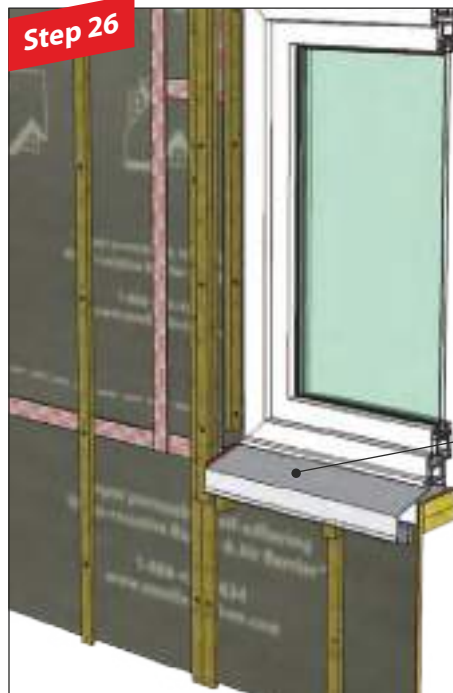


Step 25



Install DELTA®-BUG SCREEN at cladding openings. Fasten in place with nails.

Step 26



Install metal window sill flashing as part of water-shedding surface.

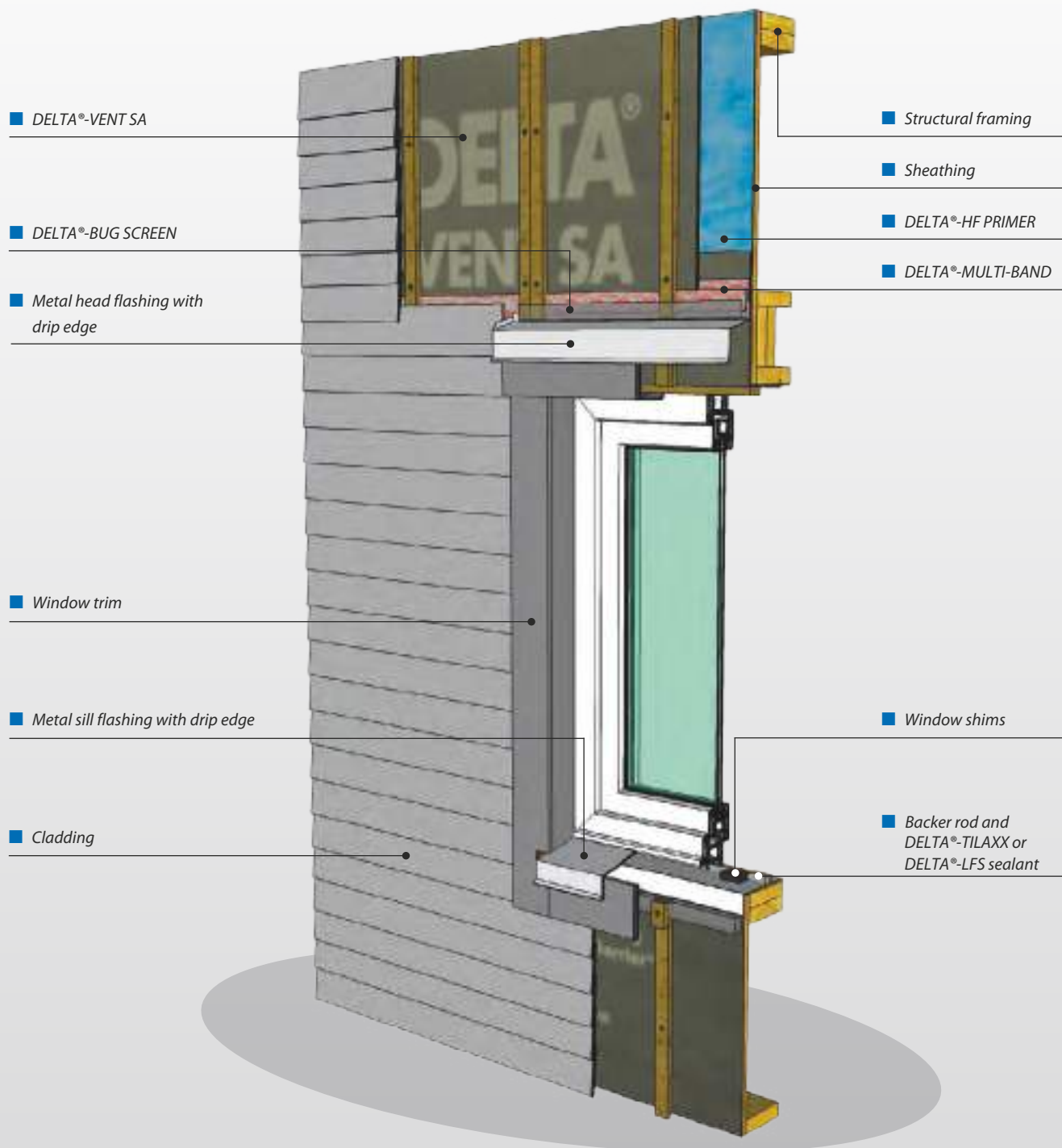
Step 27



Install cladding and window trim. Install sealant around perimeter of window frame, between trim and frame.

Cut-out method

5. With DELTA®-FAS CORNER



Step 1



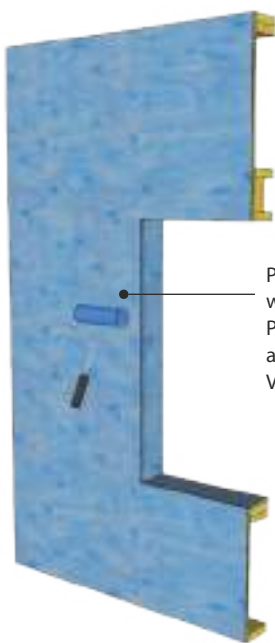
Framing

Step 2



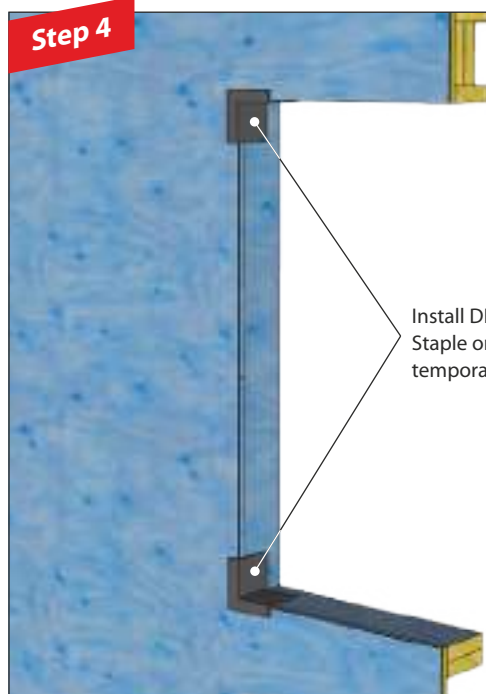
Sheathing

Step 3



Prime substrate with DELTA®-HF PRIMERR before applying DELTA®-VENT SA.

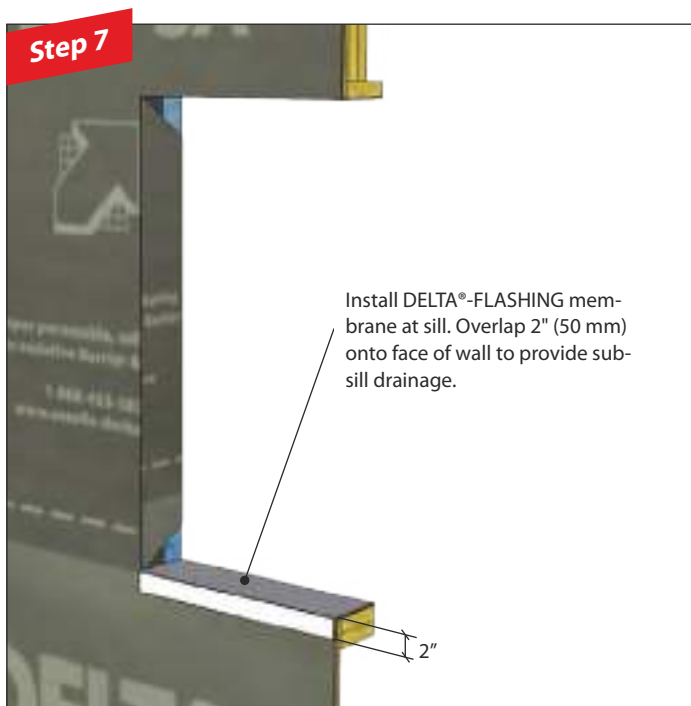
Step 4



Install DELTA®-FAS CORNERS. Staple on vertical leg to temporarily hold in place.

Cut-out method

5. With DELTA®-FAS CORNER



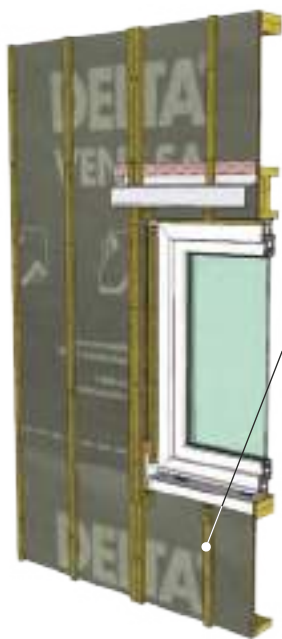


Cut-out method

5. With DELTA®-FAS CORNER

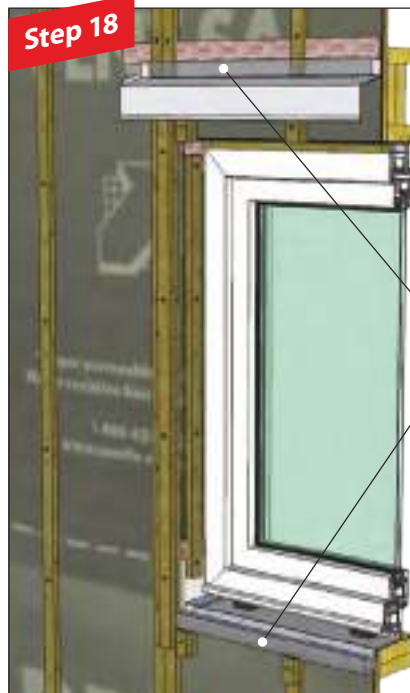


Step 17



Install vertical strap-
ping for cladding
attachment and to
provide cavity for
drainage and venting.

Step 18



Install DELTA®-BUG
SCREEN at cladding
openings. Fasten in
place with nails.

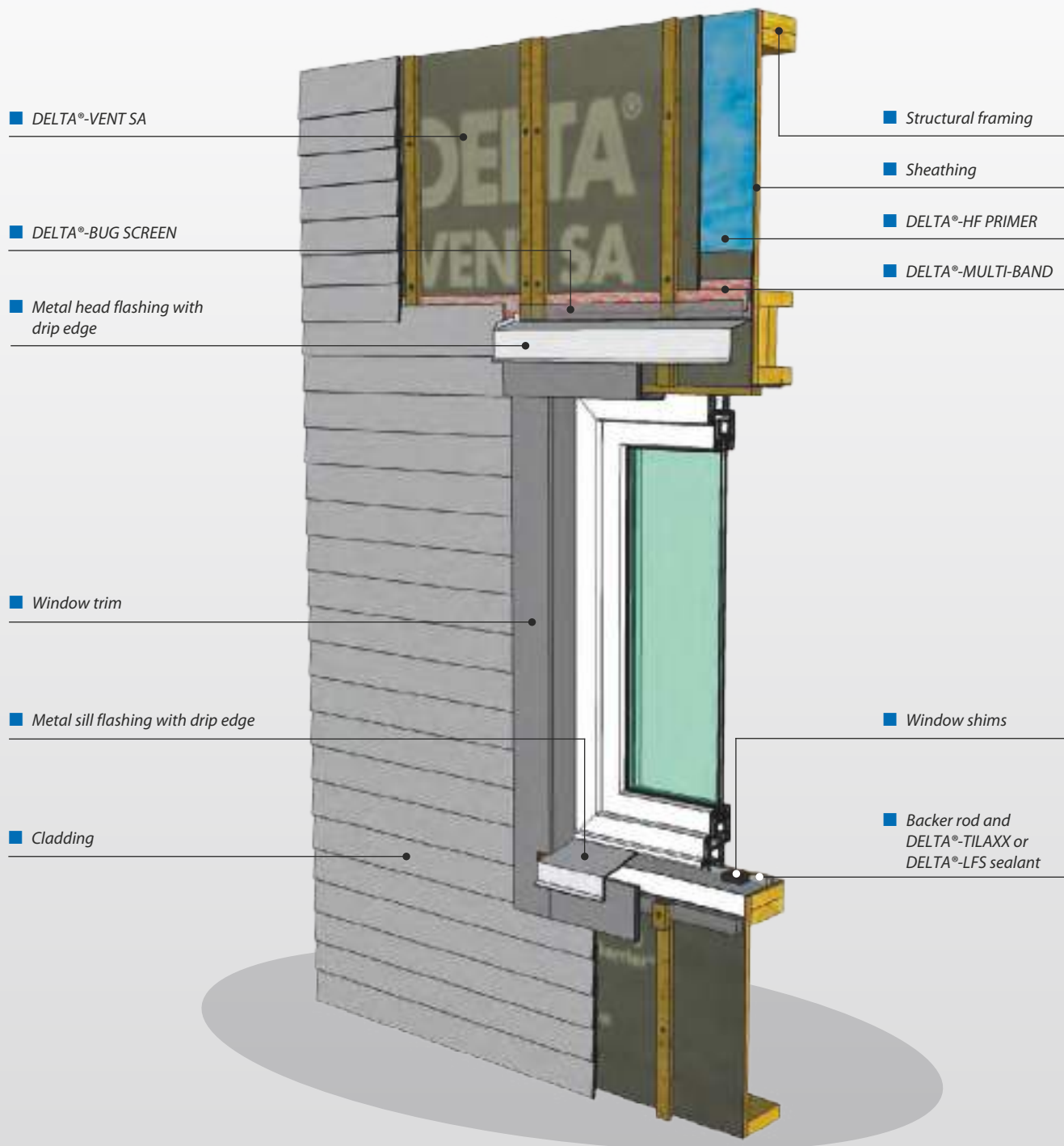
Step 19



Install cladding
and window trim.
Install sealant around
perimeter of window
frame, between trim
and frame.

Cut-out method

6. With flat sill



Step 1



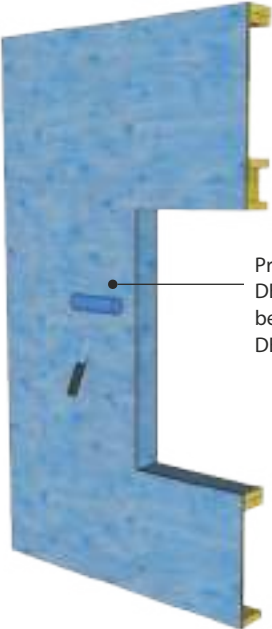
Framing

Step 2



Sheathing

Step 3



Prime substrate with DELTA®-HF PRIMER before applying DELTA®-VENT SA.

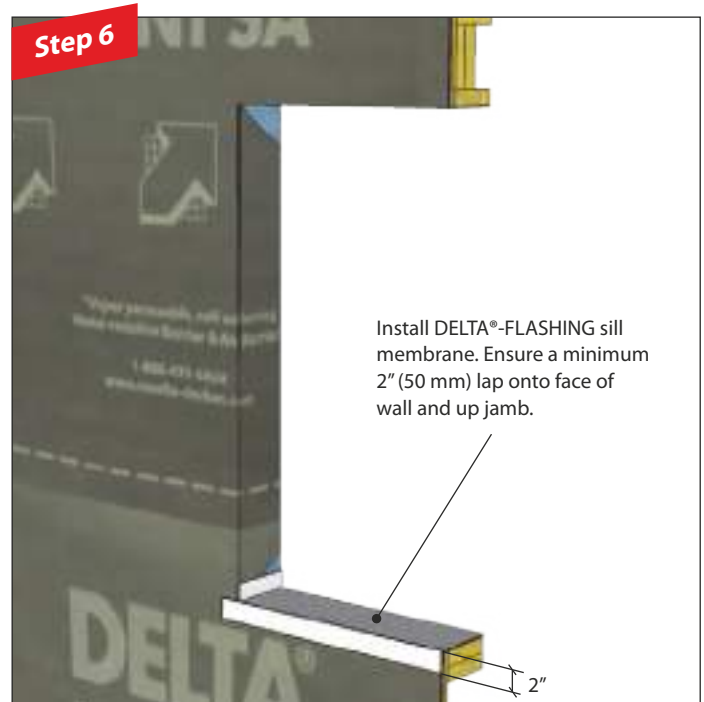
Step 4

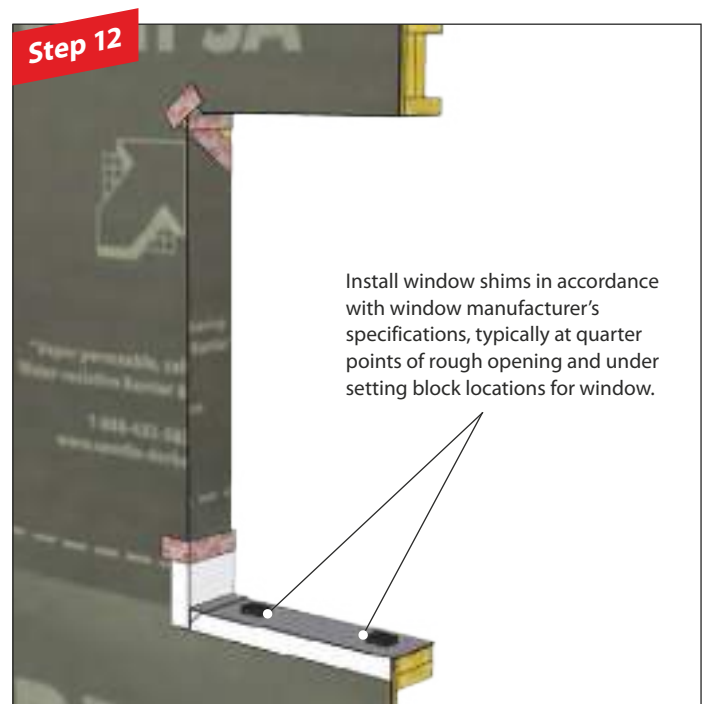


Install DELTA®-VENT SA membrane over entire wall surface. X-cut the membrane.

Cut-out method

6. With flat sill





Cut-out method

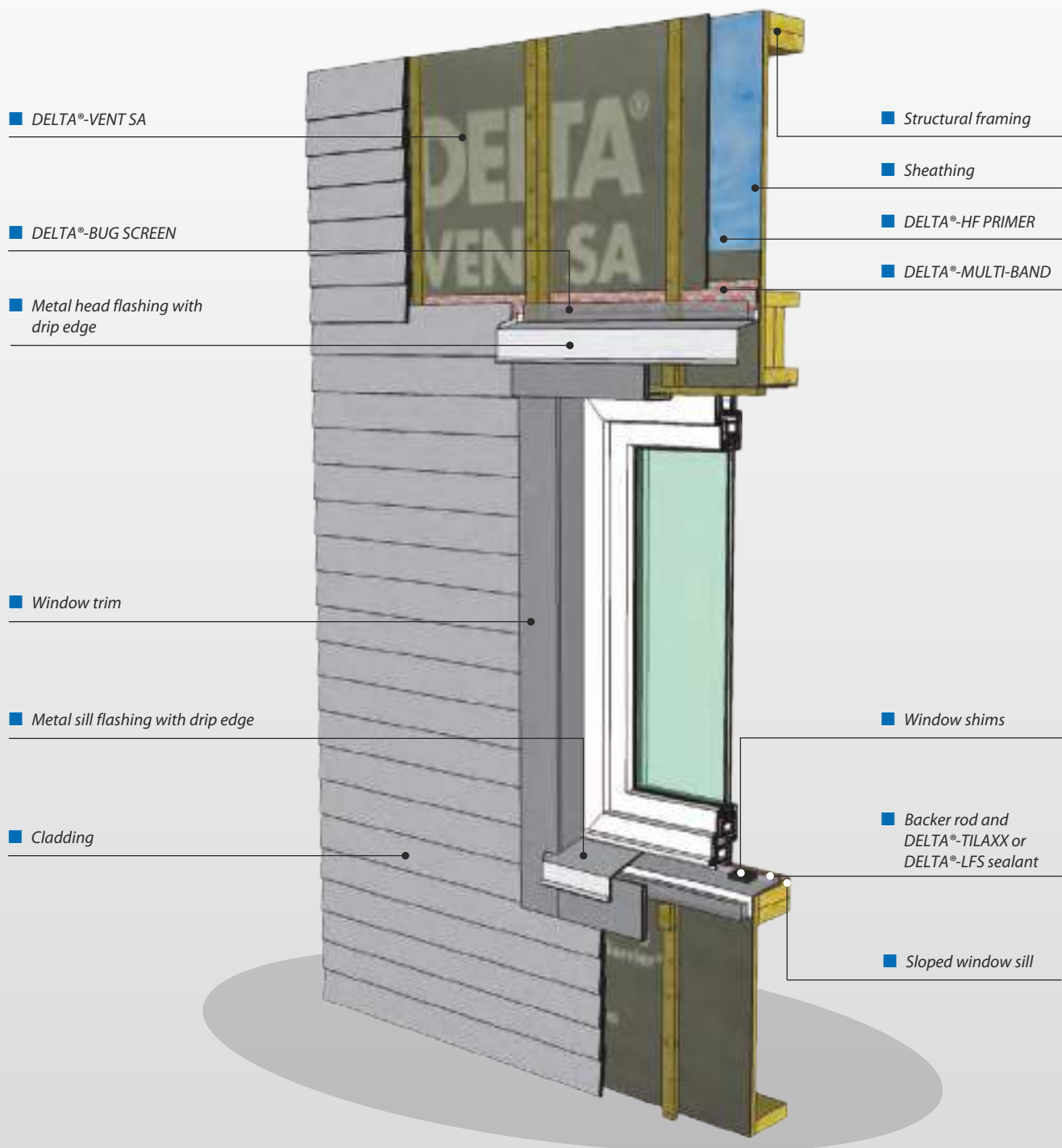
6. With flat sill





Cut-out method

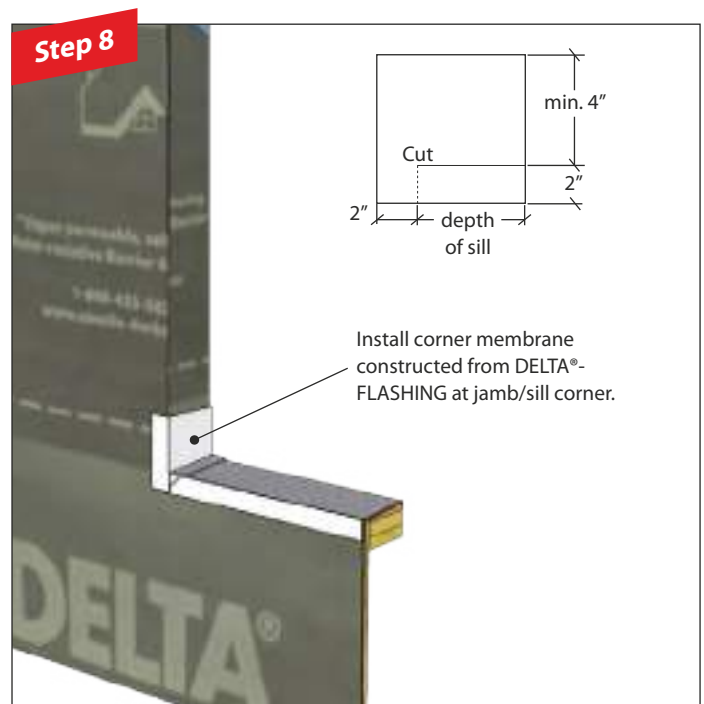
7. With sloped sill





Cut-out method

7. With sloped sill





Cut-out method

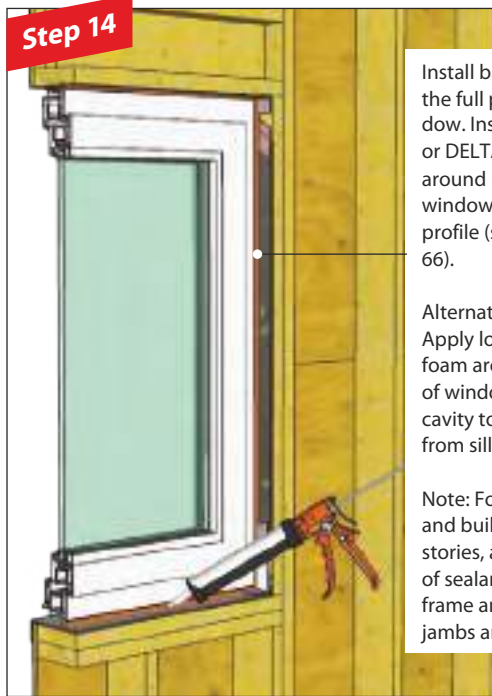
7. With sloped sill

Step 13



Install window in accordance with manufacturer's specifications. Generally the gap between window and rough opening should be around 1/2" (12 mm).

Step 14

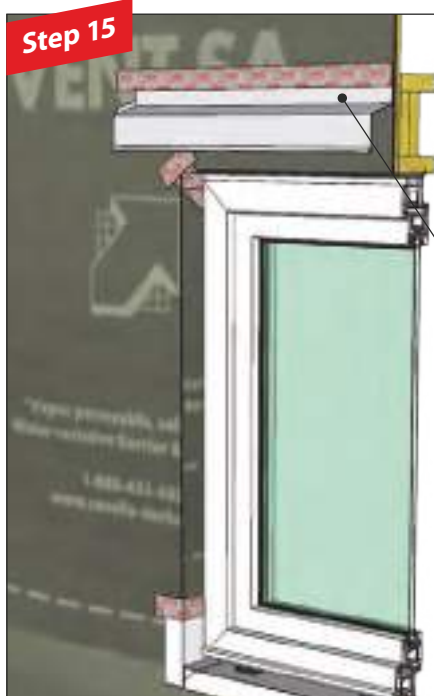


Install backer rod around the full perimeter of window. Install DELTA®-TILAXX or DELTA®-LFS sealant around perimeter of window in proper 2:1 joint profile (see Appendix, page 66).

Alternate air sealing detail: Apply low expansion spray foam around full perimeter of window. Do not seal full cavity to allow drainage from sill flashing.

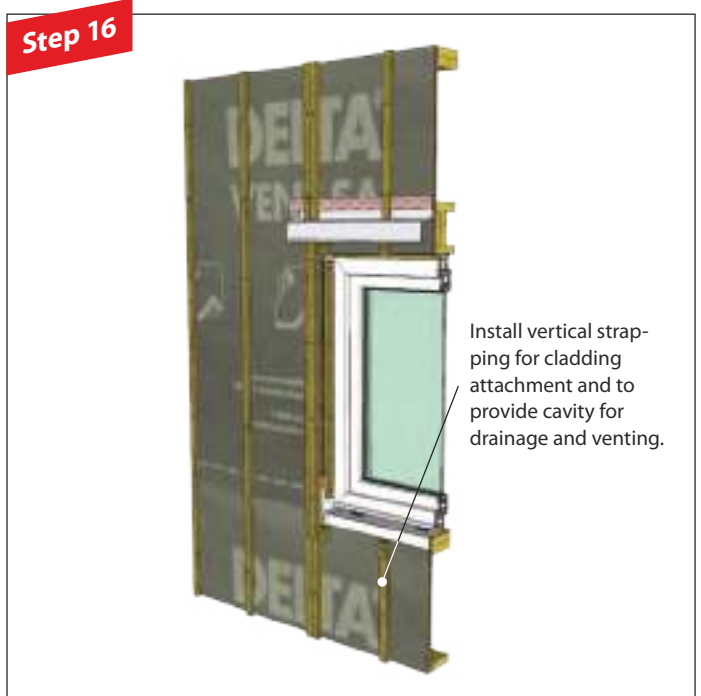
Note: For exposed buildings and buildings taller than 2 stories, apply exterior bead of sealant between window frame and membrane at jambs and head only.

Step 15



Install metal flashing at window head. Seal with DELTA®-MULTI-BAND tape.

Step 16



Install vertical strapping for cladding attachment and to provide cavity for drainage and venting.



Cut-out method

8. With backdam



Step 1



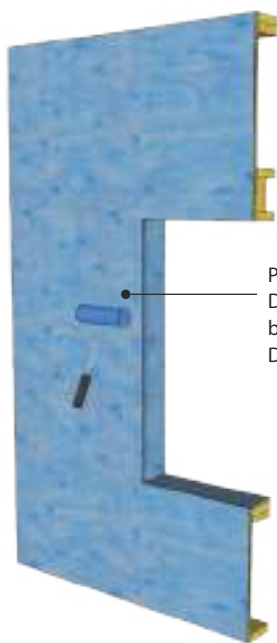
Framing

Step 2



Sheathing

Step 3



Prime substrate with DELTA®-HF PRIMER before applying DELTA®-VENT SA.

Step 4

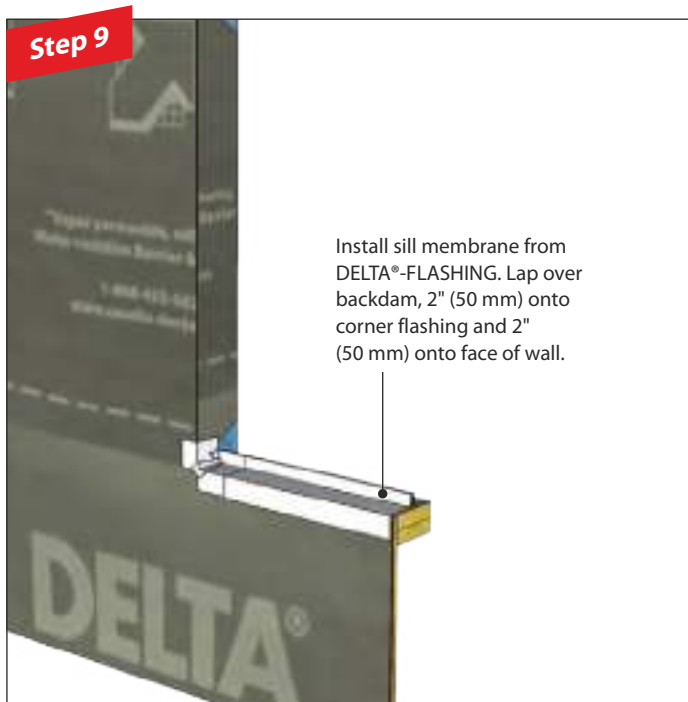


Install DELTA®-VENT SA membrane over entire wall surface. X-cut the membrane.

Cut-out method

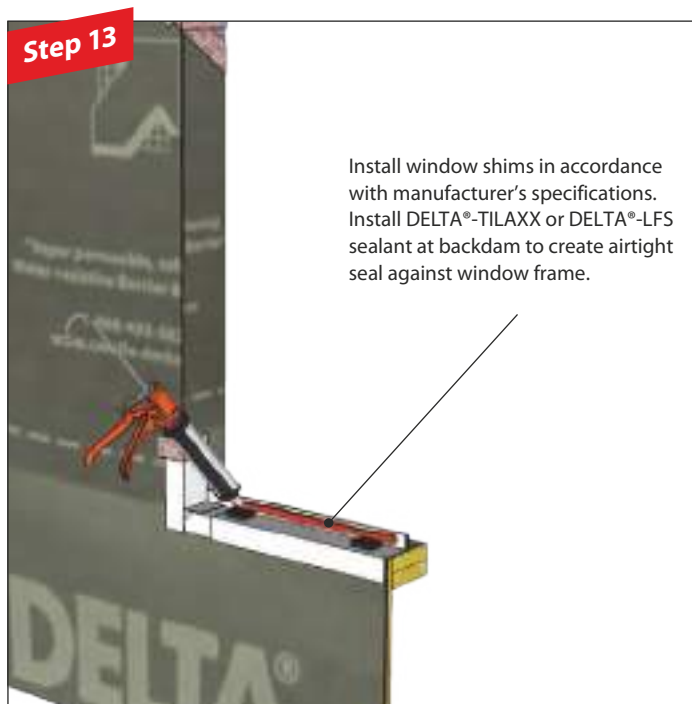
8. With backdam





Cut-out method

8. With backdam





DELTA® Accessories

DELTA® Air Barrier System Components

Assuring an air-tight building enclosure

Using DELTA®-VENT SA to create an energy-efficient and air-tight building is a great choice. Choosing premium DELTA® Air Barrier System Components will help complete the job to meet the highest standards.

The secret to ensuring the overall effectiveness of an air barrier system is in the details, such as sealing windows, doors and penetrations. Proper attention to details is critically important to achieve an air-tight assembly. All components must be interconnected to successfully resist air and water infiltration, and turn individual materials, components and assemblies into a complete Air Barrier System.

DELTA®-Accessories are exhaustively tested for compatibility. Together they assure superior performance in air-tight building enclosures.

DELTA®-FLASHING is a best-in-class self-adhering membrane used to flash around window and door openings. Cut in practical and convenient widths, it provides superior long-term protection against air and water leaks.

DELTA®-MULTI-BAND is a very tough and durable seam tape with an aggressive pure acrylic adhesive. It is suitable for use at end and side laps or other detail areas. It sticks tenaciously to DELTA®-VENT SA as well as all other common construction substrates like OSB, plywood, metal, glass, etc.

DELTA®-FLEXX-BAND is a two-ply stretchable tape with a premium butyl rubber adhesive for use at penetrations such as service pipes, arched windows, window flanges, corners and joints. It is formed easily by hand into irregularly-shaped areas, forming a tight bond to wood, vinyl, metal and other common building materials.

DELTA®-FAS CORNER is a unique preformed corner for sealing windows and doors in air- and water-tight construction. Both durable and UV resistant, it provides top performance in detailing energy-efficient enclosures. DELTA®-FAS CORNER is easy to use and saves both time and labor during installation.

DELTA®-LFS is a one-part, moisture curing, room-temperature vulcanizing (RTV), 100% silicone adhesive and sealant that cures to form a low-modulus silicone rubber that maintains long-term adhesion and flexibility.

DELTA®-TILAXX is a high quality permanent-ly elastic adhesive and sealant for durable air-tight bonding to all common construction surfaces where moderate movement of components is expected.

DELTA®-HF PRIMER is a solvent free primer for self-adhering membranes used as per of surface conditioner. It consolidates surface dust on dirty construction site substrates, assuring reliable long-term air-tight adhesion for DELTA®-VENT SA.

The comprehensive line of DELTA®-Accessories by Dörken delivers complete solutions for energy-efficient and durable building enclosures.

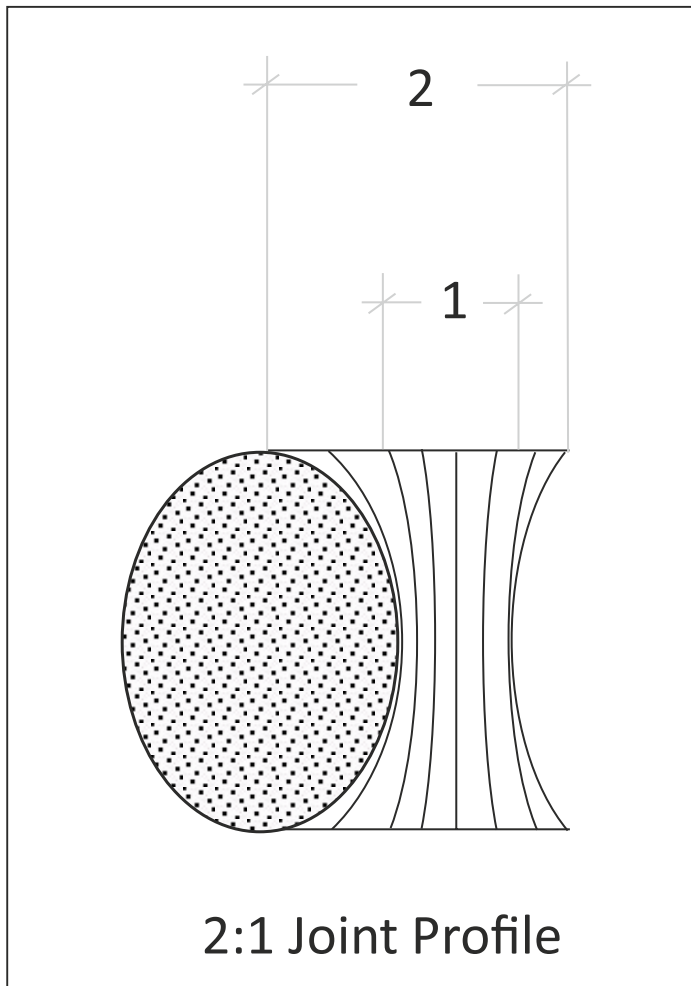


DELTA® Air Barrier System Components

			
DELTA®-FLASHING	DELTA®-MULTI-BAND	DELTA®-FLEXX-BAND	DELTA®-FAS CORNER
Premium self-adhesive flashing membrane with aggressive tack.	Universal adhesive tape that sticks tenaciously and is highly resistant to aging.	Stretchable butyl-rubber compound tape with special carrier membrane.	Flexible pre-fabricated window corner. Permanently UV resistant.
Recommended Use ■ For flashing of window and door openings.	Recommended Use ■ For all DELTA® membranes to seal laps and penetrations.	Recommended Use ■ Stretchable flashing for details and penetrations. ■ Pre-stretch where required.	Recommended Use ■ Provides reliable air- and water-tight window details.
Surface temperature min. +41 °F (+5 °C) Recommended storage: room temperature	Surface temperature min. +41 °F (+5 °C) Recommended storage: room temperature	Surface temperature min. +41 °F (+5 °C) Recommended storage: room temperature	–
Temperature Range -40 °F to +176 °F (-40 °C to +80 °C)	Temperature Range -40 °F to +176 °F (-40 °C to +80 °C)	Temperature Range -40 °F to +176 °F (-40 °C to +80 °C)	Temperature Range -40 °F to +176 °F (-40 °C to +80 °C)
Size Width: 6" (15.25 cm), 9" (23 cm) Length: 75' (22.85 m)	Size Width: 2 3/8" (6 cm), 4" (10 cm) Length: 82' (25 m)	Size Width: 4" (10 cm) Length: 33' (10 m)	Measurements 7" x 7" x 4" (18 cm x 18 cm x 10 cm)

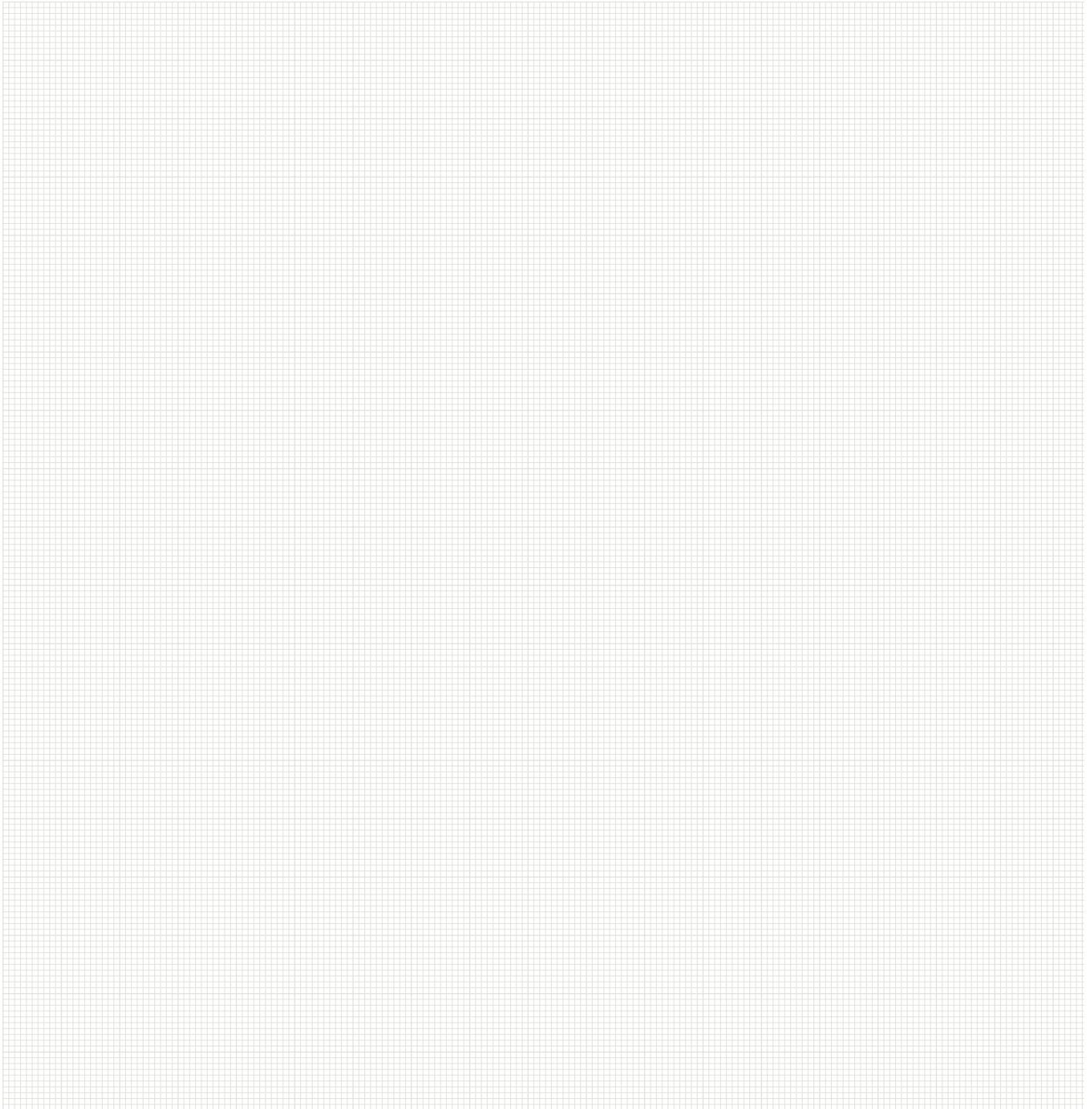
			
DELTA®-LFS	DELTA®-TILAXX	DELTA®-ADHESIVE	DELTA®-HF PRIMER
Permanently elastic detail compound and sealant .	High quality permanently elastic adhesive and sealant that retains flexibility.	Solvent surface conditioner.	Solvent free primer for self-adhering membranes used as surface conditioner.
Recommended Use ■ For sealing and adhering of DELTA® membranes. ■ Provides greater security in detail areas. ■ Suitable for areas with minimal movement of components. ■ Liquid flashing for windows and door opening.	Recommended Use ■ For durable air-tight bonding to all common construction surfaces where moderate movement of components is expected. ■ Suitable for sealing of openings around windows (installed with backer rod).	Recommended Use ■ Consolidates surface dust on dirty construction site substrates assuring reliable long-term air-tight adhesion. ■ Compliant with OTC rules for industrial adhesives and sealants and California South Coast Rule 1168.	Recommended Use ■ Consolidates surface dust on dirty construction site substrates assuring reliable long-term air-tight adhesion. ■ Compliant with OTC rules for industrial adhesives and sealants and California South Coast Rule 1168.
Application Conditions Open time: 0°C to 50°C (120°F)	Application Conditions Open time: 30 minutes at min. +41 °F (+5 °C)	Surface temperature Application conditions: min. -12 °C (10 °F) to 70 °C (104 °F) Recommended storage: min. 32 °F (0 °C)	Application conditions: min. 5 °C (40 °F) to 70 °C (104 °F) Recommended storage: min. 5 °C (40 °F)
Application Rate Approx. 23' (7 linear m) per cartridge	Application Rate Approx. 23' (7 linear m) per cartridge	Application Rate Up to 8.2 m²/l (350 ft²/gal.) depending on porosity and texture of surface.	Application Rate Up to 23 m²/l (250 ft²/0.26 gal.) depending on porosity and texture of surface.
Temperature Range -76°F to 392°F (-60°C to 200°C)	Temperature Range -22 °F to +176 °F (-30 °C to +80 °C)	Temperature Range -40 °F to +176 °F (-40 °C to +80 °C)	Temperature Range 5°C (40°F) to 70°C (150°F)
Size 10.2 fl.oz (300 ml) cartridge 20 fl.oz (600ml) sausage	Size 10.5 fl.oz (310 ml)	Size 4.5 gal (17 l)	Size 5 l (1.3 gal)

Appendix



Recommended 2:1 Window Joint Profile

Notes



About Dörken

Dörken delivers innovative, premium quality products to the construction market.

A North American manufacturer based out of Beamsville, Ontario, Dörken Systems Inc. is a subsidiary of the Dörken Group, a leading European developer and manufacturer of waterproofing and drainage products sold worldwide. Other top-performing WRBs from Dörken include DELTA®-FASSADE S, DELTA®-STRATUS SA and DELTA®-VENT S.

For more information,
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visit www.dorken.com

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