DELTA®

HIGH PERFORMANCE AIR & MOISTURE BARRIERS

DÖRKEN

TECHNICAL DATA SHEET

DELTA®-VENT S / PLUS

Water-resistive Barrier & Air Barrier

MATERIAL

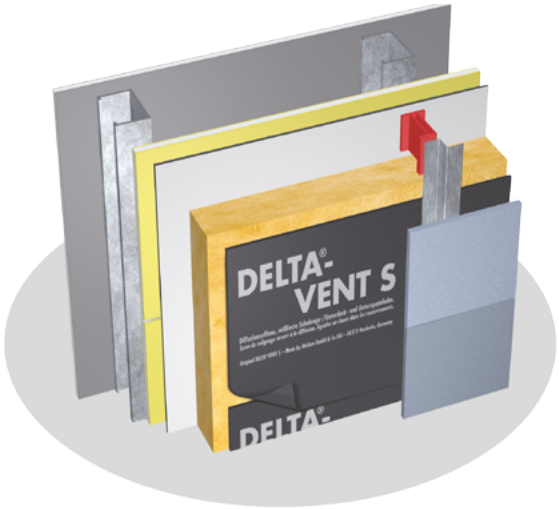
DELTA®-VENT S is a 3-layer water-resistive barrier (WRB) and air barrier. Its two outer layers are made of a high strength spun-bonded polypropylene (PP) fabric. They are thermally bonded to a highly vapor permeable, watertight polymeric middle layer. The fabric layer on the lower side protects the WRB against damage (e.g. roughly sawn sheathing). The matte gray color of DELTA®-VENT S prevents blinding glare during installation.

PROPERTIES

DELTA®-VENT S is a highly vapor permeable WRB, allowing moisture within the building enclosure to escape through the membrane via diffusion. Its high permeability and air-tightness make it an ideal air and water-resistive barrier membrane for energy-efficient construction. The product is watertight and protects the building enclosure from wind-driven rain. DELTA®-VENT S is very light-weight and tear-resistant. This membrane withstands the rigors of jobsites, as well as tough wind and weather.

APPLICATION

DELTA®-VENT S is installed outboard of the sheathing prior to the application of the final cladding system. DELTA® Accessories complement the WRB / Air Barrier installation. DELTA®-VENT S is also available in the PLUS version with a self-adhesive edge.



DELTA® products support sustainable and energy-efficient building practices, including efforts toward achieving LEED® certification (LEED® for New Construction & Major Renovations, LEED® for Core and Shell, LEED® for Existing Buildings and LEED® for Homes).

For technical support, call our technical support team at 1-888-4DELTA4 (1-888-433-5824) extension 326, or visit www.dorken.com.

ICC ESR-2932 DELTA® Water-resistive Barriers
CCMC 13479-R

Technical Data

Product name	DELTA®-VENT S	
Color	gray	
Water vapor transmission	472 g/m²/24 h	ASTM E96-05, Proc. A
	820 g/m²/24 h	ASTM E96-05, Proc. B
Vapor permeance	69 perms [grains/h/ft²/in Hg]	ASTM E96-05, Proc. A
	120 perms [grains/h/ft²/in Hg]	ASTM E96-05, Proc. B
Breaking strength	MD 69.9 lb	ASTM D5034-95 (2001)
	CD 67.3 lb	
Elongation at break	MD 44.6 %	ASTM D5034-95 (2001)
	CD 74.1 %	
Tear resistance	MD 1078 g	ASTM D1922-06a
	CD 1588 g	
Trapezoid tearing strength	MD 21.6 lb	ASTM D4533-04
	CD 14.6 lb	
Puncture resistance	Pass	TAPPI-T803
Water resistance: Hydrostatic pressure test	Pass (>5 hours)	AATCC 127-1985
Water penetration resistance (Water Ponding Test)	Pass Meets requirements of AC38 for 60 minute Grade D water-resistive barrier	ICC AC38, 4.2.2, June 2011 (CCMC MF072510.3, Section 6.4.5)
Water penetration resistance	642.8 cm	CAN/CGSB-4.2 #26.3-95 / ISO 811:1981
Water impact penetration resistance	no water passing	AATCC 42-2000
Bent test	Pass (no cracking)	ICC AC 38, 3.3.4
Flame spread	25	ASTM E84-09
	NFPA Class A; UBC Class I	
Smoke developed	105	ASTM E84-09
	NFPA Class A; UBC Class I	
UV exposure	Pass (> 90 % tensile retention after UV exposure)	CCMC 07251003-2008 § 5.1.2.3 (UV exposure according to ASTM G154-06)
Heat aging	Pass	CCMC 07251003-2008 § 5.1.2.4
Air permeance	Pass < 0.02 l/(s x m²) @ 75 Pa <0.004 cfm/ft² @ 1.57 psf	ASTM E2178
Linear dimensional changes	Pass (< 3 %)	ASTM D1204-02
Temperature range	-40 °F to +176 °F (-40 °C to +80 °C)	
Roll weight	approx. 24 lb (11 kg)	
Roll length	164' (50 m)	
Roll width	4' 11" (1.5 m)	
Maximum UV (sunlight) exposure	Always cover as soon as possible. Maximum exposure 6 weeks.	
DELTA® Accessories	DELTA®-MULTI BAND 2" x 82' DELTA®-FLEXX-BAND 4" x 33' DELTA®-THAN 310 ml cartridge	

PREMIUM QUALITY

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1-888-4 DELTA 4, (905) 563-3255 Fax: (905) 563-5582
info@dorken.com, www.dorken.com

DELTA®-VENT S is a highly vapor permeable water-resistive barrier, allowing moisture within the building enclosure to escape through the membrane. Its high permeability and extreme air-tightness makes it an ideal air and water-resistive barrier membrane for energy efficient construction. DELTA®-VENT S is watertight, and will help protect the building enclosure from wind-driven rain and snow while providing a drainage plane to channel water harmlessly to the outside of the building.

SECTION 072800

WATER-RESISTIVE BARRIER

PART 1 - GENERAL

1.1 SUMMARY

A. Provide a vapor-permeable air and water-resistive barrier and accessories for exterior enclosures. (DELTA®-VENT S) (DELTA®-VENT S PLUS with self-adhesive edge)

B. Related Work: Coordinate with the following items which are specified in other sections:

1. Section 061600 - SHEATHNG for sheathing behind weather-resistive barrier.
2. Section 076200 - SHEET METAL FLASHING AND TRIM for flashings, and other sheet metal work.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer’s product data, including installation instructions, detail drawings, test reports on physical and performance properties, and building code compliance reports.

B. Verification Samples: Submit clearly labeled samples of each material specified.

C. Warranty at Closeout: Submit manufacturer’s executed warranty form with authorized signatures and endorsements indicating date of Substantial Completion.

1.3 QUALITY ASSURANCE

A. Manufacturer: Minimum of 3 years experience manufacturing similar products.

B. Installer: Minimum of 2 years experience installing similar products and acceptable to the manufacturer.

C. Mock-Up: If required under Division 01, provide materials and labor for exterior wall mock-up.

D. Pre-Installation Meeting: Conduct a pre-installation meeting a minimum of two weeks prior to commencing the Work of this Section.

1. Agenda shall include review of requirements and submittals for water resistive barrier, including surface preparation requirements specified under other sections, status of substrate work and preparation, compatibility of materials, special details and flashings, installation procedures, testing and inspection procedures, protection, and repairs.
2. Attendance by related trades is required.

1.4 DELIVERY, STORAGE AND HANDLING

A. Deliver materials and products in unopened factory labeled packages. Store and handle in strict compliance with manufacturer's instructions and recommendations.

1.5 WARRANTY

A. Manufacturer’s Warranty: Submit manufacturer’s standard limited warranty for defects in materials.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Basis-of-Design: (DELTA®-VENT S) (DELTA®-VENT S PLUS) by Dörken Systems Inc., 4655 Delta Way, Beamsville, ON L0R 1B4, Canada. Toll Free: 888-4DELTA4 (433-5824) Phone: 905-563-3255. Fax: 905-563-5582. www.dorken.com.

B. Water-Resistive Barrier: Provide vapor-permeable air and water-resistive barrier with the following characteristics:

1. Material: 3-layer, high-strength spun-bonded polypropylene membrane.
2. Color: Gray.
3. Vapor Permeance: 69 perms [grains/h/ft²/in Hg] ASTM E96, Proc. A; 120 perms [grains/h/ft²/in Hg] ASTM E96-05, Proc. B.
4. Water Vapor Transmission: 472 g/m²/24 h ASTM E96, Proc. A, 820 g/m²/24 h ASTM E96, Proc. B.
5. Air Permeance: Pass (< 0.2 L/(s•m²) @ 75 Pa) ASTM E2178.
6. Breaking Strength: MD 76 lbs/in CD 65.4 lbs/in ASTM D5035.
7. Elongation at Break: MD 25 % CD 65 % ASTM D5035.
8. Tear Resistance: MD 1078 g CD 1588 g ASTM D4533.
9. Fastener Pull-Through Force: 133 N ASTM D3462.
10. Water Penetration Resistance: 643 cm CAN/CGSB-4.2 #26.3-95
11. Flame Spread: 25 NFPA Class A; UBC Class 1 ASTM E84.
12. Smoke Developed: 145 NFPA Class A; IBC Class A ASTM E84.
13. Bent Test: Pass AC-38 3.3.4.
14. Temperature Range: -40° F to 176° F (-40° C to +80° C).
15. Maximum UV (Sunlight) Exposure: Always cover as soon as possible. Maximum exposure 6 weeks.
16. NFPA 285: Compliant.

C. Accessory Products:

1. Adhesive Tape at Overlaps: DELTA®-MULTI-BAND.
2. Elastic Rubber Compound Sealant and Adhesive: DELTA®-THAN.
3. Preformed Corners: DELTA®-FAS-CORNER.
4. Flashing: DELTA®-FLASHING.
5. Butyl Rubber Tape at Penetrations: DELTA®-FLEXX BAND.
6. Fasteners: Manufacturer’s recommended corrosion-resistant screws with plastic caps or metal gasketed washers.
7. Air and Vapor Sheet Over Substrate When Required: DELTA®-REFLEX.
8. Through-wall Flashing: DELTA®-TW FLASHING.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

1. Clean substrate of dirt and bond breaking substances prior to beginning installation.

3.2 INSTALLATION

A. Install products in strict accordance with manufacturer's instructions, approved submittals and the following:

1. Install water-resistive barrier prior to installation of windows and doors.
2. Overlap sheets to shed water, minimum 12 inches at exterior corners, 6 inches at vertical and horizontal seams.
3. Seal seams of water resistive barrier with approved seam tape at all vertical and horizontal overlapping seams.
4. Seal cuts and tears as recommended by manufacturer.

3.3 PROTECTION

A. Protect installed water-resistive barrier from damage during application and remainder of construction period, according to manufacturer's written instructions.

B. Coordinate with installation of materials which cover the water-resistive barrier, to ensure exposure period does not exceed that recommended by the manufacturer.

END OF SECTION

NFPA 285 COMPLIANT WALL ASSEMBLIES 2012 IBC

The following assemblies meet the performance requirements of NFPA 285 (2012) as required by the International Building Code®.

Wall Component	Materials
Base wall system – Use either 1, 2, or 3	1 – Concrete wall 2 – Concrete Masonry wall 3 – One layer of 5/8-inch thick Type X gypsum wallboard installed on the interior side of minimum 3 5/8-inch deep, minimum 20-gauge steel studs spaced at a maximum of 24-inch OC with lateral bracing every 4 ft. vertically. Minimum 4 lb/ft^3 mineral wool insulation (e.g. Thermafiber) friction fit in each stud cavity and at each floorline.
Cavity Insulation – Use either 1 or 2	1 - None 2 – noncombustible insulation (fiberglass or mineral wool) faced or unfaced
Exterior sheathing – Use either 1 or 2	1 – 1/2-inch thick, exterior type gypsum sheathing 2 – 5/8-inch thick, exterior type gypsum sheathing
Water resistive barrier applied to exterior sheathing – Use either 1, 2, 3, 4, or 5	1 – DELTA®-VENT SA 2 – DELTA®-VENT S/PLUS 3 – DELTA®-FASSADE S 4 – DELTA®-FOXX/PLUS 5 – DELTA®-MAXX/PLUS
Exterior Insulation – Use either 1 or 2	1 – Maximum 3-inch thick DOW THERMAX™ foil-faced polyisocyanurate insulation. All exterior insulation board joints taped with CW VentureTape foil tape or equivalent. 2 – Any noncombustible insulation material (e.g. mineral wool insulation). If batts, can be either faced or unfaced.
Exterior Wall Covering – Use either 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10	1 – Brick – Standard type brick veneer anchors, installed maximum 24 inches on center, vertically on each stud. Maximum 2-inch air gap between exterior insulation and brick. Standard nominal 4-inch thick, clay brick, running bond pattern, Type S mortar 2 – Stucco – Minimum ¾-inch thick, exterior cement plaster and lath. A secondary water-resistive barrier can be installed between the exterior insulation and the lath. The secondary water-resistive barrier shall not be full-coverage asphalt or butyl-based self-adhered membranes. 3 – Minimum 2-inch thick natural stone (granite, limestone, marble, sandstone) or minimum 1-½ inch thick cast artificial stone veneer. Any standard installation technique can be used. 4 – Minimum 1-½ inch thick artificial cast stone. Any standard installation technique can be used. 5 – Minimum 1-¼ inch thick Terra Cotta non-open jointed. Any standard installation technique can be used. 6 – Minimum 1-½ inch thick concrete or precast concrete panels with a maximum 2-inch air gap between the exterior insulation and the concrete panel. Any standard installation technique can be used. 7 – Metal composite material (MCM) system that has successfully been tested by the panel manufacturer in accordance with NFPA 285 using any attachment system with direct mechanical attachment to the support system. 8 – Metal exterior wall coverings such as steel, aluminum, copper, etc. using any standard direct mechanical attachment to the support system. 9 – Minimum 4-inch thick concrete masonry (CMU) with maximum 2-inch air gap between the exterior insulation and the CMU 10 – Fiber cement siding or fiber cement panels using any standard installation technique.
Other Approved Assemblies*	Trespa® Meteon® Façades Hunter Exterior Wall Panel System FunderMAX® Parklex® Wall System

*Contact our technical suport team for further details 1888-433-5824 ext. 326

PREMIUM QUALITY

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NFPA 285 PERFORMANCE REQUIREMENTS 2012 IBC

Meeting the performance requirements of NFPA 285 is determined by the analysis of NFPA 285 fire test data obtained through the testing conducted in accordance with NFPA 285 and ASTM E1354.

In addition to NFPA 285, small-scale tests are conducted in accordance with ASTM E1354, Standard Test Method for Heat and Visible Smoke Release Rates for Material and Products Using Oxygen Consumption Calorimeter (Cone Calorimeter Test), whereby various fire performance properties are calculated and/or measured.

The NFPA 285 test provides a method for determining the flammability characteristics of exterior non-load-bearing wall assemblies. The test method is intended to evaluate the combustible components within the wall. The test simulates a multistory fire performance of an entire wall assembly. The NFPA 285 testing apparatus is a two story wall assembly that includes a window opening on the first floor. Pass / Fail criteria are given and are based on flame propagation and temperatures within the wall assembly. Flame propagation must not occur either vertically or laterally beyond an acceptable distance. Temperatures are measured by use of thermocouples that are placed within the wall assembly.

Assemblies in the accompanying table are based on the specific construction materials installed in the manner described in the table. Changes or modifications to the construction and/or materials used in the tested assemblies may result in a different fire performance, and may not meet the performance requirements of NFPA 285.

The testing of water-resistive barrier (WRB) products in assemblies is not specifically required in the 2000, 2003, 2006, and 2009 Editions of the International Building Code (IBC). In these editions of the building code, an exterior wall assembly required to meet NFPA 285 would have to be constructed for testing to include all combustible materials and products for which compliance is being sought. In the 2012 Edition of the IBC, a new section was added to the code specifically requiring the testing of WRB materials in wall assemblies. Section 1403.5 requires that exterior walls on buildings of Type I, II, III, and IV construction that are greater than 40 ft. above grade plane, and that incorporate a combustible water-resistive, barrier shall meet the requirements of NFPA 285. By virtue of this code requirement, all combustible WRB materials must be tested in accordance with and comply with the criteria of NFPA 285, even if the wall assembly excluding the WRB would not be required to meet NFPA 285.

> *International Building Code 2012*
> *1403.5 Vertical and lateral flame propagation. Exterior walls on buildings of Type I, II, III or IV construction that are greater than 40 feet (12 192 mm) in height above grade plane and contain combustible water-resistive barrier shall be tested in accordance with and comply with the acceptance criteria of NFPA 285.*

Attached is a table describing NFPA 285 Compliant Wall Assemblies, incorporating DELTA® air and water-resistive barriers. The table provides a list of wall components and materials that can be used to achieve approved walls.

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DELTA®

HIGH PERFORMANCE AIR & MOISTURE BARRIERS

DÖRKEN

DELTA®-VENT S

Highly vapor permeable air and water-resistive barrier ensures an air and moisture tight building.

High Performance Air & Moisture Barrier

ICC ES

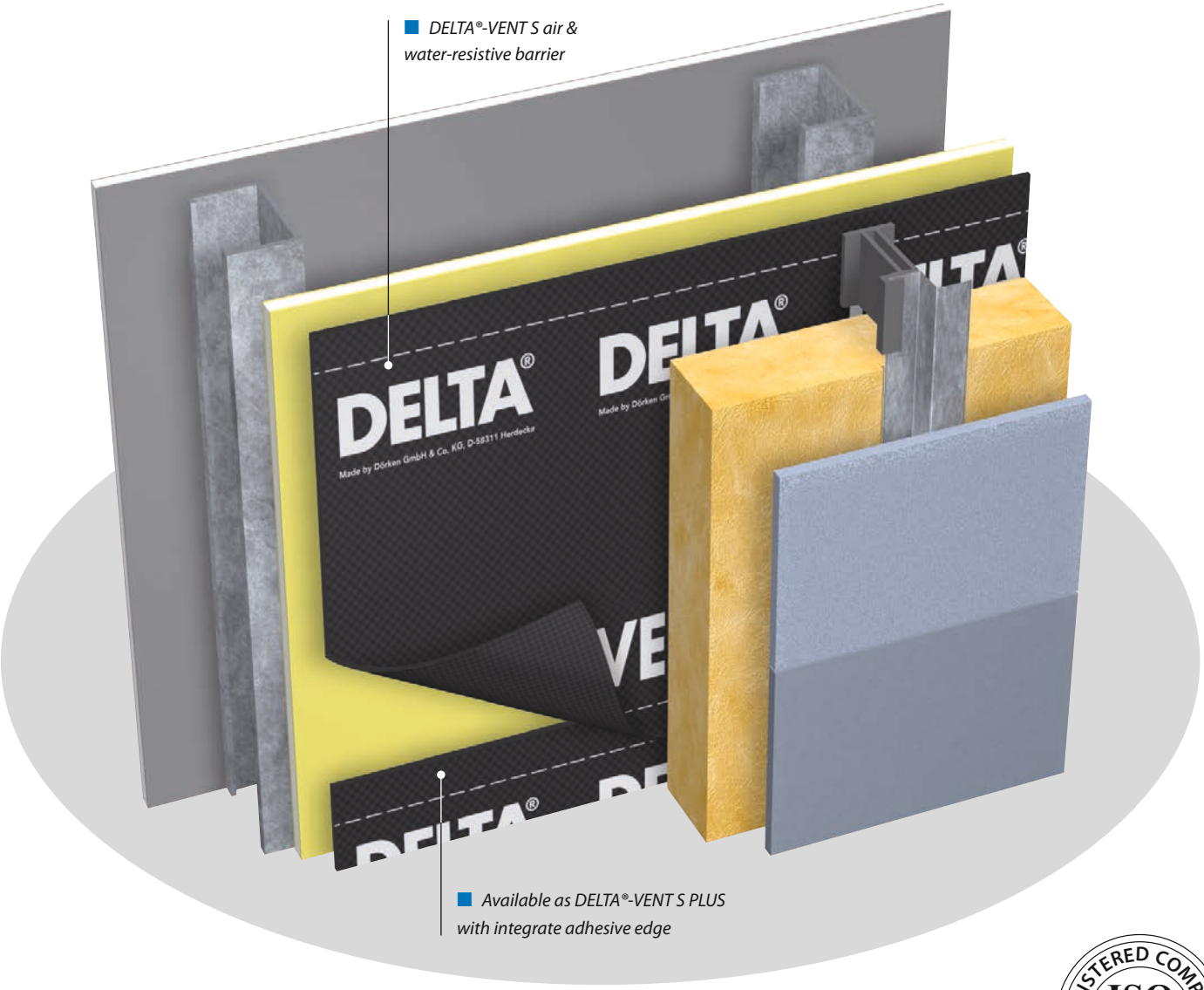
AC38 Approved
ESR-2932

High Performance:

DELTA®-VENT S

Highly vapor permeable air and water-resistive barrier.

Allows damaging water vapor to escape, creating a healthier building.



REGISTERED COMPANY ISO 9001: 2008

DELTA® quality branded products made by Dörken.

Committed to sustainability & the environment
DELTA®

- Highly vapor permeable (120 perms).
- Approved by Air Barrier Association of America (abaa) as water-resistive barrier.
- Helps to ensure a healthy and comfortable interior climate.
- High performance air barrier when used with DELTA®-Accessories.
- 3 layer high strength membrane.
- Water tight and Class A fire-rated.
- Easy to install.
- Matte gray color reduces irritating glare during installation.
- NFPA 285 compliant.
- Approved under National Building Code (CCMC 3479-R).
- Available as DELTA®-VENT S PLUS with integrated adhesive edge.
- Produced in our ISO 9001 registered manufacturing plant.
- Approved under International Building Code and International Residential Code (ICC ESR-2932).

Technical Data Overview:

Color	gray
Vapor permeance	69 perms [grains/h/ft^2/in Hg] ASTM E96-05, Proc. A 120 perms [grains/h/ft^2/in Hg] ASTM E96-05, Proc. B
Water vapor transmission	472 g/m^2/24 h ASTM E96-05, Proc. A 820 g/m^2/24 h ASTM E96-05, Proc. B
Air permeance	Pass (< 0.02 L/(s•m^2) @ 75 Pa) ASTM E2178
Breaking strength	MD 76 lbs/in CD 65.4 lbs/in ASTM D5035-95
Elongation at break	MD 25 % CD 65 % ASTM D5035-95
Tear resistance	MD 1078 g CD 1588 g ASTM D4533-04
Fastener pull-through force	133 N ASTM D3462-03
Water penetration resistance	Pass (> 5h) AATCC 127-1985
Flame spread	Class A ASTM E84-09
Smoke developed	Class A ASTM E84-09
Bent test	Pass ICC AC38
Temperature range	-40 °F to 176 °F (-40 °C to +80 °C)
Roll length	164′ (50 m)
Roll width	4′ 11″ (1.5 m)

See Technical Data Sheet for further information.

DELTA®-Accessories for DELTA®-VENT S.

Dörken makes your life easier – systematically.

DELTA®-MULTI BAND
pure acrylic adhesive tape used at overlaps of DELTA® Air & Water-resistive Barriers.

DELTA®-THAN
is a permanently elastic, special rubber compound sealant and adhesive.

DELTA®-FAS CORNER
pre-formed to make corners in window and door openings air and water tight.

DELTA®-FLASHING
used to seal openings for windows and doors to complete the DELTA® Air & WRB System.

DELTA®-FLEXX-BAND
stretchable butyl rubber tape used at penetrations.

DELTA® is a registered trademark of Ewald Dörken AG, Herdecke, Germany.

DELTA®

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air barrier abaa association of america

Canadian Home Builders' Association

EEBA

NAHB National Association of Home Builders

DELTA®-VENT S

Vapor Permeable Water-resistive & Air Barrier
Installation Instructions Strip-in Method

Health and Safety

- Required safety equipment: hard hat, safety boots, gloves, safety glasses, fall arrest equipment.
- Always follow all safety precautions as directed by the Occupational Safety and Health Administration (OSHA-USA) or the Construction Safety Association (Canada).
- Please refer to Safety Data Sheets for all components and observe all recommended safety precautions therein.
- The general codes of practice for protection at work and instructions of the manufacturers for tools and components are to be observed at all times.

Recommended Materials

- DELTA®-VENT S
- DELTA®-FAS CORNER (pre-fabricated window corner)
- DELTA®-FLEXX BAND (flexible flashing)
- DELTA®-MULTI BAND tape
- DELTA®-FLASHING
- DELTA®-THAN or DELTA®-TILAXX

Recommended Tools

- Utility knife
- Measuring tape
- Caulking gun
- Hammer or pneumatic nail/staple gun
- Cordless drill (for steel stud applicaiton)
- Hand roller (for flashing applicaiton)

Notes on Air Barrier Continuity

- To ensure the continuity of air and water-resistive barrier, it is essential to install DELTA®-VENT S and all DELTA® components in a manner that seals all the potential leakage points:
  - Connections of the walls to the roof air barrier
  - Connections of the walls to the foundation
  - Seismic and expansion joints
  - Piping, conduit, duct and similar penetrations
  - Masonry ties, screws, bolts and similar penetrations
  - Changes in plane
  - All other potential air leakage pathways in the building enclosure

- These installation instructions for DELTA®-VENT S are intended only as a guide and are for the convenience of the contractors, specifiers, and other interested parties. The final application and details are the sole responsibility of the design authority on record for the project.
- Building codes, such as International Residential Code (IRC), International Building Code (IBC) and National Building Code (NBC), require the use of a water-resistive barrier on all exterior walls that is at least equivalent to Grade D building paper. Always confirm the local building requirements prior to installation.
- Applications using cementitious coatings directly applied to surface of the DELTA®-VENT S is not recommended. For these applications, please call our Technical Support Team: 1-888-433-5824 ext. 326.
- Do not install DELTA®-VENT S in adverse weather conditions. High winds may hamper application.
- Ensure protrusions that may penetrate the membrane are removed from substrate.
- If being applied to concrete or masonry substrates fill voids, gaps and spalled areas in substrate to provide an even plane. Strike masonry joints full-flush.
- It is recommended that DELTA®-VENT S be installed prior to the installation of seismic straps.
- If sealant is required, DELTA®-THAN or DELTA®-TILAXX is recommended.
- When attaching brick ties for anchoring masonry claddings after the installation of DELTA®-VENT S, install a patch of DELTA®-FLEXX BAND at the penetration site before installing the brick tie. The patch should be of an adequate size to seal only the penetration point.
- Product is not designed for permanent UV exposure. Always cover as soon as possible.

Recommended fasteners

- #4 nails with 1″ (25 mm) plastic cap (wood frame construction).
- 1″ (25 mm) plactic cap staples with minimum 7/8″ (22 mm) leg (wood frame construction).
- 1-1/4″ (32 mm) or 2″ (50 mm) self-tapping screws with gasketed metal washers (steel stud construction).

Step 1 Installation

- Cut DELTA®-VENT S into manageable length. DELTA®-VENT S can be installed vertically or horizontally.
- Starting at a corner of the building, unroll DELTA®-VENT S, keeping the roll plumb.
- Extend approximately 12″ (300 mm) past either the inside or outside corner of the wall.
- At end and side laps, overlap DELTA®-VENT S by minimum of 6″ (150 mm).
- To ensure air barrier continuity, tape any laps with DELTA®-MULTI BAND tape.
- Always begin the installation of DELTA®-VENT S at the bottom of the building to ensure proper downward shingling of the laps.
- Secure DELTA®-VENT S by fastening into the studs (wherever possible) no closer than 6″ (300 mm) and no wider than 16″ (406 mm) on centre horizontally and vertically.
- Ensure that the DELTA®-VENT S is pressed tightly into all inside corners before fastening to prevent damage during the installation of exterior cladding.

Step 2 Wall/foundation transition

- DELTA®-VENT S should overlap through-wall (DELTA®-TW) flashing by minimum of 6″ (150 mm).
- For optimum performance:
  - Seal DELTA®-VENT S to through-wall (DELTA®-TW) flashing with DELTA®-THAN or DELTA®-MULTI BAND.
- If no through-wall flashing is installed, the bottom edge of DELTA®-VENT S should extend beyond the sill plate by at least 2″ (50 mm) and be sealed with DELTA®-THAN.

Step 3 Window

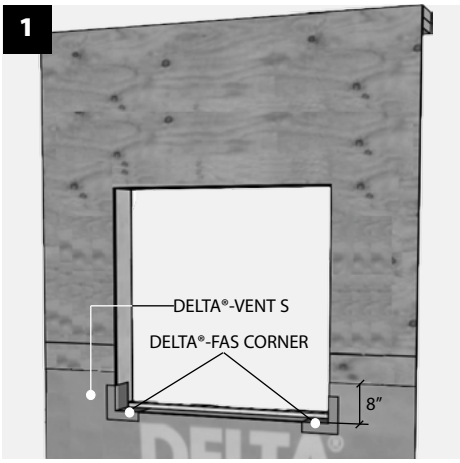
- Install DELTA®-VENT S membrane below window with cut out miniumum 8″ (200 mm) above sill. Install DELTA®-FAS CORNERS in lower corners of rough opening. Staple on vertical leg for temporary support (see Detail 1).
- Install DELTA®-FLASHING membrane onto window sill. Overlap 2″ (50 mm) onto face of DELTA®-VENT S membrane below (see Detail 2).
- Install DELTA®-VENT S membrane strip to wrap jamb. Lap 8″ (200 mm) onto face of wall at jamb, minimum 3″ (75 mm) at head. Install DELTA®-VENT S membrane at window head or rough opening. Lap minimum 8″ (200 mm) onto face of wall at head overlapping window jamb by minimum 3″ (75 mm). Install DELTA®-MULTI BAND tape at overlapped edges of DELTA®-VENT S to ensure airtightness (see Detail 3).
- Install window shims in accordance with window manufacturer's specifications, typically at quarter points of rough opening and under setting block locations for window. Install window in accordance with manufacturer's specifications. Generally, the gap between window and rough opening should be around 1/2″ (12 mm).
- From interior, install backer rod around the full perimeter of window. Install DELTA®-TILAXX sealant around perimeter of window 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.

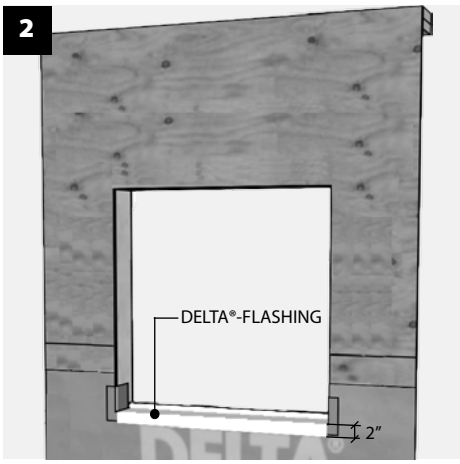
Rebate window

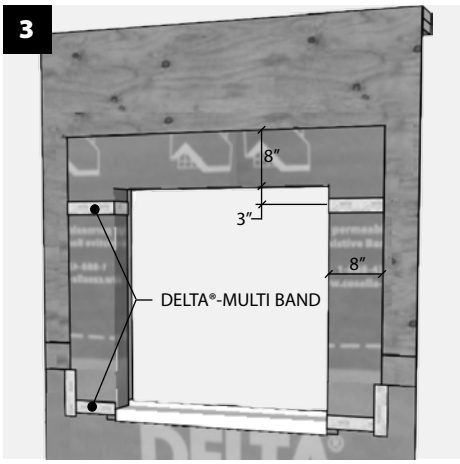
- For exposed buildings and buildings taller than 2 stories, apply an exterior bead of sealant between window frame and membrane at jambs and head only.

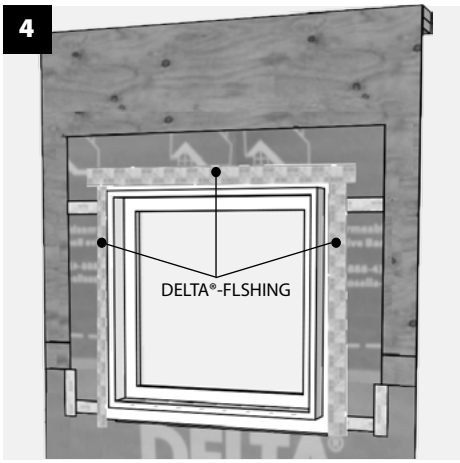
Step 4 Installation of membrane

- Install DELTA®-VENT S membrane overlapping the membrane at window flange and head minimum 6″ (150 mm). For optimum performance, tape vertical and horizontal laps with DELTA®-MULTI BAND tape (see Detail 5).
- Install kick-out flashing over the window head. Seal any penetrations with DELTA®-MULTI BAND tape (see Detail 6).









Step 5 Penetrations

- Cut DELTA®-VENT S around penetrations as tightly as possible.
- Seal gaps between penetration and substrate with DELTA®-THAN or DELTA®-TILAXX sealant.
- Install DELTA®-FLEXX BAND around the penetration (see Detail 7).

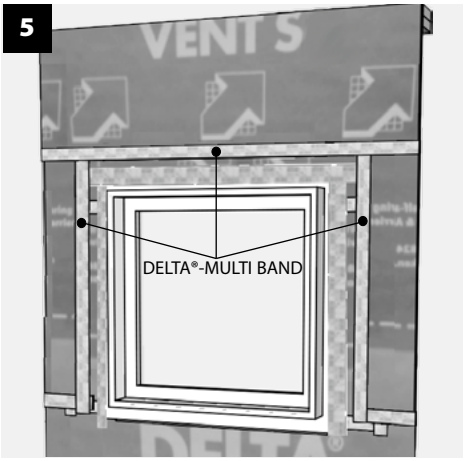
Step 6 Inspection

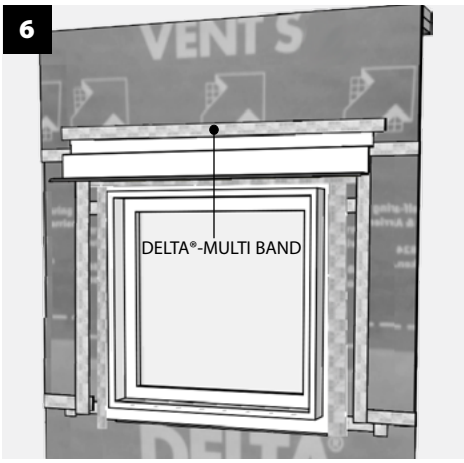
- Inspect the DELTA®-VENT S for rips, tears, or other installation deficiencies in the continuity. Tape rips, tears or holes smaller than 2" (50 mm) with DELTA®-MULTI BAND.
- For holes greater than 2" (50 mm), a patch is required.
  - Cut a slit approximately 3" (8 cm) above the hole and approximetley 3" (8 cm) wider than the hole.
  - Cut a patch minimum 6" (150 mm) larger than the hole.
  - Slide the top edge up into the cust slit so that the patch covers the hole.
  - Tape the patch with DELTA®-MULTI BAND in the following order:
    1. Bottom
    2. Sides
    3. Top
- Ensure all materials are installed as required.

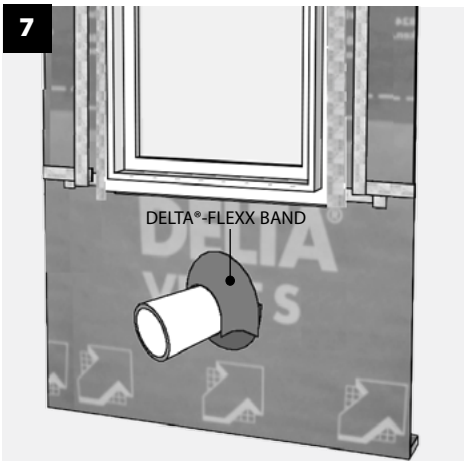
Step 7

- Clean up all excess materials and dispose of properly.

For technical support, call our Technical Support Team at 1-888-433-5824 extension 326, or visit www.dorken.com







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