

A Liquid Applied, Water-Resistive Membrane, Air Barrier and Class I Vapor Retarder

Description

Backstop NT-VB is a flexible, polymer-based, noncementitious, air/vapor/water-resistive barrier, which resists water penetration, eliminates air infiltration and is classified as a Class I Vapor Retarder over vertical above grade walls. Available in two versions:

- **Backstop NT-VB** is applied using a trowel, or texture spray equipment.
- **Backstop NT-VB Spray** is applied by airless spray equipment.

Uses

Backstop NT-VB is designed for use with all building claddings, as well as Dryvit EIF systems. When used with the Dryvit AquaFlash® System or Dryvit Flashing Tape™, Backstop NT-VB provides an effective air/vapor/water-resistive barrier for acceptable substrates.

Benefits

Backstop NT-VB is used straight out of the pail after an initial spin up to provide a continuous membrane with ease of application. The liquid applied coating dries quickly and serves as an excellent surface for adhesively attaching EPS. Backstop NT-VB is seamless and will not tear. Additionally, it is stable under air pressure differences and will not be affected by wind.

Coverage

Coverage will vary, depending on application method and substrate. For guidance refer to the usage chart included in this document.

Properties

Working Time – Backstop NT-VB is a water-based noncementitious material and will not set-up in the pail. Keep pail covered when not in use to minimize skinning.

Drying Time – The drying time is dependent upon the air temperature, wind conditions and relative humidity. Under average drying conditions [70 °F (21 °C), 55% R.H.], Backstop NT-VB will be dry to the touch within 2 hours and cure in 6 hours.

Testing Information

For test data refer to the chart included with this document.

Application Procedure

For complete application instructions refer to, [DS831](#).

Job Conditions

Air and surface temperature for application of Backstop NT-VB products must be from 40 °F (4 °C) minimum to 100 °F (38 °C) maximum and must remain so for a minimum of 12 hours.

Temporary Protection

Shall be provided at all times until membrane is dry and shall not be exposed to weather for longer than 180 days prior to installation of the specified cladding.

Acceptable Substrates

All sheathing substrate joints must be treated with Backstop NT-VB and Dryvit Grid Tape prior to application over the entire sheathing surface. Acceptable substrates include:

- a. Exterior grade gypsum sheathing meeting ASTM C 1396 (formerly C 79) requirements for water resistant core or Type X core at the time of application.
- b. Exterior sheathing having a water-resistant core with fiberglass mat facers meeting ASTM C 1177.
- c. Exterior fiber reinforced cement or calcium silicate boards.
- d. APA Exterior or Exposure 1 Rated Plywood, Grade C-D or better, nominal 1/2 in (12.7 mm), minimum, installed with the C face out.

- e. APA Exterior or Exposure 1 Fire Retardant Treated (FRT) Plywood, Grade C-D or better, nominal 1/2 in (12.7 mm), minimum, installed with the C face out.
- f. APA Exposure 1 Rated Oriented Strand Board (OSB) nominal 1/2 in (12.7 mm), minimum.
- g. Unpainted, unsealed concrete and CMU.

Surface Preparation

- Sheathing board gaps shall not exceed 1/4 in (6.4 mm) and the surface must be flat within 1/4 in (6.4 mm) in any 4 ft (1.2 m) radius. CMU mortar joints shall be struck flush (tooled mortar joints and heavily textured CMU, not split faced, shall be skim coated with Dryvit Genesis®, Genesis® DM or Genesis® DMS) prior to application of the Backstop NT-VB or Backstop NT-VB Spray. CMU shall be clean, unpainted and free of efflorescence. All substrates shall be dry and free of foreign materials such as dirt, dust, oil, paint, wax, water repellants or other materials that inhibit adhesion.
- All substrate transitions and gaps between openings and penetration components such as windows, doors, electrical boxes, etc., shall be treated with Backstop NT-VB, Dryvit AquaFlash®, or Dryvit Flashing Tape™. Any sealants used shall be tested for compatibility and comply with ASTM C 920.
- All opening terminations, roof/wall intersections, transitions between different materials, chimneys, decks, roof, windows, etc., must be properly flashed, wrapped and sealed as required by the building code, good construction practice and/or Dryvit Backstop NT-VB Application Instructions, [DS831](#).

Mixing

Material is ready for use after an initial spin-up using a drill with paddle mixer. **DO NOT ADD CEMENT.**

Backstop NT-VB Application

Refer to the usage/application chart for the appropriate use and application technique for a given substrate.

Clean Up

Clean tools with water while material is still wet.

Storage

Backstop NT-VB must be stored at a minimum of 40 °F (4 °C) and a maximum of 100 °F (38 °C) in tightly sealed containers protected from weather and out of direct sunlight.

Cautions and Limitations

- Apply to acceptable substrates only.
- Avoid applying Backstop NT-VB in direct sunlight. Always work on the shady side of the wall or protect the area with appropriate shading material.
- Shall not be used below grade or on surfaces that will be subjected to water immersion.
- Shall not be used to treat holes or sheathing joints exceeding 1/4 in (6.4 mm).
- When used beneath Portland cement stucco or adhered stone products, paper backed lath or other slip sheet material shall be installed over Backstop NT-VB.

- Backstop NT-VB can be exposed to weather up to 180 days to provide sufficient time for installation of the cladding. Inspect the surface of the Backstop NT-VB for any damage, cracks, voids or other detrimental conditions and repair prior to installation of the cladding. The Backstop NT-VB surface shall be clean, dry and free of any detrimental conditions that may affect adhesion.

Technical and Field Service

Available on request.

Backstop NT-VB Usage/Application Chart			
			Approx. Coverage Per Pail ^d
Exterior Grade Gypsum Sheathing			
Joints ^a	BSNT-VB	Trowel	300 lin. ft. (91 m)
Face ^{e,g}	BSNT-VB	Trowel ^b , or Texture Sprayer	For both tools 200 ft ² (18.6 m ²) max (2 coats)
	BSNT-VB Spray	Airless Spray	300-375 ft ² (28-35 m ²) (2 coats)
Fiberglass Faced Exterior Gypsum Sheathing			
Joints ^a	BSNT-VB	Trowel	300 lin. ft. (91 m)
Face ^{e,g}	BSNT-VB	Trowel or Texture Sprayer	For both tools 200 ft ² (18.6 m ²) max [includes joints] (2 coats)
	BSNT-VB Spray	Airless Spray	300-375 ft ² (28-35 m ²) (2 coats)
APA Exposure 1, Exterior Grade, and Fire Retardant Treated Plywood; and Exterior Cement Board			
Joints ^a	BSNT-VB	Trowel	300 lin. ft. (91 m)
Face ^{e,g}	BSNT-VB	Trowel ^b , or Texture Sprayer	For both tools 200 ft ² (18.6 m ²) max (2 coats)
	BSNT-VB Spray	Airless Spray	300-375 ft ² (28-35 m ²) (2 coats)
APA Exposure 1 Rated Oriented Strand Board (OSB)			
Joints ^a	BSNT-VB	Trowel	300 lin. ft. (91 m)
Face ^{e,g}	BSNT-VB	Trowel ^b	200 ft ² (18.6 m ²) max (2 coats)
		Texture Sprayer	200 ft ² (18.6 m ²) max (2 coats, backrolled)
	BSNT-VB Spray	Airless Spray	300-375 ft ² (28-35 m ²) (2 coats, backrolled)
Concrete and Masonry ^c			
Face ^{e,g}	BSNT-VB	Trowel	100-125 ft ² (9-12 m ²) ^f (2 coats)
		Texture Sprayer	100-125 ft ² (9-12 m ²) ^f (2 coats, backrolled)
	BSNT-VB Spray ^g	Airless Spray	150-375 ft ² (14-35 m ²) ^f (2 coats, backrolled)

^a Tape the joints with Dryvit Grid Tape prior to application of Backstop NT-VB at joints and screw heads.
^b Up to 1 pint (16 oz) of water may be added to a 60 lb pail of Backstop NT-VB for spray applications only.
^c Due to variations in types of concrete/masonry, apply a 6 ft x 6 ft test area with coverage as indicated in the chart, before proceeding with the entire job. If there are voids in the substrate, particularly at the mortar joints, the job should be parged with Genesis[®], 24 hours prior to BSNT-VB application. Backstop NT-VB shall NOT be used as a skim coat for parging CMU joints or heavy textured units.
^d Backstop NT-VB should be applied at the recommended coverage rates to form a continuous film free of voids
^e Backstop NT-VB (with up to 1 pint water addition per 60 lb. pail).
^f Coverage may vary depending on the texture and porosity of the masonry substrate. Coverage based on smooth, dense block surface.
^g Backstop NT-VB should be applied at the recommended coverage rates to form a continuous film free of voids, pinholes or other discontinuities. The following approximate mil thicknesses are recommended:
 Backstop NT-VB 24 DFT 40* WFT
 Backstop NT-VB Spray 18 DFT 30* WFT
 *Based on volume solids

Refer to Product Data Sheets for Complete Mixing and Application Instructions

Backstop® NT-VB™ Testing			
Test	Test Method	Criteria	Results
Tensile Bond	ASTM C 297/E 2134*	Minimum 15 psi (104 kPa)	Substrates: Minimum 19 psi (131 kPa) Flashing: Minimum 431 psi (2970 kPa)
Tensile Strength and Elongation	ASTM D 2370	No ICC or ANSI/EIMA Criteria	Tensile strength: 160 psi Elongation: 16.8%
Flexibility	ASTM D 522 Method B	No ICC or ANSI/EIMA Criteria	No cracking at 2 mm diameter
Freeze-Thaw Resistance	ASTM E 2485 Method B	No deleterious effects after 10 cycles ¹	Passed - No deleterious effects after 10 cycles
Water Resistance	ASTM D 2247*	No deleterious effects after 14 days exposure ¹	No deleterious effects after 14 days exposure
Water Vapor Transmission	ASTM E 96 Procedure A (Dessicant Method)	Class I Vapor Retarder Less than 0.1 Perms	Backstop NT- VB: 0.088 Perms ² Backstop NT-VB Spray: 0.07 Perms ²
Wind Driven Rain	Fed TT-C-555	No ICC or ANSI/EIMA Criteria	No water penetration
Air Leakage	ASTM E 283	No ICC or ANSI/EIMA Criteria	0.002 cfm/ft ² (0.01 l/sec/m ²)
Air Permeance	ASTM E 2178	No ICC or ANSI/EIMA Criteria	1.2x10 ⁻⁴ cfm/ft ² @ 1.6 psf (0.0006 l/s/m ² @ 75Pa)
Air Barrier Assembly	ASTM E 2357	No ICC or ANSI/EIMA Criteria	<0.001 cfm/ft ² @ 6.24 psf (0.05 l/sec m ² @ 300 Pa)
Nail Sealability	ASTM D1970	No ICC or ANSI/EIMA Criteria	Passed ABAA Criteria
Structural Performance	ASTM E 1233 Procedure A*	Minimum 10 positive cycles at 1/240 deflection; No cracking in field, at joints or interface with flashing.	Passed
Racking	ASTM E 72*	No cracking in field, at joints or interface with flashing at net deflection of 1/8 in (3.2 mm)	Passed
Restrained Environmental	ICC-ES Procedure*	5 cycles; No cracking in field; at joints or interface with flashing	Passed
Water Penetration	ASTM E 331*	No water penetration beyond the inner-most plane of the wall after 15 minutes at 2.86 psf (137 kPa)	Passed
Weathering UV Exposure	ASTM D2898 Method B*	210 hours of exposure	Passed
Accelerated Aging	ICC ES Procedure*	25 cycles of wetting and drying	Passed
Hydrostatic Pressure Test	AATCC 127*	21.6 in (549 mm) water column for 5 hours	Passed
Surface Burning Characteristics	ASTM E 84	ICC and ANSI/EIMA 99-A-2001 Flame Spread <25 Smoke Developed <450	Passed

* ASTM E 2570 Standard Test Method for Evaluating Water-Resistive Barrier (WRB) Coatings Used under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage, also referred to as AC212 – Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing

1. No cracking, checking, rusting, crazing, erosion, blistering, peeling, or delamination when viewed under 5x magnification
2. Defined as a Class I vapor retarder per the 2009 IBC and IRC

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