

Backstop[®] NT-VB[™]



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

DS831

**Backstop NT-VB
Application Instructions**

CHECKLIST PRIOR TO THE INSTALLATION OF BACKSTOP NT-VB**Project Conditions**

- Maximum storage temperature shall not exceed 100 °F (38 °C). Minimum storage temperature shall not be less than 40 °F (4 °C).
- Air and surface temperatures 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 thereafter.
- Ensure that all roof-to-wall flashings, wall to deck flashings, run-off diverters (i.e. kick-outs), or other penetration flashings, are installed where required to direct water to the exterior of the building envelope. Particular attention must be paid to the eaves/chimney intersections, sloped roof/wall intersections, decks and windows.
- Application of Backstop NT-VB materials and associated Dryvit products shall not take place during inclement weather unless appropriate protection is provided.
- Protect materials from inclement weather until they are completely dry.
- Protect surrounding areas and surfaces during installation of the 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.

MATERIALS USED WHEN INSTALLING DRYVIT'S BACKSTOP NT-VB**Materials Supplied by Dryvit Systems, Inc.**

- Dryvit Backstop NT-VB (required for sheathing joint treatment)
- Dryvit Backstop NT-VB Spray
- Dryvit Grid Tape™ (Required for sheathing joint treatment)
- Dryvit AquaFlash® Liquid and AquaFlash® Mesh (if specified)
- Dryvit Flashing Tape™ (if specified)
- Dryvit Flashing Tape Surface Conditioner™ (if specified)

TOOLS USED FOR THE INSTALLATION OF DRYVIT'S BACKSTOP NT-VB

- 3/4 in (19 mm) nap roller
- 1/2 in (13 mm) nap roller
- FoamPro #58 Roller
- Appropriate texture spray equipment for Backstop NT-VB (if needed)
- Hawk and Trowel for Backstop NT-VB
- Airless spray equipment for Backstop NT-VB Spray

I. Mixing

- A. Open the bucket with a utility knife or lid-off.
- B. Backstop NT-VB is ready to use after an initial spin-up using a "Twister" paddle or equivalent mixing blade, powered by a 1/2 in (12.7 mm) drill, at 450 – 500 rpm. Do not add cement or any other additives.
- C. Do not dilute the product or add any foreign materials to the Backstop NT-VB product.

II. Substrate Check

- A. Ensure that the substrate is of a type listed in the Dryvit Backstop NT-VB Specification, [DS830](#).
- B. Ensure that ambient and surface temperatures are minimum 40 °F (4 °C) to maximum 100 °F (38 °C) at the time of Backstop NT-VB application.
- C. Ensure that the substrate is dry. Plywood or OSB moisture content shall not exceed 19% as measured by a probe type moisture meter.
- D. Ensure that the substrate is flat within 1/4 in (6.4 mm) in a 4 ft (1.2 m) radius.
- E. Ensure that sheathing gaps do not exceed 1/4 in (6.4 mm). Larger gaps must be corrected by replacing the sheathing material.
- F. Notify the general contractor and/or architect and/or owner of all discrepancies. Do not proceed with work until discrepancies have been corrected.

III. Surface Preparation

- A. The substrate shall be prepared so as to be free of foreign materials such as oil, efflorescence, dust, dirt, paint, wax, water repellents, moisture, frost and any other materials that may inhibit adhesion.

IV. Backstop NT-VB Application

- A. Ensure that the wall surface and ambient temperature are from 40 °F (4 °C) minimum to 100 °F (38 °C) maximum at the time of Backstop NT-VB application. **WARNING: Do not apply the Dryvit materials in the rain. The underlying wall materials and substrate surface must be dry prior to applying the air/vapor/water-resistive barrier.**
- B. Sheathing Substrates:
 1. Prior to applying Backstop NT-VB products over a sheathing substrate, check to ensure that:
 - a. The sheathing is of a type listed in the Backstop NT-VB Specification, [DS830](#).
 - b. The sheathing is structurally sound, free of loose material, voids, projections or other conditions that may interfere with the installation of the Backstop NT-VB material.
 - c. The sheathing is clean, dry and free of grease, oil, paint and other foreign material.
 - 1) Exterior grade gypsum sheathing facing paper shall not show signs of deterioration and shall be firmly bonded to the core.
 - 2) Plywood or OSB moisture content shall not exceed 19% Wood Moisture Equivalent (WME) as measured by a probe type moisture meter.
 - d. There are no planar irregularities greater than 1/4 in (6.4 mm) within any 4 ft (1.2 m) radius.
SHEATHING WITH GAPS OR DAMAGE EXCEEDING 6.4 mm (1/4 IN) IN ANY ONE DIRECTION MUST BE REPLACED. NOTE: Notify the general contractor and/or architect and/or owner of all discrepancies. Do not proceed until all unsatisfactory conditions have been corrected.
- C. Concrete or Masonry Substrates
 1. Prior to applying Backstop NT-VB products over a concrete or masonry substrate, check to ensure that:
 - a. All cracks are repaired using appropriate procedures and materials.
 - b. The substrate is structurally sound, free of loose material, voids, projections or other conditions that may interfere with the installation of the Backstop NT-VB material.
 - c. The substrate is clean, dry, free of grease, oil, paint, form release agents, efflorescence and other foreign materials that may inhibit adhesion.
 - d. There are no planar irregularities greater than 1/4 in (6.4 mm) within any 4 ft (1.2 m) radius.
 - 1) **Mortar joints that are NOT struck flush or heavily textured masonry units shall be skim coated with Dryvit Genesis®, Genesis® DM or Genesis® DMS prior to the application of Backstop NT-VB products.**
 - a) Mix Genesis, Genesis DM or Genesis DMS in accordance with the appropriate Product Data Sheet.
 - b) With a stainless steel trowel, apply a coat of the Genesis mixture, Genesis DM mixture or Genesis DMS mixture over the substrate to fill the mortar joints and surface texture to provide a uniform smooth surface for the application of the Backstop NT-VB material.
 - c) Allow the skim coat to completely dry prior to applying the Backstop NT-VB products.

D. Usage/Application Chart

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 ^{eg}	BSNT-VB	Trowel 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 ^{eg}	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 ^{eg}	BSNT-VB	Trowel 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 ^{eg}	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 ^{eg}	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	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

E. Application of Backstop NT-VB Products

Note: This section provides the procedure for applying Backstop NT to the wall surface only. At the completion of the Backstop NT application, all openings and terminations must be treated with either the Dryvit AquaFlash System or Dryvit Flashing Tape (see Section V) to protect surfaces from water penetration and all terminations must be otherwise properly flashed to ensure that water is diverted to the exterior of the cladding.

1. Dryvit Grid Tape (not required with concrete and masonry substrates).
 - a. For sheathing substrates, apply the Dryvit Grid Tape along all joints in the sheathing, as well as inside corners, outside corners, and exposed edges at terminations that will not be covered with Dryvit AquaFlash or Dryvit Flashing Tape.
 - b. Center the Dryvit Grid Tape on the sheathing joints, edges, etc. with the pressure sensitive adhesive backing in contact with the sheathing surface. Press into position with hand pressure until adhesion is achieved.
 - c. Apply only enough Dryvit Grid Tape as can be covered with Backstop NT-VB in the same day.
2. **Dryvit Backstop NT-VB Application**
 - a. General: Backstop NT-VB can be applied using a trowel or texture spray equipment over the listed substrates, as noted in the usage chart above. Backstop NT-VB should be applied at the recommended coverage rate to achieve a continuous film.
 - b. Trowel Application
 - 1) Apply Dryvit Grid Tape as described in Section IV.E.1 above. Mix the material, as described in Section I and using a stainless steel trowel or spatula, apply a layer of Backstop NT-VB over the grid tape. Spotting of fasteners is not necessary when applying Backstop NT-VB using a trowel. Allow to dry for a minimum of 2 hours or until dry to the touch. Figure 1.

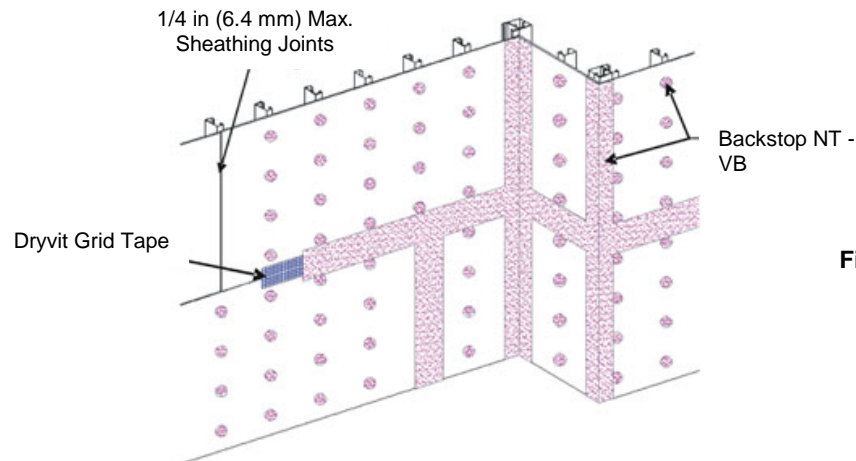


Figure 1

- 2) Using a stainless steel trowel, apply a continuous coating of Backstop NT-VB material onto the entire surface. The material should be applied at a smooth, uniform, continuous film and allow to dry until firm to the touch.

- 3) Apply a second pass in the same manner as the first. If the material on the wall pulls away or drags, it should be allowed to dry for a longer period until the second pass may be applied without disturbing the first layer. Figure 2.

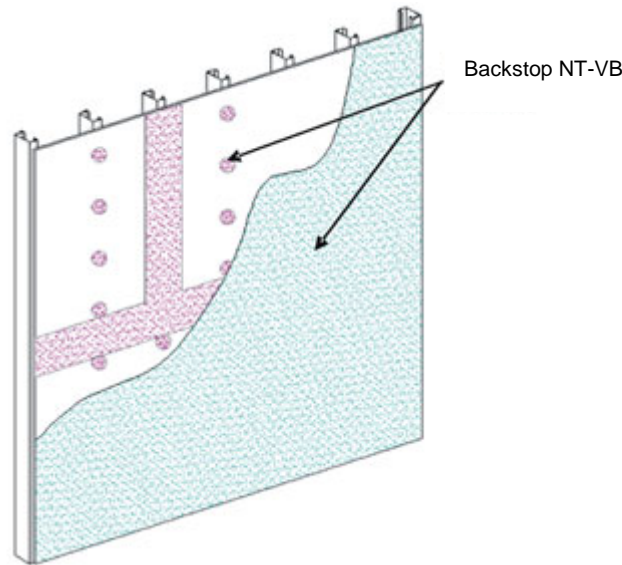


Figure 2

- 4) While the Backstop NT-VB is still wet, using a trowel or spatula, smooth out the Backstop NT-VB around all window and door perimeters and other areas that will later receive Dryvit Flashing Tape – Figure 3.

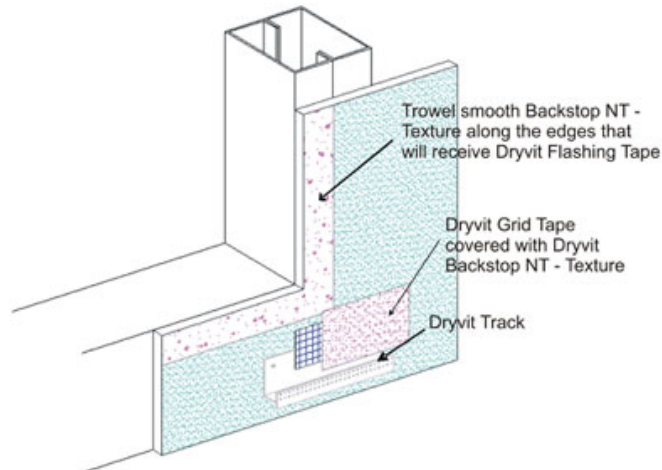


Figure 3

- 5) The Backstop NT-VB material should be applied in a uniform, continuous film at the recommended coverage rate. **NOTE: Substrates with a surface texture or high porosity will require additional material.**
- d. Spray/Back-rolling Application For Masonry and porous substrates
- 1) Apply Dryvit Grid Tape as described in Section IV.E.1 above. Mix the material as described in Section I and using a stainless steel trowel or spatula, apply a layer of Backstop NT-VB over the grid tape and spot all fastener heads. Allow to dry for a minimum of 2 hours or until dry to the touch.
 - 2) Because of the absorption characteristics, plywood substrates may require a second pass to fill any voids at the sheathing joints. After the first pass has dried, check the joints and spot any voids that may be present with additional Backstop NT-VB material and allow to dry.
 - 3) Using a hand held hopper gun or other suitable texture spray equipment; spray a layer of Backstop NT-VB onto the wall surface. Using a coarse, open-cell foam roller cover with a 3/8 in (9.5 mm) foam nap (FoamPRO #58 roller), roll the material to create a smooth continuous film. **NOTE: If the roller pulls material back out of the sheathing joints, it indicates that the joint material is not sufficiently dry.**

- 4) While Backstop NT-VB is still wet, using a trowel or spatula, smooth out the Backstop NT-VB around all window and door perimeters and other areas that will later receive Dryvit Flashing Tape – Figure 3. Allow to dry until firm to the touch.
- 5) Apply a second pass in the same manner as the first. If the material on the wall pulls away or drags, it should be allowed to dry for a longer period until the second pass may be applied without disturbing the first layer.
- 6) Backstop NT-VB material should be applied in a uniform, continuous film at the recommended coverage rate. **NOTE: Substrates with a surface texture or high porosity will require additional material.**

3. Dryvit Backstop NT-VB Spray Application

- a. General: Dryvit Backstop NT-VB Spray can be applied using appropriate spray equipment over the acceptable sheathing substrates.
 - 1) Airless spray equipment must be capable of providing minimum 3,000 psi and minimum material flow of 1 gallon per minute with a minimum 0.021 spray tip.

NOTE: OSB sheathing requires that joints and fasteners be treated with Backstop NT-VB.
- b. Sheathing Substrates: All fastener heads shall be spotted, and joints treated with Backstop NT-VB and Dryvit Grid Tape in accordance with Section IV.E.1 prior to Backstop NT-VB Spray application.
 - 1) Backstop NT-VB Spray material should be applied in a uniform, continuous film at the recommended coverage rate free of voids and pinholes – Figure 4.

NOTE: Sheathing substrates with a surface texture or high porosity will require additional material.

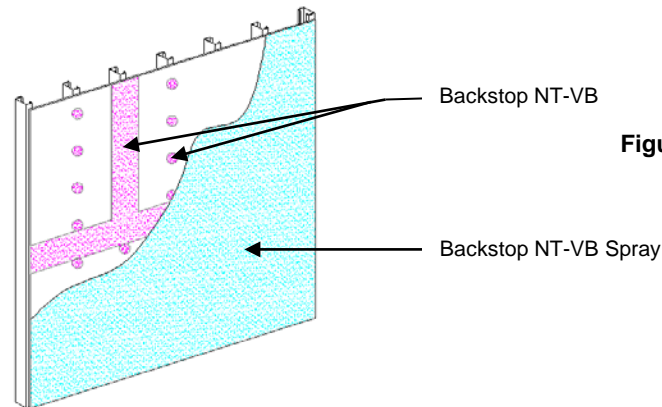


Figure 4

- c. Concrete/Masonry Substrates
 - 1) Backstop NT-VB Spray may be applied to the wall using appropriate airless spray equipment and back-rolled using the appropriate nap roller (see Usage Application Chart).
 - 2) Allow the Backstop NT-VB Spray to completely dry, check the wall to ensure that the Backstop NT-VB Spray is continuous and touch up any visible voids with additional material.
- d. Allow the Backstop NT-VB Spray to completely dry prior to installation of the Dryvit EIF system or specified cladding.

V. Detailing at Transitions

- A. The Backstop NT-VB membrane must be tied into all openings and penetrations to achieve continuity of the air barrier and it must be integrated with flashing material to eliminate water penetration.
 1. Integration with flashing, openings and terminations
 - a. Dryvit AquaFlash
 - 1) May be applied directly over clean galvanized, painted metal, or PVC flashing.
 - 2) Clean the surface of the flashing to ensure it is free of dirt, dust, oil, or other contaminants that may interfere with adhesion. Note: PVC products should be lightly abraded to break the surface skin and provide tooth for the coating.
 - 3) **Refer to Dryvit AquaFlash Application Instructions, [DS196](#) for application and sequencing.**

- b. Dryvit Flashing Tape
 - 1) **Refer to Dryvit Flashing Tape Data Sheet, [DS450](#).**
- 2. Continuity of the air barrier
 - a. The Backstop NT-VB membrane must be connected at the following locations in order to provide continuity:
 - 1) air barrier for the roof and foundation
 - 2) to concrete below grade structures
 - 3) to windows and doors
 - 4) louvers and other mechanical equipment
 - 5) electrical boxes
 - 6) hose bibs
 - 7) any other wall penetrations
 - b. Provide a bead of compatible sealant complying with ASTM C 920 between the Backstop NT-VB membrane, AquaFlash or Flashing Tape and the adjacent material.

DISCLAIMER

Information contained in these application instructions conforms to standard detail and product recommendations for the installation of the Dryvit Backstop NT-VB products as of the date of publication of this document and is presented in good faith. Dryvit Systems, Inc. assumes no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To ensure that you are using the latest, most complete information, contact Dryvit Systems, Inc. at:

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