

Backstop[®] NTX[™]



DS181

**A High Performance, Polymer-Based, Non-cementitious
Water-Resistive Membrane and Air Barrier**

Backstop NTX Application Instructions

CHECKLIST PRIOR TO THE INSTALLATION OF BACKSTOP NTX – TEXTURE and SMOOTH**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 NTX materials must be from 25°F (-4 °C). minimum to 100 °F (38 °C). Strictly adhere to special instructions for cold temperature application if installing below 40°F (4°C).
- 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 NTX 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 NTX.
- Backstop NTX can be exposed to weather up to 180 days to provide sufficient time for installation of the cladding. Inspect the surface of the Backstop NTX for any damage, cracks, voids or other detrimental conditions and repair prior to installation of the cladding. The Backstop NTX surface shall be clean, dry and free of any detrimental conditions that may affect adhesion.

Special Instructions for Cold Temperature Application

Backstop NTX Texture and Backstop NTX Smooth have built-in weather protection that enable application at temperatures less than 40°F down to 25°F (4° down to -4°C) provided the following conditions are met:

- Materials are pre-conditioned to 65-75°F (18 - 24°C)
- Substrate and ambient temperatures are minimum 25°F (-4°C) and rising at the time of application and do not fall below that level until the material is fully dry.
- Substrates are frost-free and dry and remain so.
- Materials are installed at the recommended total wet film thicknesses, 20 mils for BSNTX Texture and 14 mils for BSNTX Smooth.
- Materials are installed in dry weather and protected from moisture for at least 24 hours.

MATERIALS USED WHEN INSTALLING DRYVIT'S BACKSTOP NTX – TEXTURE and SMOOTH**Materials Supplied by Dryvit Systems, Inc.**

- Dryvit Backstop NTX Texture
- Dryvit Backstop NTX Smooth
→ **Note: Backstop NTX Smooth and Backstop NTX Spray are now one product.**
- Dryvit Grid Tape™ (Required for sheathing joint treatment)
- Dryvit AquaFlash® Liquid and AquaFlash® Mesh (if specified) or Dymonic 100 or Backstop Flash and Fill

TOOLS USED FOR THE INSTALLATION OF DRYVIT'S BACKSTOP NTX – TEXTURE and SMOOTH

- 3/4 in (19 mm) nap roller
- 1/2 in (13 mm) nap roller
- FoamPro #58 Roller
- Texture spray equipment if needed
- Hawk and Trowel for Backstop NTX Texture
- Airless Spray Equipment for Backstop NTX Smooth if needed

INSTALLATION OF DRYVIT'S BACKSTOP NTX – TEXTURE and SMOOTH**I. Mixing**

- A. Open the bucket with a utility knife or lid-off.
- B. Backstop NTX 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 NTX product.

II. Substrate Check

- A. Ensure that the substrate is of a type listed in the Dryvit Backstop NTX Specification, [DS180](#).
- B. Ensure that ambient and surface temperatures are minimum 25 °F (-4 °C) to maximum 100 °F (38 °C) at the time of Backstop NTX 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 NTX Application

- A. Ensure that the wall surface and ambient temperature are from 25°F (-4°C) minimum to 100 °F (38 °C) maximum at the time of Backstop NTX 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/water-resistant barrier.**
- B. Sheathing Substrates:
 1. Prior to applying the Backstop NTX over a sheathing substrate, check to ensure that:
 - a. The sheathing is of a type listed in the Backstop NTX Specification, [DS180](#).
 - b. The sheathing is structurally sound, free of loose material, voids, projections or other conditions that may interfere with the installation of the Backstop NTX 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 1/4 IN (6.4 MM) 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. NOTE: OSB sheathing requires that joints and fasteners be treated with Backstop NTX Texture. Backstop NTX Texture is not recommended for application in the field of the board.

C. Concrete or Masonry Substrates

NOTE: Backstop NTX Texture or Backstop NTX Smooth are recommended for use over concrete and masonry.

1. Prior to applying the Backstop NTX 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 NTX material.
 - c. Concrete shall have cured a minimum of 28 days prior to application of the Backstop NTX. If efflorescence, form release agents or curing compounds are present on the concrete surface, the surface shall be thoroughly washed with muriatic acid and flushed to remove residual acid. All projections shall be removed, and small voids filled with Dryvit Primus®, Primus® DM, Genesis®, Genesis® DM, or Pargit® mixture (see product data sheets for mixing and application).
 - d. The substrate is clean, dry, free of grease, oil, paint, form release agents, efflorescence and other foreign materials that may inhibit adhesion.
 - e. 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 NTX Texture or Backstop NTX Smooth.**
 - 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 NTX material.
 - c) Allow the skim coat to completely dry prior to applying the Backstop NTX Texture or Backstop NTX Smooth.

Backstop NTX (BSNTX) – Texture, Smooth, and Spray Usage/Application Chart				
			Approx. Coverage Per Pail	Approx. Coverage Per Drum
Exterior Grade Gypsum Sheathing				
Joints ^a	BSNTX Texture	Trowel	300 lin. ft (91 m)	
	BSNTX Smooth	Trowel or Spray	800 ft ² (75 m ²)	
	Dymonic 100	Putty Knife	308' of joint per gallon for a 1/4" x 1/4" (6 mm x 6 mm) joint	
	Backstop Flash and Fill	Putty Knife	20 oz (.59 l) SSG covers 15 - 17 ft ² (1.39 - 1.58 m ²) at 12 - 15 wet mils (0.30 – 0.38 mm)	
Face ^e	BSNTX Texture	Trowel, FoamPRO #58 Roller ^b , or Texture Sprayer	250-300 ft ² (23-28 m ²)	
	BSNTX Smooth ^{c,g}	1/2 in (12.7 mm) Nap Roller or	800 ft ² (75 m ²)	
		Airless Spray	500-600 ft ² (46-56 m ²)	5,000-6,000 ft ² (465-557 m ²)
Fiberglass Faced Exterior Gypsum Sheathing				
Joints ^a	BSNTX Texture	Trowel	300 lin. ft (91 m)	
	BSNTX Smooth	Trowel	650 ft ² (60 m ²)	
Face ^e	BSNTX Texture	Trowel or Texture Sprayer	250-300 ft ² (23-28 m ²) [includes joints]	
	BSNTX Smooth ^{c,g}	3/4 in (19 mm) Nap Roller or	400 ft ² (X m ²)	
		Airless Spray	500-600 ft ² (46-56 m ²)	5,000-6,000 ft ² (465-557 m ²)
Exposure 1, Exterior Grade, and Fire Retardant Treated Plywood; and Exterior Cement Board				
Joints ^a	BSNTX Texture	Trowel	300 lin. ft (91 m)	
	BSNTX Smooth	Trowel	650 ft ² (60 m ²)	
Face ^e	BSNTX Texture	Trowel, FoamPRO #58 Roller ^b , or Texture Sprayer	250-300 ft ² (23-28 m ²)	
	BSNTX Smooth ^{c,g}	1/2 in (12.7 mm) Nap Roller or	650 ft ² (60 m ²)	
		Airless Spray	500-600 ft ² (46-56 m ²)	5,000-6,000 ft ² (465-557 m ²)
APA Exposure 1 Rated Oriented Strand Board (OSB)				
Joints ^a	BSNTX Texture	Trowel	300 lin. ft (91 m)	
	BSNTX Smooth	Trowel	650 ft ² (60 m ²)	
Face ^e	BSNTX Smooth ^g	1/2 in (12.7 mm) Nap Roller or	350-400 ft ² (33-37 m ²)	
		Airless Spray		3,500-4,000 ft ² (325-372 m ²)
Concrete and Masonry^{d,g}				
Face	BSNTX Texture	Trowel ^f	200-250 ft ² (19-23 m ²) ^f	
	BSNTX Texture	FoamPRO #58 Roller or Texture Sprayer	200-250 ft ² (19-23 m ²) ^f	
	BSNTX Smooth ^g	Airless Spray	300-500 ft (28-46 m ²)	3,000-5,000 ft (279-465 m ²)

^a Tape the joints with Dryvit Grid Tape when using BSNTX Texture and with Aquaflash Mesh when using Backstop NTX Smooth – BSNTX Texture at screw heads.

^b Up to 1 pint (16 oz) of water may be added to a 60 lb pail of Backstop NTX Texture for roller or spray applications only. The FoamPRO #58 roller cover (FoamPRO Mfg., Inc., www.foampromfg.com) is available at home supply stores.

^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 BSNTX Texture application. Backstop NTX shall NOT be used as a skim coat for parging CMU joints or heavy textured units.

^d Backstop NTX Texture (with up to 1 pint water addition per 60 lb. pail) or Smooth may be sprayed and backtrowelled/backrolled.

^e Coverage may vary depending on the texture and porosity of the substrate. Coverage assumes a smooth, dense surface.

^f Backstop NTX 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 NTX Texture	13 DFT	20* WFT
Backstop NTX Smooth	9 DFT	14*

*Based on volume solids

Refer to Product Data Sheets for Complete Mixing and Application Instructions

D. Usage Application Chart:

E. Application of Backstop NTX

Note: This section provides the procedure for applying Backstop NTX to the wall surface only. At the completion of the Backstop NTX application, all openings and terminations must be treated with either the Dryvit AquaFlash System 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, Dymonic 100, or Backstop Flash and Fill (not required with concrete and masonry substrates.)
 - a. For sheathing substrates, apply the Dryvit Grid Tape, Dymonic 100 or Backstop NTX Flash and Fill 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.
 - b. For Dryvit Grid Tape center the 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, Dymonic 100, or Backstop Flash and Fill as can be covered with Backstop NTX Texture in the same day.
2. Dryvit Backstop NTX Texture Application

NOTE: Backstop NTX Texture is NOT recommended for use over the face of OSB.

 - a. General: Backstop NTX Texture can be applied using a roller, trowel or texture spray equipment over the listed substrates, as noted in the usage chart above. Backstop NTX Texture should be applied at the recommended coverage rate to achieve a continuous film at a minimum dry film thickness of approximately 12 mils (0.3 mm).
 - b. Roller Application
 - 1) Apply Dryvit Grid Tape as described in Section IV.E.1 above. Mix the Backstop NTX Texture material as described in Section I. Using a stainless steel trowel or spatula, apply a layer of Backstop NTX Texture over the Dryvit Grid Tape and spot all fastener heads – Figure 1.

NOTE: Dryvit Grid Tape is not necessary over fastener heads.

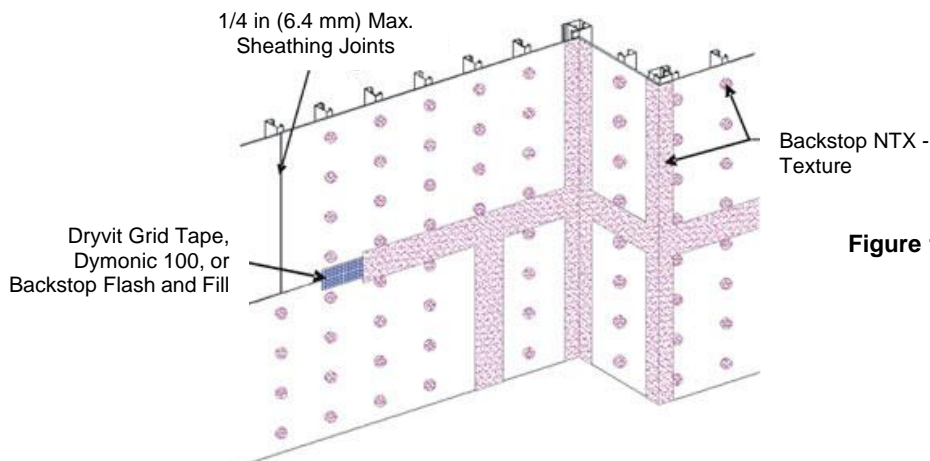


Figure 1

- 2) Allow to dry for a minimum of 2 hours or until dry to the touch. **NOTE: Cool, humid conditions may require longer drying times.**
 - a) 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 NTX Texture material and allow to dry.
- 3) Use a coarse, open-cell foam roller cover with a 3/8 in (9.5 mm) foam nap (FoamPro #58 roller). Apply a uniform, continuous film of Backstop NTX Texture over the entire surface of the sheathing, concrete or masonry, including the previously treated areas – Figure 2. **NOTE: If the roller pulls material back out of the sheathing joints, it indicates that the joint material is not sufficiently dry.**
 - a) For concrete and masonry, ensure that a continuous film of uniform thickness is applied across the entire surface and across mortar joints.

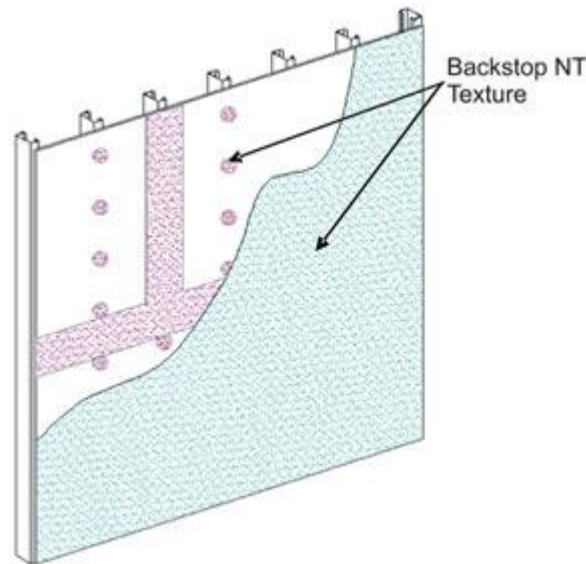


Figure 2

- 5) The Backstop NTX Texture 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.**
- c. 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 NTX Texture over the grid tape. Spotting of fasteners is not necessary when applying Backstop NTX Texture using a trowel. Allow to dry for a minimum of 2 hours or until dry to the touch.
 - 2) Using a stainless steel trowel, apply a continuous coating of Backstop NTX Texture material onto the entire surface. The material should be applied at a smooth, uniform, continuous film approximately equal to the thickness of the aggregate.
- d. Spray/Back-rolling 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 NTX Texture 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 Backstop NTX has dried, check the joints and spot any voids that may be present with additional Backstop NTX Texture material and allow to dry.
 - 3) Using a hand held hopper gun or other suitable texture spray equipment, spray a layer of Backstop NTX Texture 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) Backstop NTX Texture 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. Backstop NTX Smooth Application
- a. General: Dryvit Backstop NTX Smooth can be applied using a roller or sprayed and back-rolled over the acceptable sheathing substrates. **NOTE: OSB sheathing requires that joints and fasteners be treated with Backstop NTX Texture. Backstop NTX Texture is not recommended for application in the field of the board.**
 - b. Sheathing Substrates: All fastener heads shall be spotted and joints treated with Backstop NTX Texture and Dryvit Grid Tape in accordance with Section IV.E.1 prior to Backstop NTX Smooth application.
 - c. Roller Application
 - 1) Using the appropriate nap roller (see Usage Application Chart), apply the Backstop NTX Smooth over the entire wall surface, including previously treated joints. **NOTE: If the roller pulls material back out of the sheathing joints, it indicates that the joint material is not sufficiently dry.**
 - 2) Backstop NTX Smooth material should be applied in a uniform, continuous film at the recommended coverage rate – Figure 4. **NOTE: Sheathing substrates with a surface texture or high porosity will require additional material.**

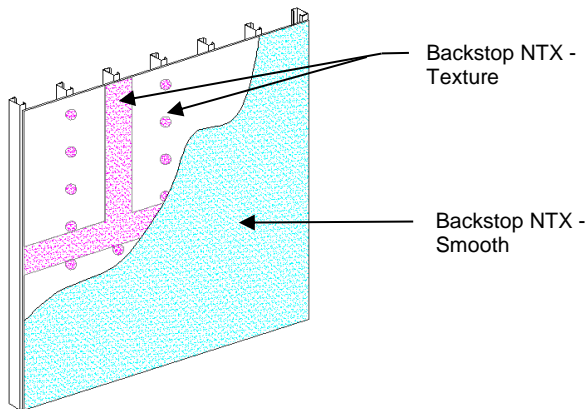


Figure 4

- d. Spray/Back-rolling Application
 - 1) Backstop NTX Smooth may be applied to the wall using a hopper gun or texture spray equipment and back-rolled using the appropriate nap roller (see Usage Application Chart).
 - 2) Allow the Backstop NTX Smooth to completely dry, check the wall to ensure that the Backstop NTX Smooth is continuous and touch up any visible voids with additional Backstop NTX Smooth material.
- e. Allow the Backstop NTX Smooth to completely dry prior to installation of the Dryvit EIF system or specified cladding.

4. Backstop NTX Smooth for spray application
 - a. General: Dryvit Backstop NTX Smooth can be applied using appropriate spray equipment over the acceptable sheathing substrates.
 - 1) Airless spray equipment must be capable of providing minimum 3000 psi and minimum material flow of 1 gallon per minute with a minimum .021 spray tip.

NOTE: OSB sheathing requires that joints and fasteners be treated with Backstop NTX Texture. Backstop NTX Texture is not recommended for application in the field of the board.
 - b. Sheathing Substrates: All fastener heads shall be spotted, and joints treated with Backstop NTX Texture and Dryvit Grid Tape in accordance with Section IV.E.1 prior to Backstop NTX Smooth spray application.
 - 1) Backstop NTX Smooth material should be applied in a uniform, continuous film at the recommended coverage rate free of voids and pinholes – Figure 5. **NOTE: Sheathing substrates with a surface texture or high porosity will require additional material.**

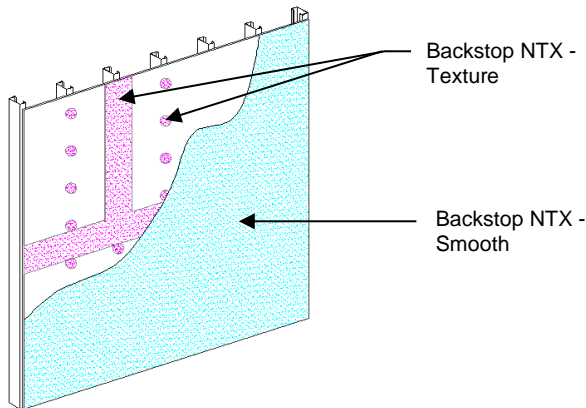


Figure 5

- c. Concrete/Masonry Substrates
 - 1) Backstop NTX Smooth 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 NTX Smooth to completely dry, check the wall to ensure that the Backstop NTX Smooth is continuous and touch up any visible voids with additional material.
- d. Allow the Backstop NTX Smooth to completely dry prior to installation of the Dryvit EIF system or specified cladding.

V. Detailing at Transitions

- A. The Backstop NTX 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.**

2. Continuity of the air barrier
 - a. The Backstop NTX 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 NTX membrane, AquaFlash 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 NTX 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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