SECTION 07 25 00

WEATHER BARRIERS

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\*\* NOTE TO SPECIFIER \*\* National Shelter Products, Inc.; water-resistive barriers, flexible flashing.
This section is based on the products of National Shelter Products, Inc., which is located at:
10 W. Streetsboro St. Suite 207
Hudson, OH 44236
Toll Free Tel: 800-552-7775
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Email: [request info (tkruckenberg@systemcomponents.net)](https://admin.arcat.com/users.pl?action=UserEmail&company=National+Shelter+Products,+Inc.&coid=43989&rep=&fax=330-528-0846&message=RE:%20Spec%20Question%20(07250nat):%20%20&mf=)
Web: <http://www.nationalshelter.com>
 [ [Click Here](https://www.arcat.com/arcatcos/cos43/arc43989.html) ] for additional information.
National Shelter Products is a demand creation, sales and sales management company specializing in building envelope products for residential, commercial and manufactured housing and recreational vehicle markets. A network of regional managers and market specialists manage market-specific sales teams throughout the United States and Canada.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* This document contains references to "building wrap." In this case, "building wrap" refers to a polymeric rolled membrane that can resist bulk moisture penetration, reduce airflow and maintain moisture-vapor permeability. Delete items below not required for project.

* + 1. Water-resistive barriers, sheathing seam tape, and accessories.
		2. Self-adhering flexible flashing.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 06 00 00 - Wood, Plastics, and Composites.
		2. Section 07 10 00 - Dampproofing and Waterproofing.
		3. Section 07 21 19 - Foamed-In-Place Insulation.
		4. Section 07 27 19 - Plastic Sheet Air Barriers .
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM International (ASTM):
			1. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
			2. ASTM C1193 - Standard Guide for Use of Joint Sealants.
			3. ASTM D779 - Standard Test Method for Water Resistance of Paper, Paperboard, and Other Sheet Materials by the Dry Indicator Method.
			4. ASTM D882 - Standard Test Method for Tensile Properties of This Plastic Sheeting.
			5. ASTM D1117 - Standard Guide for Evaluating Nonwoven Fabrics.
			6. ASTM D5261 - Standard Test Method for Measuring Mass per Unit Area of Geotextiles.
			7. ASTM D5034 - Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test).
			8. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
			9. ASTM E96 - Standard Test Method for Water Vapor Transmission of Materials.
			10. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
			11. ASTM E1354 - Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using and Oxygen Consumption Calorimeter.
			12. ASTM E2178 - Standard Test Method for Air Permeance of Building Materials.
			13. ASTM E2273 - Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies.
			14. ASTM E2357 - Standard Test Method for Determining Air Leakage of Air Barrier Assemblies.
		2. American Association of Textile Chemists and Colorists (AATCC):
			1. AATCC 127 - Water Resistance: Hydrostatic Pressure Test.
		3. International Code Council, Evaluation Services (ICC-ES):
			1. ICC-ES AC38 - Acceptance Criteria for Water-Resistive Barriers.
		4. National Fire Protection Association (NFPA):
			1. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.
		5. Technical Association of the Pulp and Paper Industry (TAPPI):
			1. Test Method T-460 - Air Resistance (Gurley Hill).
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data:
			1. Manufacturer's data sheets on each product to be used.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
			4. Typical installation methods.
			5. Design Data, Test Reports: Provide manufacturer test reports indicating product compliance with indicated requirements.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern and color.
			1. Water-Resistive Barrier Membrane: 8-1/2 x 11 inches (216 x 279 mm).
			2. Each type of flashing specified: 4 by 4 inches (102 x 102 mm).
		2. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum of five years documented experience.
		2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
		3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
			1. The intent of mock-up is to demonstrate quality of workmanship and visual appearance.
			2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
			3. Retain mock-up during construction as a standard for comparison with completed work.
			4. Do not alter or remove mock-up until work is completed or removal is authorized.
	1. PRE-INSTALLATION CONFERENCE
		1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
		2. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
		3. Protect from damage due to weather, excessive temperature, and construction operations.
	3. PROJECT CONDITIONS
		1. Apply to surfaces free of dirt, oils, lubricants and other debris.
		2. Install flexible flashing materials at temperatures above minus 10 degrees F (minus 12 degrees C). At temperatures below minus 10 degrees F (minus 12 degrees C), apply primer in accordance with flashing manufacturer recommendations, prior to installation of flashing.
	4. WARRANTY

Note to Specifier: Visit [www.drylinewrap.com](http://www.drylinewrap.com) for more information on the DRYline 10-Year Limited Warranty.

* + 1. Description: Manufacturer's 10-year limited warranty or Secure-Start Limited Lifetime System Warranty for residential building products,
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: National Shelter Products, Inc., which is located at: 10 W. Streetsboro St. Suite 207; Hudson, OH 44236; Toll Free Tel: 800-552-7775; Tel: 330-528-0684; Fax: 330-528-0846; Email: [request info (tkruckenberg@systemcomponents.net)](https://admin.arcat.com/users.pl?action=UserEmail&company=National+Shelter+Products,+Inc.&coid=43989&rep=&fax=330-528-0846&message=RE:%20Spec%20Question%20(07250nat):%20%20&mf=); Web: <http://www.nationalshelter.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with the provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. WATER-RESISTIVE BARRIERS

\*\* NOTE TO SPECIFIER \*\* Delete basis of design paragraph options not required.

* + 1. Basis of Design: DRYline HPX Commercial Building Wrap as manufactured and supplied by National Shelter Products. An all-purpose building wrap for all seasons.
			1. Three durable polypropylene components. Integrates a concealed microporous barrier thermally bonded between two UV stabilized, tough, and drainable non-woven fabric layers.
			2. Withstands bumps and scrapes while gasketing fasteners and bonding with flashings, transition membranes, and sealants.
			3. One side white, and the other side black.
				1. Exposure on White Side: 9 months under open-joint cladding systems.
				2. Exposure on Black Side: indefinitely under open-joint cladding systems.
			4. Performance Characteristics and Physical Properties:
				1. Basis Weight per ASTM D5261: 3.5 oz per sq yard
				2. Tensile Strength (MD/CD) per ASTM D5034:

Machine Direction: 81 lbf.

Cross Machine; Transverse Direction: 65 lbf.

* + - * 1. Tear Strength per ASTM D5733

Machine Direction: 20 lbf.

Cross Machine; Transverse Direction: 27 lbf

* + - * 1. Water Vapor Transmission Rate per ASTM E96, Method A: 191 grams per sq m per 24 hours.
				2. Water Vapor Permeance per ASTM E96, Method A: 28 perms.
				3. Water Resistance per ASTM D779: Greater than 60 minutes.
				4. Water Penetration Resistance per AATCC 127: Greater than 400 cm H2O.
				5. Drainage Efficiency per ASTM E2273: 98 percent.
				6. Air Resistance per ASTM E2178: 0.001 Liter per second per sq m at 75 Pa.
				7. Flame Spread Index per ASTM E84: Class A.
				8. Smoke Developed Index per ASTM E84: Class A
				9. Flame Propagation per NFPA 285: Pass.
				10. Ultraviolet Light (UV) Exposure, Internal: 9 months
			1. Accessories:
				1. Fasteners: Non-corrosive roofing nails, plastic cap non-corrosive fasteners or non-corrosive staples having a minimum 3/8 inch (10 mm) head. Locate fasteners so they penetrate either the sheathing or framing member by a minimum 0.5 inches (13 mm) as is required for non-structural sheathings.
				2. Masonry Fastening:

Mechanical: Masonry fastener with washer.

Sealant per ASTM C920: Polyurethane based.

* + - * 1. Steel Frame Fastening: Rust resistant screws with washers.
				2. Sheathing Tape: DRYline Sheathing Tape or equivalent may optionally be used for sealing overlaps and securing minor repairs.
				3. Recommended Sealants Against DRYline Logo Side per ASTM C 920: Elastomeric polymer-based, butyl rubber, or rubber based.
		1. Basis of Design: DRYline HP Building Wrap as manufactured and supplied by National Shelter Products.
			1. Air infiltration barrier and bulk moisture penetration barrier (water-resistive barrier).
			2. Non-woven, micro-porous polyolefin fabric. Non-perforated.
			3. Performance Characteristics and Physical Properties:
				1. Basis Weight per ASTM D5261: 16.4 lbs per MSF
				2. Grab Tensile Strength per ASTM D5034:

Machine Direction: 65 lbf.

Cross Machine; Transverse Direction: 45 lbf.

* + - * 1. Tear Strength (MD/CD) per ASTM D5733:

Machine Direction: 6 lbf.

Cross Machine; Transverse Direction: 10 lbf.

* + - * 1. Water Vapor Transmission Rate per ASTM E96 Method A: 420 grams per sq m per 24 hrs.
				2. Water Vapor Permeance per ASTM E96 Method A: 60 perms,
				3. Water Penetration Resistance AATCC 127: 137.80 inch.
				4. Air Permeance per ASTM E2178: Less than 0.01 L per sec per sq m.
				5. Water Resistance per ASTM D779: 60 minutes Grade D.
				6. Surface Burning Characteristics per ASTM E84:

Smoke Developed: Class A.

Flame Spread: Class A.

* + - * 1. UV Light Exposure: 180 days.
			1. Accessories:
				1. Fasteners: Non-corrosive roofing nails, plastic cap non-corrosive fasteners or non-corrosive staples having a minimum 3/8 inch (10 mm) head. Locate fasteners so they penetrate either the sheathing or framing member by a minimum 0.5 inches (13 mm) as is required for non-structural sheathings.
				2. Masonry Fastening:

Mechanical: Masonry fastener with washer.

Sealant per ASTM C920: Polyurethane based.

* + - * 1. Steel Frame Fastening: Rust resistant screws with washers.
				2. Sheathing Tape: DRYline Sheathing Tape or equivalent may optionally be used for sealing overlaps and securing minor repairs.
				3. Recommended Sealants Against DRYline Logo Side per ASTM C 920: Elastomeric polymer-based, butyl rubber, or rubber based.
		1. Basis of Design: DRYline LP Building Wrap as manufactured and supplied by National Shelter Products.
			1. Air infiltration barrier and bulk moisture penetration barrier (water-resistive barrier).
			2. Non-woven, micro-porous polyolefin fabric. Non-perforated.
			3. Performance Characteristics and Physical Properties:
				1. Basis Weight per ASTM D5261: 21.5 lbs per MSF.
				2. Grab Tensile Strength per ASTM D5034:

Machine Direction: 60 lbf.

Cross Machine; Transverse Direction: 55 lbf.

* + - * 1. Tear Strength per ASTM D5733:

Machine Direction: 23 lbf.

Cross Machine; Transverse Direction: 25 lbf.

* + - * 1. Water Vapor Transmission Rate per ASTM E96 Method A: 154 grams per sq m per 24 hrs
				2. Water Vapor Permeance per ASTM E96 Method A: 18 perms.
				3. Water Penetration Resistance AATCC 127: 6000 mm.
				4. Air Permeance per ASTM E2178: Less than 0.00197 cfm per sq ft.
				5. Water Resistance per ASTM D779: 60 minutes Grade D.
				6. Surface Burning Characteristics per ASTM E84:

Smoke Developed: Class A.

Flame Spread: Class A.

* + - * 1. UV Light Exposure: 180 days.
			1. Accessories:
				1. Fasteners: Non-corrosive roofing nails, plastic cap non-corrosive fasteners or non-corrosive staples having a minimum 3/8 inch (10 mm) head. Locate fasteners so they penetrate either the sheathing or framing member by a minimum 0.5 inches (13 mm) as is required for non-structural sheathings.
				2. Masonry Fastening:

Mechanical: Masonry fastener with washer.

Sealant per ASTM C920: Polyurethane based.

* + - * 1. Steel Frame Fastening: Rust resistant screws with washers.
				2. Sheathing Tape: DRYline Sheathing Tape or equivalent may optionally be used for sealing overlaps and securing minor repairs.
				3. Recommended Sealants Against DRYline Logo Side per ASTM C 920: Elastomeric polymer-based, butyl rubber, or rubber based.
		1. Basis of Design: DRYline MP+ Building Wrap as manufactured and supplied by National Shelter Products. An all-purpose building wrap for all seasons.
			1. Performance Characteristics and Physical Properties:
				1. Tensile Strength per ASTM D5034:

Machine Direction: 62 lbf.

Cross Machine; Transverse Direction: 47 lbf.

* + - * 1. Basis Weight per ASTM D5261: 80 grams per sq m.
				2. Water Vapor Transmission Rate per ASTM E96, Method A: 126 grams per sq m per 24 hours
				3. Water Vapor Permeance per ASTM E96, Method A: 18 perms.
				4. Water Resistance per ASTM D779: 60 minutes.
				5. Water Penetration Resistance per AATCC 127: 300 cm H2O.
				6. Drainage Efficiency per ASTM E2273: 98.7 percent.
				7. Air Resistance per ASTM E2178: 0.005 Liter per second per sq m at 75 Pa.
				8. Surface Burning Characteristics per ASTM E84:

Smoke Developed: Class A.

Flame Spread: Class A.

* + - * 1. Ultraviolet Light (UV) Exposure Internal: 180 Days.
			1. Accessories:
				1. Fasteners: Non-corrosive roofing nails, plastic cap non-corrosive fasteners or non-corrosive staples having a minimum 3/8 inch (10 mm) head. Locate fasteners so they penetrate either the sheathing or framing member by a minimum 0.5 inches (13 mm) as is required for non-structural sheathings.
				2. Masonry Fastening:

Mechanical: Masonry fastener with washer.

Sealant per ASTM C920: Polyurethane based.

* + - * 1. Steel Frame Fastening: Rust resistant screws with washers.
				2. Sheathing Tape: DRYline Sheathing Tape or equivalent may optionally be used for sealing overlaps and securing minor repairs.
				3. Recommended Sealants Against DRYline Logo Side per ASTM C 920: Elastomeric polymer-based, butyl rubber, or rubber based.
		1. Basis of Design: DRYline W Building Wrap as manufactured and supplied by National Shelter Products.
			1. Air infiltration barrier and bulk moisture penetration barrier (water-resistive barrier).
			2. Cross-woven polyolefin fabric with a polyolefin coating layer. The structure is micro-perforated for increased water vapor transmission properties.
			3. Performance Characteristics and Physical Properties:
				1. Basis Weight per ASTM D5261: 13.3 lbs per MSF.
				2. Water Vapor Transmission Rate per ASTM E96 Method A: 70 gr per sq m per 24 hrs.
				3. Water Vapor Permeance per ASTM E96 Method A: 10 perms.
				4. Water Resistance per ASTM D779: 60 minutes.
				5. Air Resistance per TAPPI T 460: 14 seconds per 100 cc.
				6. Tensile Strength per ASTM D828:

Machine Direction: 53 lbs per inch.

Cross Machine; Transverse Direction: 46 lbs per inch.

* + - * 1. Surface Burning Characteristics per ASTM E84:

Smoke Developed: Class A.

Flame Spread: Class A.

* + - * 1. UV Light Exposure: 300 days.
			1. Accessories:
				1. Fasteners: Non-corrosive roofing nails, plastic cap non-corrosive fasteners or non-corrosive staples having a minimum 1 inch (25 mm) crown. Locate fasteners so they penetrate either the sheathing or framing member by a minimum 0.5 inches (13 mm) as required for non-structural sheathings.
				2. Sheathing Tape: DRYline Sheathing Tape or equivalent may optionally be used for sealing overlaps and securing minor repairs.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. SELF-ADHERING FLEXIBLE FLASHING
		1. Performance Requirements:
			1. Water intrusion per ASTM E331: No leakage at 0.012 psi (75 Pa).
			2. Water Vapor Permeability per ASTM E96: Less than 1 perm (0.66 metric perms).
		2. Self-Adhering Straight Flashing:
			1. Basis of Design: Self-adhering straight flashing membrane tape is based on DRYline ATX Straight Flash as manufactured and supplied by National Shelter Products.
				1. Face Material Composition: Textured polyethylene laminate barrier.
				2. Face Color: White.
				3. Adhesive Composition: Synthetic HMA adhesive.
				4. Thickness: 11 mil (0.28 mm).
				5. Release Liner: 1 piece siliconized paper.
				6. Dimensions:

Length: 75 ft (22.68 m).

\*\* NOTE TO SPECIFIER \*\* Delete any width options not required.

Width: 4 inches (102 mm).

Width: 6 inches (152 mm).

Width: 9 inches (229 mm).

Width: 12 inches (310 mm).

\*\* NOTE TO SPECIFIER \*\* When specifying brick mold windows contact Dryline ATX Specialist for additional instructions).

* + 1. Self-Adhering Flexible Flashing:
			1. Basis of Design: Self-adhering flexible flashing membrane is based on DRYline ATX Flex Flashing as manufactured and supplied by National Shelter Products.
				1. Face Material Composition: Conformable textured polyethylene laminate barrier.
				2. Face color: White.
				3. Adhesive Composition: Synthetic HMA adhesive.
				4. Thickness: 11 mil (0.28 mm).
				5. Release liner: 2 part siliconized paper.
				6. Dimensions:

Length: 75 ft (22.68 m).

\*\* NOTE TO SPECIFIER \*\* Delete width option not required or keep both.

Width: 3 inches (76 mm).

Width: 12 inches (310 mm).

* + 1. Accessories:
			1. Seam Tape: DRYline seam tape as distributed by National Shelter Products. Pressure sensitive, polypropylene substrate with acrylic based adhesive.

\*\* NOTE TO SPECIFIER \*\* Fasteners are dependent upon substrate construction. More than one type of fastener may be required on a single project. Review construction conditions and Delete fasteners that are unnecessary.

* + - 1. Fasteners:
				1. Steel Frame Construction: Cap Screws. 1-5/8 inch (41.3 mm) rust resistant screw with 2-inch diameter plastic cap or manufacturer approved 1-1/4 or 2 inch (32 or 51 mm) metal gasketed washer.
				2. Wood Frame Construction: Cap nails. No. 4 nails with large 1 inch (25 mm) plastic cap fasteners, or 1 inch (25 mm) plastic cap staples with leg length sufficient to achieve a minimum penetration of 5/8 inch (16 mm) into the wood stud.
				3. Masonry Construction: Masonry tap-con fasteners with caps. 2 inch (51 mm) diameter plastic cap fastener.
			2. Sealants:

\*\* NOTE TO SPECIFIER \*\* Sealants compatible with weather barrier assembly may be specified on National Shelter Products.

* + - * 1. Refer to appropriate section in Division 07 for joint sealants.
				2. Sealant Complying with ASTM C920, elastomeric polymer sealant to maintain watertight conditions.

\*\* NOTE TO SPECIFIER \*\* Sealant products listed on www.nationalshelter.com have been tested for compatibility and intermittent contact with Dryline weather barrier materials. Edit for specific project as appropriate when sealants are specified within this section.)

* + - * 1. Sealants recommended by the weather barrier manufacturer are located on their website; www.nationalshelter.com.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until the substrates have been properly constructed and prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION OF WATER-RESISTIVE BARRIER
		1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
		2. Install building wrap over the exterior surface of the exteriors sheathing in accordance with current manufacturer's installation recommendations.
		3. Installation of the building wrap shall begin approximately 12 to 24 inches (305 to 610 mm) from a corner of the structure with the printed side facing out. Secure the starting vertical edge with fasteners spaced at 6 inches (152 mm) on center.
		4. Unroll the building wrap horizontally along the lower portion of the exterior wall. The lower edge of the building wrap roll should extend over the sill plate interface 2 to 3 inches (51 to 76 mm). Fasten the building wrap 8 inches (203 mm) on center along the top and bottom plates and at vertical 24 inch (610 mm) intervals at each framing member. Increase the fastener frequency to 8 inch (203 mm) intervals around window and door openings. Fasteners shall be seated flush with the building wrap and not over-driven.
		5. Seams and joints in the building wrap may optionally have a compatible sheathing tape applied and centered over the seam. Shingle the building wrap over the back edge of through-wall flashing to divert water to exterior surface of the wall assembly. Ensure that weeps are not blocked or obstructed.
		6. Extend the building wrap over window and door openings. Cut a modified "I" pattern through the window and door openings. Fold excess material into rough opening and secure in place with fasteners. If windows and doors are already in place, cut building wrap as close as possible to the rough opening and follow flashing manufacturer's instructions for window and door flashing details.
		7. Subsequent courses of building wrap should be overlapped shingle fashion (in water shedding fashion) a minimum of 2 inches (51 mm).
	4. INSTALLATION OF FLASHING PRIOR TO WINDOWS AND DOORS

\*\* NOTE TO SPECIFIER \*\* Flashing manufacturer recommends weather barrier be installed before the installation of the windows. USE these opening preparation and flashing articles for flashing non-flanged windows when they will be installed after the installation of a weather barrier. For a Detailed Installation Guide refer to the website: www.nationalshetler.com

* + 1. Non-Flanged Windows; All Cladding Types:
			1. Flush cut water-resistive barrier at edge of sheathing around full perimeter of opening.
			2. Cut a head flap at 45 degree angle in the water-resistive barrier at window head to expose 8 inches (203 mm) of sheathing. Temporarily secure water-resistive barrier flaps away from sheathing with tape.
			3. Flashing:
				1. Cut 6 or 9 inch (152 or 229 mm) wide DRYline ATX Flex Flashing a minimum of 12 inches (305 mm) longer than width of sill rough opening.
				2. Cover horizontal sill by aligning DRYline ATX Flex Flashing edge with inside edge of sill. Adhere to rough opening across sill and up jambs a minimum of 6 inches (152 mm). Secure flashing tightly into corners by working in along the sill before adhering up the jambs.
				3. Apply 9 inch (229 mm) wide strips of DRYline ATX Straight Flashing at jambs. Align flashing with interior edge of jamb framing. Start Straight Flashing at head of opening and lap sill flashing down to sill.
				4. Install DRYline ATX Flex Flashing at opening head using same installation procedures used at sill. Overlap jamb flashing a minimum of 2 inches (51 mm).
				5. Coordinate flexible flashing with window installation.
				6. On exterior, install backer-rod in joint between window frame and flashed rough framing. Apply sealant at jambs and head, leaving sill unsealed. Apply sealants in accordance with sealant manufacturer's instructions and ASTM C1193.
				7. Position water-resistive barrier head flap across head flashing. Adhere using 4 inch (102 mm) wide DRYline ATX Straight Flashing over the 45 degree seams.
				8. Tape top of window in accordance with manufacturer recommendations.
				9. On interior, install backer rod in joint between frame of window and flashed rough framing. Apply sealant around the entire window to create air seal. Apply sealant in accordance with sealant manufacturer's instructions and ASTM C1193.

\*\* NOTE TO SPECIFIER \*\* Manufacturer recommends weather barrier be installed before the installation of the windows. use these opening preparation and flashing articles for flashing flanged windows when they will be installed after the installation of a weather barrier.

* + 1. Flanged Windows Installed After Water-Resistive Barrier:
			1. Cut weather barrier in an "I-cut" pattern. A modified I-cut is also acceptable.
				1. Cut water-resistive barrier horizontally along bottom and top of window opening.
				2. From the top center of the window opening, cut weather barrier vertically down to the sill.
				3. Fold side and bottom water-resistive barrier flaps into window opening and fasten.
			2. Cut a head flap at 45-degree angle in water-resistive barrier membrane at window head to expose 8 inches (203 mm) of sheathing. Temporarily secure water-resistive barrier flap away from sheathing with tape.
			3. Flashing:

\*\* NOTE TO SPECIFIER \*\* National Shelter Products recommends the use of the 6 inch () wide Dryline ATX Flex Flashing with 2 by 4 framing and 9 inch wide Dryline ATX Flex Flashing with 2 by 6 framing.

* + - * 1. Cut 6 or 9 inch (152 or 229 mm) wide DRYline ATX Flex Flashing a minimum of 12 inches (305 mm) longer than width of sill rough opening.
				2. Cover horizontal sill by aligning DRYline ATX Flex Flashing edge with inside edge of sill. Adhere to rough opening across sill and up jambs a minimum of 6 inches (152 mm). Secure flashing tightly into corners by working in along the sill before adhering up the jambs.
				3. Fan DRYline ATX Flex Flashing at bottom corners onto face of wall. Firmly press in place. Mechanically fasten fanned edges. Mechanical fastening is not required for DRYline ATX Flex Flashing.
				4. On exterior, apply continuous bead of sealant to wall or backside of window mounting flange across jambs and head. Do not apply sealant across sill.
				5. Install window according to manufacturer's instructions.
				6. Apply 4 inch (102 mm) wide strips of DRYline ATX Straight Flashing at jambs overlapping entire mounting flange. Extend jamb flashing 1 inch (25 mm) above top of rough opening and below bottom edge of sill flashing.
				7. Apply 4 inch (102 mm) wide strip of DRYline ATX Straight Flashing as head flashing overlapping the mounting flange. Head flashing should extend beyond the outside edges of both jamb flashings.
				8. Position water-resistive barrier head flap across head flashing. Adhere using 4 inch (102 mm) wide DRYline ATX Straight Flashing over the 45 degree seams.
				9. Tape head flap in accordance with manufacturer recommendations
				10. On interior, install backer rod in joint between frame of window and flashed rough framing. Apply sealant around the entire window to create air seal. Apply sealant in accordance with sealant manufacturer's instructions and ASTM C1193.

\*\* NOTE TO SPECIFIER \*\* When project conditions dictate that weather barrier will be installed after the windows and doors have been installed, use the following Flashing Article.

* 1. INSTALLATION OF FLASHING AFTER WINDOWS AND DOORS
		1. For flanged windows installed before water-resistive barrier.
			1. Flashing:
				1. Attach water-resistive barrier apron under sill. Extend apron a minimum of 10 inches (254 mm) beyond sides of rough opening, and below the rough opening to overlap the sill plate or the weather barrier below. Securely attach sides of apron to wall, leaving bottom free to overlap later weather barrier installation.
				2. Cut DRYline ATX Flex Flashing a minimum of 12 inches (305 mm) longer than width of sill rough opening.
				3. Cover horizontal sill by aligning DRYline Flex Flashing edge with inside edge of sill. Adhere to rough opening across sill and up jambs a minimum of 6 inches (152 mm).
				4. Fan DRYline ATX Flex Flashing at bottom corners onto face of wall. Firmly press in place. Mechanically fasten fanned edges. Mechanical fastening is not required for DRYline ATX Flex Flashing.
				5. On exterior, apply continuous bead of sealant to wall or backside of window mounting flange across jambs and head. Do not apply sealant across the sill.
				6. Coordinate with window installation.
				7. Complete Flashing after Installation of Windows and Doors:

Apply 4 inch (102 mm) wide strips of DRYline ATX Straight Flashing at jambs overlapping entire mounting flange. Extend jamb flashing 1 inch (25 mm) above top of rough opening and below bottom edge of sill flashing.

Apply 4 inch (102 mm) wide strip of DRYline ATX Straight Flashing as head flashing overlapping the mounting flange. Head flashing should extend beyond the outside edges of both jamb flashings.

Position water-resistive barrier head flap across head flashing. Adhere using 4 inch wide (102 mm) DRYline ATX Straight Flashing over the 45 degree seams.

Tape head flap in accordance with manufacturer recommendations.

On interior, install backer rod in joint between frame of window and flashed rough framing. Apply sealant around the entire window to create air seal. Apply sealant in accordance with sealant manufacturer's instructions and ASTM C 1193.

* 1. FIELD QUALITY CONTROL
		1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
	1. CLEANING AND PROTECTION
		1. Clean products in accordance with the manufacturer's recommendations.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION