

## SECTION 07275 – WallShield™ Breathable Underlayment

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section provides for the exterior wall, breathable underlayment.
- B. Related Sections include the following:
  - 1. Division 6 Section "Rough Carpentry" for exterior sheathing.
  - 2. Division 7 Section "Metal Siding" for wall underlayment.
  - 3. Division 13 Section "Pre-Engineered Buildings" for metal siding and roofing.

#### 1.2 REFERENCES

- A. AATCC Test Method 127 - Water Resistance: Hydrostatic Pressure Test; 1998.
- B. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
- C. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials; Compliant with Procedure B (Water Method) for interior to exterior testing.

#### 1.3 SUBMITTALS

- A. Product Data: Include manufacturer's written instructions, technical data, and tested physical and performance properties of breathable underlayment.
- B. Shop Drawings: Provide 1-1/2" scale drawings (or larger) showing relationship of underlayment to:
  - 1. Framing or blocking members.
  - 2. Girts.
  - 3. Thermal Insulation.
  - 4. Sheathing.
  - 5. All exterior cladding and corner conditions.
  - 6. Door or window frames.
    - a. Sill pans.
  - 7. Through-Wall Metal Flashing.
  - 8. Balcony and railing penetrations.
  - 9. Structural Tie-Back Penetrations.
  - 10. Pipe, Conduit and Duct penetrations.
    - a. Include actual manufactured "weather-heads."
- C. Samples:
  - 1. 8-1/2-x-11-inch square of breathable underlayment sheet.
  - 2. Tapes (Single & Double-Sided).
  - 3. Factory fabricated window opening corners.
  - 4. Provide materials and fasteners for mock-up, as specified in Section \_\_\_\_ .

- D. Manufacturer's Instructions: Provide manufacturer's instructions showing the recommended procedures and sequence of installation of breathable underlayment in Rainscreen installations.

#### 1.4 QUALITY ASSURANCE

- A. Underlayment manufacturer shall have an on-going quality control program with inspections by a nationally recognized independent organization and shall be so labeled.
- B. Source Limitations: Obtain all breathable underlayment through one source from a single manufacturer.
- C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review requirements for underlayment, including surface preparation specified under other Sections, substrate condition and pretreatment, temporary weather protection, forecasted weather conditions, special details and sheet flashings, installation procedures, testing and inspection procedures, and protection and repairs.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original containers with seals unbroken, wrapped in a polythene sleeve, labeled with manufacturer's name, and product brand name.
- B. Store rolls under cover, on a clean, level surface, either flat or upright.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the following products:
  - 1. Spun Bonded Polypropylene: Underlayment shall be furnished in standard rolls of 59" high (1-1/2 meters) and 164 feet (50 meters) long.
    - a. WallShield™ by Proctor Group Ltd. , distributed by VaproShield™ L.L.C., phone (866) 731-7663. [www.VaproShield.com](http://www.VaproShield.com)
    - b. Others as may be approved by Addendum. Note: The Architect is not aware of any other material that has the water resistance and high perm rating of the specified product.

#### 2.2 UNDERLAYMENT PHYSICAL PROPERTIES

- A. Thickness and Weight: 0.023 inches thick and 5.161 oz./ sq. yd.
- B. Water Vapor Transmission: 212 perms per ASTM E 96-00, Method B (as tested by CNRC).
- C. Water Penetration Resistance: 68 cm per ATTCC-127.
- D. Surface Burning Characteristics: ASTM E 84-97A

1. Flame Spread: Class A
2. Smoke Developed: Class A

## 2.3 AUXILIARY MATERIALS

- A. Underlayment Flashing Rolls: VaproFlashing and VaproFlashing Factory Formed Corners for use in wrapping openings, distributed by VaproShield L.L.C.
  1. Factory Formed Corners
    - a. VaproFlashing Factory Formed Corners 18" x 18", distributed by VaproShield L.L.C
    - b. Others as may be approved by Addendum.
  2. Small Penetration Flashing
    - a. As manufactured by Quick-Flash Inc., [www.quickflashproducts.com](http://www.quickflashproducts.com)
    - b. Others as may be approved by Addendum
- B. Tape
  1. Single-Sided Tape:
    - a. 4" VaproTape (Seam-Seal) for use to secure WallShield™ to itself and to substrates, distributed by VaproShield L.L.C./Manufactured by Eternabond.
    - b. Others as may be approved by Addendum.
  2. Double-Sided Sealing Tape
    - a. 1" VaproTape (Double-Sided) for use to seal WallShield™ to itself and to substrates, distributed by VaproShield L.L.C/Manufactured by Eternabond.
    - b. One inch wide butyl rubber tape, subject to approval of the Architect.
    - c. Others as may be approved by Addendum.
- C. Fasteners
  1. Fasteners: Minimum No. 12-gage [0.019-inch-shank-diameter (2.11mm)] corrosion-resistant steel or stainless steel nails having a minimum 3/8-inch diameter (9.5 mm) head, or minimum No. 14 gage [0.083-inch-shank-diameter (2.11 mm)] corrosion-resistant steel or stainless steel nails having a 1-inch-diameter (25.4 mm) caps, or minimum No. 16 gage [0.065-inch-leg-diameter (1.65 mm)] stainless steel staples having minimum 7/16-inch (11.1 mm) crowns.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with installer present, for compliance with requirements and other conditions affecting performance.

### 3.2 SURFACE PREPARATION

- A. Clean and prepare substrate according to manufacturer's written recommendations. Provide clean, and dry substrate for breathable underlayment application.

### 3.3 PENETRATIONS

- A. Pipes and Conduit: Install manufactured penetration sleeves sized for the penetration and installed as recommended by the manufacturer.
- B. Windows:
  - 1. Secure prefabricated VaproFlashing Factory Formed Corners at window sill ends. Next, lay strip of breathable underlayment across sill. Secure with tape or mechanical fasteners so that the underlayment used for the wall can be slipped underneath the corners and sill, allowing for a minimum lap of 4 inches.
  - 2. Wrap a strip of breathable underlayment around jambs extending horizontally along walls a minimum of 9 inches.
  - 3. Secure VaproShield Factory Formed Corners at ends of window head. Next, lay strip of breathable underlayment across the opening, extending horizontally beyond the corners a minimum of 6 inches.
    - a. Cut underlayment along the leading edge of the header an inch or two beyond each jamb, so that the nailing flange of the window may side up behind the underlayment.
- C. Doors:
  - 1. Wrap a strip of breathable underlayment around jambs, extending horizontally along walls a minimum of 9 inches.
    - a. Secure VaproShield Factory Formed Corners at ends of door head. Next, lay strip of breathable underlayment across the opening, extending horizontally beyond the corners a minimum of 6 inches.
    - b. Cut underlayment along the leading edge of the header, an inch or two beyond each jamb, so that the nailing flange of the door may side up behind the underlayment.

### 3.4 BREATHABLE UNDERLAYMENT APPLICATION

- A. Install membranes in accordance with manufacturer's instructions over [**exterior sheathing**] [**metal purlins**]. Secure the underlayment so that the subsurface is protected from weather until cladding can be installed.

**SPECIFIER NOTE:** The underlayment will be fastened again by the furring or support system needed to hold the cladding off the underlayment. Assuming reasonable temperature variations, WallShield™ does not tend to fish mouth along the ends because of its thickness. Typically, attaching it two (2) feet on center along the top and bottom is adequate. Obviously, if harsh field conditions are expected then additional fasteners should be considered.

- 1. First, wrap penetrations as specified and detailed.
- 2. Next, starting from the bottom, unroll the underlayment, green side out, mechanically fastening top and bottom, 2'-0" o.c.
- 3. Seal against jambs of openings with 1" VaproTape (Double-Sided).
- 4. Vertical laps shall be a minimum of 6" with taped joints or 12" without tape. Horizontal laps shall be a minimum of 6".

### 3.5 FIELD QUALITY CONTROL

- A. **[Owner will engage] [Engage]** an independent inspector to observe substrate and installation. Inspector shall provide a written, sign-off log, on all penetrations before the underlayment is placed against them. Form of log shall be approved by Architect before contract with inspection service is approved.

### 3.6 PROTECTING AND CLEANING

- A. Protect installed breathable underlayment from damage due to ultraviolet light, harmful weather exposures, physical abuse, and other causes. Manufacturer suggests a maximum of four (4) months UV exposure.
  - 1. Repair torn breathable underlayment as follows:
    - a. Insert a full height piece of underlayment extending 12 inches horizontally beyond the damage and extend up and under the underlayment above. Mechanically attach underlayment to substrate top and bottom.
- B. Remove mud and similar marks with a water scrub. If chemicals have been spilled on underlayment, treat as a tear and repair as stated above.

END OF SECTION 07275