SECTION 07 40 00
ROOFING AND SIDING PANELS - QUARRIX PROTECT FURRING STRIPS, PROTECT SIDING STARTER AND PROTECT DRAIN MAT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quarrix ProTect Furring Strips, ProTect Siding Starter, and ProTect Drain Mat for use with siding systems.

1.2 RELATED SECTIONS

A. Section 06 10 00 - Rough Carpentry.

B. Section 07 46 16 - Aluminum Siding.

1.3 REFERENCES

A. ASTM International (ASTM):
1. ASTM C834 - Standard Specification for Latex Sealants.
2. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
3. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
4. ASTM D648 - Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.
5. ASTM D746 - Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact.
6. ASTM D1929 - Standard Test Method for Determining Ignition Temperature of Plastics.
7. ASTM D2843 - Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics.
8. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings.
9. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
10. ASTM E2925 - Standard Specification for Manufactured Polymeric Drainage and Ventilation Materials. Used to Provide a Rainscreen Function

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. 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.

C. Verification Samples: For each finish product specified, two full size samples representing actual product, color, and patterns.

D. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.

E. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.

B. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.

C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

D. 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. 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.

1.6 PRE-INSTALLATION CONFERENCE

A. 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.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
1. Store products in manufacturer's unopened packaging until ready for installation.

B. Protect from damage due to weather, excessive temperature, and construction operations.
1. Maintain dry storage area for products of this section until installation of products.

1.8 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

A. Manufacturer's limited warranty unless indicated otherwise.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Quarrix Building Products, which is located at: 705 Pennsylvania Ave. S.; Minneapolis, MN 55426; Toll Free Tel: 800-438-2920; Tel: 763-540-9700; Fax: 763-540-9709; Email: request info (marketing@quarrix.com); Web: http://www.quarrix.com

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 PROTECT FURRING STRIP ACCESSORIES FOR SIDING

A. Basis of Design: Quarrix ProTect Furring Strips as manufactured by Quarrix Building Products. A rainscreen system that provides long-lasting protection that prevents moisture damage within the walls. Uniquely designed with small air channels that allow moisture to escape quickly and air to flow vertically and horizontally, keeping the wall assembly dry.
   1. Features:
      a. High Density Polyethylene (HDPE) corrugated plastic.
      b. Promotes airflow and drainage behind cladding.
      c. Crush resistant and resists moisture, mold, mildew.
      d. Built-in insect barrier
      e. Applicable use for wood, fiber-cement, vinyl, stucco, brick and stone, engineered wood and EIFS.
      f. Will not warp or split like wood furring strips.
      g. Color: Black.
   2. Properties:
      a. UV resistant.
      b. Brittleness Temperature per ASTM D746: Minus 103 degrees F (39 degrees C).
      c. Deflection Temperature per ASTM D648: 162 degrees F (72 degrees C) at 66 psi (455 kPa).
      d. Self-Ignition Temperature per ASTM D1929-91aL: 734 degrees F (390 degrees C).
      e. Burn Rate per ASTM D635: 2.5 inches (64 mm) per minute.
      f. Smoke Density per ASTM D2843-93: 9.3 percent; "Excellent."
      g. Compressive Strength per ASTM D642 to Buckling: 130 psi (896 kPa) with 180 lbs per msf (81.64 kg per 92.903 sq m) board.
   3. ProTect Furring Strips Item No. 72002:
      a. Dimensions (WxLxH): 1-1/2 x 96 x 5/16 inches (38 x 2438 x 9 mm).
   4. ProTect Furring Strips Item No. 72001:
      a. Dimensions (WxLxH): 3 x 96 x 5/16 inches (76 x 2438 x 9 mm).
   5. ProTect Furring Strips Item No. 72102:
      a. Dimensions (WxLxH): 3 x 96 x 7/16 inches (76 x 2438 x 14 mm).
   6. ProTect Furring Strips Item No. 72101:
      a. Dimensions (WxLxH): 1-1/2 x 96 x 7/16 inches (76 x 2438 x 14 mm).
   7. ProTect Furring Strips Item No. 72201:
      a. Dimensions (WxLxH): 1-1/2 x 96 x 3/4 inches (38 x 2438 x 18 mm).
   8. ProTect Furring Strips Item No. 72202:
      a. Dimensions (WxLxH): 3 x 96 x 3/4 inches (76 x 2438 x 18 mm).

B. Fasteners:
   1. Nails: 5d ring-shank of stainless steel of sufficient length to penetrate sheathing.
   2. Staples: 16-gauge stainless steel of sufficient length to penetrate sheathing.

C. Adhesives: Quarrix ProTect Furring Strips have been corona treated to help with bonding.
   1. High-density polyethylene (HDPE) compatible sealants conforming to ASTM C920.

2.3 PROTECT SIDING STARTER FOR SIDING

Basis of Design: Quarrix ProTect Siding Starter as manufactured by Quarrix Building Products. Easy-to-install behind the first course of fiber cement, wood, metal or composite cladding systems. Made from durable and impact resistant lightweight HDPE plastic, the 5/16” x 1.5”x 8’ strips are easy to handle and install, saving time and money by reducing labor intensive ripping of expensive clapboard and sealing of ripped edges for first course “kick-out” installation. Their design includes small air channels to allow airflow, preventing moisture buildup. Unlike traditional wood or cladding materials, ProTect Siding Starter is highly durable, resisting rot, warping, and splitting. Additionally, they have a built-in insect barrier for extra pest protection.

A.

1. Features:
    a. High Density Polyethylene (HDPE) corrugated plastic.
    b. Promotes airflow and drainage behind cladding.
    c. Crush resistant and resists moisture, mold, mildew.
    d. Built-in insect barrier
    e. Applicable use for Fiber Cement, Engineered Wood, Composite siding assemblies.
    f. Will not warp or split like wood furring strips.
    g. Bug, animal, and large debris deterrent with openings smaller than 1/8" diameter, exceeding ICC code R806.1 requirements.
    h. Color: Black.
2. Properties:
    a. UV resistant.
    b. Brittleness Temperature per ASTM D746: Minus 103 degrees F (39 degrees C).
    c. Deflection Temperature per ASTM D648: 162 degrees F (72 degrees C) at 66 psi (455 kPa).
    d. Self-Ignition Temperature per ASTM D1929-91aL: 734 degrees F (390 degrees C).
    e. Burn Rate per ASTM D635: 2.5 inches (64 mm) per minute.
    f. Smoke Density per ASTM D2843-93: 9.3 percent; "Excellent."
    g. Compressive Strength per ASTM D642 to Buckling: 130 psi (896 kPa) with 180 lbs per msf (81.64 kg per 92.903 sq m) board.
3. ProTect Siding Starter Item No. 72003:
    a. Dimensions (WxLxH): 1-1/2 x 96 x 5/16 inches (38 x 2438 x 9 mm).

2.4 PROTECT DRAIN MAT FOR SIDING

A. Basis of Design: Quarrix ProTect Drain Mat as manufactured by Quarrix Building Products. A 3D non-woven drainage mat comprised of polypropylene mesh (PP) and a non-woven polyester nylon protective membrane that helps create a drainage plane for trapped water to run off and an air cavity to promote drying.
    1. The mat serves as a component of the rainscreen system that will help extend the life of siding material and prevent moisture damage to exterior walls.
    2. Applicable use for wood, fiber-cement, vinyl, stucco, brick and stone, engineered wood and EIFS.
    3. Built-in insect barrier.
    4. Dimensions (WxLxH): 39 inches x 61-1/2 ft x 1/4 inch (1 m x 18.7 m) x 6 mm).
    5. Properties:
        a. Drainage Efficients per ASTM E2925: Greater than 94 percent efficiency.
        b. Fire Rating per ASTM E84: Class A.
        c. Color: Black: 3D non-woven mesh. Gray: Protective membrane.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until air and vapor membrane are in place as recommended by the siding manufacturer and substrates have been properly prepared.

B. Verify surfaces are dry, free of ridges, warps, or voids.

C. If openings and substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. General: Install in accordance with manufacturer's printed instructions.

B. ProTect Furring Strip Systems: Use Quarrix ProTect Furring Strips to support a rainscreen system to promote maximum wall protection utilizing stack effect for airflow and drying. Ideal in the application of metal, wood, and fiber cement cladding.
   1. Install a suitable water resistive barrier (WRB) over exterior sheathing or continuous exterior insulation per the cladding manufacturer's installation instructions and flashing details.
   2. Bottom of wall perimeter: Install either a 1.5 inch (38 mm) or 3 inch (76 mm) wide furring strip horizontally at the bottom of the wall continuously across the length of the wall to provide maximum intake ventilation and drainage.
      a. System 1: In conjunction with Quarrix furring strips (non-structural) for maximum airflow vertically or horizontally and from bottom to top of wall.
      b. System 2: In conjunction with wood or metal structural vertical battens. Allows cavity airflow from bottom to top of wall.
      c. Nailing pattern should be 16” O.C. using non-corrosive screws, staples or nails.
   3. Top of wall perimeter: Install either a 1.5 inch (38 mm) or 3 inches (76 mm) wide furring strip horizontally just below the soffit allowing a minimum 1/4 inch (6 mm) gap at the very top of the wall continuously where the siding ends to provide full exhaust ventilation behind the siding.
      a. System 1: In conjunction with Quarrix furring strips (non-structural) for maximum airflow vertically or horizontally and from bottom to top of wall.
      b. System 2: In conjunction with wood or metal (structural) vertical battens Allows for cavity airflow from bottom of the wall to top.
      c. Nailing pattern should be 16” O.C. using non-corrosive screws, staples or nails.
   4. Wall Field: Install compatible Quarrix furring used in B1 and B2 System 1 above. Install in a vertical or horizontal application the full height and/or width of the wall. Allows maximum air movement for moisture removal and wall drying.
      a. Horizontal Siding Applications: Strike vertical lines over the wall surface spaced as recommended by the siding manufacturer, but typically at 16 or 24 inch (406 or 610 mm) intervals on center based on the stud layout.
         1) Install Furring Strips vertically across the wall surface.
            a) Nailing pattern should be 16” O.C. using non-corrosive screws, staples or nails.
      b. For Vertical Siding Applications: Strike horizontal lines over the wall surface spaced as recommended by the siding manufacturer.
         1) Making sure to install Furring Strips horizontally up the wall surface.
            a) Nailing pattern should be 16” O.C. using non-corrosive screws,

staples or nails.

5. Windows / Trim / Corners: Furring Strips should be placed under trim, in corners and around windows and placed to support the width of trim to provide ventilation in those areas.
    a. The furring strips provide ventilation and are non-structural. The siding needs to be fastened into structural material or studs behind the furring strips. Attach wall siding according to manufacturer's instructions and penetrate into framing.
    b. Nailing pattern should be 16” O.C. using non-corrosive screws, staples or nails.
6. Furring strips should be placed approximately 1 inch (25 mm) from the edge of the wall.

C. ProTect Siding Starter Systems: Use Quarrix ProTect Siding Starter as an engineered solution for clapboard siding “kick-out” assemblies. Durable HDPE 5/16”x1.5”x 8’ strips are used behind the first course of clapboard and above windows or doors where applicable. Durable and impact resistant strips can be screwed, stapled or power nailed for easy quick installation.

1. Install a suitable water resistive barrier (WRB) over exterior sheathing or continuous exterior insulation per the cladding manufacturer's installation instructions and flashing details.
2. Place the ProTect Siding Starter along the bottom perimeter of the wall such that the bottom edge of the strip aligns with the bottom edge of the WRB.
    a. Nailing pattern should be 16” O.C. using non-corrosive screws, staples or nails.
3. Where metal drip cap flashing details is required, typically above windows and doors or belly band applications, allow ¼” gap for moisture drainage between the bottom of the starter strip and flashing allowing for moisture drainage.
    a. Nailing pattern should be 16” O.C. using non-corrosive screws, staples or nails.
4. When installing ProTect Siding Starter in conjunction with furred wall applications, install ProTect Siding Starter on top of lower band of furring to create “kick-out” depth.
    a. Nailing pattern should be 16” O.C. using non-corrosive screws, staples or nails

D. ProTect Drain Mat Systems:

1. Install a suitable water resistive barrier (WRB) over exterior sheathing or continuous exterior insulation per the manufacturer's installation instructions and flashing details.
    a. It is Recommended: Install WRB at least 3/4 inches (19 mm) below the framing bottom edge at the wall bottom to prevent moisture tracking from the siding to the framing.
2. Place the ProTect Drain Mat against the bottom of the wall such that the bottom edge of the drainage mesh aligns with the bottom edge of the WRB and roll out horizontally.
    a. The drainage mesh should be touching the WRB with the filter fabric to the outside and the 3 inch (76 mm) filter fabric flap extending below the bottom edge of the WRB.
    b. When a Weep Screed is Used: The bottom edge of the drainage mesh should align with the top of the weep screed.
3. Secure the ProTect Drain Mat to the wall by mechanically fastening with staples, nails, cap screws or cap nails that are corrosion-resistant and minimum 1/2 inch (13 mm) long. One fastener per square foot.
    a. Do not install fasteners through any flashings or weep screeds.
    b. The ProTect Drain Mat will be permanently secured in place by the siding fasteners when the cladding is installed.
4. At the bottom of the wall, fold the 3 inch (76 mm) flap behind the drainage mesh and over the WRB along the bottom edge of the ProTect Drain Mat to create an insect

screen.
   a. Fasten through the bottom of the ProTect Drain Mat so that the 3 inch (76 mm) flap is secured in place between the drainage mesh and WRB.
5. Once installed along the bottom of the wall, install additional courses by aligning ProTect Drain Mat so that the bottom edge of the drainage mesh butts up to the top of the course below and the 3 inch (76 mm) flap hangs down over the top of the lower course. The 3 inch (76 mm) flap may be tacked with a staple or construction adhesive if needed to hold in place. In order to maintain a level plane across the wall, do not overlap the drainage mesh at the seams between rolls.
6. With a utility knife, scissors or shears, cut the ProTect Drain Mat flush around all windows, doors, penetrations and along the top of the wall, making sure to not cut the WRB or any flashings behind the ProTect Drain Mat.
7. Insect Screen at the Top of the Wall: Invert the top course of the ProTect Drain Mat with the 3 inch (76 mm) flap facing up and fold the flap behind the drainage mesh so that the flap is between the WRB and drainage mesh. Fasten through the ProTect Drain Mat so that the 3 inch (76 mm) flap is secured in place between the drainage mesh and WRB.
8. Stucco/Stone: Attach woven wire, expanded metal lathe or coated fiberglass stucco reinforcement over the ProTect Drain Mat per the manufacturer's guidelines
   a. Apply stucco per the manufacturer's installation instructions.
   b. Include a minimum 1/4 inch (6 mm) gap at the top of the wall or install weeps per the manufacturer's guidelines to promote airflow behind the cladding.
9. Thin Brick/Manufactured Stone: Attach woven wire, expanded metal lathe or coated fiberglass stucco reinforcement over the ProTect Drain Mat per the manufacturer's guidelines.
   a. Apply a scratch coat per the manufacturer's installation instructions.
   b. Apply think brick or stone per manufacturer's installation instructions, making sure to include a minimum 1/4 inch (6 mm) gap at the top of the wall or install weeps per the manufacturer's guidelines to promote airflow behind the thin brick or stone.
10. Fiber Cement, Wood and Composite Wood: Install siding per manufacturer's installation instructions.
   a. Include a minimum 1/4 inch (6 mm) gap at the top of the wall or install weeps per the manufacturer's guidelines to promote airflow behind the siding.
   b. Fasteners should accommodate the thickness of the ProTect Drain Mat and should not be overdriven.

3.4 CLEANING AND PROTECTION

A. Clean products in accordance with the manufacturers recommendations.

B. Protect installed products until completion of project.

C. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION