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Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat*, *SectionFormat*, and *PageFormat*, as described in *The Project Resource Manual—CSI Manual of Practice, Fifth Edition*.

This section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all “Specifier Notes” after editing this section.

Section numbers are from *MasterFormat 2004 Edition*.

SECTION 07 21 14

SIDING INSULATION

Specifier Notes: This section covers the following field-applied expanded polystyrene products manufactured by Progressive Foam Technologies, Inc.:

- 1) Fullback® custom-contoured rigid foam insulation installed behind a specific make and profile of siding.
- 2) Linebacker®: Rigid foam insulation with installation guide.
- 3) Halfback® Universal Siding Insulation: Rigid foam insulation, flat for universal application.
- 4) Halfback® H₂O Universal Siding Insulation: Drainable continuous insulation for water-managed siding and cladding systems
- 5) ProBoard® Insulating Sheathing: Flat, rigid foam insulation with flexible plastic facer on one side, reflective facer on the other.
- 6) ProFold® FanFolded Underlayment: Flat, fan-folded underlayment with flexible plastic facer on one side, reflective facer on the other.

Consult Progressive Foam Technologies, Inc. for assistance in editing this section for the specific application.

PART 1 - GENERAL

1.1 SECTION INCLUDES

Specifier Notes: Edit the following list of products as required for specific project conditions. Delete those not required.

- A. Rigid foam insulation, field-applied as continuous thermal backing for specific siding products.
- B. Rigid foam insulation, field-applied as continuous thermal backing for all siding and cladding systems.
- C. Rigid foam insulation, field-applied as continuous thermal backing for all siding and cladding systems, with embossed drainage channels for water-managed siding and cladding systems.

1.2 RELATED SECTIONS

Specifier Notes: Edit the following list of related sections as required. Delete related sections not required. List other sections with work directly related to this section.

- A. Division 07 Section – Common Work Results for Thermal and Moisture Protection.
- B. **[Insert other siding type as required for the Project. Contact Progressive Foam Technologies for available products]**

1.3 REFERENCE STANDARDS

- A. ASTM C 272 – Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions.
- B. ASTM C 303 – Standard Test Method for Dimensions and Density of Preformed Block and Board-Type Thermal Insulation.
- C. ASTM C 578 – Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- D. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
- E. ASTM E 96 – Standard Test Methods for Water Vapor Transmission of Materials.
- F. UL 723 – Standard for Test for Surface Burning Characteristics of Building Materials.

1.4 QUALITY ASSURANCE

Specifier Notes: Review and edit quality requirements. Delete requirements not applicable to the Project.

- A. Source Limitation: Provide siding insulation and accessories produced by a single manufacturer.
- B. Manufacturer's Qualifications:
 - 1. A manufacturing entity with not less than **Ten (10) years** of documented experience in the manufacture and distribution of siding insulation of the type and extent required for the Project.
 - 2. Manufacturer implements a plant quality management program third-party certified.
 - 3. Manufacturer implements an environmental responsibility policy to reduce industrial waste and conserve energy consumption in its plant operations.
 - 4. Manufacturer has trained field representatives to inspect work in progress and prior to final acceptance.

1.5 SUSTAINABILITY REQUIREMENTS

Specifier Notes: Sustainability criteria vary from project to project according to the Owner's requirements. They are not used for every project. The primary sustainability models identified in this Section include:

- U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED).
- Green Communities Criteria 2008.
- National Association of Home Builders NAHB National Green Building Standard (ICC 700-2008):
- U.S. Environmental Protection Agency/U.S. Department of Energy Star Program

Edit according to the Owner's requirements and coordinate with related Division 01 requirements.

- A. General: Comply With Division 01 requirements for sustainable design.
- B. LEED For New Construction and Major Renovations (v3)
 - 1. MR Credit 5 Regional Materials: 50% material harvested and processed within 500 miles of the project.
 - 2. IEQ Credit 7.1 Thermal Comfort – Design.
- C. LEED For Existing Buildings

1. MR Credit 3 Sustainable Purchasing: Facility Alterations and Additions
 - a. 50% material harvested and processed within 500 miles of the project.
 - b. Adhesives and sealants have a VOC content compliant with South Coast Air Quality Management District Rule #1168, or sealants used as fillers meet or exceed the requirements of the Bay Area Air Quality Management District Regulation 8, Rule 51.

- D. LEED For Homes
 1. EA Credit 1: Optimize Energy Performance
 2. EA Credit 2.1 Insulation
 3. EA Credit 2.2 Enhanced Insulation
 4. MR Credit 2 Environmentally Preferable Product

- E. Green Communities Criteria, 2008
 1. 5.1a Efficient Energy Use: New
 2. 5.1b Efficient Energy Use: Moderate and Substantial

- F. NAHB National Green Building Standard (ICC 700-2008):
 1. Practice # 602.8 Termite-Resistant Materials
 2. Practice # 608.1 Indigenous Materials
 3. Practice # 609.1 Life cycle analysis
 4. Practice # 610.1 Innovative Practices.
 5. Practice # 701 Minimum Energy Efficiency Requirements
 - a. 701.1.1 Performance Path Requirements
 - b. 701.1.2 Prescriptive Path Requirements
 6. Practice #703.2 Insulation and air sealing
 7. Practice #704.6 Installation and performance verification
 8. Practice #1001 Building owner's manual for one- and two-family dwellings

- G. Energy Star Compliance: Comply with ENERGY STAR Qualified Homes, Version 3 (Rev. 01) Thermal Enclosure System Rater Checklist, Item 4.3 Reduced thermal bridging at walls using insulated siding > R-3 in Climate Zones 1-4, > R-5 in Climate Zones 5-8 9,10

Specifier Notes: Edit submittal requirements as required. Delete submittals not required.

1.6 SUBMITTALS FOR REVIEW

- A. Manufacturer's Technical Data Sheet.
- B. Samples: Submit manufacturer's sample of board insulation laminated to specified siding, minimum 5 inches by 5 inches.

Specifier Notes: Retain the following if sustainability requirements are specified. Refer to Sustainability Requirements article above.

- C. Sustainable Design Submittals: Provide manufacturer's certification that products comply with the requirements specified in Sustainability Requirements article above.

1.7 SUBMITTALS FOR INFORMATION

- A. Qualification data for manufacturer and installers. Refer to Quality Assurance Article above.

Specifier Notes: Select Certified Test Reports (1.7 B) or Manufacturer's certification (1.7 C) below.

- B. Certified test reports verifying compliance of insulation with the performance requirements specified in Part 2 - Products
- C. Manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- D. Sample Warranty: Submit copy of manufacturer's standard warranty terms for Owner's information and review.
- E. MSDS Sheets for insect deterrent.

1.8 SUBMITTALS FOR CONTRACT CLOSEOUT

Specifier Notes: Include the following requirement if required by the Owner.

- A. Sustainable Design Closeout Submittals: Refer to Division 01 requirements for sustainable design requirements.
- B. Executed Warranty: Manufacturer's standard warranty form, signed and dated by an authorized agent of the manufacturer.

Specifier Notes: Include the following requirement if required by the Owner.

- C. Thermographic Testing Reports.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Refer to Manufacturer's published "Delivery Storage and Handling Requirements."
- B. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying:
 - 1. Product name and manufacturer.
 - 2. Siding make and profile.
- C. Storage and Handling Requirements:
 - 1. Store and handle materials in accordance with manufacturer's instructions and to prevent damage.
 - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
 - 3. Store materials in clean, dry area.
 - 4. Protect materials from wind and solar exposure.
 - 5. Protect materials during storage, handling, and installation.

1.10 WARRANTY

- A. Submit manufacturer's executed Limited Double Lifetime Warranty.

1.11 COORDINATION

- A. Field-Constructed Mock-Up: At a location and time approved by the Owner's representative, construct approximately 32 square feet (4' x 8'0) of insulation and siding on structural substrate to demonstrate workmanship. Protect installed mock-up until approved by the Manufacturer's field representative and the Owner's Representative. Installation may proceed following approval of mock-up. Installed mock-up may be incorporated into the finished work.
- B. Pre-Construction Meeting: At a location and time prior to scheduled commencement of the Work of this Section, convene a meeting at the Project site. Attendees include the Owner's Representative, the Manufacturer's field representative, the Contractor, the Installer, and related trades. Review the following.
 - 1. Project conditions.
 - 2. Substrate conditions.
 - 3. Status of other trades.
 - 4. Project duration.

5. Field-constructed mock-up.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. The Project has been designed based on the products of prequalified manufacturers in order to achieve certain building thermal and acoustical performance values.
 1. Do not make substitutions.
 2. Refer to Division 00 – Bidding and Contracting Requirements Sections for the process for obtaining approval of other manufacturers
- B. Pre-Qualified Manufacturers:
 1. Progressive Foam Technologies, Inc., 6753 Chestnut Ridge Road, Beach City, Ohio 44608. Toll Free 800-860-3626. Phone 330-756-3200. Fax 330-756-3206. Website www.progressivefoam.com. E-mail info@progressivefoam.com.

2.2 SIDING INSULATION

- A. Expanded Polystyrene Board, General: Rigid expanded polystyrene (EPS), treated with fire retardant and insect deterrent, complying with ASTM C 578, certified according to UL 723, and as follows:
 1. Density (ASTM C 303): 1.0 to 1.25 pcf (16 kg/m³).
 2. Surface Burning Characteristics, ASTM E 84:
 - a. Flame Spread Index: 0 to 5.
 - b. Smoke Developed Index: 80 to 300.
 3. R-Value: 3.6 per inch at 1.0 pcf density.
 4. Water Absorption, ASTM C 272: Maximum 3 percent by volume.
 5. Water Vapor Transmission, ASTM E 96: up to 5.0 perms/inch for 1.0 pcf density, 3.5 perms/inch for 1.25 pcf density for products without plastic/reflective facers.
 6. Thermal Expansion, ASTM C 578: 0.000035 inch/inch/degree F (0.000063 mm/mm/degree C).

2.3 INSULATION PRODUCTS

Specifier Notes: Select from the following insulation products. Omit those not required for the project. The board dimensions, thickness, and R-value will vary according to the insulation profiles selected for the project.

- A. **Fullback®V Siding Insulation:** Precision-contoured foam board insulation field installed behind specific make and profile of vinyl siding.
1. Board Dimensions, thickness and R-value vary greatly depending on the particular insulation profile selected for the project.
- B. **Fullback®FC Siding Insulation for Fiber Cement:** Precision-contoured insulation for fiber cement, manufacturer's standard board size.
1. Board Dimensions and R-values: .87" x 48" x 48" : R-3.4
- C. **Linebacker® Siding Insulation:** Foam board insulation with installation guide.
1. Board Dimensions and R-values: .874" x 48" x 48": R-3.2
- D. **Halfback® Universal Siding Insulation:** Flat foam insulation complying with the following:
1. Board Dimensions: [1/2" x 24" x 48" (R-1.8)] [3/4" x 24" x 48" (R-2.4)]
- E. **Halfback® H2O Universal Siding Insulation:** Flat foam insulation with embossed channels for relieving condensation within the wall assembly.
1. Board Dimensions: [3/4" x 48" x 96" (R-2.3)] [1" x 48" x 96" (R-3.3)]
[3/4" x 48" x 48" (R-2.3)] [1" x 48" x 48" (R-3.3)]
- F. **ProBoard® Insulating Sheathing:** Flat, rigid foam insulation with flexible, plastic facer on one side, reflective facer on the other.
1. Board Dimensions: [1/2" x 48" x 96" (R-1.9)] [1/2" x 24" x 96" (R-1.9)]
[3/4" x 48" x 96" (R-2.9)] [3/4" x 24" x 96" (R-2.9)]
[1" x 48" x 96" (R-3.8)] [1" x 24" x 96" (R-3.8)]
- G. **Profold® FanFolded Underlayment:** Flat, fan-folded underlayment with flexible, plastic facer on one side, reflective facer on the other.
1. Board Dimensions: [1/4" x 48" x 576" (R-1.0)]
[3/8" x 48" x 576" (R-1.4)]
[1/2" x 48" x 576" (R-1.9)]

H. Accessories:

1. Vinyl Universal Underlayment Starter Strips: "EasyStart".
2. Remodeling Corner Post Insulation: "EasyPost Plus".
3. New Construction Corner Post Insulation: "NC EasyPost".
4. Starter adaptors.
5. J-Channel Insulation Shims: "EasyShim".
6. V-Caps: "Inside EasyPost".
7. Architectural corner adaptors.
8. Window surrounds.
9. Steel Starter Strips: 10 ft Lengths
10. Aluminum L-Trim Pieces- 8 ft Lengths

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine walls to receive insulation.
- B. Verify insulation coordinates with make and profile of vinyl siding.
- C. Notify Architect of conditions that would adversely affect installation of insulation or siding.
- D. Do not begin installation until unacceptable conditions are corrected.

3.2 INSTALLATION

- A. Install insulation in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Install insulation plumb, level, square, in proper alignment, and weathertight.
- C. Butt adjoining insulation panels together without gaps.

3.3 PROTECTION

- A. Protect installed board insulation from damage during construction until covered with siding in accordance with insulated vinyl siding manufacturer's instructions.

3.4 INSPECTION AND TESTING

Specifier Notes: Manufacturer field representation and Owner-sponsored testing requirements increase project cost. Retain the following requirements if approved by the Owner.

- A. Schedule manufacturer's field representative to inspect installation prior to final acceptance of the Work. Make all corrections recommended by the field representative as a condition of acceptance.
- B. Thermographic Testing: Owner will engage and pay for thermographic testing of the completed work. Cooperate with Owner's testing agent by providing convenient access to the Work.

3.5 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- A. Comply with requirements of Section 01 74 19 Construction Waste Management and Disposal

END OF SECTION