

## SECTION 066300

## PVC Exterior Trim

## PART 1 GENERAL

## 1.1 SECTION INCLUDES

- A. PVC trim, moldings and accessories fabricated with recycled content.

## 1.2 RELATED SECTIONS

- A.

## 1.3 SUBMITTALS

- A. Submit under provisions of Section 001330.
- B. Product Data: Submit manufacturer's product data including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods, including fastener types and nailing patterns.
- C. Samples: Submit verification samples for each profile specified, minimum 6 inches (150 mm) long, representing actual product and finish.
- D. USGBC LEED Documentation for Materials and Resources Credit MR 4: Submit manufacturer's independent test data certifying recycled content of materials.

## 1.4 REFERENCES

- A. Scientific Certification Systems (SCS) - Certification of recycled content.

## 1.5 QUALITY ASSURANCE

- A. Mock-Up: Provide a mock-up for evaluation of profiles, installation techniques and workmanship.
  - 1. Mock-up areas designated by Architect.
  - 2. Include mock-up for each profile combination indicated on Drawings.
  - 3. Do not proceed with remaining work until profile, installation techniques and workmanship are approved by Architect.
  - 4. Reinstall mock-up areas as required to produce work acceptable to Architect.
  - 5. Approved mock-ups may remain in the finished work.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Storage: Store products in manufacturer's unopened packaging until ready for installation.
- B. Protection: Coordinate work with other operations and installation of trim to avoid damage to installed materials.

#### 1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions within limits recommended by manufacturer for optimum results.
  - 1. Comply with manufacturer's written installation guidelines to accommodate thermal expansion and contraction.

#### 1.8 WARRANTY

- A. Warranted to the original Owner under normal and proper use to be free of manufacturing defects for the lifetime of the installation including labor for the first two years after installation.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

**Basis of Design:**

- A. Manufacturer: Kleer Lumber, LLC, which is located at: 44 Greif Way ; Westfield, MA 01085; Toll Free Tel: 866-KLEER70; Email: [request info \(JGregory@Kleerlumber.com\)](mailto:JGregory@Kleerlumber.com); Web: [www.kleerlumber.com](http://www.kleerlumber.com)
- B. Acceptable Manufacturers:
  - 1. Manufacturer: Versatex Trimboard by Wolfpaac Technologies, Inc., which is located at: 400 Steel Street; Aliquippa, PA 15001.
  - 2. Manufacturer: Azek Trimboards by Vintage Woodworks, which is located at: Hwy 34S – P.O. Box 39; Quinlan; TX 75474-0039.
- C. Requests for substitutions will be considered in accordance with provisions of Section 001600.

#### 2.2 MATERIAL

- A. PVC Trim and Moldings: Expanded rigid cellular PVC material by Kleer Lumber, LLC. Material shall be produced from PVC resins, recycled PVC and have an integral white color. Composite material is not acceptable.

- B. Physical Properties: PVC material with a small-cell microstructure.
1. Recycled Content: Minimum 16 percent pre-consumer recycled content, independently certified by Scientific Certification Systems (SCS).
  2. Density: 0.57 grams per cubic centimeter.
  3. Flame Spread Index: 14; self extinguishing; will not burn once active flame source is removed.
  4. Water Absorption: Less than or equal to 1 percent.
  5. Insect Resistant: Yes.
  6. Moisture, Rot and Mildew Resistant: Yes.
  7. Resistance to Cupping, Splitting, Delamination, and Warping: Yes.
  8. Direct Moisture Contact: Allowed.
  9. Direct Contact with Grade: Allowed.
  10. Direct Masonry Contact: Allowed.
  11. Thermodynamic: Linear expansion and contraction capabilities.
  12. Heat Forming: Allowed.
  13. Nonstructural and Non-Load Bearing: Utilize the same thickness to span ratios used for wood in non-load bearing applications.
  14. Paintable: Allowed with 100 percent acrylic paint and primer, if required by paint manufacturer; or coatings designed specifically for use on exterior vinyl products.
  15. Non-Yellowing: Yes.
  16. Environmental: Klear sheets are extruded using low toxicity organotin heat stabilizers with minimal migration from PVC. Tin stabilizers added during formulation have minimal volatilization during normal processing conditions as well as under severe use conditions. Klear sheet and Klear PVC trim are free of conventional lead, barium, cadmium and zinc compounds and pose low risk to manufacturers, sheet processors, consumers and aquatic life. Materials are suitable for use where foods contact surfaces. Materials are recyclable.
  17. Variation in Component Length: Minus 0.00 inches, plus 1.00 inch.
  18. Variation in Component Width: Plus or minus 1/32 inch.
  19. Variation in Component Thickness: Plus or minus 1/32 inch.
  20. Variation in Component Edge Cut: Plus or minus 2 degrees.
  21. Variation in Density: Minus 0 percent, plus 10 percent.
- C. Products:
1. Interior and Exterior Trim: Klear Lumber LLC Trimboard.
    - a. Thickness: 5/8 inch (15.9 mm).
    - b. Thickness: 3/4 inch (19.05 mm).
    - c. Thickness: 15/16 inches (23.8 mm).
    - d. Thickness: 1-1/4 inches (31.8 mm).
    - e. Width: 1-1/2 inches (38.1 mm).
    - f. Width: 2-1/2 inches (63.5 mm).
    - g. Width: 3-1/2 inches (88.9 mm).
    - h. Width: 4-1/2 inches (114.3 mm).
    - i. Width: 5-1/2 inches (139.7 mm).
    - j. Width: 7-1/4 inches (184.2 mm).

- k. Width: 9-1/4 inches (235 mm).
  - l. Width: 11-1/4 inches (285.8 mm).
  - m. Width: 15-1/4 inches (387.4 mm).
  - n. Length: 18 feet (5486 mm).
  - o. Length: 20 feet (6096 mm).
2. Sheet: Klear Lumber LLC Klear Sheets.
- a. Finish: Smooth.
  - b. Width: 4 feet (1219 mm).
  - c. Thickness: 1/2 inch (12.7 mm).
  - d. Thickness: 5/8 inches (15.9 mm).
  - e. Thickness: 3/4 inch (19 mm).
  - f. Length: 8 feet (2438 mm).
3. Post Wrap: Klear Lumber LLC KlearSnap.
- a. Use: Post wrap with Snap-Lock joining system and moulding accessory kits.
  - b. Outside Dimensions: 7-1/4 inches by 7-1/4 inches (184.2 mm by 184.2 mm) by 10 feet (3048 mm) length.
  - c. Outside Dimensions: 10-1/4 inches by 10-1/4 inches (260.4 mm by 260.4 mm) by 10 feet (3048 mm) length.

### 2.3 ADHESIVES AND FILLERS

- A. Adhesive:
- 1. Approved Product: Bond&Fill STRUCTURAL adhesive/filler.
    - a. Sandable and paintable.
    - b. Work Time: Maximum of one hour.
    - c. Fast Cure (5 to 8 minutes).
    - d. Slow Cure (45 to 60 minutes).
  - 2. Approved Product: Extreme Adhesives PVC Trimwelder Structural adhesive/filler.
    - a. Fast Cure (5 to 8 minutes).
    - b. Slow Cure (45 to 60 minutes).
  - 3. Approved Product: TrimTight PVC cement.
    - a. Color: Dries white.
    - b. Odor: Low odor.
    - c. Working Time: 10 minutes.
    - d. Cure Time: 24 hours.
- B. Caulk: For trimboard subject to expansion and contraction.
- 1. Approved Product: Bond&Fill FLEX Caulk.
    - a. Expansion Capability: 8 times original size.
    - b. Sandable and paintable.
    - c. Fast Cure (5 to 8 minutes).

- d. Slow Cure (45 to 60 minutes).
- 2. Approved Product: Extreme Adhesives Trimwelder Fill & Flex Caulk.
  - a. Expansion Capability: 8 times original size.
  - b. Sandable and paintable.
- C. Adhesive Caulk: Acrylic based, as approved by Kleer Lumber LLC.
- D. Adhesive Caulk: Urethane based, as approved by Kleer Lumber LLC.
- E. Filler: Provide exterior grade, flexible filler to fill nail holes and dents in PVC trimboard.
  - 1. Approved Product: Bond & Fill for PAINTERS.
    - a. Non-structural.
    - b. Cures within 24 hours.
    - c. Sandable, paintable.
    - d. Requires no primer.

## 2.4 FASTENERS

- A. General: Fasteners shall have sufficient tensile strength in the shaft to resist bending during linear expansion and contraction.
- B. Type: Provide the following fasteners.
  - 1. Nails with smooth, thin shanks, blunt tips and full round heads (e.g.: wood siding nails, box nails) long enough to penetrate the substrate a minimum of 1-1/2 inches (38 mm).
  - 2. Exterior grade, trim-head screws, minimum #7 gauge long enough to penetrate the substrate a minimum of 1-1/2 inches (38 mm).
  - 3. Material: Hot dip galvanized.
  - 4. Material: Stainless steel.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Prior to installation, verify governing dimensions of and condition of substrate.
- C. If 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. Examine, clean, and repair as necessary any substrate conditions that would be detrimental to proper installation.

- C. Prepare surfaces using the methods recommended by Kleer Lumber, LLC for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions. Comply with Kleer Lumber Installation Guidelines recommended techniques.
  - 1. Comply with all terms necessary to maintain warranty coverage.
  - 2. Use trim details indicated on drawings.
- B. Cutting:
  - 1. Use conventional woodworking saws.
  - 2. Use carbide tipped blades designed to cut wood. Do not use fine-tooth metal-cutting blades.
  - 3. Avoid rough edges from cutting caused by: excessive friction, poor board support, worn saw blades or badly aligned tools.
- C. Drilling:
  - 1. Do not use bits made for rigid PVC.
  - 2. Avoid frictional build-up and remove shavings from the drill hole frequently as necessary.
  - 3. Drill with standard woodworking drill bits.
- D. Milling:
  - 1. Mill using standard milling machines used to mill lumber.
  - 2. Relief angle 20 to 30 degrees.
  - 3. Do not score material.
  - 4. Cutting speed to be optimized with the number of knives and feed rate.
- E. Routing:
  - 1. Rout using standard bits and the same tools used to rout lumber.
  - 2. Carbide tipped router bits are recommended.
- F. Edge Finishing:
  - 1. Edges can be finished sanding, grinding, or filling with traditional woodworking tools.
- G. Joints:
  - 1. Provide bevel or shiplapped joints for material subject to expansion and contraction. Do not use butt joints.
  - 2. Provide butt joints for corner units or T-joints, only.
- H. Heat Forming:
  - 1. Utilize convection air circulating oven, strip heater, or radiant heaters to heat material from both sides.
  - 2. Do not overheat material. Surface temperature shall not exceed 320 degrees F (160

- degree C) for more than 10 minutes.
- 3. Secure pliable material around a template to obtain finished shape during cooling.
- 4. Cool with natural air circulation, fans or compressed air.

I. Thermal Expansion and Contraction:

- 1. Expansion and contraction of trim material will occur with changes in temperature. Using the appropriate quantity of the proper fasteners along the entire length of Klear is essential to help minimize expansion and contraction.
- 2. Follow manufacturer's guidelines for required gap width between trim pieces.

J. Fastening:

- 1. Fasteners shall be hand nailed, power nailed, or screwed.
  - a. Power Nailing: Adjust nail gun to prevent excessive nailing pressure or overdriving the nail. Adjust for ambient and material temperatures.
- 2. Pre-drill material when installing in low temperatures.
- 3. Do not use ring shank nails.
- 4. Fasteners should be long enough to penetrate a 1-1/2 inch (38 mm) solid wood substrate a minimum of 1-1/2 inch (38 mm).
- 5. Staples, small brads and wire nails must not be used as fastening members.
- 6. Fasten trim into a flat, solid wood substrate that is a minimum 1-1/2 inches (38 mm) thick. Do not fasten trim into hollow or uneven substrates.

K. Fastener Schedule:

- 1. Along Length of Board: Fasten at 16 inches (406.4 mm) on center, maximum.
- 2. Within Width of Board: 4 inches (101.6 mm) on center, maximum.
- 3. Distance from End of Each Board: Not more than 2 inches (50.8 mm).

L. Bonding:

- 1. Follow adhesive manufacturer's guidelines.
- 2. Glue joints shall be secured on each side of the joint to allow adequate bonding time.
- 3. Surfaces to be glued should be clean and dry and in complete contact with each other. Smooth surfaces shall be sanded and cleaned prior to bonding.
- 4. Use PVC adhesive when installing short runs of trim.

M. Finishing:

- 1. Correct dents and gouges before applying final coating.
- 2. Provide paint materials and prepare surfaces as recommended by Klear Lumber, LLC. Paint as specified in Section 009900.
- 3. Clean material with a light detergent and warm water. Stubborn stains may be removed denatured alcohol.

### 3.4 PROTECTION

- A. Protect installed materials until completion of project.

END OF SECTION