

SECTION 06 6600
PLASTIC FABRICATIONS

PART I - GENERAL**1.01 SECTION INCLUDES**

- A. Provide WOLF Cellular PVC Trim Boards and Mouldings for the following:
 - 1. Corner boards.
 - 2. Soffits.
 - 3. Fascia.
 - 4. Battens.
 - 5. Door pilasters.
 - 6. Frieze boards.
 - 7. Rake boards.
 - 8. Exterior architectural millwork.
 - 9. Exterior window and door trim.
 - 10. _____.

1.02 RELATED SECTIONS

- A. Section 06 20 00 - Finished Carpentry.
- B. Section 07 46 00 - Siding
- C. Section 09 90 00 - Painting

1.03 REFERENCES

- A. AATC 127 - Water Resistance
- B. ASTM C 177 - Thermal Conductivity
- C. ASTM D 256 - Izod Impact Resistance
- D. ASTM D 570 - Water Absorption of Plastics.
- E. ASTM D 635 - Burn Rate
- F. ASTM D 648 - Heat Deflection Temperature
- G. ASTM D 696 - Coefficient of Linear Thermal Expansion
- H. ASTM D 790 - Flexural Properties of Un-reinforced and Reinforced Plastic and Electrical Insulating Materials.
- I. ASTM D 792 - Density
- J. ASTM D 1761 - Fastener Pull Through
- K. ASTM D 3345 - Termite Resistance
- L. ASTM D 5420 - Gardner Impact Resistance
- M. ASTM D 6662 - Freeze-Thaw Resistance
- N. ASTM E 84 - Surface Burning Characteristics
- O. ASTM E 330 - Uplift Resistance
- P. ASTM G 155 - Accelerated Weathering
- Q. AWPA E 12 - Corrosion by Treated Wood

1.04 SUBMITTALS

- A. Product Data: Submit product data, manufacturer's catalogs, installation instructions for specified products.
- B. Samples: Submit three material samples representative of the texture, thickness and widths shown and specified herein.
- C. Qualifications: Submit a copy of installers qualifications to the Architect.

1.05 QUALITY ASSURANCE

- A. Regulatory Requirements: Check with Local Building Code for installation requirements.
- B. Installer's Qualifications:
 1. Installer shall have a minimum of 3 years experience installing cellular PVC trims and moldings.
 2. Installer shall have successfully completed 3 projects of similar size to this Project.
 3. Bending: Installer shall have successfully completed 2 projects with bent trims or moldings.

1.06 SHIPPING, STORAGE AND HANDLING

- A. Shipping: Materials should be stored on a flat and level surface on a full shipping pallet.
- B. Storage:
 1. Store under provided protective covering to prevent jobsite dirt and residue from collecting on the boards.
 2. Store on a flat and level surface.
- C. Handling:
 1. Handle materials to prevent damage to product edges and corners.
 2. Handle materials in same fashion as pine.
 3. Keep product free of dirt and debris

1.07 WARRANTY

- A. Manufacturer's Warranty: Provide manufacturer's limited lifetime warranty against
 1. Warranty shall include defects in manufacturing that cause products to:
 - a. Rot
 - b. Corrode,
 - c. Delaminate
 - d. Excessively swell from moisture.
- B. Contractors Warranty: Provide 1 year warranty on the workmanship of the installation.

PART 2 - PRODUCTS**2.01 MANUFACTURER**

- A. Cellular PVC Trim:
 1. Basis of Design: Products specified herein and shown on the Drawings are based on WOLF PVC Trim. <http://www.wolfhomeproducts.com/trim-moulding>
- B. Substitutions: [Refer Section 01 6000 - Product Requirements] [No Substitutions]

2.02 CELLULAR PVC MATERIALS

- A. Material: free foam cellular PVC material with small cell microstructure and an average density of .60 grams/cm³.
 1. Provide Trim Boards and Mouldings made from free foam cellular PVC that is homogeneous and free of excessive voids, holes, cracks, foreign inclusions and other defects. The edges must be square and top and bottom surfaces shall be flat with no convex or concave deviation.
 2. Uniform surface free from cupping, warping and twisting.
- B. Performance and Physical Characteristics: Materials shall have the following minimum physical and performance properties:
 1. Density: 0.60 g/cm³, ASTM D 792
 2. Water Absorption, 24 hrs: <0.3%%, ASTM D 570
 3. Water Resistance: No Penetration (Pass ICC AC227), ASTM D 570 & AATCC 127
 4. Surface Burning:
 - a. Flame Spread Index: 25, ASTM E 84
 - b. Burning Rate: No burn when flame removed, ASTM D 635
 5. Gardener Impact Resistance: 629 in-lbf, ASTM D 5420 (3/4" thick trim)

6. Coefficient of Linear Thermal Expansion: 3.5×10^{-5} inch /inch /degree F, ASTM D 696
 7. Strength:
 - a. MOR (Flexural Strength): 3,600.0 psi, ASTM D 790
 - b. MOR (Flexural Modulus): 144,000.0 psi, ASTM D 790
 8. Weathering
 - a. MOR Change: +2.4%, (Pass ICC AC 227),. ASTM G 155 & D 790
 - b. MOE Change: +0.7%
 9. Freeze-Thaw
 - a. MOR Change: +0.1% (Pass ICC AC 227), ASTM D 6662 & D 790
 - b. MOE Change: +0.9%
 10. Termite Resistance: 9.2 (Pass ICC AC 227), ASTM D 3345
 11. Mechanical Fastener, Allowable Load: 151 lbf (8d nail and 1" thick trim), ASTM D 1761
 12. Negative Transverse Wind Load: 72 psf, ASTM E 330.
 13. Heat Deflection Temperature: 146 °F @ 264 psi, ASTM D 648
 14. Corrosion by Preservative Treated Wood: No Wt. Loss (Pass ICC AC227), AWAP E 12
 15. Izod Impact, Notched: 0.37 ft-lb/in, ASTM D 648
 16. Heat Conductivity: 0.50 btu-in/hr-ft²- °F, ASTM C 177
- C. Allowable Tolerances:
1. Variation in component length: - 0.00 / + 7/8"
 2. Variation in component Width: - 0 / + 1/16"
 3. Variation in component thickness: $\pm 5\%$
 4. Variation in component edge: $\pm 2^\circ$
 5. Density range: .58-.62
 6. Shore-D hardness: 45
- D. Trimboards shall not require painting for protection.

2.03 ACCESSORY MATERIALS

- A. Fasteners: Provide stainless steel or hot-dipped galvanized nails or screw fasteners.
 1. Nails: Long enough to penetrate into wood substrate a minimum of 1-1/2 inch.
 2. Do not use brads, staples, wire nails or fine-threaded wood screws.
- B. Adhesives: Extreme Adhesives or as recommended by the trim manufacturer.
- C. Sealants: Fill n Flex or as recommended by the trim manufacturer.
- D. Paints: Refer to Painting Section.

(NOTE TO WRITER: If trim is to be painted Light Reflectance of 55 or higher is recommended using darker colors creates more movement in trim)

1. Light Colors (LRV of 55 or higher): Use a 100% acrylic latex paint.
2. Darker Colors (LRV of 54 or lower): Use paints specifically formulated for use on vinyl/pvc products.
 - a. Acrylic or urethane based latex exterior paints are recommended.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Precautions:
 1. Trimboards expand and contract with changes in temperature.
 2. Allow 1/8" space per 18 foot for expansion and contraction.
 3. Glue joints between pieces to eliminate joint separation.
 4. Properly fasten trimboards along entire length to minimize expansion and contraction.
 5. Sheet Products: 3/8" and 1/2" sheet product is not intended to be ripped into trim pieces. These profiles shall be glued to a substrate and mechanically fastened.
 6. When gaps are glued on a long run of the board, allow suitable expansion and contraction space at ends of the run.
 7. Scarf joints to minimize seams and allow expansion and contraction.

8. Construction adhesive is recommended to reduce expansion and contraction between trim and substrate.
- B. Trimboard Spans:
 1. 1/2" Trimboard Beadboard: Supports 12" OC maximum. Mechanically fasten and adhere to joist with high quality construction grade polyurethane adhesive.
 - a. 1/2" Trimboard Beadboard spanning greater than 12" OC: Use a minimum 1/2" backer of plywood or OSB with construction grade adhesive and mechanical fastening a minimum of every 8" OC. Fasten to each joist or framing member.
 2. Other Locations: Trimboard spans shall not exceed 24 inches.
 3. Trimboards shall not to be used in load bearing applications.

3.02 INSTALLATION

- A. Manufacturer's Instructions: Comply with manufacturer's product catalog, installation instructions, and product technical bulletins for installation.
- B. Cutting: Use standard wood working equipment for cutting.
 1. Carbide tipped blades are recommended.
 2. Avoid using fine tooth metal cutting blades.
 3. Note: Rough edge from cutting may be caused by excessive friction, poor board support, or improper tooling.
- C. Drilling and Routing:
 1. Use standard wood working drills and routers.
 2. Avoid frictional heat build-up.
 3. Periodic removal of shaving from the drill hole may be necessary.
 4. Carbide tipped router bits are recommended.
 5. If nailing products at 32° F or below, pre-drilling is required.
- D. Gluing:
 1. Glue all joints between trim pieces to prevent joint separation.
 2. Glue joints should be secured with fasteners on each side of the joint.
- E. Fastening:
 1. Use standard nail guns/wood working tools.
 2. Do not use brads, staples, wire nails or fine-threaded wood screws.
 3. Fastener Quantity and Location:
 - a. Install 2 fasteners per every framing member for trimboard applications.
 - b. Trimboards 12" or wider, as well as sheets, require additional fasteners per every framing member not to exceed 8" on center between fasteners.
 - c. Place nails and screws on center of board and keep approximately 3/4" from each edge.
 - d. Fasteners should penetrate into flat, solid wood substrate or framing member a minimum of 1-1/2".
 - e. Fasteners must be installed within 2" of the end of each board.
 4. Nailing Product at 32°F or Below: Pre-drilling is required.
 5. Pre-drilling and counter-sinking are typically not required unless a larger fastener is used.
- F. Touch-up:
 1. Clean with a damp cloth with soap and water.
 2. Apply Extreme Adhesives nail sticks on unpainted locations.
 3. Apply Fill n Flex for unpainted caulking applications.
- G. Cleaning:
 1. Clean trimboards with denatured alcohol, mild detergent or soap and water.
 2. Other household cleansers may be used but should be tested in an inconspicuous area before use.

H. Painting: Refer to Painting Section.

(NOTE TO WRITER: Include the following in the Painting Spec)

1. Prior to painting, fill nail holes with exterior sandable spackle.
2. Clean surface prior to painting.
3. Follow paint manufacturer's recommendations.

3.03 HEAT BENDING

- A. Heat and bend trim into shapes shown on the Drawings.
- B. Follow manufacturer's recommendations for heating and bending trimboards.
- C. Bent material shall be evenly heated.
- D. Do not overheat boards. Indications of overheating are rough surfaces, bubbling, discoloration and yellowing.
- E. Take the safety precautions required to protect personnel and property from injury and damage during the bending process. Refer to materials safety data sheet for material handling information.

(NOTE TO WRITER: The following information is specific to WOLF PVC Trim. Delete if other manufacturers are included in the specifications.)

- F. Safety Warnings and Guidelines: Recommended guidelines for bending WOLF PVC Trim.
 1. Provide tools and equipment specifically designed for heating and bending PVC Trim.
 2. Provide hot air circulation ovens, band heaters, heating blankets or radiant heaters as required for conditions.
 3. Heat to approximately 270°F, but do not to exceed 320°F.
 - a. If band heaters or heating blankets are used, a lower temperature approximately 250°F is recommended due to direct heat contact with the board.
 4. Heat 3/4" x 3-1/2" PVC Trim for approximately 10 minutes in ovens or 15 minutes if using heat blankets (approximately 3 minutes per 1/4" thickness). Heating time should be adjusted according to the following conditions:
 - a. Thickness, width and length of board
 - b. Heating equipment and its capacity
 5. Once the heated board reaches a workable state (flexible enough to bend), bend it to the proper mold and hold it in place with clamps for best results. Cool the bent product to room temperature with natural or forced air.

END OF SECTION