SECTION 06 65 00

PLASTIC SIMULATED WOOD TRIM

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Cellular PVC trim boards for architectural millwork and door/window trim.

1.2 REFERENCES

A. ASTM D792 - Density and Specific Gravity of Plastics by Displacement.

B. ASTM D570 - Water Absorption of Plastics.

C. ASTM D638 - Tensile Properties of Plastics.

D. ASTM D790 - Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

E. ASTM D1761 - Mechanical Fasteners in Wood.

F. ASTM D5420 - Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by means of a Striker Impacted by a Falling Weight.

G. ASTM D256 - Determining the Pendulum Impact Resistance of Plastics.

H. ASTM D696 - Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C with a Vitreous silica Dilatometer.

I. ASTM D635 - Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.

J. ASTM E84 - Surface Burning Characteristics of Building Materials.

K. ASTM D648 - Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.

L. ASTM D3679 - Standard Specification for Rigid Poly Vinyl Chloride (PVC) Siding.

1.3 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit product data, manufacturer's catalogs, SPEC-DATA® product sheet, for specified products.

C. Samples: Submit three material samples representative of the texture, thickness and widths shown and specified herein.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements: Check with Local Building Code for installation requirements.

B. Allowable Tolerances:
1. Variation in component length: -0.00 / +1.00"
2. Variation in component width: ± 1/16"
3. Variation in component thickness: ± 1/16"
4. Variation in component edge cut: ± 2°
5. Variation in Density -0% + 10%

C. Workmanship, Finish, and Appearance:
1. Free foam cellular PVC that is homogeneous and free of voids, holes, cracks, and foreign inclusions and other defects. 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.

1.5 DELIVERY, STORAGE AND HANDLING

A. Trim materials should be stored on a flat and level surface on a full shipping pallet. Handle materials to prevent damage to product edges and corners. Store materials under a protective covering to prevent jobsite dirt and residue from collecting on the boards.

1.6 WARRANTY

A. Provide manufacturer's 25 year warranty against defects in manufacturing that cause the products to rot, corrode, delaminate, or excessively swell from moisture.

PART 2 PRODUCTS

2.1 MATERIALS

A. Acceptable products: AZEK® Cellular PVC Trim manufactured by Vycom Corporation, 801 Corey Street, Moosic, PA 18507.

B. Other acceptable manufacturers:
1. Kleer Lumber, Inc. 44 Greif Way, Westfield, MA 01085
2. Versatex by Wolfpac Technologies, Inc., 400 Steel Street, Aliquippa, PA 15001

3. Restoration Millwork by CertainTeed Corp., 750 E. Swedesford Rd., Valley Forge, PA 19482

C. Substitutions: Under provisions of Section 01 60 00.

D. Material: Free foam cellular PVC material with a small-cell microstructure.
1. Material shall have the minimum physical and performance properties specified in the following table:

PROPERTY	UNITS	VALUE	ASTM METHOD
PHYSICAL			
Density	g/cm3	0.55	D 792
Water Absorption	%	0.15	D 570
MECHANICAL			
Tensile Strength	psi	2256	D 638
Tensile Modulus	psi	144,000	D 638
Flexural Strength	psi	3329	D 790
Flexural Modulus	psi	144,219	D 790
Nail Hold	Lbf/in of penetration	35	D 1761
Screw Hold	Lbf/in of penetration	680	D 1761
Staple Hold	Lbf/in of penetration	180 D 1761	
Gardner Impact	in-lbs	103	D 5420
Charpy Impact (@23°C)	ft-lbs	4.5	D 256
THERMAL			
Coefficient of Linear Expansion	in/in/°F	3.2 x 10-5	D 696
Burning Rate	in/min	No burn when flame removed	D 635
Flame Spread Index	--	25	E 84
Heat Deflection Temp 264 psi	°F	150	D 648
Oil Canning (@140°F)	°F	Passed	D 648

2.2 ACCESSORY PRODUCTS

A. Fasteners:
1. Use fasteners designed for wood trim and wood siding (thinner shank, blunt point, full round head) with cellular PVC.
2. Use a highly durable fastener such as stainless steel or hot-dipped galvanized.
3. Staples, small brads and wire nails must not be used as fastening members.
4. The fasteners should be long enough to penetrate the solid wood substrate a minimum of 1 1/2".
5. Standard nail guns work well with cellular PVC trim products.
6. Use 2 fasteners per every framing member for trimboards applications. Trimboards 12" or wider, as well as sheets, will require additional fasteners.
7. Fasteners must be installed no more than 2" from the end of each board.
8. Cellular PVC should be fastened into a flat, solid substrate. Fastening CELLULAR PVC into hollow or uneven areas must be avoided.
9. Pre-drilling is typically not required unless a large fastener is used or product is installed in low temperatures.
10. 3/8" and 1/2" sheet product is not intended to be ripped into trim pieces. These profiles must be glued to a substrate and mechanically fastened.

B. Adhesives:
1. Glue all cellular PVC-to-cellular PVC joints, such as window surrounds, long fascia runs, etc. with a cellular PVC cement to prevent joint separation.
2. The glue joint should be secured with a fastener and/or fastened on each side of the joint to allow adequate bonding time.
3. Keep in mind these products typically cure quickly, which will result in limited working time.
4. Surfaces to be glued should be smooth, clean and in complete contact with each other.
5. To bond cellular PVC to other substrates, various adhesives may be used. Consult adhesive manufacturer to determine suitability.

C. Sealants:
1. Use urethane, polyurethane or acrylic based sealants without silicone.

2.3 FINISHES

A. Cellular PVC products do not require paint for protection, but may be painted to achieve a custom color.

B. Preparation:
1. No special surface preparations are required prior to painting - sanding is not necessary for paint adhesion.
2. Surface must be clean and dry.
3. If desired, nail holes may be filled with polyurethane or acrylic based caulk.
4. Use a 100% acrylic latex paint with a Light Reflective Value (LRV) of 55 or higher.
5. Follow the paint manufacturer's recommendations to apply.

PART 3 EXECUTION

3.1 INSTALLATION

A. Manufacturer's instructions:
1. Comply with manufacturer's product catalog installation instructions and product technical bulletin instructions.

B. Cutting:
1. Cellular PVC products can be cut using the same tools used to cut lumber.
2. Carbide tipped blades designed to cut wood work well. Avoid fine tooth metal cutting blades.
3. Rough edges from cutting may be caused by excessive friction, poor board support, or worn or improper tooling.

C. Drilling
1. Cellular PVC products can be drilled using the same tools used to drill lumber.
2. Drilling cellular PVC products is similar to drilling a hardwood. Care should be taken to avoid frictional heat buildup.
3. Use standard woodworking drills. Do not use drills made for normal rigid PVC.
4. Periodic removal of cellular PVC shavings from the drill hole may be necessary.

D. Milling
1. Cellular PVC products can be milled using standard milling machines used to mill lumber.
2. Relief Angle 20° to 30°
3. Cutting speed to be optimized with the number of knives and feed rate.

E. Routing
1. Cellular PVC products can be routed using standard router bits and the same tools used to rout lumber.
2. Carbide tipped router bits are recommended.

F. Edge Finishing
   1. Edges can be finished by sanding, grinding or filing with traditional woodworking tools.

G. Nail Location
   1. Use 2 fasteners per every framing member for trimboard applications.
   2. Trimboards over 12" or wider, as well as sheets, will require additional fasteners.
   3. Fasteners must be installed no more than 2" from the end of each board.

H. Thermal Expansion and Contraction
   1. Cellular PVC products expand and contract with changes in temperature.
   2. Properly fastening cellular PVC material along its entire length will minimize expansion and contraction.
   3. When properly fastened, allow for 1/8" per 18 foot of cellular PVC product for expansion and contraction.
   4. Joints between pieces of cellular PVC should be glued to eliminate joint separation. When gaps are glued on a long run of cellular PVC, allow expansion and contraction at ends of the run.

END OF SECTION

SECTION 07 92 00

JOINT SEALERS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Sealants and caulking.

B. Backer rods.

1.2 REFERENCES

A. ASTM C 321 - Standard Test Method for Bond Strength of Chemical-Resistant Mortars.

B. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.

1.3 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Comply with Bidding Requirements.

C. Manufacturer's Technical Data Guides and application procedures.

D. Submit samples illustrating colors selected.

E. Submit laboratory tests or data validating product compliance with performance criteria specified.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company regularly engaged in manufacturing and marketing of products specified in this section.

B. Installer Qualifications: Qualified to perform work specified by reason of experience or training provided by product manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver products in original factory packaging bearing identification of product, manufacturer, and batch number. Provide Material Safety Data Sheets for each product.

B. Store products in a location protected from freezing, damage, construction activity, precipitation, and direct sunlight in strict accordance with manufacturer's recommendations.

C. Condition products to approximately 60 to 70 degrees F for use in accordance with manufacturer's recommendations.

D. Handle all products with appropriate precautions and care as stated on Material Safety Data Sheet.

1.6 PROJECT CONDITIONS

A. Do not use products under conditions of precipitation or freezing weather. Use appropriate measures for protection and supplementary heating to ensure proper curing conditions in accordance with manufacturer's recommendations if application during inclement weather occurs.

B. Ensure substrate is dry.

C. Protect adjacent work from contamination due to mixing, handling, and application of flexible epoxy joint filler.

1.7 WARRANTY

A. Provide manufacturer's five year standard material warranty.

B. water tight seal, exhibit loss of adhesion or cohesion, or do not cure.

C. Warranty Exclusions: Failure resulting from concrete shrinkage, structural cracks or defects, faulty construction, faulty design, faulty materials (other than joint filler), misuse of structure, settlement, or accident, fire or other casualty or physical damage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers (Sealants and Joint Fillers):
1. Sonneborn(R) Building Products, ChemRex, Inc., 889 Valley Park Drive, Shakopee, MN 55379-9897; ASD. Tel: (800) CHEMREX (243-6739).

B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

C. Provide all joint sealers of the same type from a single manufacturer.

2.2 MATERIALS

A. One Component, Non-Sag Polyurethane Sealant: Sonneborn(R)/ChemRex "Sonolastic(R) NP 1(tm)" with plus or minus 25 percent movement capability for vertical joints; ASTM C 920, Type M, Grade NS, Class 25; FS TT-S-00227E, Type II, Class A; Canadian Specification CAN/CGSB-19.24-M90, Classification MCG-2-40-A-N, No. 81029; USDA approved; SWRI validated; UL classified (fire resistance).

2.3 ACCESSORIES

A. Low VOC Primer: Sonneborn(R)/ChemRex "Primer No. 766," solvent based.

B. Joint Cleaner: Sonneborn(R)/ChemRex "REDUCER 990"; non-corrosive and non-staining.

C. Bond Breaker: Pressure-sensitive tape recommended by sealant manufacturer to suit application.

2.4 COLOR

A. Sealant Colors: Selected by architect from the manufacturer's master color system.

PART 3 EXECUTION

3.1 EXAMINATION

A. Inspect all areas involved in work to establish extent of work, access, and need for protection of surrounding construction.

B. Protect all surroundings from flexible epoxy joint filler including, but not limited to, floors, equipment, line striping, walkways, and drives.

C. Conduct preapplication inspection of site verification with an authorized manufacturer's representative.

3.2 PREPARATION

A. Remove loose materials and foreign matter which impair adhesion of joint filler.

B. Clean joints and saw cuts by grinding, sandblasting, or wire brushing to expose a sound surface free of contamination and laitance.

C. Ensure structurally sound surfaces, dry, clean, free of dirt, moisture, loose particles, oil, grease, asphalt, tar, paint, wax, rust, waterproofing, curing and parting compounds, membrane materials, and other foreign matter.

D. Where the possibility of joint filler staining of adjacent areas or materials exists, mask joints prior to application.
   1. Do not remove masking tape before joints have been tooled and initial cure of joint filler has taken place.
   2. Work stained due to failure of proper masking precautions will not be accepted.

3.3 INSTALLATION

A. Bond Breaker: Install bond-breaker strip in joint to be sealed on top of back-up material to prevent adhesion of sealant to back-up material; install per manufacturer's recommendations.

B. Sealant:
   1. Prepare sealants that require mixing; follow manufacturer's recommended procedures, mixing thoroughly.
   2. Mix only as much material as can be applied within manufacturer's recommended application time period.
   3. Apply materials in accordance with manufacturer's recommendations; take care to produce beads of proper width and depth, tool as recommended by manufacturer, and immediately remove surplus sealant.
   4. Apply materials only within manufacturer's specified application life period. Discard sealant after application life is expired or if prescribed application period has elapsed.

3.4 CLEANING

A. Remove uncured sealant and joint filler with Reducer 990, xylene, toluene, or MEK. Remove cured sealant and joint filler by razor, scraping, or mechanically.

B. Remove all debris related to application of sealants from job site in accordance with all applicable regulations for hazardous waste disposal.

3.5 SCHEDULE OF JOINT SEALERS

A. General-Purpose Interior and Exterior Applications:
   1. Sealant:
      a. One component polyurethane.
   2. Applications:
      a. Joints and recesses between adjacent constructions and frames, sills, and subsills of windows, and doors.

b. Where necessary to prevent infiltration of water or air into or through exterior building envelope.

END OF SECTION