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PALRAM AMERICAS, INC.
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PALRAM 2000, INC.
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PALRAM PANELS, INC.
9741 Commerce Circle
Kutztown, PA 19530



SECTION 06 60 00

PLASTIC FABRICATIONS

PART I GENERAL

1.01 SECTION INCLUDES

A. Free-Foam Cellular PVC Trim Boards for corner boards, soffits, fascias, battens, door pilasters, frieze boards, rake boards, pilasters, water tables, architectural millwork and door/window trim.

1.02 RELATED SECTIONS

- A. Section 06 64 00 – Plastic Paneling
- B. Section 06 65 00 – Plastic Simulated Wood Trim
- C. Section 06 66 00 – Custom Ornamental Simulated Woodwork

1.03 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.

1.04 SUBMITTALS

- A. General: Present listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit product data, manufacture's catalog, Technical Bulletins, for specified products.
- C. Samples: Submit three materials samples representative of the texture, thickness and widths shown and specified herein.

1.05 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 +/- 0.025 grams per cubic centimeter

C. Workmanship, Finish, and Appearance:

1. Free Foam Cellular PVC that is homogeneous and free of voids, holes, cracks, 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

1.06 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.

1.07 WARRANTY

A. Provide manufacturer's 30 year transferable warranty against defects in manufacturing that causes the products to rot, corrode, delaminate, or excessively swell from moisture.

PART II PRODUCTS

2.01 MATERIALS

- A. Acceptable products: PALIGHT TRIMBOARD manufactured by Palram Americas, Inc., 9735 Commerce Circle, Kutztown, PA 19530. Phone: 610-285-9918
- B. Material: Free Foam Cellular PVC material with a small-cell microstructure and density of .55 -.60 grams/cm³.
1. Material shall have a minimum physical and performance properties specified in the following Section C.
- C. Performance and physical characteristic requirements:

Property	Conditions (U.S. Customary)	ASTM Method	Units - SI (U.S. Customary)	Value (U.S. Customary)
Physical				
Density		D-1505	g/cm ³ (lb/ft ³)	0.55-0.60 (35)
Water Absorption	24 hr. @ 23°C	D-570	%	0.5
Mechanical				
Tensile strength at yield	10 mm/min (0.4 in./min)	D-638	MPa (psi)	15 (2,200)
Tensile strength at break	10 mm/min (0.4 in./min)	D-638	MPa (psi)	14.5 (2,100)
Elongation at yield	10 mm/min (0.4 in./min)	D-638	%	5
Elongation at break	10 mm/min (0.4 in./min)	D-638	%	40
Flexural Modulus	1.3 mm/min (0.05 in./min)	D-790	MPa (psi)	896 (130,000)
Flexural Strength at Yield	1.3 mm/min (0.05 in./min)	D-790	MPa (psi)	28 (4,000)

Hardness (Shore D)		Durometer	Shore D	52-58
Screw Hold	lbf/in of penetration	D-1761	lbf	600
Nail Hold	lbf/in of penetration	D-1761	lbf	90
Staple Hold	lbf/in of penetration	D-1761	lbf	69
Thermal				
Long Term Service Temperature			°C (°F)	-15 to 55 (14 to 131)
Heat Deflection Temperature	Load: 1.82 Mpa (264 psi)	D-648	°C (°F)	60 (140)
Coefficient of Linear Thermal Expansion		D-696	10 ⁻⁵ /°C (10 ⁻⁵ /°F)	6.7 (3.7)
Thermal Conductivity		C-177	W/m°K (Btu-in./hr-ft ² -°F)	.87 (0.5)
Electrical				
Surface Resistance	Ketley	D-257	Ohm	5 x 10 ¹⁵
Volume Resistance	Ketley	D-257	Ohm-cm	2 x 10 ¹⁶

2.02 ACCESSORY PRODUCTS

A. FASTENERS:

- Use stainless steel fasteners designed for wood trim and siding for best results. Fastener should have sufficient flexural and tensile strength to resist bending.
- Fasteners with thin shanks, blunt points, and full round heads are preferred. The fastener must be long enough to penetrate the substrate a minimum of 1 1/2 inches.
- Do not use staples, small brads and wire nails. Avoid using finethreaded wood screws and ring-shank fasteners.
- Use standard nail guns with a pressure setting between 70 psi and 100 psi. The recommended pressure depends on the type of gun, type of nail, ambient temperature, and the substrate. Care should be taken not to overdrive the nail into the material.
- Pre-drilling typically is not required unless large fasteners are used or the product is installed during low temperatures.
- Use two fasteners for every framing member for trimboard applications. Palight Trimboard Sheet and trimboards 8 inches and wider require additional fasteners.
- Install fasteners no more than 2 inches from the end of each board.
- Avoid fastening Palight Trimboard over hollow or uneven areas. Fasten Palight Trimboard onto flat, solid substrates.
- 3/8" and 1/2" thick Palight Trimboard Sheet and Beadboard are not designed to be ripped and used for trim applications. These products must be glued and mechanically fastened to the substrate.

B. ADHESIVES:

- All bonded surfaces must be smooth, clean, and in complete contact with each other for best results.
- For adhering Palight Trimboard to itself, bond joints with PVC cement or cellular PVC adhesives to prevent joint separation. Products such as Bond-and-Fill (2 component epoxy), IPS Weld-On 705 (white), and Genova Vinyl Adhesive are excellent cements.
- Remember that most PVC cements cure quickly (3-5 minutes), and have a limited working time.
- Scarf cut joints are recommended.
- Bonded joints should be secured with fasteners and fastened on each side of the joint.
- When bonding Palight Trimboard to other substrates, consult the adhesive manufacturer to determine suitability.
- If you have to butt joints, double nail the trimboards on both sides of the butt joint and reinforce with construction adhesive applied to the backside of the trimboards.

C. SEALANTS:

- Use urethane, polyurethane, polymer blends or acrylic based sealants that do not contain silicone.

2.03 FINISHES

Palight Trimboard does not require painting for protection. If painting is preferred, follow these guidelines.

A. PREPARATION:

- Be sure the Palight Trimboard surface to be painted is clean, dry, and free of dirt, loose or peeling paint, mildew, chalk, grease and any other surface contaminants before paint application.
- Use 100% acrylic latex or 100% acrylic latex with urethane additive paint with a light reflective value equal to or greater than 55 units.
- Follow the paint manufacturer's application recommendations.
- Nail holes may be finished with a two component methacrylate, poly urethane, polymer, or acrylic based caulk, or painted over. Use a caulk that is UV resistant.

PART III EXECUTION

3.01 INSTALLATION

Manufacturer's instructions: Comply with manufacturer's installation instruction and product technical bulletins.

A. CUTTING:

- Palight Trimboard can be cut using standard woodworking saws. Conventional carbide-tipped blades designed for cutting wood are preferred. Avoid using fine-tooth metal-cutting blades.
- Rough-cut edges are typically caused by excessive friction, poor board support, or worn or improper tooling.

B. DRILLING:

- Palight Trimboard can be drilled using standard woodworking drill bits. Do not use drill bits made for rigid PVC.
- Avoid frictional heat build-up.
- Remove shavings periodically from a drill hole as necessary.

C. ROUTING:

- Palight Trimboard can be routed using standard woodworking router bits. Carbide-tipped router bits are preferred.
- Routing Palight Trimboard provides a crisp, clean edge due to Palight Trimboard's consistent density.

D. MILLING & MOULDING:

- Palight Trimboard can be milled or moulded using standard milling or moulding machines found in millwork shops.
- Rake angle 20 to 30 degrees. 25 degrees appears to work the best.
- Cutting speed to be optimized with the number of knives and feed rate.

3.01 INSTALLATION

E. ROUTING:

- Palight Trimboard can be routed with virtually any piece of equipment used to rout wood.
- Carbide tipped router bits are recommended.
- Machinery that allows for multiple cutting speeds will allow you to optimize the process obtaining a smoother finished part.

F. EDGE FINISHING:

- Traditional sanding, grinding or filing tools used for woodworking are preferred.

G. NAIL LOCATION:

- For trimboard applications, use 2 fasteners per framing member.
- Additional fasteners are required for trimboard 8" and wider.
- Fasteners must be installed a maximum of 2" from the end of each board.

H. EXPANSION AND CONTRACTION:

- Palight Trimboard expands and contracts with changes in temperature. Properly fastening Palight Trimboard along its entire length will minimize expansion and contraction.
- Allow 3/16-inch space per 18-foot run of Palight Trimboard for expansion and contraction.
- Bond joints between pieces of Palight Trimboard to eliminate separation.
- Allow expansion and contraction space at the ends of long runs.

I. CLEANING:

- Palight Trimboard can be cleaned with mild detergent and water. Products with pumice, such as Soft Scrub® with Bleach, may be applied with an abrasive nylon brush. For more stubborn stains use a mild household cleaner and degreaser like Clorox® Cleanup or Clorox® Outdoors.

END OF SECTION