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SECTION 09 7720 – DECORATIVE FIBERGLASS REINFORCED WALL PANELS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Prefinished polyester glass reinforced plastic sheets and adhered to unfinished [gypsum] [cementitious] [untreated plywood] wallboard.
 - 1. [Aluminum] [PVC] trim.
 - 2. [PVC Wall base.]
- B. Products Not Furnished or Installed under This Section:
 - 1. Gypsum [Cementitious] substrate board.
 - 2. Resilient Base.

1.2 RELATED SECTIONS

- A. Section [____] – Gypsum [Cementitious] substrate board.
- B. Section [____] - Wood [Metal] Stud Framing
- C. Section [____] - Painting & Transparent Finishes.
- D. Section [____] - Resilient Base.

1.3 REFERENCES

- A. American Society for Testing and Materials: Standard Specifications (ASTM)
 - 1. ASTM D 256 - Izod Impact Strengths (ft #/in)
 - 2. ASTM D 570 - Water Absorption (%)
 - 3. ASTM D 638 - Tensile Strengths (psi) & Tensile Modulus (psi)
 - 4. ASTM D 790 - Flexural Strengths (psi) & Flexural Modulus (psi)
 - 5. ASTM D 2583- Barcol Hardness
 - 6. ASTM D 5319 - Standard Specification for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels.
 - 7. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

1.4 SUBMITTALS

- A. Product Data: Submit sufficient manufacturer's data to indicate compliance with these specifications, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Shop Drawings: Submit elevations of each wall showing location of paneling and trim members with respect to all discontinuities in the wall elevation.
- C. Selection Samples: Submit manufacturer's standard color pattern selection samples representing manufacturer's full range of available colors and patterns.
- D. Samples for Verification: Submit appropriate section of panel for each finish selected indicating the color, texture, and pattern required.
 - 1. Submit complete with specified applied finish.
 - 2. For selected patterns show complete pattern repeat.
 - 3. Exposed Molding and Trim: Provide samples of each type, finish, and color.
- E. Manufacturers Material Safety Data Sheets (MSDS) for adhesives, sealants and other pertinent materials prior to their delivery to the site (available as downloads for most Marlite's products at <http://www.marlite.com/tech-details.aspx> or by contacting Marlite at info@marlite.com).

1.5 QUALITY ASSURANCE

- A. Conform to building code requirements for interior finish for smoke and flame spread requirements as tested in accordance with:
 - 1. ASTM E 84 (Method of test for surface burning characteristics of building Materials)
 - a. Wall Required Rating – Class [A] [C].
- B. Sanitary Standards: System components and finishes to comply with:
 - 1. United States Department of Agriculture (USDA) requirements for food preparation facilities, incidental contact.
 - 2. Food and Drug Administration (FDA) 1999 Food Code 6-101.11.
 - 3. Canadian Food Inspection Agency (CFIA) requirements.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials factory packaged on strong pallets.
- B. Store panels and trim lying flat, under cover and protected from the elements. Allow panels to acclimate to room temperature (70°) for 48 hours prior to installation.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Building are to be fully enclosed prior to installation with sufficient heat (70°) and ventilation consistent with good working conditions for finish work

- B. During installation and for not less than 48 hours before, maintain an ambient temperature and relative humidity within limits required by type of adhesive used and recommendation of adhesive manufacturer.
 - 1. Provide ventilation to disperse fumes during application of adhesive as recommended by the adhesive manufacturer.

1.8 WARRANTY

- A. Furnish one year guarantee against defects in material and workmanship.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

- A. Marlite; 1 Marlite Drive, Dover, OH 44622. 800-377-1221 FAX (330) 343-4668 Email: info@marlite.com www.marlite.com.
- B. Product:
 - 1. Standard FRP
 - 2. Induro FRP
 - 3. Artizan FRP with Sani-Coat
 - 4. Envue with Sani-Coat
 - 5. Symmetrix with Sani-Coat
 - 6. Laminated FRP

2.2 PANELS

- A. Fiberglass reinforced thermosetting polyester resin panel sheets complying with ASTM D 5319.
 - 1. Coating: Multi-layer print, primer and finish coats or applied over-layer.
 - 2. Dimensions:
 - a. Thickness – 0.090 “ (2.29mm) nominal
 - b. Width - 4'-0” (1.22m) nominal
 - c. Length – [10'-0” (3.0m)][8'-0” (2.4m)][As indicated on the drawings] nominal
 - 3. Tolerance:
 - a. Length and Width: +/-1/8 “ (3.175mm)
 - b. Square - Not to exceed 1/8 “ for 8 foot (2.4m) panels or 5/32 “ (3.96mm) for 10 foot (2.4m) panels
- B. Properties: Resistant to rot, corrosion, staining, denting, peeling, and splintering.
 - 1. Flexural Strength - 1.0×10^4 psi per ASTM D 790. (7.0 kilogram-force/square millimeter)
 - 2. Flexural Modulus - 3.1×10^5 psi per ASTM D 790. (217.9 kilogram-force/square millimeter)
 - 3. Tensile Strength - 7.0×10^3 psi per ASTM D 638. (4.9 kilogram-force/square millimeter)
 - 4. Tensile Modulus - 1.6×10^5 psi per ASTM D 638. (112.5 kilogram-force/square millimeter)
 - 5. Water Absorption - 0.72% per ASTM D 570.

6. Barcol Hardness (scratch resistance) of 35 55 as per ASTM D 2583.
 7. Izod Impact Strength of 72 ft. lbs./in ASTM D 256
- C. Back Surface: Smooth. Imperfections which do not affect functional properties are not cause for rejection.
- D. Front Finish: [As Indicated on the Drawings] [In accordance with preapproved sample. Information available from the Architect's Office][_____] }

Specifier Note: Marlite's Standard FRP, Induro FRP, Artizan FRP, Envue FRP, Laminated FRP & Symmetrix with Sani-Coat Panels are available in several configurations, including Class A (I) and Class C (III) Fire-rated, along with various surface textures for both Standard FRP, Laminted FRP & Symmetrix with Sani-Coat. All Marlite FRP products can be made available with standard surface grooving and customized groove layouts to match architectural specifications.

- a. Color: [Specifier to choose.]
 - 1) Marlite Standard FRP is available in a variety of colors, including;
 - a) P100 White
 - b) P106 Beige
 - c) P118 Natural Almond
 - d) P140 Ivory
 - e) P145 Silver
 - f) P151 Light Grey
 - g) P807 Black
 - h) P199 Bright White
 - i) P400N Red
 - j) P410N Brown
 - k) P420N Blue
 - l) P430N Medium Grey
 - m) P440N Biscuit
 - n) P450N Maroon
 - o) P460N Light Yellow
 - p) P470N Dark Grey
 - q) S490N S2S Light GreyCustom patterns and colors are available. Minimum quantities may apply. Contact a Marlite representative for details.
 - 2) Marlite Induro FRP is available in a variety of colors and patterns, including;
 - a) D354 Designer White
 - b) D381 Fashion Grey
 - c) FP610 Hard Rock Maple
 - d) FP612 Graphite Spectrum
 - e) 4143 Neutral Glace
 - f) 4745 Maroochy Brush
 - g) 4746 Woolamai Brush
 - h) 4810 Titanium
 - i) 4873 Western Bronze
 - j) 4878 Pewter Mesh
 - k) 4893 Tumbled Mosaic

- l) 7061 Natural Pear
- m) 7922 Brighton Walnut
- n) 7924 Biltmore Cherry
- o) 7925 Monticello Maple
- p) 7939 Blonde Echo

Custom patterns and colors are available. Minimum quantities may apply. Contact a Marlite representative for details.

- 3) Marlite Artizan FRP is available in a variety of colors and patterns, including;

- a) 148 Monticello Anigre
- b) 310 Sierra Maple
- c) 715 Mahogany
- d) 5408 Monterey Sand
- e) 5409 Townsend
- f) 194 Cody
- g) 209 Adara
- h) 211 Grizel
- i) 181-G1212 Dusk
- j) 182-G1212 Oxide
- k) 5415-G88 Coronado
- l) 5416-G88 Catalina
- m) T936-G44 Milan
- n) T938-G44 Tuscany
- o) T938-G88 Tuscany
- p) T939-G44 Verona
- q) T939-G88 Verona
- r) T5413-G1212 Genoa

Custom patterns and colors are available. Minimum quantities may apply. Contact a Marlite representative for details.

- 4) Marlite Envue FRP includes full custom graphics capabilities and are provided as;

- a) Customer supplied artwork, in a digital file format compatible with Marlite's requirements and in a layout compatible with the panel dimensions as required for the installation. Revisions by Marlite Graphics Services to customer supplied artwork are to be submitted for customer approval. It is the customer's responsibility to contact their Marlite representative for Marlite's digital file format requirements. Charges may apply if revisions are required to re-format artwork files.
- b) Marlite supplied artwork, for customer review and approval. Graphic services and set-up charges may apply.

- 5) Marlite Symmetrix with Sani-Coat FRP is available in a variety of colors, patterns and groove configurations, including;

- a) C100-G44 White
- b) C100-G66 White
- c) C100-G63 White
- d) C118-G44 Almond
- e) C140-G44 Ivory

- f) C145-G44 Silver
- g) C105-G44 Black
- h) C131-G44 Everglade
- i) C133-G44 Periwinkle
- j) C150-G44 White with Black
- k) C151-G44 White with Everglade
- l) C153-G44 White with Periwinkle

Custom patterns and colors are available. Minimum quantities may apply. Contact a Marlite representative for details.

- 6) Marlite Laminated FRP is available with 2 different substrates.
 - a) Standard FRP laminated to 3/8" Plywood
 - b) Standard FRP laminated to 5/8" GypsumEither substrates can utilize any color or texture of Standard FRP with minimum quantities and appropriate lead times. Contact a Marlite representative for details.

- b. Surface [Specifier to choose.] Marlite Standard FRP and Symmetrics are available on two standard surface textures. Pebbled (indicated by "P" designation i.e., P 100 White) and Smooth (indicated by "S" designation i.e., S 100 White). All other Marlite FRP products are smooth surface texture.
- c. Fire Rating [Specifier to choose.] Marlite FRP is available in either Class A (I) or Class C (III) Fire Rating. Specifier should add designation to product number only for Class A (i.e., P 100 White, Class A).
- d. Size: [Specifier to choose, or as indicated on drawings.] standard sizes are;
 - 1) Marlite FRP / Symmetrics / Artizan / Envue
 - a) 48" x 96" [1.2m x 2.4m] x .090" (3mm) nom.
 - b) 48" x 108" [1.2m x 2.7m] x .090" (3mm) nom.
 - c) 48" x 120" [1.2m x 3m] x .090" (3mm) nom.

- 2) Marlite Induro FRP
 - a) 47.5" x 95.5" [1.2m x 2.4m] x .090" (3mm) nom.

- 3) Ceiling panels (designed for suspended ceiling installation)
 - a. 23 3/4" x 47 3/4" (0.6m x 1.2m) x .090" (3mm)
 - b. 23 3/4" x 23 3/4" (0.6m x 0.6m) x .090" (3mm)

Can be specified as FRP panels only or backed with 5/8" FR Drywall.

- 4) Laminated FRP
 - a. 48" x 96" [1.2m x 2.4m] x .090" (3mm) nom.

2.3 BASE

- A. Marlite Base Molding for 0.090" (2.29mm) thick FRP Panels
 - 1. Color: [Black] [Quarry Red].
 - 2. Profiles:
 - a. M 612 FRP Base Molding, 10' length
 - b. M 651 Inside Corner
 - c. M 660 Outside Corner
 - d. M 620 LH End Cap
 - e. M 625 RH End Cap

- B. Marlite Cove Base Molding for .090" (2.29mm) thick FRP Panels
 - 1. Color: [White]
 - 2. Profile: [V65 Base Cove]

2.4 MOLDINGS

Aluminum Trim: Heavy weight extruded aluminum 6063-T5 alloy prefinished at the factory.

- 1. Profiles:
 - a. F 550 Inside Corner, 8' length
 - b. F 561 Outside Corner, 8' length
 - c. F 565 Division, 8' length
 - d. F 570 Edge, 8' length
 - e. Color: Brite Anodized

- B. Aluminum Trim: Heavy weight extruded aluminum 6063-T5 alloy prefinished at the factory.
 - a. A551 Inside Corner, 8' length
 - b. A560 Outside Corner, 8' length
 - c. A565 Division, 8' length
 - d. A570 Edge, 8' length
 - 2. Color: [Factory Oven-Baked Finish to match spec'd panel][Black Satin Anodized][Clear Satin Anodized]

- C. PVC Trim: Thin-wall semi-rigid extruded PVC.
 - 1. M 350 Inside Corner, [8' length][10' length]
 - 2. M 360 Outside Corner, [8' length][10' length]
 - 3. M 365 Division, [8' length][10' length]
 - 4. M 370 Edge, [8' length][10' length]
 - 5. V 177 135° Inside Corner [8' length] [White only]
 - 6. V 179 135° Outside Corner [8' length] [White only]
 - 7. Color: [White][Beige][Natural Almond][Ivory][Silver][Light Grey][Black]

- D. SaniSeal Trim: Co-extruded, dual-durometer polypropylene/monprene profiles with Dual-Seal Technology and high-performance pressure sensitive adhesive.
 - 1. S650 Inside Corner, 10' length
 - 2. S660 Outside Corner, 10' length
 - 3. S665 Division, 8' length
 - 4. S670 Edge, 10' length
 - 5. Color: [White][Umber][Slate][Tan][Black][Custom, per specification]

- E. Outside Corner Guard:
 - 1. F 560SS Stainless Corner Guard, [8' length][10' length]
 - 2. Finish: #4 brushed satin
 - 3. M 961 PVC Outside Corner Guard
 - a. Color: [White, [8' length][10' length]][Natural Almond, [8' length][10' length]][Ivory, 10' length][Silver, 10' length][Light Grey, 10' length]

2.5 ACCESSORIES

- A. Fasteners: Non-staining nylon drive rivets.
 - 1. Match panel colors.
 - 2. Length to suit project conditions.
- B. Adhesive: Either of the following construction adhesives complying with ASTM C 557.
 - 1. Marlite C-551 FRP Adhesive - Water- resistant, non-flammable adhesive.
 - 2. Marlite C-915 Construction Adhesive - Flexible, water-resistant, solvent based adhesive, formulated for fast, easy application.
 - 3. Titebond Advanced Polymer Panel Adhesive – VOC compliant, non-flammable, environmentally safe adhesive.
- C. Sealant:
 - 1. Marlite Brand MS-250 Clear Silicone Sealant.
 - 2. Marlite Brand MS-251 White Silicone Sealant.
 - 3. Marlite Brand - Color Match Sealant.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examine backup surfaces to determine that corners are plumb and straight, surfaces are smooth, uniform, clean and free from foreign matter, nails countersunk, joints and cracks filled flush and smooth with the adjoining surface.
 - 1. Verify that stud spacing does not exceed 24" (61cm) on-center.
- B. Repair defects prior to installation.
 - 1. Level wall surfaces to panel manufacturer's requirements. Remove protrusions and fill indentations.

3.2 INSTALLATION

- A. Comply with manufacturer's recommended procedures and installation sequence.
- B. Cut sheets to meet supports allowing 1/8" (3 mm) clearance for every 8 foot (2.4m) of panel.
 - 1. Cut and drill with carbide tipped saw blades or drill bits, or cut with shears.
 - 2. Pre-drill fastener holes 1/8" (3mm) oversize with high speed drill bit.
 - a. Space at 8" (200mm) maximum on center at perimeter, approximately 1" from panel edge.

- b. Space at in field in rows 16' (40.64cm) on center, with fasteners spaced at 12" (30.48 cm) maximum on center.
 - C. Apply panels to board substrate, above base, vertically oriented with seams plumb and pattern aligned with adjoining panels.
 - 1. Install panels with manufacturer's recommended gap for panel field and corner joints.
 - a. Adhesive trowel and application method to conform to adhesive manufacturer's recommendations.
 - b. Drive fasteners for snug fit. Do not over-tighten.
 - D. Apply panel moldings to all panel edges using silicone sealant providing for required clearances.
 - 1. All moldings must provide for a minimum 1/8 " (3mm) of panel expansion at joints and edges, to insure proper installation.
 - 2. Apply sealant to all moldings, channels and joints between the system and different materials to assure watertight installation.
- 3.3 CLEANING
 - A. Remove excess sealant from panels and moldings. Wipe panel down using a damp cloth and mild soap solution or cleaner.
 - B. Refer to manufacturer's specific cleaning recommendations Do not use abrasive cleaners.

END OF SECTION 09 7720