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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) / Food Safety & Inspection Services (FSIS) requirements for food preparation facilities, incidental contact.
 - 2. Food and Drug Administration (FDA) 2013 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 (range of 60 to 75°F) 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. Artizan™ FRP with BlueSky™ Advanced Finishing
 - 2. Envue™ with BlueSky™ Advanced Finishing
 - 3. Symmetrix™ with BlueSky™ Advanced Finishing

2.2 PANELS

- A. Fiberglass reinforced thermosetting polyester resin panel sheets complying with ASTM D 5319.
 - 1. Finishing: BlueSky™ Advanced Finishing System: High resolution digital imaging with controlled, low-temperature inline curing, water-based UV-cure coatings, free of VOC UV-cure inks.
 - 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 for Artizan FRP and Envue FRP: Resistant to rot, corrosion, denting, peeling, and splintering.
 - 1. Flexural Strength - 1.7×10^4 psi per ASTM D 790.
 - 2. Flexural Modulus – 6.0×10^5 psi per ASTM D 790.
 - 3. Tensile Strength – 8.0×10^3 psi per ASTM D 638.
 - 4. Tensile Modulus – 9.43×10^3 psi per ASTM D 638.
 - 5. Water Absorption - 0.17% per ASTM D 570.
 - 6. Barcol Hardness (scratch resistance) 22 - per ASTM D 2583.
 - 7. Izod Impact Strength – 7.0 ft. lbs./in ASTM D 256.
 - 8. Mold & Mildew – pass per ASTM D 3273.

Properties for Symmetrix FRP. Resistant to rot, corrosion, staining, peeling and splintering.

1. Flexural Strength – 0.9×10^4 psi per ASTM D 790.
2. Flexural Modulus – 6.0×10^6 psi per ASTM D 790.
3. Tensile Strength – 11.5×10^3 psi per ASTM D 638.
4. Tensile Modulus – 0.45×10^6 psi per ASTM D 638.
5. Water Absorption - 0.15% per ASTM D 570.
6. Barcol Hardness (scratch resistance) - 28 per ASTM D 2583.
7. Izod Impact Strength – 6.0 ft. lbs./in ASTM D 256.
8. Mold & Mildew – pass per ASTM D 3273.

- 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 pre-approved sample. Information available from the Architect's Office][_____] }

Specifier Note: Marlite's Artizan FRP, Envue FRP & Symmetrix with BlueSky Advanced Finishing are available in several configurations, including Class A (I) and Class C (III) Fire-rated, along with various gloss levels. All Marlite FRP products can be made available with standard surface groove and customized groove layouts to match architectural specifications.

- a. Color: [Specifier to choose.]
- 1) Marlite Artizan FRP with BlueSky Advanced Finishing is available in a variety of Classic Marlite Finish colors and patterns, including;
 - a) 148-SKY Monticello Anigre
 - b) 310-SKY Sierra Maple
 - c) 715-SKY Mahogany
 - d) 5408-SKY Monterey Sand
 - e) 5409-SKY Townsend
 - f) 194-SKY Cody
 - g) 209-SKY Adara
 - h) 211-SKY Grizel
 - i) 181-G1212-SKY Dusk
 - j) 182-G1212-SKY Oxide
 - k) 5415-G88-SKY Coronado
 - l) 5416-G88-SKY Catalina
 - m) T936-G44-SKY Milan
 - n) T938-G44-SKY Tuscany
 - o) T938-G88-SKY Tuscany
 - p) T939-G44-SKY Verona
 - q) T939-G88-SKY Verona
 - r) T5413-G1212-SKY Genoa

And available in Marlite's BlueSky gallery of finishes.

Specifier Note: Retain and edit the following paragraph when finish is selected from Marlite's gallery. Visit the Marlite website at www.marlite.com for gallery color and pattern detail.

Gallery pattern:

- a) Marble and granite
- b) Brick and stone
- c) Wood
- d) Tile and mosaic
- e) Cement
- f) Metal
- g) Textile
- h) Leather
- i) Aged wood and lap siding
- j) Organic materials
- k) Objects
- l) Vector graphics
- m) [_____] SKY # and name

Custom patterns and colors are available. Contact a Marlite representative for details.

- 2) Marlite Envue FRP with BlueSky Advanced Finishing includes full custom graphics capabilities and are provided as;
Specifier Note: Retain and edit the following paragraph when finish incorporates custom scanned or uploaded image supplied by the Architect. Visit the Marlite website at www.marlite.com for instructions and parameters regarding scanning services and upload process.
- a) Custom Graphic: [Upload to manufacturer's website] [scanned] image file as selected by the Architect.
 - b) Customer scan or 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. Samples and/or revisions by Marlite Graphics Services to customer supplied artwork are to be submitted for customer approval.
- 3) Marlite Symmetrix with BlueSky Advanced Finishing is available in a variety of colors, patterns and groove configurations, including;
- a) C100-G44 White
 - b) C100-G66 White
 - c) C118-G44 Almond
 - d) C140-G44 Ivory
 - e) C145-G44 Silver
 - f) C105-G44 Black
 - g) C131-G44 Everglade
 - h) C133-G44 Periwinkle
 - i) C150-G44 White with Black
 - j) C151-G44 White with Everglade
 - k) C153-G44 White with Periwinkle
 - l) C100-G63 White Subway Tile
 - m) A916-G44 White w/ Black Scoring
 - n) A916-G63 White w/ Black Scoring Subway Tile
- Specifier Note: Retain and edit the following paragraph when finish solid color coating will be selected from the manufacturer's or Sherwin-Williams color options. Visit the Marlite website at www.marlite.com for color charts and sourcing information.**

- o) Solid Color: [_____] – groove configuration (if applicable) as
- b. Surface [Specifier to choose.] Marlite Artizan FRP, Envure FRP and Symmetrix FRP are available in smooth surface texture.
- c. Fire Rating [Specifier to choose.] Marlite Artizan FRP and Envure FRP panels are available in either Class A (I) or Class C (III) Fire Rating. Specifier should add designation to product number for Class A (i.e. 148-SKY Monticello Anigre, Class A). Marlite Symmetrix FRP panels are available in Class C (III) Fire Rating only.
- d. Size: [Specifier to choose, or as indicated on drawings.] standard sizes are;
 - 1) Marlite Artizan FRP, Envure FRP & Symmetrix FRP
 - 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.

2.3 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

2.4 MOLDINGS

- A. Aluminum Anodized 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. F566 Ribbed Designer Division, 8' length
 - e. F567 Radius Designer Division, 8' length
 - f. F568 Square Channel Designer Division, 8' length
 - g. F 570 Edge, 8' length
 - h. Color: [Brite Satin Anodized][Black Satin Anodized]
- B. Aluminum Harmonizing Trim: Heavy weight extruded aluminum 6063-T5 alloy prefinished by Marlite to harmonize.
 - a. A 551 Inside Corner, 8' length
 - b. A 560 Outside Corner, 8' length
 - c. A 565 Division, 8' length
 - d. A 570 Edge, 8' length

2. Color: [Factory Oven-Baked Finish to harmonize spec'd panel]
- 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. 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. 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.
- B. 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.
- 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.
- 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