SECTION  – fiber-reinforced plastic (frp) wall panelling

1. General
   1. summary
      1. Section Includes: Prefinished polyester glass reinforced plastic sheets and adhered to unfinished substrate, complete with all associated trim and base, to provide a complete installation.
   2. REFERENCE Standards
      1. American Society for Testing of Materials (ASTM):
         1. ASTM D3678-97(2008) e1, Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Interior-Profile Extrusions
         2. ASTM D5319-12, Standard Specification for Glass-Fiber Reinforced Polyester Wall, and Ceiling Panels
   3. SUBMITTALS
      1. Provide submittals in accordance with Section 01 33 00 – Submittal Procedures.
      2. Action Submittals:
         1. 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.
         2. Shop Drawings: Submit elevations of each wall showing location of paneling and trim members with respect to all discontinuities in the wall elevation.
         3. Selection Samples: Submit manufacturer’s standard colour pattern selection samples representing manufacturer's full range of available colours and patterns.
         4. Samples for Verification: Submit appropriate section of panel for each finish selected indicating the colour, 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 colour.
      3. Manufacturers Material Safety Data Sheets (MSDS) for adhesives, sealants and other pertinent materials prior to their delivery to the site.
   4. QUALITY ASSURANCE
      1. Contractor executing work of this section shall have a minimum of five (5) years continuous Canadian experience in successful manufacture/fabrication and installation of work of type and quality shown and specified. Submit proof of experience upon Consultant's request.
   5. ADMINISTRATIVE REQUIREMENTS
      1. Pre-Construction Meeting: Arrange a preconstruction meeting in accordance with Section 01 31 19 – Project Meetings, attended by Contractor’s personnel, Consultant, and wall paneling subcontractor to discuss:
         1. Installation requirements.
         2. Special surface effects and finishing.
         3. Coordination of work with adjacent finishes.
         4. Protection of finishes.
         5. Acceptability of substrates and quality of materials being used for the project.
   6. DELIVERY, STORAGE, HANDLING & PROTECTION
      1. Deliver materials factory packaged on strong pallets.
      2. Store panels and trim lying flat, under cover and protected from the elements. Allow panels to acclimate to room temperature for forty-eight (48) hours prior to installation.
   7. SITE CONDITIONS
      1. Environmental Limitations: Building are to be fully enclosed prior to installation with sufficient heat (20 deg C) and ventilation consistent with good working conditions for finish work.
      2. Ambient Conditions: Maintain area or room in which wall paneling is being installed at a uniform temperature and humidity for twenty-four (24) hours prior to, during and after installation in accordance with manufacturers recommended humidity and moisture content.
   8. WARRANTY
      1. Warrant wall paneling work of this Section against defects in materials and workmanship in accordance with General Conditions but for an extended period of two (2) years and agree to repair or replace faulty materials or work which appears during warranty period, without cost to the Owner.
      2. Defects shall include but not be limited to, opening of joints, cracking, shrinkage, and warpage.
2. Products
   1. MANUFACTURER
      1. Basis-of-Design Products: Products named in this Section were used as the basis-of-design for the project; additional manufacturers offering similar products may be incorporated into the work of this Section provided they meet the performance requirements established by the named products.
      2. Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include but are not limited to, the following:
         1. Marlite.
   2. PANELS
      1. Fiberglass reinforced thermosetting polyester resin panel sheets complying with   
         ASTM D5319.
         1. Coating: Multi-layer print, primer and finish coats or applied over-layer.
         2. Dimensions:
            1. Thickness: 2.29mm (0.090”) nominal
            2. Width: 1220mm (4') nominal

SPEC NOTE: Select one of the following standard lengths.

* + - * 1. Length: [2440mm (8')][3048mm (10’)] nominal
      1. Tolerance:
         1. Length and Width: 3mm (+/-1/8")

SPEC NOTE: Select one of the following tolerances based on the standard length selected above.

* + - * 1. Square - Not to exceed [3mm in 2440mm (1/8" in 8') panels][4mm in 3048mm (5/32" in 10') panels].
    1. Back Surface: Smooth. Imperfections which do not affect functional properties are not cause for rejection.

SPEC NOTE: Select one of the following surface finishes. Coordinate with the Product and Finish Schedule when required.

* + 1. Front Surface: **[Pebbled][[Smooth][As indicated in Section 09 06 05 – Product and Finish Schedule][As selected by the consultant from the manufacturers standard product line]**.
    2. Fire Rating: Class A Fire Rating.
    3. Basis of Design Product: Marlite Standard FRP by Marlite.
  1. ACCESSORIES
     1. Base: Marlite Base Molding for 2.4mm (3/32") thick FRP Panels.
        1. Colour: To match adjacent wall paneling, as approved by the Consultant, unless otherwise indicated on the Drawings or in the finish schedule.
        2. Profiles:
           1. M 612 FRP Base Molding, 10’ length
           2. M 651 Inside Corner
           3. M 660 Outside Corner
           4. M 620 LH End Cap
           5. M 625 RH End Cap
     2. Panel Moldings: Extruded PVC, ASTM D3678, for panel joints, corners and edges, one-piece design, as indicated and as recommended by panel manufacturer for complete capture of all edges and corners, integral colour to match panels. Provide radius inside corner molding.
     3. Panel Adhesive: Water-based, low VOC contact adhesive as recommended by panel manufacturer.
     4. Sealant: Silicone sanitary sealant, as specified in Section 07 92 00 – Joint Sealants.
        1. Colour: To match adjacent wall paneling, as approved by the Consultant.

1. Execution
   1. examination
      1. 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.
      2. Verify that stud spacing does not exceed 24” (61cm) on-center.
   2. INSTALLATION - GENERAL
      1. Comply with manufacturer's recommended procedures and installation sequence.
      2. Cut sheets to meet supports allowing 3mm (1/8”) clearance for every 2440mm (8') of panel.
         1. Cut and drill with carbide tipped saw blades or drill bits or cut with shears.
         2. Pre-drill fastener holes 3mm (1/8”) oversize with high-speed drill bit.
            1. Space at 200mm (8”) maximum on center at perimeter, approximately 25mm (1”) from panel edge.
            2. Space at in field in rows 4877mm (16’) on center, with fasteners spaced at 305mm (12”) maximum on center.
      3. 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.
            1. Adhesive trowel and application method to conform to adhesive manufacturer’s recommendations.
            2. Drive fasteners for snug fit. Do not over-tighten.
      4. Apply panel moldings to all panel edges using silicone sealant providing for required clearances.
         1. All moldings must provide for a minimum 3mm (1/8") 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. CLEANING
      1. Remove excess sealant from panels and moldings. Wipe panel down using a damp cloth and mild soap solution or cleaner.
      2. Refer to manufacturer's specific cleaning recommendations Do not use abrasive cleaners.

END OF SECTION