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## **PART 1 GENERAL**

### **1.1 REFERENCES**

- .1 American Society for Testing and Materials International, (ASTM).
  - .1 ASTM D2583, Standard Test Method for Indentation Hardness of Rigid Plastic by Means of a Barcol Impressor.
  - .2 ASTM D5420, Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Garner Impact).
  - .3 ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials.

### **1.2 SYSTEM DESCRIPTION**

- .1 Performance requirements: provide fibreglass reinforced plastic (FRP) panels which have been manufactured and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.

### **1.3 SUBMITTAL**

- .1 Submit listed submittals in accordance Section 01 33 00 - Submittal Procedures.
- .2 Product Data: submit product data, product sheet for specified products.
- .3 Shop Drawings: submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colours, patterns and textures. Indicate location and dimension of joints and fastener attachment.
- .4 Samples: submit selection and verification samples for finishes, colors and textures.
- .5 Submit 2 samples of each type of panel, trim and fastener.
- .6 Quality Assurance Submittals: submit the following:
  - .1 Test reports: certified test reports showing compliance with specified performance characteristics and physical properties.
  - .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics, criteria and physical requirements.
  - .3 Manufacturer's instructions: manufacturer's installation instructions.
  - .4 Manufacturer's field reports: manufacturer's field reports specified herein.
- .7 Closeout submittals: submit the following:
  - .1 Operation and maintenance data: operation and maintenance data for installed products in accordance with Section 01 78 00 - Closeout Submittals. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance.
  - .2 Warranty: warranty documents specified herein.

#### **1.4 DELIVERY, STORAGE & HANDLING**

- .1 Comply with Section 01 61 00 – Common Product Requirements.
- .2 Ordering: comply with manufacturer’s ordering instructions and lead time requirements to avoid construction delays.
- .3 Delivery: deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact. Package sheets on skids or pallets for shipment to protect site.
- .4 Storage and protection: store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer. Store panels indoors in a dry place at the project site.
- .5 Handling: remove foreign matter from face of panel by using a soft bristle brush, avoiding abrasive action.

#### **1.5 PROJECT CONDITIONS**

- .1 Environmental requirements:
  - .1 Installation shall not begin until building is enclosed, permanent heating and cooling equipment is in operation, and residual moisture from plaster or concrete work has dissipated.
  - .2 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.
  - .3 Provide ventilation to disperse fumes during application of adhesive as recommended by adhesive manufacturer.
- .2 Field measurements: verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

#### **1.6 WARRANTY**

- .1 Project Warranty: refer to Conditions of the Contract for project warranty provisions.

### **PART 2 PRODUCTS**

#### **2.1 FIBREGLASS REINFORCED PLASTIC (FRP) PANELS**

- .1 Glasbord Panels:
  - .1 Colour: white
  - .2 Size: 1.2 x 2.4 m
  - .3 Moldings: provide PVS (polyvinyl chloride) moldings: white

- .4 Rivets: provide rivets as per manufacturer's installation instructions. Colour: white.
- .2 Division bars, corner trim: panel manufacturer's standard length extruded vinyl pieces; longest length possible to eliminate end joints.
- .3 Fasteners: non-corrosive drive rivets.

## 2.2 MANUFACTURED UNITS

- .1 Rating:
  - .1 Underwriters Laboratories, Inc. (UL) classified, Class I (A) Interior Finish Materials.
- .2 Wall panels: finish, thickness and colour shall be:
  - .1 Embossed 2.3 mm thick, impact and scratch resistant. Colour: white.
- .3 Performance properties: provide with the following properties:
  - .1 Underwriters Laboratories, Inc. (UL), Classified-Embossed Glasbord 2.3 mm only.
  - .2 Class A flamespread of less than 25, smoke developed less than 450 per ASTM E84 latest version.
  - .3 Barcol Hardness (scratch resistance) of 55 as per ASTM D2583.
  - .4 Panels will exhibit no more than a 0.038% weight loss after a 25 cycle Taber Abrasion Test using CS-17 abrasive wheels with 1000 g weight.
  - .5 Gardner Impact Strength of 4.5 J showing no visible damage on front side per ASTM D5420.
  - .6 Meets USDA/FSIS requirements.
  - .7 Complies with ICBO Report Number 4583.
  - .8 A means of frontside identification and confirmation of meeting Class I (A) interior finish requirements after installation and while in service (without labels), embossed FXI only.

## 2.3 ACCESSORIES

- .1 Moldings, Trim, and Caps: 1-piece extruded polypropylene, configured to cover panel edges and corners.
- .2 Adhesive: provide panel adhesive as recommended by panel manufacturer.
- .3 Panel Seam Sealant: Bright white, 2-part urethane sealant, as recommended by FRP panel manufacturer.
- .4 Rivets: as recommended by panel manufacturer. Colour to match panels.

## **2.4 SOURCE QUALITY**

- .1 Source quality: obtain fibreglass reinforced panels (FRP) panels from a single manufacturer. Provide panels and molding only from manufacturer specified to ensure warranty and colour harmonization of accessories.

## **PART 3 EXECUTION**

### **3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's product data, including product technical bulletins, product catalogue installation instructions and product carton instructions for installation.

### **3.2 EXAMINATION**

- .1 Site verification of conditions: verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.
- .2 Examine backup surfaces to determine that corners are plumb and straight, surfaces are smooth, uniform, clean and free from foreign matter, nails are countersunk, and joints and cracks are filled flush and smooth with the adjoining surface.
- .3 Do not begin installation until backup surfaces are in satisfactory condition.

### **3.3 PREPARATION**

- .1 Surface preparation: prepare substrate as outlined in manufacturer's instructions.
- .2 Clean substrates to remove substances that could impair bond of adhesive, including oil, grease, dirt, dust, or other contaminants.
- .3 Acclimate FRP panels by unpacking and placing in installation space a minimum of 24 hours before installation.
- .4 Lay out FRP panels before beginning installation.
  - .1 Locate panel joints to provide equal panel widths at ends of walls.
  - .2 Locate panel joints to provide trimmed panels at corners a minimum of 300 mm wide.

### **3.4 INSTALLATION**

- .1 Install FRP panels in accordance with manufacturer's instructions at locations indicated on the Drawings.
- .2 Install FRP panels plumb, level, square, flat, and in proper alignment.
- .3 Install FRP panels to be water resistant and washable.

- .4 Install FRP panels with manufacturer's recommended gap for panel field and corner joints.
- .5 Fasteners:
  - .1 Use fasteners in accordance with manufacturer's instructions to install FRP panels securely to supports.
  - .2 Pre-drill fastener holes in FRP panels, 3.2 mm greater in diameter than fasteners.
- .6 Adhesive:
  - .1 Install FRP panels in full spread of adhesive.
  - .2 Follow adhesive manufacturer's instructions for application of adhesive.
- .7 Install trim accessories with adhesive and nails or staples.
  - .1 Do not fasten through FRP panels.
- .8 Sealant:
  - .1 Fill grooves in trim accessories with sealant before installing FRP panels.
  - .2 Bed inside corner trim in bead of sealant.
  - .3 Remove excess sealant and smears as FRP panels are installed.
  - .4 Clean in accordance with sealant manufacturer's instructions.
- .9 Tolerances: Install FRP panels within manufacturer's installation tolerances.

### **3.5 ADJUSTING**

- .1 Repair minor damages to finish in accordance with manufacturer's instructions and as approved by DCC Representative.
- .2 Remove and replace with new material, damaged components that cannot be successfully repaired, as determined by DCC Representative.

### **3.6 CLEANING**

- .1 Cleaning: remove temporary coverings and protection of adjacent work areas. Repair or replace products that have been installed and are damaged. Clean installed products in accordance with manufacturer's instructions prior to Departmental Representative's acceptance. Remove construction debris from project site and legally dispose of debris.
  - .1 Remove any adhesive or excessive sealant from panel face using solvent or cleaner recommended by panel manufacturer.

### **3.7 PROTECTION**

- .1 Protection: protect installed product and finish surfaces from damage during construction.

**END OF SECTION**