

SECTION 09 77 00

Fiberglass Reinforced Plastic (FRP) Panels

1 PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Special wall surfaces, including fiberglass reinforced plastic panels.
- B. Related Sections: Section(s) related to this section include:
 - 1. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.
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1.2 REFERENCES

- A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation
- B. ASTM International:
 - 1. ASTM D2583 Standard Test Method for Indentation Hardness of Rigid Plastics 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 (Gardner Impact).
 - 3. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide fiberglass reinforced plastic (FRP) panels which have been manufactured and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.

1.4 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit product data, including manufacturer's SPEC-DATA™ product sheet, for specified products.

- C. Samples: Submit selection and verification samples for finishes, colors and textures. Submit (2) samples of each type of panel, trim and fastener.
- D. 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.
- E. Closeout Submittals: Submit the following:
 - 1. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance.
 - 2. Warranty: Warranty documents specified herein.

1.5 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Installer Qualifications: Installer should be experienced in performing work of this section and should have specialized in installation of work similar to that required for this project.
 - a. Certificate: When requested, submit certificate indicating qualifications.

1.6 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements Sections.
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Delivery:
 - 1. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact. Package sheets on skids or pallets for shipment to project site.
 - 2. Deliver no components to project site until areas are ready for installation for duration of project.
- D. Storage and Protection:

1. Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.
 2. Store panels indoors in a dry place at the project site.
- E. Handling:
1. Remove foreign matter from face of panel by using a soft bristle brush, avoiding abrasive action.
 2. Handle materials to prevent damage to prevent damage to finished surfaces. Provide protective covering to prevent physical damage or staining following installation for duration of project.

1.7 PROJECT CONDITIONS

- A. Environmental Requirements:
1. Installation shall not begin until building is enclosed, permanent heating and cooling equipment is in operation, and residual moisture from plaster, concrete or terrazzo 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.
- B. Field Measurements: Verify actual measurements/openings by field measurements before fabrication. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

1.8 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

1.9 MAINTENANCE

- A. Extra Materials: Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Division 1 Closeout Submittals (Maintenance Materials) Section.
1. Quantity: Furnish quantity of units equal to 5% of amount installed.
 2. Delivery, Storage and Protection: Comply with Owner's requirements for delivery,

storage and protection of extra materials.

2 PART 2 - PRODUCTS

2.1 FIBERGLASS REINFORCED PLASTIC (FRP) PANELS

A. Manufacturer:

- 1 Kemlite Company, Inc.
2. Or Equal approved by Architect

B. Products equal to: Kemlite Fiberglass Reinforced Plastic (FRP) Panels.

1. Glasbord Panels

a. Fire-X Glasbord FM

- 1) Class A embossed Factory Mutual approved identified by trademarked blue and red threads manufactured into the back of the panel and trademarked dual blue fluorescent embedded threads on the front of the panel (visible only under UV light).
- 2) Color selected by Owner/Architect from manufacturer's complete color line.
- 3) Surface Texture selected by Owner/Architect: Embossed.
- 4) Size: Standard sizes are 4 feet x 8 feet, 4 feet x 9 feet, 4 feet x 10 feet and 4 feet x 12 feet; or as indicated on drawings.

b. Moldings: Provide harmonizing PVC (polyvinyl chloride) moldings.

- 1) Color selected by Owner/Architect from manufacturer's complete color line.

c. Rivets: Rivets in harmonizing colors as required and recommended by manufacturer.

2. Kemply Panels

a. Surface: Fire-X Glasbord.

- 1) Class A embossed Factory Mutual approved identified by trademarked blue and red threads manufactured into the back of the panel and trademarked dual blue fluorescent embedded threads on the front of the panel (visible only under UV light).
- 2) Color selected by Owner/Architect from manufacturer's complete color line.

- 3) Surface Texture selected by Owner/Architect: Embossed.
 - 4) Size: Standard sizes are 4 feet x 8 feet, 4 feet x 9 feet, 4 feet x 10 feet and 4 feet x 12 feet; or as indicated on drawings.
- b. Substrate: 5/8" plywood.
- 1) *Surfaseal* Surface Protection: Provide Kemlite *Surfaseal* surface protection for fiberglass reinforced plastic (FRP) panels.
3. Division Bars, Corner Trim: Panel manufacturer's standard length extruded vinyl pieces; longest length possible to eliminate end joints.
4. Fasteners: Noncorrosive drive rivets.

2.2 PRODUCT SUBSTITUTIONS

- A. Substitutions: Permitted.

2.3 ACCESSORIES

- A. Adhesive: Provide panel adhesive as recommended by panel manufacturer.

2.4 RELATED MATERIALS

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2.5 SOURCE QUALITY

- A. Source Quality: Obtain fiberglass reinforced plastic (FRP) panels from a single manufacturer. Provide panels and molding only from manufacturer specified to ensure warranty and color harmonization of accessories.

3 PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.2 EXAMINATION

- A. 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.
1. 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.

2. Do not begin installation until backup surfaces are in satisfactory condition.

3.3 PREPARATION

- A. Surface Preparation: [Specify applicable product preparation requirements.].

3.4 INSTALLATION

- A. Fiberglass Reinforced Panel (FRP) Installation:

1. Cut and drill panels with carbide tipped saw blades or drill bits, or cut with snips.
2. Install panels with manufacturer's recommended gap for panel field and corner joints.
3. Predrill fastener holes in panels with 1/8 inch (3.2 mm) oversize.
4. For trowel type and application of adhesive, follow adhesive manufacturer's recommendations.
5. Use products acceptable to panel manufacturer and install FRP system in accordance with panel manufacturer's printed instructions. Comply with panel manufacturer's *Installation Guide*.

- B. Site Tolerances: 1/8" in 8 feet of any direction

- C. Related Products Installation: Refer to other sections listed in Related Sections paragraph herein for related materials installation.

3.5 CLEANING

- A. 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 Owner'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.

3.6 PROTECTION

- A. Protection: Protect installed product and finish surfaces from damage during construction.

...END OF SECTION 90 77 00