

# **SECTION 06610 – ARCHITECTURAL FIBERGLASS**

## **PART 1 – GENERAL**

### **1.01 SUMMARY**

- A. Section Includes:
  - 1. Fabrication of fiberglass – reinforced polyester Column Covers
- B. Related Documents and Sections:
  - 1. General Conditions, Supplementary Conditions and Division 1 General Requirements apply to the work of this section.
  - 2. Section 06100, “Rough Carpentry”, for blocking.
  - 3. Section 07901, “Joint Sealants”.

### **1.02 QUALITY ASSURANCE**

- A. The fiberglass manufacturer shall be one who is currently in the business of manufacturing and supplying architectural fiberglass components for the building construction industry and who can demonstrate the capability.
- B. The fiberglass manufacturer shall have been engaged in the fiberglass industry for at least 10 years doing work with projects comparable in size, scope, detail, and complexity to that shown and specified.
- C. Single Source Responsibility for Architectural Fiberglass: Obtain architectural fiberglass from a single source with resources to provide products complying with requirements indicated without delaying the work.
- D. Fire Test Response Characteristics: Provide architectural fiberglass and related materials with fire test response characteristics as specified elsewhere in this section as determined by testing identical products per test method ASTM E-84 or other testing and inspecting agency acceptable to authorities having jurisdiction. Provide written certification that supplied architectural fiberglass panels meets or exceeds the criteria.

### **1.03 SUBMITTALS**

- A. Qualification Data for firms and persons specified in the “Quality Assurance” Article to demonstrate their capabilities and experience.

Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

B. Product Data:

1. For products of standard manufacture, not custom fabricated for this work, submit manufacturer's catalog illustrations, specifications, anchor details and installation instructions.

C. Color Selection:

1. Architectural Mall FRP is manufactured in standard white, however Architects can submit custom color sample selection chips of actual material showing color, texture and sheen available for initial review.
  - a. FRP Finish to be White unless (see B)
  - b. Architect will supply custom paint color sample for matching.

D. Shop Drawings:

1. Submit shop drawings for fabrication and erection.

E. Samples:

1. If Architect requests a small column cover will be sent, 6" height x 12" diameter.

F. Submit detailed maintenance instructions for inclusion in final operation and maintenance manuals.

G. Submit warranty on completed fiberglass components in writing against defects of materials and workmanship and to meet the specified requirements of this Section for a period of one (1) year from delivery to site.

#### **1.04 HANDLING AND SHIPMENT**

A. Provide shipping crates of sufficient size and strength to protect components during shipping or ship fiberglass components in padded dedicated moving van.

1. Provide additional protection as may be necessary to prevent soiling of surfaces and marring of finish.

## **PART 2 – PRODUCTS**

### **2.01 ACCEPTABLE MANUFACTURES**

- A. Subject to compliance with requirements, fiberglass manufacturer offering products that may be incorporated in work include:

Architectural Mall, Inc  
323 St Paul Blvd  
Carol Stream, IL 60188  
T. 877-279-9993  
F. 844-817-0480  
[www.columnsandbalustrades.com](http://www.columnsandbalustrades.com)  
[sales@architecturalmall.com](mailto:sales@architecturalmall.com)

### **2.02 MATERIALS**

- A. General: The fiberglass reinforced polyester plastic components shall be designed, fabricated and erected to conform to the state of Building Code, Local Codes and to the Architect's design criteria.
- B. Glass cloth, matt and "Chop" shall be equal to the products of PPG-Owens Corning. Type "E" random chopper fibers.
- C. Polyester resins when requested shall be equal to Class A, AMI Spec 67. The resin shall be flame retardant, promoted thixotropic polyester resin designed for use in hand laid up and spraying processes. The resin shall be specifically formulated for use in applications that require an ASTM E 84, Class I flame spread rating, without the use of fillers or antimony trioxide, with an ASTM E 84 flame spread rating of 25 unfilled smoke density of 380 or under.
- D. Gel Coat: The gel coat shall be a high-performance product with ultraviolet inhibitors as recommended by the gel coat and fiberglass panel manufacturer.
- E. Fiberglass-reinforced polyester components shall be manufactured using the specified resins, reinforced with chopped glass fibers. All exposed surfaces shall be finished with custom colored gel-coat.
- F. Internal metal reinforcement, anchorage clips, brackets and all other "built-in" accessories shall be captured and additionally reinforced with additional glass fiber and matt of sufficient thickness as required by the panel manufacturers design.

- G. All metal hardware, both loose and embedded, shall be stainless steel.
- H. Gel coat thickness shall be 0.015" minimum to 0.025" maximum.
- I. Panel thickness shall be 3/16" minimum.
- J. FRP Properties, Min. Values:
  - 1. Gel Coat Thickness: 22 mils. Wet
  - 2. Bearing Strength: 9,000 psi per ASTM D638
  - 3. Shear Strength: 7,500 psi
  - 4. Flexural Strength: 20,000 psi per ASTM D790
  - 5. Flexural Modulus:  $0.9 \times 10^6$  psi per ASTM D790
  - 6. Tensile Strength: 12,000 psi per ASTM D638
  - 7. Compressive Strength: 17,000 psi per ASTM D695
  - 8. Relative Density (Specific Gravity): 1.5

## **PART 3 – EXECUTION**

### **3.01 INSTALLATION**

- A. Coordinate required blocking if needed with installers.
  - 1. Coordinate installation with any metal gutter lining work or flashing above and wood/metal substrates.
- B. Install sealant and accessories as work progresses, so as to make the work weather tight.
- C. Fill joints with a continuous bead of sealant. Tooling finished joints to a slightly concave profile ensuring complete filling and flush installation.
- D. Carefully monitor ambient temperatures at time of panel installation and observe all panels to panel clearances recommended by the fiberglass manufacturer.
- E. Do not cut or abrade finishes, which cannot be completely restored in the field. Installer to make small inconspicuous finish repairs using manufacturers color matching gel fill finish. If to large of a repair is needed return to fiberglass manufacturer for alterations or new units.
- F. Use only stainless steel connectors approved by the panel manufacturer and which will develop the strength required by

fiberglass panel manufacturer's calculations. The installer shall supply these connectors.

- G. Countersink all exposed fasteners. Patch all attachment holes with gel fill finish supplied by the fiberglass panel manufacturer for field application. Finish attachment points so that there is no detectable difference in the completed panel surface.
- H. Clean installed panel to remove all dirt, smudges, and construction dirt. Use only those cleaning products and procedures recommended by the fiberglass manufacturer.