

FRP Classic™ Cast Stone

Fiberglass Fabrications Architectural Specification

SECTION 06610 - ARCHITECTURAL FIBERGLASS / CAST STONE

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Fabrication of fiberglass - reinforced polyester fabrication profiles.
- 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.
- B. The fiberglass manufacturer shall have been engaged in the fiberglass industry for at least 5 years doing work with projects comparable in size, scope, detail, and complexity to that shown and specified.
- C. 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.

1.03 SUBMITTALS

- A. 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.

B. Color Selection:

1. Submit custom color sample selection chips of actual material showing color, texture and sheen available for initial review.
 - a. Architect will supply custom color sample for matching.

D. Shop Drawings:

1. Submit shop drawings for fabrication and erection. Include plans, elevations, sections, profiles, and details of cornice panels. Indicate dimensions of each profile and component. Include for comparison a dimensioned drawing showing plan, elevation section and details of existing component section used for model purposes if applicable. Indicate those features, which differ from fiberglass replication. Include details for panel connections, anchorage to substructure and all miscellaneous accessories. Show all special corner pieces, splices for panels and inside corner transitions and terminations for panels. Provide layout drawings including seam locations for each elevation.

E. Warranty:

1. 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. Coloration and color fastness of prefinished material is not warranted.

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

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with requirements, fiberglass supplier offering products that may be incorporated in work include:
 - 1. Melton Classics Inc.
P.O. Box 465020
Lawrenceville, GA 30042
Phone: 800-963-3060 Fax 770-962-6988
www.meltonclassics.com

2.02 MATERIALS

- A. General: The fiberglass reinforced polyester plastic cast stone 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. Exterior Surface: AOC Firepel K-130 Polyester Resin, Texture using suspended aggregates, fillers and pigment to match approved samples.
- C. Interior Substrate: AOC Firepel K-130 Polyester Resin. Polyester resin shall be flame retardant 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, with an ASTM E 84 flame spread rating of 25 unfilled smoke density of 430 or under.
- D. Fiberglass-reinforced polyester components shall be manufactured using the specified resins, reinforced with chopped glass fibers.
- E. Internal reinforcement, anchorage clips, brackets and all other "built-in" accessories (if applicable) shall be captured and additionally reinforced with additional glass fiber and matt of sufficient thickness as required by the panel manufacturers design.
- F. All metal hardware, if applicable, both loose and embedded, shall be stainless steel.
- G. Panel thickness shall be 3/16" minimum.
- H. FRP Cast Stone fabrications supports and anchors, including framing systems and connections to building structure are to be installed without exceeding allowable stresses established by the following:

1. Tensile Strength: 10,700 psi when tested in accordance with ASTM D 638-Standard Test Method for Tensile Properties of Plastics.
2. Flexural Strength: 15,400 psi when tested in accordance with ASTM D 790-Standard Test Methods for Flexural Properties of Reinforced Plastics and Electrical Insulating Materials.
3. Modulus of Elasticity: 0.9×10^6 psi when tested in accordance with ASTM D 790.
4. Compressive Strength: 17,000 psi when tested in accordance with ASTM D 695-Standard Test Method for Compressive Properties of Rigid Plastics.
5. Bearing Strength: 9,000 psi when tested in accordance with ASTM D 638.
6. Thermal Expansion Coefficient: 10×10^6 inch/inch/degree.

2.03 PANEL FABRICATION

- A. Prior to commencement of work review the job site to determine the layout, spacing and termination of the existing substructure. Duplicate these layouts intersections and relationships in so far as practical. Identify and resolve panel detail conflicts in advance and identify such condition and resolutions on the shop drawings.
- B. Full-size models and mockups shall be hand carved and machined as required to produce the required patterns.
- C. Production molds shall be constructed from successive layers of glass fiber with tooling resin or alternately from rubber molds. Molds shall be constructed with sufficient thickness and rigidity to prevent deflection, warpage and defects during panel production.
- D. Coordinate cutouts required for drain inlets, rainwater conductors and other penetrations. Reinforce panel as required and provide special formed closures to make joints and intersection weather tight.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Coordinate required blocking for attachment of FRP components to substructure. Provide additional, wood preservative treated or metal stud framing as may be required to attached and reinforce cornice panels for a solid installation.
 1. Coordinate installation with any metal gutter lining work or flashing above and wood/metal substrates.

- B. Erect cornice panels plumb, square and true to line and level. Follow fiberglass panel manufacturer's recommendations with regard to installation clearances, notches, and formation of panel-to-panel joints.
- C. Install sealant and accessories as work progresses, so as to make the work weather tight.
- D. Provide each panel with joints such that adjacent panels mate to produce flush joints. Recess blocking or notch continuously behind each panel joint. Set panels to ensure a maximum joint thickness of 3/8".
- E. Prepare each FRP component section for installation by carefully sanding joints and shrinkages where blocking occurs to assure a tight flush fit.
- F. Fill joints with a continuous bead of sealant, tooling finished joints to a slightly concave profile ensuring complete filling and flush installation.
- G. Carefully monitor ambient temperatures at time of panel installation and observe all panel-to-panel clearances recommended by the fiberglass manufacturer.
- H. Do not cut or abrade finishes, which cannot be completely restored in the field. Installer to make small inconspicuous finish repairs using manufacturer's color matching fill material. If too large of a repair is needed, return to fiberglass manufacturer for alterations or new units.
- I. 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.
- J. Countersink all exposed fasteners. Patch all attachment holes with fill material supplied by the fiberglass panel manufacturer for field application.
- K. Clean installed panel to remove all dirt, smudges, and construction dirt. Use only those cleaning products and procedures recommended by the fiberglass manufacturer.