

## **SECTION 03450**

### **Part 1 – GENERAL**

#### **1.01 SCOPE:**

**Furnish all labor, materials, equipment and services necessary or incidental to completion of molded glass fiber reinforced concrete composites (G.F.R.C.) and associated work in accordance with the contract documents and all applicable building codes.**

#### **1.02 WORK INCLUDED:**

- A. Manufacturer to provide all labor, materials equipment and related services required for the fabrication of G.F.R.C. shapes as shown in the contact documents. (G.F.R.C. as manufactured by Aristone Designs, Inc. is non-structural and is to be considered as a decorative only. Aristone Designs, Inc. is not responsible for structural load considerations.)**
- B. Installer to provide all labor, materials, equipment and related services required for complete erection of the G.F.R.C. and joint treatment required.**

#### **1.03 RELATED WORK SPECIFIED ELSEWHERE:**

- A. Precast concrete**
- B. Framing and suspension**
- C. Finishes**
- D. Joint treatments**

#### **1.04 MANUFACTURER**

**Aristone® Designs, Inc.  
1615 E. Weber Drive  
Tempe, AZ 85281  
Phone (800) 369-8118/ (480) 967-3035  
Fax (480) 967-1181  
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#### **1.05 SUBSTITUTIONS:**

**Manufacturers desiring consideration other than those specified must submit data, samples and certified testing reports showing compliance to all guidelines set forth in the G.F.R.C. Specification ten days prior to the bid date. Before being considered, manufacturers must: Have five years experience in manufacturing G.F.R.C., provide photographs, shop drawings, names and contacts for architects and installing contractors of at least three projects. Project must be of similar scope.**

## 1.06 SUBMITALS

- A. Samples: Submit three (3) 9" x 9" flat samples for paint and finish section.
- B. Submit shop drawings for approval showing plans, sections, details, joint treatment, reinforcing fastening devices and relation to adjacent construction as required.

Specifier's Option: If the G.F.R.C. scope and complexity warrant a mock-up, this section should be included. Manufacturer to provide one full size mock-up (specify piece) to the jobsite for installation and review.

## PART 2 – PRODUCTS

### 2.01 MATERIALS:

- A. Glass Fiber Reinforced Concrete (G.F.R.C) to be fabricated using long strand continuous glass fiber mats laminated with polymer modified Portland Cement.
- B. Embeds and reinforcement (if required by manufacturer) to be galvanized steel or wood.
- C. Miscellaneous materials:
  - 1. All other materials, i.e. screws, clips, adhesives, shims, hangerwire, etc., to be per manufacturer's shop drawings and/or job specifications and shall be supplied by installer of G.F.R.C. materials.

### 2.02 PHYSICAL PROPERTIES:

- |                                     |                      |
|-------------------------------------|----------------------|
| 1. Glass fiber                      | = 5-6% by weight     |
| 2. Shell thickness                  | = 3/8" nominal       |
| 3. Weight                           | = 4 lbs./ft. ±       |
| 4. Density                          | = 115.7 lbs./ft. 3   |
| 5. Finish                           | = smooth             |
| 6. Tensile strength (ASTM D790)     | = 1110 PSI           |
| 7. Flexural strength (ASTM D790)    | = 2590               |
| 8. Compressive strength (ASTM D695) | = 9520               |
| 9. Impact (D256)                    | = 12.51 ft. lbs./in. |

### 2.03 TOLERANCES:

- |                              |                    |
|------------------------------|--------------------|
| 1. Dimension- all directions | ± 3/16"            |
| 2. Thickness                 | 3/8"min – 3/4" max |
| ± 1/8"                       |                    |
| 3. Warp or bowing            | 1/16" per foot     |

## **PART 3 – EXECUTION**

### **3.01 DELIVERY, STORAGE AND HANDLING:**

#### **A. Delivery and Handling:**

- 1. All G.F.R.C. materials shipped to be placed in specially built crates or pallets, and shipped in a manner that will protect the pieces from damage, dirt, moisture and warpage.**
- 2. Support pieces during shipment on nonstaining shock absorbing materials.**
- 3. Lift and support pieces only at points indicated for attachment on drawings.**

**Specifier's Option: Any limitations regarding crate size, weight or jobsite unloading facilities should be noted in this section.**

#### **B. Storage**

- 1. Once uncrated, material to be stored in an upright position on a flat, smooth and level surface. Avoid stacking and leaning of pieces as much as possible.**
- 2. Cover and protect pieces from excessive dirt, moisture, surface damage or other jobsite hazards.**

### **3.02 INSPECTION:**

- A. Contractor shall be responsible for inspecting job conditions and providing lines, centers, grades and marks in sufficient detail for correct installation.**
- B. Installers will verify all marks and check jobsite conditions for clearance, working space and all marks provided before commencement of installation. Installer will also inspect all pieces prior to installation. Installer will be responsible for repairing all installed pieces except manufacturing defects. All discrepancies affecting the installation of the G.F.R.C. members will be brought to the attention of the General Contractor and resolved before the installation begins.**
- C. General Contractor to provide sufficient space for unloading and transport of pieces as required.**

### **3.03 ERECTION**

- A. Safety: installer is responsible for handling and installing the G.F.R.C. material in a safe manner. Report and unsafe conditions immediately to the General Contractor.**

- B. Installer will use experienced workmen to install the G.F.R.C. pieces. Materials will be installed level and plump and as shown in the approved shop drawings. All pieces will be securely anchored and joints finished as shown in the approved shop drawings.**
- C. The installer will protect the G.F.R.C. members from damage by other trades during construction and until accepted by the General Contractor.**
- D. After erection and acceptance of finished pieces, all damage and repair will be the responsibility of the General Contractor.**

**3.04 TAPING, PATCHIN AND CONTROL JOINTS:**

- A. Exterior tape and bed joints are to be attached with an exterior grade construction adhesive. Then taped and floated using fiberglass mesh tape and a bedding compound of Portland cement, bonding agent, water and fine washed silica sand (sand omitted in finish coats) and clean the joint to match piece surface and shape.**
- B. Countersunk fasteners and damage are to be patched using same bedding compound as used to float joints.**
- C. Control joints or exposed joints to be filled with appropriate backer rod and a sealant (Dow Corning 795 or Soneborn NP-1 or equal) capable of withstanding  $\pm 25\%$  joint movement.**

**3.05 FINISHING:**

**See Painting/Coating Section of Specifications. G.F.R.C. as made by Aristone Designs, Inc. is shipped as a Natural Portland/Gray color. Field finishing is required and should be treated as a masonry/concrete product.**

**PART 4 – WARRANTY**

**All pre-cast products produced by Aristone® Designs, Inc. are covered by a limited one-year warranty against defects in material and workmanship. All materials, molds and production methods are of first quality but due to the natural materials used in our products, Aristone reserves the right to review all warranty claims on an individual basis. Please inspect your order at the time of arrival to make sure the product is satisfactory and notify Aristone immediately if you have any concerns. As a manufacturer, Aristone® assumes no responsibility for the installation of our products**