Fiberglass Reinforced Plastic Fabrications (FRP)
- Section 06610 -

PART 1 — GENERAL

1.01 RELATED DOCUMENTS

A. Drawings, conditions of the contract and Division 1 Specifications sections, apply to work of this section.

1.02 SUMMARY

A. Section Includes: Fiberglass reinforced plastic fabrications for Architectural interior and exterior applications.

1.03 RELATED SECTIONS

A. Section 05120 — Structural Steel: Support framing for fiberglass fabrications.
B. Section 06100 — Rough Carpentry: Framing of Opening and Blocking.
C. Section 07900 --- Joint sealants and field applied sealants.

1.04 REFERENCE STANDARDS

A. ASTM D638: Test Method for Tensile Properties of Plastic.
B. ASTM D695: Test Method for Compressive Strength of Rigid Plastics.
C. ASTM D790: Test methods for Properties of Unreinforced Plastics and Electrical Insulating Materials.
D. ASTM E84: Test Method for Surface Burning Characteristics of Building Materials.

1.05 DESIGN REQUIREMENTS

A. Installed FRP fabrications and fastening systems shall be designed to meet all state & local codes.

1.06 SUBMITTALS

A. Shop Drawings: Dimensions, adjacent construction, materials, thickness, fabrications detail, required clearances, field jointing, tolerances, colors, finishes, methods of support, integration of components and anchorages.
B. Submit list of part numbers.
C. Product Data: Submit manufacturer's product data and installation and maintenance instructions.
D. Manufacturer's instructions: Submit manufacturer's instructions and recommendations for product delivery, storage and handling.
E. Product Samples: Submit minimum of two 6 inch x 6 inch samples in specified color, texture and finish.
F. Submit manufacturer's warranty.

1.07 QUALITY ASSURANCE

A. Inspect each molded piece to ensure that it complies with specified requirements, including nominal dimensions.

1.08 MANUFACTURER'S QUALIFICATIONS

A. Manufacturer: Provide products manufactured by a firm **specializing** in the manufacture of FRP fabrications, with a minimum of ten years experience.

1.09 DELIVERY, STORAGE AND HANDLING

A. Handle, store and transport FRP fabrications according to manufacturer's recommendations and in a manner that prevents damage.
B. Protect fabrications from damage by retaining shipping protection in place until installation
C. Damage Responsibility: Except for damage caused by others, the installer is responsible for chipping, cracking, or other damage to FRP fabrications, after delivery to the jobsite and until installation is completed and inspected and approved by the Architect or owner's representative.

1.10 WARRANTY

A. Warrant fabrications to be free from defect due to materials and workmanship for **one year** after substantial job completion.

PART 2 — PRODUCTS

2.01 MANUFACTURER

A. Acceptable Manufactures:

Custom Castings Northeast, Inc. Located at:
267 Pinetop Road (PO Box 409)
Bigler, PA 16825
(814) 857-1766

B. Substitutions: Not Permitted

2.02 FABRICATION PRODUCTS

A. Custom Fiberglass Architectural Ornamentation Fabrications.

2.03 MATERIALS CHARACTERISTICS

A. MOLDED EXTERIOR SURFACE: U-V inhibited, NPG-ISO polyester gel coat, 18 to 22 mils thick.

1. Gel Coat Color: Match Sample supplied by Architect.

B. BACK UP LAMINATE:

1. Resin: Isophthalic Polyester resin.
   a) Fire Retardant: ASTM E-84, Class 1 (flame spread rating of 25 or less)
2. Fiberglass Reinforcement
   a) "E" type fiberglass
   b) Random Chopped glass fibers.
   c) Glass content approximately 25% to 30%.
3. Laminate Thickness
   a) Nominal thickness 3/16"
   b) Additional thickness and reinforcement, and sandwich structure as indicated and as required for structural integrity.

2.04 AVERAGE MECHANICAL PROPERTIES:

PROPERTY	VALUE	TEST METHOD
Tensile strength	14,000 PSI	ASTM D638
Flexural strength	23,000 PSI	ASTM D790
Flexural modulus	0.9×10^{6} PSI	ASTM D790
Compressive strength	17,000 PSI	ASTM D695
Bearing strength	9,000 PSI	ASTM D638
Barcol Hardness	45-55	ASTM D2583
Thermal expansion	10×10^{-6} (°F)	
Specific gravity	1.5	

2.05 FINISH

A. Color as selected by Architect or Owner's representative.
A. Surface Texture/Exposed side shall be smooth.
B. Class "A" Finish.

2.06 TOLERANCES

A. Part Thickness: + or — 1/16 inch.
B. Gel Coat Thickness: + or — 2.5 mils.
C. Length: + or — 1/8 inch
D. Variation from Square: 1/8 inch.
E. Hardware Location Variation: + or — ¼ inch.

2.07 IDENTIFICATION

A. Identify each part with a permanent serial number.
B. Number parts to coordinate with shop drawings.

2.08 CURING AND CLEANING

A. Cure and clean components prior to shipment and remove material which may be:
   1. Toxic to plant or animal life.
   2. Incompatible with adjacent building material.

2.09 ANCHORS AND FASTENERS

A. Provide anchors and fasteners and other accessories for proper installation of dome fabrications as recommended and approved by fiberglass fabrication manufacturer.

PART 3 — EXECUTION

3.01 PRE-INSTALLATION EXAMINATION

A. Observe field conditions and verify that substrates are ready for installation of fiberglass dome fabrications.
B. Check field dimensions affecting the installation of fiberglass dome fabrications.
C. Verify that bearing surfaces are true and level.
D. Verify that support framing has been constructed to allow accurate placement, alignment and connection of dome fabrication to structure.
E. Report discrepancies between design dimensions and field dimensions, which could adversely affect installation, to the Architect and / or Owner's Representative.

F. Do not proceed with installation until discrepancies are corrected, or until installation requirements are modified and approved by the Architect and / or Owner's Representative.
G. Beginning of installation means acceptance of existing conditions.

3.02 INSTALLATION

A. Install fabrications in accordance with fiberglass manufacturer's instructions and approved shop drawings.

3.03 ALLOWABLE TOLERANCES FOR INSTALLED UNITS

A. Maximum offset from True Alignment: 1/4 inch in 10 feet.
B. Maximum Variation from True Position: 1/2 inch in 10 feet.

3.04 CLEANING

A. Clean installed FRP fabrications using cleaning methods and material approved by manufacturer.

3.05 PROTECTION OF INSTALLED FABRICATIONS

A. Comply with fiberglass manufacturer's recommendations and instructions for protecting installed fabrications during construction activities.

END OF SECTION 06610