

GLASS FIBER REINFORCED POLYESTER

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. All of the documents, including general and supplementary conditions, apply to the work of this section.

1.02 DESCRIPTION OF WORK

A. The work of this section includes, but is not limited to, the following;

1. Fiberglass-reinforced polyester fabrications for _____.
2. Imbedded and loose connection hardware.

1.03 RELATED WORK

A. Carefully examine all of the contract documents for requirements, which affect the work of this section.

B. Other specifications sections, which directly relate to the work of this section include, but are not limited to, the following;

1. Section _____ - Flashing and Sheet Metal
2. Section _____ - Joint Sealers and Fillers

1.04 INTENT

A. A major intent of the work of this section is to provide high quality fiberglass-reinforced polyester shapes for permanent exterior exposure.

1.05 QUALITY ASSURANCE

A. Fabricator/Erector: A United States firm which has at least **TEN YEARS** experience in work of the type required by this section and with production capacity to provide the work required for this project without delay. The fabricator must provide proof of a minimum 10 successfully completed projects of the same type within a 100-mile radius of this project. Installer to provide all field dimensions to fabricator.

B. Inspection: Permit the Architect or his authorized representative to conduct unlimited inspections at the manufacturer's plant and site. The Architect or his authorized representative reserves the right to inspect units at the plant before shipping.

C. Mock-ups: After samples are accepted for texture and finish, provide two full-scale mock-ups of typical panels and shapes. Approved mock-ups shall serve as the standard of quality required for the work. Approved mock-ups may be incorporated into the finished work.

D. Fire-Rating: Provide material which is fire-retardant to comply with DFC Class 1 Class A. A flame spread of 25 or less.

1.06 TESTS

A. Testing Agency: The owner may employ an independent testing agency acceptable to the Architect and authorities having jurisdiction to perform tests, inspection, and certificates. Cooperate and permit unlimited access to materials and production plant facilities.

1.07 SUBMITTALS

A. Certifications: Provide certifications stating that materials and fabricated assemblies comply with requirements.

B. Shop Drawings: Provide large-scale shop drawings for fabrication and erection of all parts of the work. Provide plans, elevations, and details of anchorage, connections, lifting devices, and accessory items. Provide installation templates and erection drawings for work installed by others and embedded in or attached to other construction. Provide information on erection sequence with plans coded to numbered units.

C. Verification Samples: Submit representative samples of fabricated work, showing the full range of texture and finish variations expected. Provide three samples having minimum area of 1 square foot each. Approved verification samples will be retained by Architect as the standard of quality required by the work of this section.

1.08 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle fabricated units in strict compliance with fabricator's instructions and recommendations and industry standards. Protect from all possible damage. Support and space units during transit and storage with nonstaining shock absorbing resilient spacers.

B. Sequence deliveries to avoid delays, but minimize on-site storage. Store units with identification marks easily accessible.

PART 2 - PRODUCTS

2.01 MATERIALS AND PRODUCTS

A. Manufacturer: Duro Fiber Company, Hudson, NH (603)881-4200.

B. Materials: Pre-engineered molded fiberglass-reinforced polyester fabrications of orthophthallic resin, 95 pounds per cubic foot density, 16,800 psi tensile strength. Surface coat, polyester gel coat 0.020" thick with UV stabilizers; pigmented to match color selected by Architect.

C. Connection and Erection Materials: Provide all connection and erection materials needed, including attachments to building structure. All ferrous metal components are to be hot dip galvanized. Touch-up damages or abraded surfaces with zinc rich paint as specified in section _____.

2.02 FABRICATION

A. GENERAL: Fabricate all fiberglass shapes from molds of new shapes closely conforming in dimensions and profiles to existing configurations or contract drawings.

B. MOLDS: Fabricate work to be truly straight, plumb, level and square. Provide work to sizes, shapes and profiles indicated on approved shop drawings. Build in reglets, slots, hanger assemblies and all other work as indicated on approved shop drawings.

C. Thickness of Surface Coat: Accurately provide thickness indicated on approved shop drawings. Make at least two thickness measurements per five square feet.

D. Inserts and Embedments: Properly and securely embed inserts as needed to develop full strength of connections. Maintain proper cover over embedded items.

E. Panel Identification: Mark each unit on a concealed surface with identification mark corresponding to erection drawings and with fabrication date.

2.03 FABRICATION TOLERANCES

A. Dimensional Tolerances: Fabricate units comply with the following dimensional tolerances:

1. Dimensional: $\pm 1/8"$.

2. Warp or Bow: $\pm 1/16"$ per foot, maximum 1/4" total.

2.04 FINISHES

A. Exposed Surfaces: Provide finishes and textures matching approved samples.

1. Directional grain, visible fibers, pinholes in gel coat and other visible defects are not acceptable.

PART 3 - EXECUTION

3.01 EXECUTION

A. The erector shall examine substrates, supports, and conditions under which this work is to be performed and notify Contractor, in writing, of conditions detrimental to the proper completion of the work. Do not proceed with work until unsatisfactory conditions are corrected. Beginning work means installer accepts substrates and conditions.

3.02 PREPARATION

- A. Strictly comply with manufacturer's instructions and recommendations, except where more restrictive requirements are specified in this section.
- B. The contractor must designate an individual with commensurate experience to oversee all FRP activities through the duration of the project.

3.03 INSTALLATION/ERECTION

A. Erection: Lift and handle units at designated lifting points identified for fabricator. Set units level, plumb, and square within specified tolerances. Install and erect units in strict compliance with manufacturer's recommendations. Maintain uniform joint widths and alignment. Install clips, anchors, and all needed accessories. Installer to provide all templates and field dimensions to fabricator.

B. Temporary Supports and Bracing: Provide temporary supports and bracing as required to maintain position, stability, and alignment until permanent connections are made.

3.04 ERECTION TOLERANCES

A. Installation/Erection Tolerances: The following allowable installed tolerances are allowable variations from locations and dimensions indicated by the Contract Documents and shall not be added to allowable tolerances indicated for other work.

1. Face Width of Joint for Units: +3/16".
2. Warpage of One Corner Out of Plane with Other Three: 1/16" per foot or 1/8" total.
3. Bowing: Not over L/360, where L is Panel length.
4. Adjacent Units: Flush, +1/8".

3.05 PATCHING

A. Patching Requirements: Patching will be permitted only if structural adequacy of unit and appearance of unit is not impaired. Obtain Architect's approval of all appearance patching. Remove and replace work that cannot be successfully patched.

3.06 CLEANING AND PROTECTION

A. Clean exposed surfaces materials and methods recommended by fabricator. Do not use chemical cleaning solutions. Remove and replace work that cannot be successfully cleaned. Prevent damage or deterioration of surfaces.

END OF SECTION