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ARCHITECTURAL FIBERGLASS REINFORCED POLYESTER SPECIFICATIONS

PART I GENERAL

1.1 VERIFICATIONS OF CONDITIONS

- a. Prior to proceeding with any work, carefully check and verify all pertinent dimensions on the project drawings and the Contractor shall verify on site dimension and assume full responsibility for fitting the components to the structure.
- b. The components indicated on the drawings show dimensions established to accomplish the Architect's intended visual result and to conform to the building's configuration. The Contractor shall verify that the components that will be actually provided for the work of this Section will fit the building's structural elements and conform to the visual design criteria indicated on the drawings without materially altering profiles and alignments.
- c. Any additional support or backing for the components shall be provided and installed by the Installation Contractor as part of the work of this section.

1.2 PERFORMANCE CRITERIA

- a. Structural Properties
 - (1) The fiberglass reinforced polyester plastics components shall be engineered, fabricated and erected to conform to the specifications and applicable requirements as specified by local codes to fit the building structure and to conform to the Architect's design criteria.

1.3 PATTERNS, MOCK-UPS AND MOLDS

- a. Upon approval by the Architect of the shop drawings, inspection of the patterns, mock-ups, and/or molds shall be approved by the Architect on-site or at the facilities of the fiberglass manufacturer.
- b. Patterns and mock-ups shall be hand carved and machined by skilled craftsmen who have a minimum of ten (10) years experience in fabrication of Architectural Exterior and Interior Trim and Facade components and/or related design projects.

- c. Molds shall be constructed of from 10-12 layers of glass fibers with tooling gel-coat and/or rubber molds shall be fabricated by skilled craftsmen with a minimum of ten to twelve (10-12) years experience in fabricating of architectural components for similar projects.

1.4 GUARANTEE

- a. In addition to the guarantee referenced in the Agreement between the Owner and the Contractor (the Contract), the work of this Section shall be guaranteed 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. Additionally, all manufacturers guarantee for materials will be passed on to customer.

1.5 CONTRACTOR QUALIFICATIONS

The Fiberglass Contractor 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 this capability. This Contractor shall have been manufacturing fiberglass architectural components in the United States for at least 10 years doing work with projects comparable to that specified and shown. Contractor should submit list of projects and customers, if requested.

PART 2 - PRODUCTS

2.1 FIBERGLASS AND RESIN MATERIALS

- a. Glass cloth, matt and "chop" shall be equal to the products of PPG-Owens Corning.
- b. Polyester resins shall be Class A, EDON spec. 67. The resin will be a flame retardant, promoted thixotropic polyester resin designed for use in hand lay-up and sprayup processes. This resin is specifically formulated for use in applications that require an ASTM E-84, Class 1 flame spread rating, without the use of fillers or antimony trioxide, with an ASTM E-84 flame spread rating of less than 25 unfilled and smoke density under 450.
- c. Gel-Coat shall be part of system specified at 2.1 (b) above.

2.2 FABRICATION

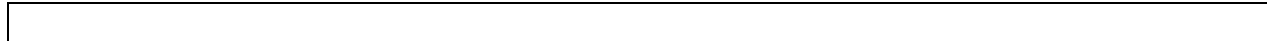
- a. Fiberglass reinforced polyester components shall be manufactured using the specified resins, reinforced with the chopped glass fibers. All exposed surfaces shall be finished with colored gel-coat with UV inhibitor.
- b. Internal metal reinforcement anchorage clips, brackets, fasteners and stainless steel hardware to be supplied by contractor or installer.
- c. Final ratio of materials, other than metal, shall be 25% fiber, 75% resin for body of components.
- d. Gel-coated thickness shall be .015" to .025".

- e. Finished panels shall be true to line in the shapes indicated on the drawings, free of warps, twists, waves or distortion.
- f. Joints in components shall be matched at the factory and numbered for field installation. Components shall be fabricated to minimize exposed fasteners.
- g. Components shall have a finish approved by architect.

PART 3 - EXECUTION

3.1 HANDLING AND SHIPMENT

- a. Protect the components during shipment by means of crates and/or padding so that they arrive at the project undamaged.
- b. Erect the components, plumb and square, true to lines, levels and/or elevations shown on the drawings.
- c. Position supports and anchorage devices and set fiberglass components in place prior to securing fasteners.



FIBERGLASS REINFORCED POLYESTER (F. R. P.)

FLAME RETARDANT RESINS, Class 1. Offers a wide variety of flame retardant properties. Engineered specifically for building products and a myriad of other interior and outdoor applications. Meets the most exacting requirements of local fire codes, BOCA, DOT and other, government specifications.

TYPICAL PHYSICAL PROPERTIES

Properties	1/8" Unfilled		1/8" Glass
	Casting	Laminate	Laminate
Flexural Strength, psi 77°F	16,000	30,000	30,000
Flexural Modulus, psi x 10 ⁶ , 77°F	0.48	1.3	1.3
Tensile Strength, psi 77°F	8,700	18,000	18,000
Elongation, %	2.2	-	-
Barcol Hardness	45	50-55	50-55
Glass Content, %	-	-	29.8

FLAMMABILITY PROPERTIES*

(1/8- Glass Mat Laminate)

ASTME-84 (tunnel test) flame spread	less than 25 (unfilled)
smoke density.....	less than 380 (unfilled)
H L T- 1 5 Rating	100
ASTM D-635-74	AEB<1.0 CM
.....	ATB<5 sec.
ASTM D-2863-74 (Oxygen Index).....	36.5