

Fiberglass Columns

Fiberglass Columns Architectural Specification

1.0 General

1.1 Description:

Columns shall be Architectural Mall, Inc **FRP / FGP** fiberglass columns or column covers

1.2 Submittals

- A. Submit Architectural Mall, Inc literature and shop drawings
- B. Submit sample of column shaft.
- C. Field samples shall be capable of being incorporated into the actual construction.

1.3 Warranty

A. The columns shall be guaranteed in writing against defects of materials or workmanship for a period of limited lifetime from date of Substantial Completion of the project.

1.4 Verification of Design

A. 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 all components that will actually be 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.

B. Any additional support or backing components shall be provided by the installing contractor as part of the work of this section.

2.0 Products

2.1 Acceptable Manufacturer

Architectural Mall, Inc
278 Commonwealth Dr
Carol Stream, IL 60188
T. 877-279-9993 F. 877-271-9994
www.columnsandbalustrades.com

2.2 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. The resin will be flame retardant promoted thixotropic polyester resin designed for use in hand lay-up and spray-up processes. This resin is specifically formulated for use in applications that require an ASTM-84, Class 1 flame spread rating, without the use of fillers or antimony trioxide, with an ASTM-84 flame spread rating of 10 unfilled.

C. Final ratio of materials shall be 30% fiber 70% resin for the body of components.

D. Shaft thickness shall be 1/4" to 1" depending on size.

E. Allowable Tolerances

1. Wind Load Resistance:

- a. FRP Components when installed shall resist all wind loading.
- b. Minimum wind loading requirements as per Standard Building Code.

2. Dimensional Tolerances of Finished Units
 - a. (1) Dimensions 10' or under: +/- 1/4".
 - (2) Dimensions 10' to 20': +/- 3/8".
 - b. Out of Square: 1/8" per 6.'

3.0 Material Properties

3.1 Physical Properties (1/8" Glass Mat Laminate)

Typical Properties	Typical Range
A. Flexural Strength, psi 77 degrees F	15,000 - 20,000
B. Flexural Modulus, psi 77 degrees F	550,000 - 700,000
C. Tensile Strength, psi 77 degrees F	10,000 - 18,000
D. Tensile Modulus, psi 77 degrees F	700,000 - 850,000
E. Barcol Hardness	45 - 55
F. Glass Content 0/0	24% - 29.5%
G. Compression Strength, psi	15,000 - 20,000
H. Water Absorption	.04% - .05%
I. Thermal Expansion (in./in./ft.)	.000011 - .000012

3.2 Flammability Properties (1/8" Glass Mat Laminate)

- A. ASTM E-84 Tunnel Test = 10 (unfilled)
- B. HLT-15 Rating = 100
- C. ASTM D-635-74 = AEB<1.0 CM, ATB<5 sec.
- D. ASTM D-2863-74 Oxygen Index = 36.5

4.0 Execution

4.1 Installation

- A. Follow manufacturers detailed installation guidelines. They are available online or by calling 877-279-9993.