



Casting Designs, Inc.

1. Product Name

Glass Fiber Reinforced Concrete (GFRC)

Products:

- Domes
- Column Covers
- Cornices
- Balustrade
- Pilasters
- Signage
- Custom Designs

2. Manufacturer

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3. Product Description

BASIC USE

Casting Designs, Inc., produces a variety of Glass Fiber Reinforced Concrete (GFRC) products for new construction, renovation and historical restoration projects. Casting Designs' cornices, column covers and other GFRC products are offered in standard and custom designs to replicate the appearance of granite, limestone, concrete and other materials difficult to use. With the durability of concrete at a fraction of the weight, they are suited for installations where strong, lightweight, fire retardant and weather resistant material is required: shopping malls, churches, universities, office buildings, casinos and upscale residences.

COMPOSITION & MATERIALS

Casting Designs' GFRC products consist of Type 1 gray Portland cement with washed and dried fine silica sand suitable for masonry mortar (no larger than U.S. No. 20 sieve) and glass fiber reinforcing.

SIZES

Column covers are available in the following sizes:

- Diameters: 6" (15 cm), 8" (20 cm), 10" (25 cm), 12" (30 cm), 14" (36 cm), 16" (41 cm), 18" (46 cm), 20" (51 cm), 22" (56 cm), 24" (61 cm),

26" (66 cm), 28" (71 cm), 30" (76 cm), 32" (81 cm), 34" (86 cm), 36" (91 cm), 38" (97 cm), 40" (102 cm), 42" (107 cm), 44" (112 cm), 46" (117 cm), 48" (122 cm)

- Height - Available up to 15' (4.6 m); columns are stepped off at the exact height specified. Columns over 15' (4.6 m) are made in stacking sections for field assembly
- Custom sizes are available
- Column covers are recessed for tape and bed joints; they can be made without the recess for vertical caulk joints

Molding and cornice designs are typically designed in 4' (122 cm) sections.

Custom cornices, molding and column cover designs are available in custom shapes and sizes; contact Casting Designs for information.

COLORS

Products are shipped from Casting Designs as a natural Portland cement gray color with a smooth finish; field finishing is required. Custom colors are available upon request.

BENEFITS

- Light weight to reduce transportation cost, simplify installation and impose less load on the structure
- Weather and moisture resistant
- Highly fire resistant
- Can be cast to a variety of shapes and sizes for increased design flexibility
- Strong, with high tensile strength
- High standards and exceptional quality save labor dollars in the field

LIMITATIONS

- GFRC is vapor-permeable and moisture resistant, but is not intended as a water barrier. Water can potentially enter the system through openings, penetrations and joints. A separate waterproof membrane or moisture barrier must be used if the area behind the GFRC should be kept dry
- GFRC, as manufactured by Casting Designs, is nonstructural and should be considered to be for decorative purposes

4. Technical Data

APPLICABLE STANDARDS

ASTM International (ASTM)

- ASTM D256 Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
- ASTM C472 Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete



First Pentecostal Church
 Little Rock, AR

- ASTM C947 Standard Test Method for Flexural Properties of Thin-Section Glass-Fiber-Reinforced Concrete (Using Simple Beam With Third-Point Loading)

PHYSICAL/TECHNICAL PROPERTIES

See Table 1.

5. Installation

PREPARATORY WORK

GFRC material will be shipped in specially built crates and in a manner to protect pieces from damage and warpage. During shipment, support pieces on shock absorbing material. Lift and support pieces only at points indicated for attachment on drawings.

Store materials in crates on a flat, smooth and level surface. Avoid stacking and leaning pieces as much as possible. Cover and protect pieces from exposure to harmful environmental conditions, such as excessive dirt, moisture, surface damage or other jobsite hazards.

METHODS

GFRC pieces must be installed by experienced workmen. Pieces must be level and plumb and per approved shop drawings. All pieces must be securely anchored, and joints must be finished as shown on approved shop drawings.

TABLE 1 - PHYSICAL/TECHNICAL PROPERTIES

Description	Typical Values
Glass fiber	5 - 6% by weight
Shell thickness	3/8" (9.5 mm)
Weight	± 4 lb/ft ² (20 kg/m ²)
ASTM C947	
Tensile strength	1110 psi (7.7 MPa)
Flexural strength	2590 psi (17.9 MPa)
ASTM C472	
Compressive strength	9520 psi (65.6 MPa)
ASTM D256	
Impact	12.51 ft-lb/in (65.6 kJ/m ²)
Tolerances	
Dimension	All directions ± 3/16" (4.76 mm)
Thickness	3/8" (9.5 mm) ± 1/8" (3.2 mm)
Warping or bowing	1/16" (1.6 mm)

8. Maintenance

No special maintenance is required for properly installed products.

9. Technical Services

For technical assistance, including more detailed product information, literature, test results and assistance with project specifications, visit the www.CastingDesignsInc.com website.

10. Filing Systems

- Reed First Source®
- MANU-SPEC®
- Additional product information is available from the manufacturer upon request.

Taping, Patching, Control Joints

Exterior tape and bed joints should be attached with an exterior grade construction adhesive. Tape and float with fiberglass mesh tape and a bedding compound of Portland cement, bonding agent, water and fine washed silica sand; for finish coats, however, omit the sand. Sand the joint to match the piece surface and shape.

With the same bedding compound used for the float joints, patch all countersunk fasteners and damage.

Control joints or exposed joints should be filled with an appropriate backer rod and sealant, such as Dow Corning 795, Sonneborn NP-1 or an equivalent capable of withstanding ± 25% joint movement.

BUILDING CODES

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

6. Availability & Cost

Casting Designs' GFRC products are available throughout the United States. To find local representatives, contact Casting Designs or visit the www.CastingDesignsInc.com website.

7. Warranty

Casting Designs, Inc., warrants all materials against defect for 1 year after receipt of the materials.