



Casting Designs, Inc.

Glass Fiber Reinforced Gypsum & Cement

G.R.G GUIDE SPECIFICATIONS

SECTION 09290 – GLASS FIBER REINFORCED GYPSUM FABRICATIONS
(HEREINAFTER REFERRED TO AS G.R.G)

PART 1 – GENERAL

1.01 SCOPE:

Furnish all labor, materials, equipment and services necessary or incidental to the completion of molded glass fiber reinforced gypsum composites (G.R.G.) and associated work in accordance with the contract documents and all applicable building.

1.02 WORK INCLUDED:

- A. Manufacturer to provide all labor, materials equipment and related services required for the fabrication of G.R.G. shapes as shown in the contract document.
- B. Installer to provide all labor, materials, equipment and related services needed for the complete erection of G.R.G. and joint treatment, if required.

1.03 RELATED WORK SPECIFIED ELSEWHERE:

- A. Gypsum Drywall
- B. Framing and Suspension
- C. Finishes

1.04 MANUFACTURER:

Casting Designs, Inc.
9320 Crowley Road
Fort Worth, TX 76134-5903
Phone: (800) 329-7373 Fax (817) 293-8644

1.05 SUBSTITUTIONS:

Manufacturers desiring consideration other than those specified must submit product data, samples and certified testing reports showing compliance to all guidelines set forth in the G.R.G. Specification ten days prior to the bid date. Before being considered, manufacturers must: Have five years experience in manufacturing G.R.G., provide photographs, copies of certified tests, shop drawings, names and contacts for architects and installing contractors of at least three projects. Projects must be of similar scope.

1.06 SUBMITTALS:

- A. Samples: Submit three (3) 6" x 6" flat samples for paint and finish selection.
- B. Submit shop drawings for approval showing plans sections, details, joint treatment, reinforcing fastening devices, and relation to adjacent construction as required.

Specifier's Option: If the G.R.G. scope and complexity warrant a mock-up, this section should be included. Manufacturer to provide one full size mock-up of (specify piece) to the jobsite for installation and review.

PART 2 – PRODUCTS

2.01 MATERIALS:

- A. Glass Fiber Reinforced Gypsum (G.R.G.) to be fabricated using long strand continuous glass fiber mats laminated with high strength gypsum cement.
- B. Embeds and reinforcement (if required by manufacturer) to be galvanized steel or wood.
- C. G.R.G. members to be stored in controlled conditions for a sufficient period of time to ensure product stability before being shipped.
- D. All G.R.G. members to have identification marks, as indicated on shop drawings, clearly displayed on backside of part.
- E. Miscellaneous Materials:
 - 1. All other materials, i.e. screws, clips, adhesives, shims, hanger wire, etc., to be per manufacturer's shop drawings and/or job specifications and shall be supplied by installer of G.R.G. materials.

2.02 PHYSICAL PROPERTIES:

- | | | |
|-----|-----------------------|-------------------------------|
| 1. | Glass Fiber | = 5-6% by weight |
| 2. | Shell Thickness | = 3/8 inch to 1/2 inch |
| 3. | Weight | = 2lbs./ft. +/- |
| 4. | Density | = 115.7 lbs./ft. |
| 5. | Finish | = Smooth |
| 6. | Tensile Strength | = 1611 psi. (ASTM D638) |
| 7. | Flexural Strength | = 4427 psi. (ASTM D947) |
| 8. | Compressive Strength | = 7030 psi. (ASTM C472) |
| 9. | Impact Strength | = 11 ft. lbs./in. (ASTM D256) |
| 10. | Humidified Deflection | = 1/16" |

2.03 TOLERANCES:

- | | | |
|----|----------------------------|----------------|
| A. | Dimension – All Directions | +/- 3/16" |
| B. | Thickness | 3/8" +/- 1/2" |
| C. | Warping or bowing | 1/16" per foot |

PART 3 – EXECUTION

3.01 DELIVERY, STORAGE AND HANDLING

A. Delivery and Handling

1. All G.R.G. pieces to be placed in specially built crates, and shipped in a manner that will protect pieces from damage, dirt, moisture and warpage.
2. Support pieces during shipment on nonstaining shock absorbing materials.
3. Lift and support only at points indicated for attachment on drawings.

Specifier's Option: Any limitations regarding crate size, weight or jobsite unloading facilities should be noted in this section.

B. Storage

1. Material to be stored inside and under climate controlled conditions and in crates provided.
2. Once uncrated, material to be stored in an upright position on a flat, smooth and level surface. Avoid stacking and leaning of pieces as much as possible.
3. Cover and protect pieces from excessive dirt, moisture, surface damage or other jobsite hazards.
4. Maintain a consistent temperature and humidity level throughout storage, installation and finishing.

3.02 INSPECTION:

- A. Contractor shall be responsible for inspecting job conditions and providing lines, centers, grades and marks in sufficient detail for correct installation.
- B. Installer will verify all marks and check jobsite conditions for clearance, working space and all marks provided before commencement of installation. Installer will also inspect all pieces prior to installation. Installer will be responsible for repairing all installed pieces except manufacturing defects. All discrepancies affecting the installation of the G.R.G. members will be brought to the attention of the General Contractor and resolved before installation begins.
- C. General Contractor to provide sufficient space for unloading and transport of pieces as required.

3.03 ERECTION:

- A. Safety: Installer is responsible for handling and installing the G.R.G. material in a safe manner. Report any unsafe conditions immediately to the General Contractor.
- B. Installer will use experienced workmen to install the G.R.G. pieces. Material will be installed level and plumb and as shown in the approved shop drawings. All pieces will be securely anchored and joints finished as shown in the approved shop drawings.
- C. The installer will protect the G.R.G. members from damage by other trades during construction and until accepted by the General Contractor.

- D. After erection and acceptance of finished pieces, all damage and repair will be the responsibility of the General Contractor.

3.04 TAPING, PATCHING AND CONTROL JOINTS:

- A. Tape, float and sand all joints and provide control joints (where required) as specified under gypsum drywall section of the specifications and as described in the U.S. Gypsum Construction Handbook – Second Edition.
- B. Countersunk fasteners and damage are to be patched to match units' texture.

3.05 FINISHING:

- A. See Painting/Texturing Section of Specifications.
- B. The painting contractor shall comply with ASTM C-840 specifications specifically with regard to sealing.
- C. G.R.G. is a "gypsum board" material and it's intended use is an interior product only. Unfinished G.R.G. may exhibit slight imperfections. These imperfections will be eliminated once parts are finished using typical drywall finishing methods. Due to the porosity differential between joint compounds and G.R.G. materials, the painting contractor must seal all surfaces properly prior to finishing.

PART 4 – WARRANTY

- A. Manufacturer will warrant all materials against defect for one (1) year after acceptance of the materials.
- B. Installer will warrant installed materials for one (1) year after acceptance.
- C. The Manufacturer will, at his discretion, repair or replace defective pieces subject to approval of architect.