

110 Kennedy Drive  
Hauppauge, NY  
11788  
tel: 631.752.7837  
www.hyde-park.com

**SPECIFICATION  
092713; Glass Fiber  
Reinforced Gypsum  
Fabrications**

**SECTION 092713**

**GLASS FIBER-REINFORCED GYPSUM FABRICATIONS (aka GFRG,  
GRG)**

**1 GENERAL**

**1.1 SECTION INCLUDES**

- .1 Furnish all materials, labor, equipment and services necessary for the supply and installation of Glass Fiber Reinforced Gypsum (GFRG) components as indicated in the contract documents and in compliance with applicable local or international building codes.
- .2 Work shall include supply of GFRG components, installation, and joint treatment.

**1.2 RELATED SECTIONS [Note to specifier – adjust section reference #s as necessary]**

- .1 Section 06100 Rough Carpentry
- .2 Section 09220 : Supports for Plaster and Gypsum Board
- .3 Section 09250 : Gypsum Board
- .4 Section 09100 : Metal Support Systems
- .5 Section 09900 : Painting

**1.3 REFERENCES**

**1.3.1 ASTM International**

- .1 C1381/C1381M Standard Specification for Molded Glass Fiber Reinforced Gypsum Parts
- .2 C1467 Standard Specification for the Installation of Molded Glass Fiber Reinforced Gypsum Parts
- .3 C1355/C1355M Standard Specification of Glass Fiber Reinforced Gypsum Composites
- .4 C754 Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products
- .5 C1007 Specification for Installation of Load Bearing Steel Studs and Related Accessories
- .6 C840 Specification for Application and Finishing of Gypsum Board

**1.3.2 The Gypsum Association**

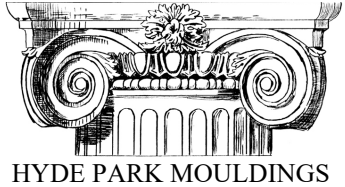
- .1 GA214-10; 'Recommended Levels of Gypsum Board Finish'

**1.3.3 The United States Gypsum Company**

- .1 'The Gypsum Construction Handbook' by USG

**1.4 RESPONSIBILITY**

- .1 Typically, the Carpentry / Gypsum Board Contractor will install and tape the work under this section and will be responsible for coordinating the installation with related and adjacent trades.



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### **1.5 SUBMITTALS**

- .1 Samples: for each exposed product in each profile and size required – linear mouldings: 24” long section with finished joint showing complete pattern as applicable, non-linear shapes: 12” square sample. [NOTE TO SPECIFIER: Advise Manufacturer of any project-specific sample requirements in the project bidding phase].
- .2 Submit shop drawings for approval showing profiles, thicknesses, embedded supports, framing and sub-framing and anchorage details for fabrications, and indicating requirements for joint treatment, clearances and attachment to supports.
- .3 Submit product data sheets for each product specified.

### **1.6 MOCK-UP**

- .1 Mock-ups may be required to convey a full understanding of the assembly in the as-built environment. Advise Manufacturer and Installer of any mock-up requirements in the project bidding phase.

### **1.7 QUALITY ASSURANCE**

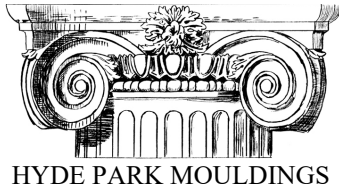
- .1 The Alpha gypsum cement used to make the GFRG parts is to be mined and processed in the USA with a purity of not less than 90% in accordance to ASTM C1355. Provide a Manufacturer’s Certification of Raw Materials.
- .2 GFRG parts and Installation to comply with ASTM Standards governing Molded Glass Fiber Reinforced Gypsum Parts, namely: C1355; C1381; and, C1467 including physical properties and tolerances. (See section 1.3.1 above for references).
- .3 Substrates to accept GFRG parts shall be installed plumb and square within 1/8” in 8 linear feet per ASTM C1467, and shall be free of obstructions and interference that prohibits the correct alignment and attachment of the GFRG parts.

## **2 PRODUCTS**

### **2.1 MANUFACTURERS**

- .1 Hyde Park Mouldings, Inc.  
110 Kennedy Drive  
Hauppauge, NY 11788  
U.S.A.

Tel: 631-752-7837 or 888-PLASTER  
Web: www.hyde-park.com



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HYDE PARK MOULDINGS

**2.2 MATERIALS**

- .1 GFRG parts shall be prefabricated with high-density gypsum, reinforced with chopped strand fiber.
- .2 GFRG components may be reinforced with embedded steel or wood members as required for their specific application.
- .3 Fabrication will be as per approved shop drawings and will not include assembly. If multiple components are required to complete design criteria as per contract drawings, additional site work under related section, installation or finishing may be required.
- .4 GFRG components shall be ready to receive primer and paint as specified under Section [Note to specifier – insert applicable reference section # for paint finishing].
- .5 GFRG subject to critical lighting conditions and/or scheduled to receive glossy or metallic type decorative finishes (i.e. semi to high gloss paints, metal leafing, etc.) shall be prepared to a Level 5 finish as defined by GA214-10; 'Recommended Levels of Gypsum Board Finish' by The Gypsum Association.

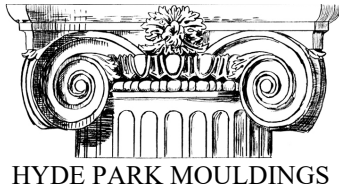
**2.3 TOLERANCES (FABRICATION)**

Dimensional- all directions	~ 1/8"
Thickness - skin	~ 1/16"
Thickness - total until	1/8" - 3/16"
Warpage or Bowing	~ 1/16"/foot

Site conditions and normal manufacturing irregularities may necessitate additional site work to maintain tolerances indicated above.

**2.4 PHYSICAL PROPERTIES**

Flexural Strength (ASTM C-947-89 MOD.)	4,820 p.s.i.
Impact Strength (ASTM D-256 notched)	3.26 ft.lb/ in. of notch
Impact Strength (ASTM D-256 unnotched)	8.0 ft.lb/ in <sup>2</sup> .
Hardness – Barcol (ASTM D-2583-93)	54
Shell Thickness	3/16"
Weight (depending on reinforcing)	2 - 3 lbs/sq.ft
Density	103 - 112 lbs/cu.ft
Compressive Strength (ASTM C-472-90 MOD.)	13,800 p.s.i.
Modulus of Elasticity - In flexure (ASTM C-947-89 MOD.)	3.38 x 10 <sup>6</sup> p.s.i.
Tensile Strength (ASTM D-638-94 b MOD.)	1,810 p.s.i.
Fiber Content	5 - 6% by weight
Humidified Deflection (ASTM C-473-95)	1/32" deflection/in.
Coefficient of Expansion (ASTM D-696-91)	0.98 x 10 <sup>-5</sup> in./in./ °F
Fuel Contribution (ASTM E-136-98a)	0
Flame Spread (ASTM E-84-94)	0, Class A
Smoke Index (ASTM E-84-94)	0, Class A
Fastener Withdrawal - drywall screw embedded in wood	330 lbs
- drywall screw embedded in steel	765 lbs
- steel cable embedded in steel insert	1,050 lbs



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### **3.0 EXECUTION**

#### **3.1 PRE-INSTALLATION RESPONSIBILITY**

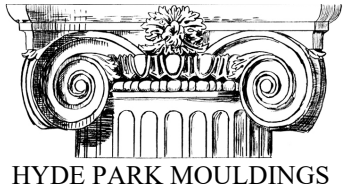
- .1 Field Measurements: Prior to manufacturing, the Installer will be responsible for obtaining and conveying to the Manufacturer all as-built dimensions for inclusion on the shop drawings.
- .2 Coordination: The Installer will be responsible for the coordination of the installation with related sections, within the tolerances specified in the respective articles.
- .3 Discrepancies: Prior to installation, the Installer shall check as-built job site dimensions and conditions. Any discrepancies between design and field dimensions shall be brought to the attention of the General Contractor and the Architect.

#### **3.2 DELIVERY, STORAGE, HANDLING AND PROTECTION**

- .1 GFRG items must be transported and handled carefully and in a manner that will minimize the possibility of damage. Depending on site staging requirements and the dimensional properties of the manufactured items, purpose-built crates may be recommended for secure transportation.
- .2 Delivered items displaying obvious damage must be rejected at site at time of delivery.
- .3 The solid cast items supplied to the end-user may be heavy and awkward to maneuver. Ensure sufficient manpower is allocated to the lifting, moving and maneuvering of the items in order to avoid injury, and always observe OSHA-recommended lifting and handling procedures.
- .3 Remove items from their crates/pallets upon arrival at the installation site, and store flat in a dry, well ventilated, low-traffic area. Protect items from precipitation and jobsite traffic.

#### **3.3 INSTALLATION**

- .1 Comply with ASTM C1467 Standard for the Installation of Molded Glass Fiber Reinforced Gypsum Parts.
- .2 GFRG elements shall be installed plumb and square. Concealed shimming may be used as necessary.
- .3 Pre-drill countersink pilots and mechanically fasten GFRG parts with coated (i.e. exterior grade) self-drilling, self-tapping bugle head screws through face or back as indicated on shop drawings.
- .4 Where components are suspended, use as a minimum 12-gauge galvanized steel wire and the suspension points indicated on the shop drawings.
- .5 Use framing, hangers, etc., as specified for Gypsum Board.
- .6 Butt joints are to be adhered together using "Liquid Nail" or equivalent adhesive.



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**3.4 JOINT FINISHING, PATCHING AND CONTROL JOINTS**

- .1 Tape, fill and sand all joints and introduce control joints as necessary (+/- 35' - 0" O.C) as required under Section 09250 of the Specifications and as outlined in U.S.G. or C.G.C. Gypsum Construction Handbook.
- .2 Patch countersunk fasteners and any damage to match GFRG part texture.

**3.5 FINISHING**

- .1 Refer to Painting Section of the Specifications.
- .2 The Paint Contractor shall comply with ASTM C 840-79 Specifications.
- .3 Due to porosity differences between the precast GFRG products and the joint filling material, the finished GFRG assemblies must be properly primed and sealed prior to painting in order to avoid "Ghosting" of the joints. General Contractors should ensure that the painters are aware of this requirement.

**NOTES**

1. GFRG components shall be used for Interior Applications only.
2. Unfinished GFRG may exhibit slight imperfections, normally hidden by textured or matte finishes. To obtain satisfactory results with glossy, metallic or other decorative surface finishes, additional preparation including filling, sanding, priming and painting may be required.
3. Improper sealing can cause joint read-through (aka "Ghosting") after painting. This is due to the difference in porosity between joint compounds and shop-fabricated GFRG. Always ensure that the Painting Contractor seals all surfaces properly prior to finishing.