



INTERIOR PRODUCT SPECIFICATIONS

SECTION 09290 - GLASS FIBER REINFORCED GYPSUM (GRG) UNITS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

Interior glass fiber reinforced gypsum components. (GRG) *Two-Bit Clips™* by Plastrglas™, Inc.

1.02 RELATED SECTIONS

Section 09250 Gypsum Board

Section 09900 Painting

Section 07900 Joint Sealers

1.03 RELATED DOCUMENTS

Glass Reinforced Gypsum Guide by CISCA Levels of Gypsum Board Finish

1.04 SUBMITTALS

Product Data: Submit manufacturer's detailed technical data for material and fabrication, including catalog cuts of anchors, hardware, fastenings, and related accessories.

Shop Drawings: Submit shop drawings for fabrication and erection of GRG components, and installation for anchorage devices. Indicate material, construction, dimensions, locations, tolerances, installation, and connection details.

1.05 QUALITY ASSURANCE

Quality Control: Each component must be clearly stamped by the manufacturer's quality control inspector.

1.06 DELIVERY, STORAGE AND HANDLING

Deliver material in undamaged condition and store in interior dry area free from moisture. Keep material in manufacturer's original crate until ready to install. In the event of freight damage, note freight bill and contact manufacturer immediately.

PART 2 PRODUCTS

2.01 MANUFACTURER

Subject to compliance as stated herein; the following manufacturer conforming to these specs is as follows:

PLASTRGLAS™, INC.

4200 N. 30TH STREET

OMAHA, NE 68111

Phone: (402) 455-0652 Fax: (402) 451-5375

Substitutions: Must be preapproved before bid time and must conform to the specification. Substitution must also show individual test results showing compliance with physical properties. All test data must be stamped by an independent testing lab.

2.02 MATERIALS

General: Provide materials selected for surface smoothness with out pitting, seam marks, stains, and other imperfections on finished units.

Anchorage and Fasteners: Manufacturers *Two-Bit Clips™* for fastening and alignment of part-to-part connections.

Adhesives: Solvent base type, suitable for gypsum wallboard applications. Similar or equal to Liquid Nails, PL400, PL Premium or equal.

Embedment: Cold rolled galvanized channel or Styrofoam Bead Board is acceptable for reinforcing. **NO** wood or metal to be used at attachment points because of delamination.

2.03 FABRICATION

General: Furnish GRG Components and *Two-Bit Clips™* device as indicated on contract documents, unless otherwise indicated. Furnish units with custom shapes, brackets, and attachment hardware as required.

GRG Components: Prefabricated glass-fiber reinforced gypsum units using multidirectional spray lay-up procedures and combined with gypsum plaster formulated for combination with glass fiber. **NO HAND LAY-UP METHOD WILL BE ACCEPTED.**

Shell thickness: 3/16" nominal

Minimum weight: 2 lbs/ft²

Non-combustible material with primer ready surface

Pinholes and mold voids filled and over-spray trimmed

2.04 PHYSICAL PROPERTIES OF GRG SHAPES

Matrix: Gypsum Cement

Glass Fiber: 5-6% by weight, Type E 38 % by volume

Thickness: 3/16" Nominal

Flexural Strength (ASTM C580): 10,660 PSI

Modulus of Elasticity: 1.43 x 10⁶ psi

Ultimate Tensile Strength (ASTM D638): 2,250 psi

Modulus of Elasticity : 3.87 x 10⁶ psi

Flammability (ASTM E84-81A):

Flame Spread Index -0

Smoke Developed Value -0

Fuel Contributed -0

Impact Strength (ASTM D256): 12.9 ft lb/in

Thermal Conductivity (ASTM C518): °C of 1.56 BTU/hr ft² °F

Barcol Hardness (ASTM D2583): 64

Rockwell Hardness (ASTM D785): 98.8 'M' Scale

Density: 106.4 lbs/ft³

Thermal Coefficient of Expansion (ASTM D696): 5.4 x 10⁶ in/in/°F

Compressive Strength (ASTM C39/C109): 7,080 psi

Water Resistance (ASTM C473): 12.5% Weight Gain

Humidified Deflection (ASTM C473): 1/8"

Toxicity NBS/U.S. Testing: Non-Toxic

Mold Construction: Molds to be made of fiberglass to insure dimensional accuracy, resulting in a smooth finished product conforming to profiles indicated. **NO** wood or metal molds will be accepted for part production.

Matrix: Combine glass fiber and matrix slurry at a constant rate to achieve desired mix proportions and glass content. Spray in accordance with manufacturer's instructions.

Embedments: Embed required inserts in matrix to develop full strengths. Embed only after required 3/16" nominal thickness has been achieved. **NO** embedments will be accepted at connection joints.

2.05 FINISH

Surface: GRG Components shall be free of scratches and blemishes.

PART 3 EXECUTION

3.01 GENERAL

Inspection: Inspection adjacent construction for conditions that would prevent proper installation of reinforced gypsum units.

Expansion Joints: Expansion joints such as USG 893 shall be installed in runs exceeding 35 feet.

Installation: Install reinforced gypsum units true, plumb and level in accordance with manufacturer's installation instructions.

Joint Finishing: Joints between reinforced gypsum units shall be taped and finished in accordance with gypsum board finish manual. Joint shall follow curvature of unit if applicable. Patch and repair surface imperfections due to damage as jobsite. Exercise care in taping and finishing to prevent "crowning". Sand joint smooth after joint finished. Blow unit clean and primer before painting.