

SUBMITTAL AND PRODUCT DATA SHEET

STROMBERG GRG

High Strength Glass Fiber Reinforced Gypsum Shapes and Elements



St. Anthony Cathedral • GRG Dome

BENEFITS AND ADVANTAGES



Cheesecake Factory • GRG Column

Stromberg GRG is a composite of high-strength gypsum and glass fibers, which can be factory molded into virtually any size or shape.

- Design Freedom. Stromberg GRG can be made in almost any shape you can imagine.
- Lightweight. In most cases they can be lifted and installed by one or two people.
- 100% non-combustible. Stromberg GRG is made from minerals and will not burn.
- Stable. Made from high strength gypsum cement, Stromberg GRG is dimensionally stable under normal conditions.
- World's largest selection. No one offers you more selection or options in GRG.
- An upgrade to standard GRG.
- Higher impact strength than normal GRG.
- A "dry" application and faster installation than traditional ornamental plaster.
- Contains no paper or cellulose that can serve as food for mold.

PRODUCT DESCRIPTION

Stromberg GRG elements are designed and tested to offer high performance with a wide range of possibilities in shape, detail and finish. The material is a glass fiber reinforcing in a high strength gypsum matrix. Proprietary polymers in the system improve performance and increase impact resistance. Since items are custom made, the Stromberg GRG is molded in the thickness most appropriate for the application. Thickness of Stromberg GRG varies between 1/8" and 3/16" (3 to 5 mm). Edges are slightly thicker and may be reinforced for fasteners.

Stromberg GRG weighs just 2 to 3 pounds per square foot. (10 to 15 kg/square meter)

Stromberg GRG is a non-combustible mineral composite. It will not burn.

Typical Uses Include:

- Columns and Column Covers
- Domes
- Decorative Ceiling
- Complex details, curves or shapes
- Sculpture
- Moldings
- Light Coves



The Pentagon • GRG Custom Bas Relief

Most projects are custom. Comprehensive shop drawings show shapes and dimensions and indicate layout and fastening methods.

SIZES

Products are made to the size ordered. Maximum size is restricted by transportation and handling. Almost any size may be cast, but typical sizes able to be handled are around 5' by 10' for panels and 8' to 12' long for moldings and column sections. Special provisions must be made for shipping and handling larger elements. Typical thickness is 1/8" - 3/16" (3-5 mm) with thicker edges.

INSTALLATION

Installation methods for GRG vary. Ceilings may be hung from wire, but most GRG elements are attached with countersunk screws and/or adhesive.

Installing GRG Ceilings Ceiling panels, shapes and domes may be suspended from hanger wire similar to a suspended ceiling or can be attached to the framing with screws. The screws are then countersunk and filled over.

Small elements, panels and domes are supplied as one piece. Larger GRG shapes and domes are supplied in manageable sized pieces. For a smooth continuous look, joints are treated like the joints in gypsum board and taped and filled.

Installing GRG Columns Most GRG columns are cast in two halves to wrap a structural column. The edges where they join feature cast in reinforcing strips for added strength. The sections are attached by countersunk screws.

Installing GRG Moldings Moldings are supplied in manageable lengths. Corners are field mitered or can be supplied with molded corners. For a continuous look the joints can be taped and bedded and painted.

WORKING WITH GRG

Cutting GRG GRG can be field cut with a hand saw but for the most efficient cutting a power saw with carbide tipped blade or a dry diamond blade is recommended. Cutting dust is not normally considered a health hazard but it does contain glass fibers and may be an irritant. A mask, a dust collector and precautions should be taken.

Environmental GRG should be stored indoors, in an area providing protection from damage and exposure to the elements. Store flat on a level surface and do not stack or lean pieces.
During GRG joint finishing, temperatures within the building should be maintained within the range of 55-70 °F (13-21 °C). Adequate ventilation shall be provided to carry off excess moisture.

Handling GRG Use care when moving and handling GRG. Protect from forklifts and equipment. Keep product dry and clean. Most shapes are designed to be handled by 1 or 2 people. Very large, complex shapes may require equipment.

Attaching GRG GRG should be installed by experienced crews. Install GRG level and per approved shop drawings. All pieces must be securely attached and joints finished as shown in approved shop drawings.
For screw attachment, follow the shop drawing details and architectural drawings. Shim if necessary. Apply construction adhesive to framing to fill any small gaps between back of the GRG and the framing and shims. Countersink fastener heads slightly below surface of GRG. Treat joints and fastener heads per shop drawings.
Taping, Patching, Control Joints.
Tape, float and sand all joints. Where required provide control joints.
Patch all countersunk fasteners and damage.

Painting GRG For most projects, the GRG joints are taped and filled. The GRG can then be painted. Painting is basically the same as for gypsum board. Primers are recommended and high gloss paints should be avoided.

MANUFACTURING GRG

Stromberg GRG manufacturing process:

- 1.) From the architect's drawings, Stromberg CAD department generates shop drawings showing parts and installation.
- 2.) Once the shop drawings are approved, a combination of the latest computer-driven CAM equipment as well as old-fashioned artistic skill produce the models from which molds will be made.
- 3.) Molds are produced from models.
- 4.) High-strength gypsum and glass reinforcing fiber is cast into the molds.
- 5.) When the gypsum has hardened, the parts are removed, cleaned, dried and quality inspected.
- 6.) Parts are packaged for shipment to the jobsite.

STROMBERG GRG PROPERTIES

Fire Performance

GFRG is composed of minerals and will not burn.

Stromberg GFRG meets or exceeds the requirement of Class I Flame Spread Classification under the Uniform Fire Code.

Flame Spread Index is 0 and Smoke Developed Index is less than 20 (primarily water vapor) when tested per ASTM E, 84-01 "Standard Test Method for Surface Burning Characteristics of Building Materials". (NFPA 255, ANSI/UL 723 and UBC 8-1) Stromberg GRG slows heat transfer. The gypsum that makes up Stromberg GRG contains water bound in the form of hydrates. When exposed to the heat of a fire, this water begins to vaporize. This process retards heat transfer. The unexposed side of the gypsum cannot get any warmer than the boiling point (212°F or 100°C) of water until the water locked in the gypsum is gone.

Replication and Mold-ability

Cast elements in Stromberg GRG offer designers a range of options. It can capture very fine and intricate details or produce sweeping curves and complex shapes.

TECHNICAL PROPERTIES

DESCRIPTION	TYPICAL VALUES
Glass fiber	5 - 6% by weight
Shell thickness	1/4" (6.35 mm)
Weight	± 2 lb/ft ² (32 kg/m ²)
ASTM D790 Tensile strength	1360 psi (9.4 MPa)
Flexural strength	4220 psi (28.4 MPa)
ASTM D695 Compressive strength	7600 psi (48.5 MPa)
ASTM D256 Impact	8.34 ft-lb/in (43.7 kJ/m ²)

CONTROL JOINTS IN GRG

Control joints should be used where the GRG:

- Crosses a construction joint (expansion, seismic or building control element) in the base building structure.
- Runs in an uninterrupted straight plane that exceed 30 linear feet (9 m).
- Where specified by the architect or designer as a design accent.

LIMITATIONS

Water. GRG is gypsum based. GRG should not be used where there will be direct exposure to water or continuous high humidity conditions. These include contact with damp soil, use in saunas, steam rooms and indoor pools. For these applications use Stromberg Exterior GRG, Stromberg GFRC or Stromberg GFRP.

Safety. Follow good safety and industrial hygiene practices during handling and installation. Always follow OSHA and other safety rules. Read material safety data sheets on products before installation.

LIMITATIONS

Painting. Follow manufacturer’s directions for materials used. All surfaces, including applied joint compound, must be thoroughly dry, dust free and not glossy. A primer or good quality, high solids, flat interior latex wall paint should be applied and allowed to dry before decorating.

On smooth GRG surfaces that will be subjected to strong side lighting and/or decorated with a gloss finish (egg shell, semi-gloss or gloss), the GRG surface should be skim coated with joint compound to equalize suction and conceal fasteners before painting.

SPECIFICATIONS

In North America GRG is typically specified under CSI Division 9.

AVAILABILITY AND PRODUCTION CAPACITY

Stromberg GRG products are available worldwide. Lead times vary depending upon the size and complexity of the project. Production capacity is over 500,000 sq. ft. per month.

WARRANTY

Stromberg Architectural Products, Inc. standard warranty is 1 year from receipt of the materials.

TECHNICAL SERVICES

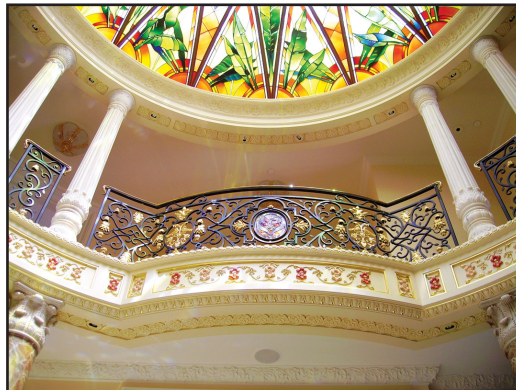
For technical assistance, including more detailed product information, literature, assistance with detailing, testing and assistance with project specifications, call 903-454-0904 or visit www.strombergarchitectural.com.

SUBMITTAL APPROVAL

Job Name	
Contractor	Date



Cabela’s • GRG Ceiling Beams



Shalimar • GRG Trim



Atlantis • GRG Columns

