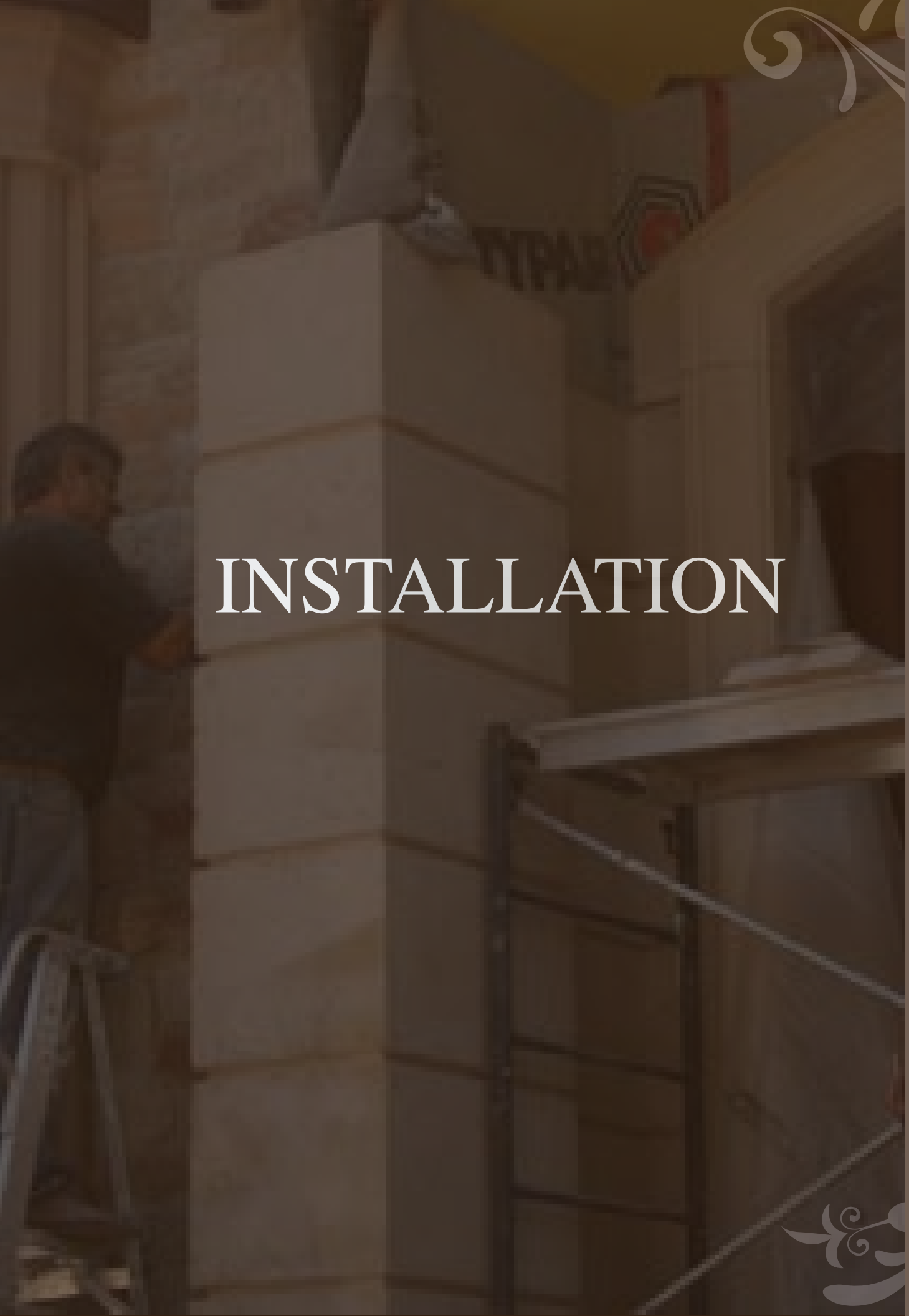

INSTALLATION

PETRA DESIGN

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F. R. P.
Fiberglass Reinforced Plastic

It has been proven that fly products are stronger than steel and are impervious to mildew, rot and rodents. It is no wonder then that FRP products are highly recommended for Exterior as well as Interior applications. The product is simple to work with and requires skilled carpentry finishing.

Petra Design meets all standard requirements for Glass Fiber reinforced composites as established in ASTM C 1355 and ASTM C 1366- 96 specifications. Petra Design Architectural FRP uses the best ingredients available and combines them to meet our ultra high manufacturing standards. The finished product is provided with a matt white gel-coat finish that can be ready for installation or prepared for priming and painting if required.

Alternate and specialty coloring is available to meet your every need -just let us know and we will meet your needs.

Fiberglass Reinforced Plastic
FRP Exterior Dome
Installation Instructions

Petra Design provides both exterior and interior domes for commercial as well as residential projects. Interior domes are usually provided in GRG
(Glassfiber Reinforced Gypsum) and Exterior Domes are provided in FRP (Fiberglass Reinforced Plastic).

This document relates to the installation of any FRP dome on the exterior of a building.

Step 1:

Remove all of the Dome sections from the delivery truck and read the instructions and shop drawings. Depending on the size of the Dome and the individual Dome pieces size and quantity the installer may wish to assemble the Dome on the ground (Ensure a level surface) and then lift it into place. The alternative is to lift all of the individual pieces and install the Dome in place on the building.

Step 2:

Dome sections are pre-drilled, pre-fitted and pre-assembled (at the factory) and labeled with numbers for bolting together. Assemble the Dome as per the instructions on the drawings and using the numbering system employed to identify the sequence of installation. Bolt 2 sections at a time

Example: A 6 piece dome uses 3 different molds:

Mold A will be labeled #1 and is the first piece to ready for assembly.

Mold B will be labeled #2 - there will be 4 pieces labeled #2 and all are identical to each other. These #2 parts will be assembled 2nd, 3rd, 4th, and 5th in order to ensure the best fit.

Mold C integrity of the dome shape and structure.
These #2 parts will be assembled 2 , 3 , an Mold C will be labeled //3 and will be the last part assembled to complete the dome. Find the centre point of the dome and scribe a line or create a template to outline the circumference of the Dome. When assembling the pieces use this reference line to ensure the integrity of the Dome shape and structure.

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F. R. P. Fiberglass Reinforced Plastic

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Petra Design meets all standard requirements for Glass Fiber reinforced composites as established in ASTM C 1355 and ASTM C 1366- 96 specifications. Petra Design Architectural FRP uses the best ingredients available and combines them to meet our ultra high manufacturing standards. The finished product is provided with a matt white gel-coat finish that can be ready for installation or prepared for priming and painting if required.

Alternate and specialty coloring is available to meet your every need -just let us know and we will meet your needs.

Fiberglass Reinforced Plastic
Installation and Maintenance Instructions

The attached information is specific to FRP as manufactured by Petra Design and is provided to assist you in responding to customers questions.

We trust you will find the information both informative and useful. Included with this text is:

Installation data for Architectural components - Columns, Cornice Please let us know of additional information you feel we should be supplying. Send to info@petradesign.ca

General Installation Information for FRP Components

Pre-Manufactured Corners

Petra Design provides only pre-manufactured corners only for use in all installations. This ensures a tighter, straighter fit along the full length of the installation.
This type of corner also shortens installation time, reduces waste and eliminates the need for bolts and caulking normally utilized with field cut or pre-mitered corners.
These savings should be factored into assess the combativeness of the quotation.

Field Cutting

Field cutting should be avoided at all times.

Face Fastening

Where face fastening is shown on the shop drawings, for attachment to the buildings, the fly components should be pre-drilled and counter-bored to accept a NO 8 or 10 St. Steel screw. Screw holes shield be filled with a color matched Gel-coat putty, sanded and polished to match the factory finish. A Gel-coat topcoat may be required to achieve a high gloss finish, if so desired. (Gel-coat materials are supplied by Petra Design).
This application requires a highly skilled carpenter and should be avoided - but can be done - where a pre-finished column is ordered. A complete sanding of the product is required.

Fiberglass Reinforced Plastic
Typical Monolithic Joint
Installation and Finishing

It is possible to have a monolithic joint on FRP products but this is only recommended when the final finish of the product is Prime and Paint (NOT A GEL-COAT FISNISH).

A) Joint preparation:

Step 1: Install the first component as per the Petra Design shop drawings

Step 2: Dry fit the next component to the installed component to insure the joint fits and aligns. BOLT FLANGE - align the joint, clamp the flanges together and drill the clearance holes for the bolts through both flanges for proper alignment OVERLAP JOINT - after the joint is fit together, remove the component and drill and countersink the clearance holes for the screws through the tape joint bevel.

Step 3: With 150-180 grit sandpaper, sand the joint where the components will be contacting each other, the tape joint bevel and the face of the components extending - out from the center of the joint. This will insure the surface is cleaned of any dirt, oil Or Waxes.

B) Joint Assembly:

Step 1: Apply a continuous bead of adhesive to the mating faces of the installed component. Petra Design recommends a Methacrylate Adhesive System plexus MA550 (or equivalent) or a fiber filled polyester glue with an extended gel time.

Step 2: Assemble the prepared component to the installed component by fastening the component to the framing and mechanically fastening the joint flanges.

Step 3: Wipe off the excess adhesive and allow the gel to cure (Plexus ma'am cure time is approximately 2 hours).

C) Joint Filling:

Step 1: Using a heavy duty, fiber filled polyester (automotive) body filler, fill the joint and allow curing. Sand the filler smooth to the face of the FRP components. Finish sanding with 120>150 grit sandpaper

Step 2: Using lightweight polyester body filler or fairing putty, apply a thin layer over the first fill extending out - 2" from the center of the joint on both sides. Allow to cure and sand by tapering from the center of the joint to where it meets the face of the FRP component. Finish sanding with 150>180 grit sandpaper.

D) Painting:
Step 1: Lightly sand the complete component assembly
Step 2: Prime the components. It is not necessary to prime the gel-coat before painting but it is necessary to insure tall of the body filler is primed before painting. Use a primer which compatible with the paint.
Step 3: Paint the components. Petra Design recommends
"High solids polyurethane" for exterior applications and
"Acrylic polyurethane" or an "oil based enamel" for interior applications.

- Contact ITW Plexus @ 1-800-851-6692 or www. Itwplexus.com

Fiberglass Reinforced Plastic Auto Body Filler

When installing Petra Design FRP products, Contractors need to have information about the products that are recommended for use in the finishing by the manufacturer. Our recommendations are as follows:

Auto Body Filler - standard auto body filler is recommended forgoing finishing as well as repairing FRP. This material is proven to be very versatile in repairing small perforations and filling in countersunk screw holes in our product.

The product is available at automotive retailers throughout North America.

Sonolastic Ultra - a one-compound elastomeric caulking utilized, where required to seal vertical joints on columns, cornices, etc.

The product astound by contacting Chemrex local representatives through thy Internet. Access www.chemrex.com/contacts/local Representative/ select your state. Representative's names will appear on the screen. Select your choice and call, it's that simple.

Fiberglass Reinforced Plastic (FRP) Installation Instructions Column Covers

The following information is provided by Petra Design to assist your customers in the installation and maintenance of our FRP columns. All FRP based materials must be stored properly prior to installation - that is they must be stored in a controlled environment, weather protected, on level surfaces, with temporary supports as required. Components must not be stacked or leaned. Once these products get wet the shape cannot be guaranteed.

Step 1: Locate the center of the column structure and scribe a line on both sides which extends further than the base, if applicable, to be installed later.

Step 2: Use a plumb bob or laser to transfer the center line onto the ceiling.

Step 3: Cut base and capital templates, where applicable, using paper outline. Place base template on the floor - center on the structural center - trace the entire outline. With the capital - repeat the procedure - outline on the ceiling.

Step 4: Fasten framing (metal or wood) to structural center on center line and plumb. Fasten base blocking on center-line 1" back from the circle scribed on the floor (Step 1).

Step 5: Locate column cover half which has the largest indented vertical flange. (Column cover halves are each 180° - and unique) Measure the inner diameter between flanges (at the capital/top).

Step 6: Measure length of the column cover half from lower end to the point at which the diameter was measured in step 5.

Step 7: Scribe a line on the structural center at the height measured in step 6. Cut and install a cross brace at this point. Repeat at 180° on column

Step 8: Measure and cut the cross-bracing to appropriate lengths and install on 24" centers. Using a straight edge on the outer, vertical frame - ensure that there is no bowing. The skeleton should be solid and plumb.

Step 9: On the column cover half with the larger vertical flange, drill and countersink a hole 6” from the lower end (base) of the column cover half and thereafter at 16” centers up to the top (capital). Repeat on the other column cover half starting at 5” from the lower end - but drill holes in the center of the flange as well as into the overlap joint at the top (capital). (Refer to Detail A)

Step 10: The column cover half with the largest vertical flange is now placed over the scribed circular line on the floor (Step 3) and 1/8” back of the scribed center line.

Step 11: Shim the bottom of the column cover until the top is 1/8” from the ceiling or passes through the ceiling. Use a neoprene shim between the column cover and framing to ensure 0. D. of column cover is held. Plumb and fasten through the previously drilled holes with self tapping or self drilling bugler head screws as indicated on the drawings.

Step 12: The mating column cover half should now be positioned around the flange of the installed column cover half to ensure a proper fit. Shim at the base to match both halves (vertical) and shim the joints with exec neoprene spacers. (See detail A)

Last Step: Use a low modulus, printable caulking to caulk all joints including horizontal reveals at the floor and ceiling (base and capital).

Final Installation

Caulk and Sand
A caulk joint is the most common in FRP installations where the column is pre-finished with a pre-determined Gel-coat finish. Use a low modulus caulk as recommended by Petra Design or as required by the project documents.

Patch and Sand

Patch and sand all joint details with Auto Body filler where a monolithic joint is required. The columns in this case will be provided by Petra Design with a standard white gel- coat finish. Once the joints have been filled the entire column must be sanded, primed and painted. See Petra Design for recommendations on painting or refer to the project specifications for painting instructions. It is possible to patch an FRP column joint with a matching Gel-coat finish - but not recommended. See Petra Design for more details on repairing Gel-coat finishes.

Painting

Contractors shall Prime and Paint with BREATHABLE paint products as recommended by Petra Design or refer to the painting section of the project specifications.

COLUMN CAPITAL INSTALLATION INSTRUCTIONS

Installation Instruction Guide Upon receiving your delivery of Fiberglass FRP column covers, please locate the serial numbers, which identify matching sets of column parts. Please ensure that sets are set aside together for future reference. You will receive the following parts:

A pair of Column half column shafts with capital attached, some columns may be provided with detached capitals. (2 ea.) Column base/plinth halves (2 ea.) The column shaft and capital bridge from beam to deck through base. The base/plinth fits around the shaft. The shaft DOES NOT sit on top of the base/plinth.

Establish the position of the center point of the column by dropping a plumb line from the beam to the deck. This course of action will identify the center of the plinth so that the column capital will align appropriately with the beam. Supply and install blocking for the attachment of the capital to the beam using non-corrosive fasteners. Recommended materials for blocking use are either metal or fire-treated wood. The blocking should be permanently fastened to the beam and should match the configuration of the capital.

Provide similar blocking for the base of the shaft and base/plinth of the column following the instructions outlined in Item # three (3). Measure the distance from beam to deck to validate shaft/capital overall height. If necessary, cut shaft halves to length using a saber saw or hack-saw. Be sure to compensate for any pitch in the deck.

Position first half of shaft/capital in position with seam side away from the front of the structure.
Attach first half of the shaft/capital to the blocking at the top and bottom of the column using non-corrosive fasteners. You may also attach the column to intermediary placed blocking along the shaft/capital seam to further confine the column shaft.

Apply a minute amount if polyester resin or polyurethane adhesive to the shiplap joint on each half column to bond the halves together, remove remaining adhesive. Mount the second half of the shaft/capital by placing it in position next to the first half and secure with banding straps every 18” on center over the whole length of the column. Drill and countersink holes through the second half of the column shaft/capital into the shiplap flange of the first half 6” on center. Join the two half columns together using non-corrosive wood screws or 1/8” pop rivets. Do not over tighten.

Mount the base/plinth around the column shaft in a similar manner (Be sure to check for level prior to installing base.) If leveling the plinth to accommodate for pitch in deck is needed, use fine toothed saw, sand edge smooth after cutting. Sand the column 3” on whichever side of the shiplap joint, using #200 grit sandpaper to prepare the surface for the joint filler application. Apply masking tape up and down on the column 3” on either side of the shiplap joint and apply a thin layer of polyester body filler over the joints and fasteners.

Installation Instructions
FRP – Column cover

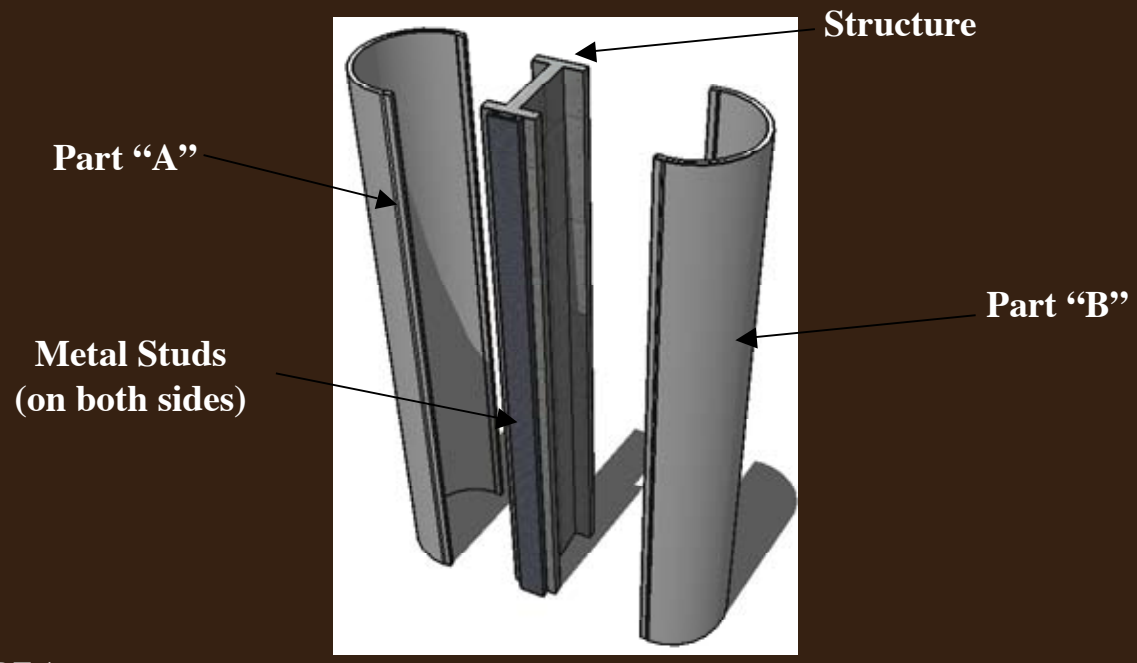


FIGURE 1
Above is the overview of the installation including; the structure, which you will need to attach metal studs to, metal stud and column covers "A" and "B". "A" is determined by the larger overlap on the inside of the column cover (male piece). Refer to Figure 2

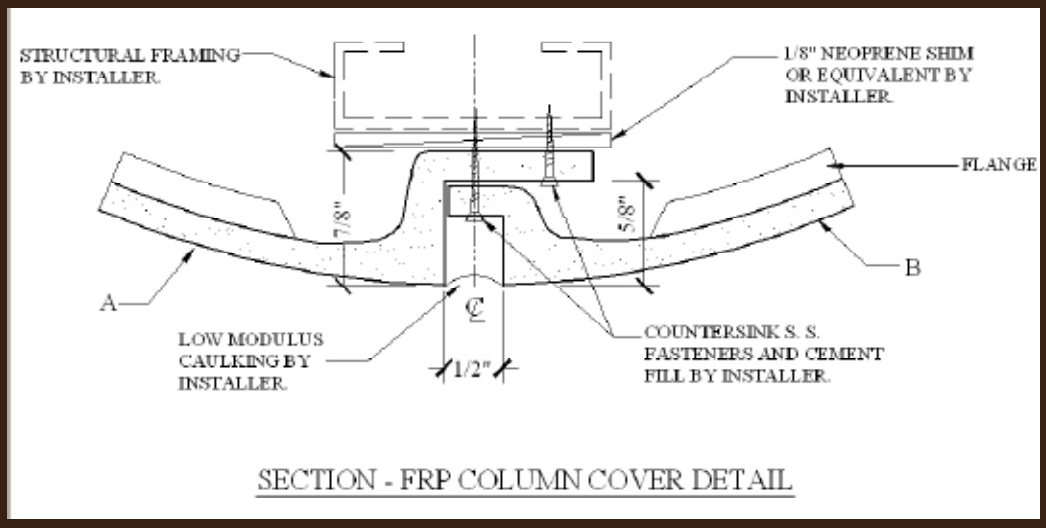


FIGURE 2
The figure above is the FRP section detail showing the finished installation at the joints

Before Installing

Equipment Required

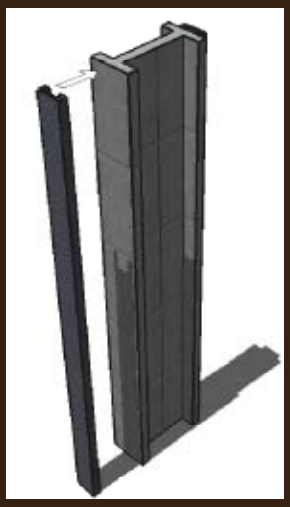
Measuring Tape	Level	Power Drill	Plumb Bob
			

Materials Required

Stainless Steel Screws Use proper type screw (i.e metal screw for metal)	Primer/Paint exterior paints only	Caulk auto body filler
		

NOTE:

All Gypsum or cement based column covers must be stored properly prior to installation –that is they must be stored in a controlled environment, weather protected, on level surfaces, with temporary supports as required. Components must not be stacked or leaned. Once these products get wet the shape cannot be guaranteed.



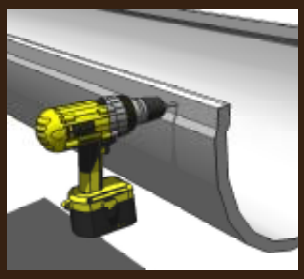
STEP 1:

Attach the metal studs to the outside on both sides of the structure. Be sure the studs are lined up to the center of the structure

STEP 2:

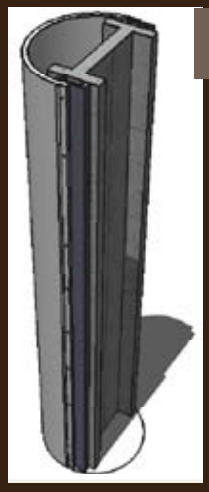
Create a template for the column and transfer it to the base of the structure.

Use a plumb bob to transfer the circle to the ceiling



STEP 3:

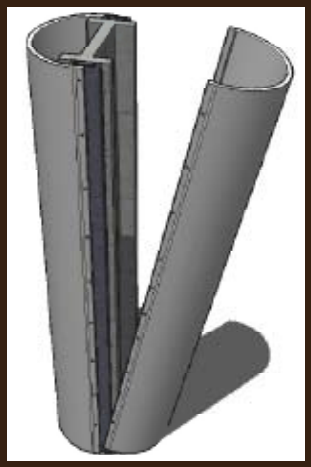
Pre-drill holes for the screws in the middle of part “A” and “B” every 16 inches and counter sink



STEP 4:

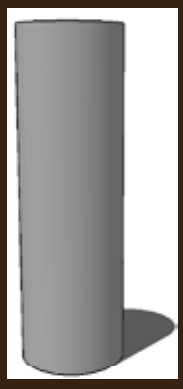
Line up column “A” with the circle at the base and secure the part with stainless steel screws.

Shim if necessary *



STEP 5:

Repeat “Step 4” for column “B”



STEP 6:

Attach backer rod, fill and sand. Prime then paint for a finished product

see “Figure 2” for detail on page 1

* Shimming is used to adjust the column cover into its plumb and floor level.

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G. R. C.
Glassier Reinforced Cement

GRC is intended for interior as well as exterior usage. The product is easy (as cement) to work with and usually is installed by the carpentry/ drywall and masonry trades.

Petra Design product meets all of the requirements as set out in ASTM C1355 and C1366-96.

We trust that you will find this product more than satisfactory fir your needs.

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GRC Finishing Repairing Materials

When installing Petra Design Inc. GRC products Contractors need to have information about the products that are recommended for use in the finishing by the manufacturer. Our recommendations are as follows:

Auto Body Filler -

standard auto body filler is recommended for joint finishing as well as repairing GRC. This material is proven to be very versatile in repairing small perforations and filling in countersunk screw holes in our product. The product is available at automotive retailers throughout North America.

Sonolastic Ultra -

a one-compund elastomeric caulking utilized, where required, to seal vertical joints on columns, cornices, etc.

The product found by contacting Chemrex local representatives through the Internet. Access www.chemrex.com/contacts/localrepresentative/selectyour state. Representatives names will appear on the screen. Select your choice and call it is that simple.

Sika Top -

a series of products designed for the repair of small and large perforations in cementitsious products. The various formulations are designed to assist the user by simplifying the repair.

The product is found in Canada by contacting the website at www.sika.ca and then select contacts/construction division/region. Once in your region (east, west, central) call the 800 line or the local sales office for help with a stocking distributor.

GRC vs. GFRC Information

There is confusion over the use of certain designations for cementious materials. In the construction industry the terms of reference have become synonymous for GRC and GFRC. These are entirely different products governed by very different rules for manufacturing/basic construction and use as well as basic governance.

Petra Design manufactures GRC (glassfiber Reinforced Cement) which is made 3/8" thick, is light in weight (1.7 lbs/sq.ft.) and in most applications does not require additional equipment (i.e. A Crane) to be lifted into place. GRC arrives at the site ready for priming and painting with breathable paints. Attachment is relatively simple and requires few simple tools (Drill, Screwdrivers and caulking materials).

A true GFRC product (Glassfiber Reinforced Concrete) is ¾" %" to 1" thick, is very heavy (8-10 lbs/sq.ft.) and does require heavy equipment to be lifted into place. Once lifted into place it must be held there for the welders who will weld them onto the building. This portion requires an extra trade and that welding certificates be provided. GFRC in this sense has two significant differentials from GRC:

a) The product is made with integral color;
b) Manufacturing is governed by the Pre-Stressed concrete Institute (P.C.I.). This means that there are schedule plant inspections and complete documentation on processes to be followed.

GRC Painting Instructions

Petra Design recommends the use of BREATHABLE PRIMERS An PAINTS for the best results on GRC materials.

Sherwin-Williams has provided the following information regarding their LOXON family of primers and paints:

A Best practice of applying I coat of Loxon Conditioning primer (A24W100) and 1 coat of Loxon Exterior latex (A82 series ‘satin) should be followed. A light sanding, prior to painting, to remove any release agent residue is recommended.

Architects and designers are free to choose alternate manufacturers, color, type of paint and finish required as long as the product chosen meets the breathable criteria. Paint manufacturer’s instructions must be followed during application.

Questions to be addressed when choosing:

1. Will the surface be subjected to any chemicals?
2. Will the surface be subjected to sunlight?
3. Will the product be subjected to impact or abrasion?
4. Should the paint be stain resistant?
5. How often will the paint be wished and with what cleansers?
6. Is this a high relative humidity environment?
7. What is the temperature variant on the product?
8. What surface cleaning preparation system will be used?

Glassfiber Reinforced Cement

Column
Monolithic Joint Recommendation

The following information is provided as a guideline to be used in the selection of joint finishes for GRC products in general.

Petra Design recognized that it cannot control the use of joint compounds applied to GRC products by the on-site installers. GRC products installed in Exterior situations expand and contract with the temperature and humidity. If the joint compound utilized does not match the exact expansion and contraction rates of the GRC then cracking occurs. That is, the joint compound detaches from the GRC column through no fault of either of the materials.

Petra Design therefore does not warrant Monolithic Joint applications of this product more as a recommendation to not use this type of joint. The type of joint recommended is a caulk joint utilizing a low modulus printable caulking as shown below:

Step 1:

If corners (90° or 270°) are employed as part of the project, install them first in the corners between the wall and ceiling. This is done to ensure that you are working with a square room.

A “square” room answers two conditions for installation of the light cove.
The first is that the wall - wall installation is square to begin with and the second is that the wall - wall - ceiling condition is square. If this is not the case - get it fixed first before you begin!

Installation instructions will be provided on Petra Design drawings for the project.
There are various instruction sets that you might see, so be prepared. The following examples will be used dependant on the size, profile and type of Light Cove to be installed:

- Single screw and blocking
- Double screw and blocking and tie-back wire attachment
- Single screw with bracket and tie-back wire attachment
- Double screw into the wall and tie-back attachment

Step 2

Check for straightness at each tape joint on both planes. The simplest method is to observe the critical point between the eye and the light source. You may have to shim the light cove to obtain the critical alignment required. Use screws between the end flanges to obtain the optimum match of profile on each length.

Step 3

Call Petra Design for assistance during the installation or regarding any problems experienced during the installation.

Final Stape

Tape, Fill and Sand A monolithic joint is the most common in GRG installations. At the two joint positions tape, fill and sand with drywall materials or as outlined in CSI specification section 09250 in the project specifications. (See U.S.G. or C.G.C. Gypsum Construction Handbook.)

Installation Instructions
GRC – Column cover

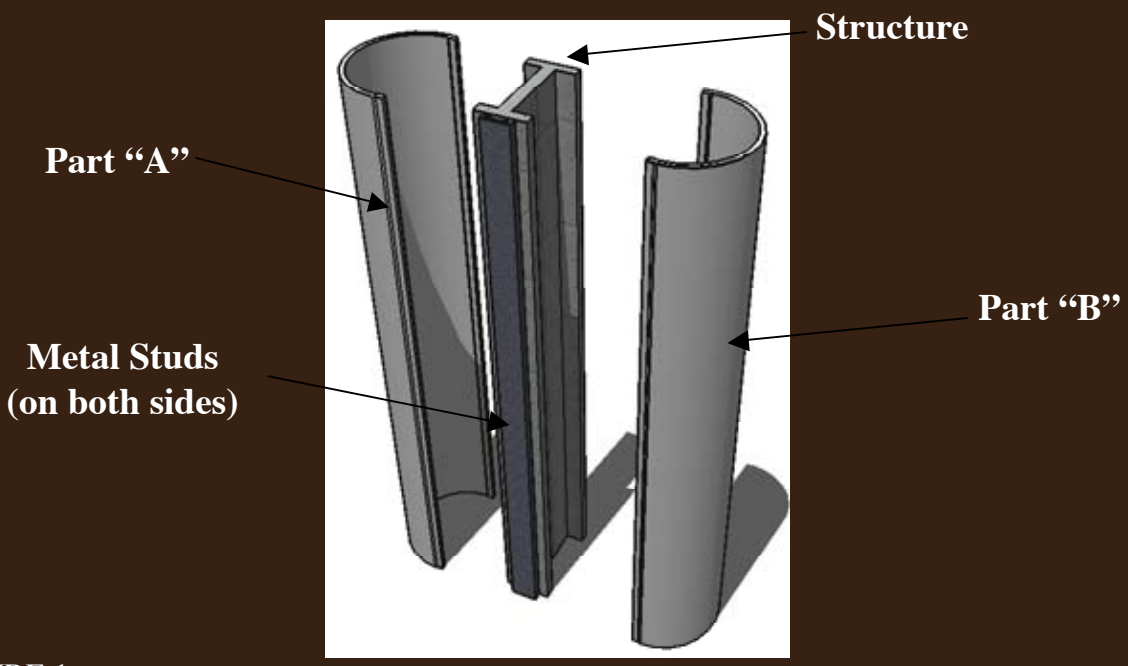

FIGURE 1

Above is the overview of the installation including; the structure, which you will need to attach metal studs to, metal stud and column covers "A" and "B". "A" is determined by the larger overlap on the inside of the column cover (male piece). Refer to Figure 2

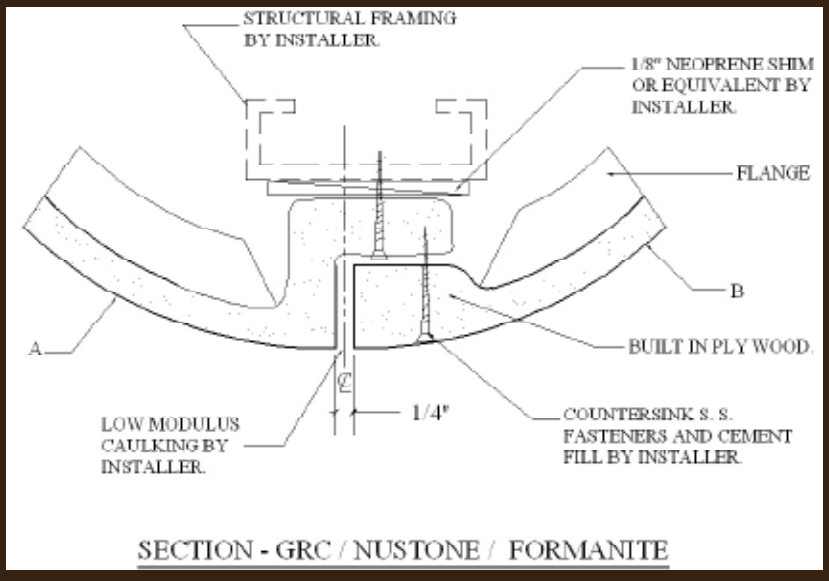

FIGURE 2

The figure above is the GRC section detail showing the finished installation at the joints

Before Installing

Equipment Required

Measuring Tape	Level	Power Drill	Plumb Bob
			

Materials Required

Stainless Steel Screws Use proper type screw (i.e metal screw for metal)	Primer/Paint exterior paints only	Caulk auto body filler
		

NOTE:

All Gypsum or cement based column covers must be stored properly prior to installation –that is they must be stored in a controlled environment, weather protected, on level surfaces, with temporary supports as required. Components must not be stacked or leaned. Once these products get wet the shape cannot be guaranteed.

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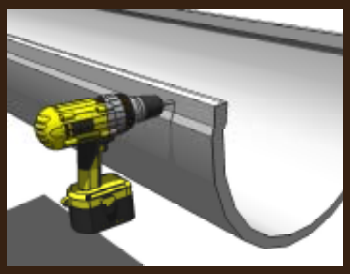
STEP 1:

Attach the metal studs to the outside on both sides of the structure. Be sure the studs are lined up to the center of the structure

STEP 2:

Create a template for the column and transfer it to the base of the structure. Use a plumb bob to transfer the circle to the ceiling

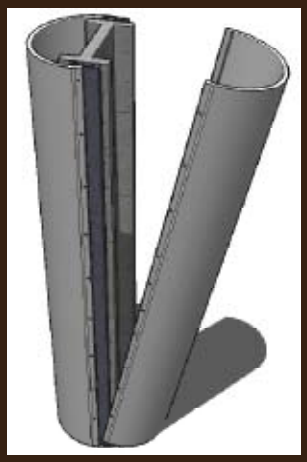


STEP 3:

Pre-drill holes for the screws in the middle of part “A” and “B” every 16 inches and counter sink also create a weeping hole at the bottom of the column cover if column is exterior.

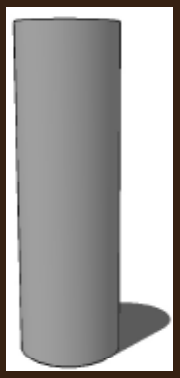
STEP 4:

Line up column “A” with the circle at the base and secure the part with stainless steel screws
Shim if necessary *



STEP 5:

Repeat “Step 4” for column “B”



STEP 6:

Fill w/correct product and sand. Prime then paint for a finished product see “Figure 2” on page 1 for details

* Shimming is used to adjust the column cover into its plumb and floor level.

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GRG
Glassfiber Reinforced Gypsum

Glassfiber Reinforced Gypsum or GRG is the least expensive material made by Petra Design. This material is intended for interior use only and is most commonly associated with Dry Wall Trades. This product can be formed in to a multitude of Architectural products such as columns, capitals, bases, cornices and trim, soffits, ceiling char rails, light coves, domes and virtually and GRG can be primed and painted with breathable paints.

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GRG Care And Maintenance

Glass Fiber Reinforced Gypsum (GRG)
Care & maintenance recommendations

Paint:

Petra Design GRG will arrive at the site in a prime and paint ready condition. The product has been sanded by our own craftsmen and seldom, if ever, requires a skim coat.
We recommend that you lightly sand the components before painting to ensure any grit picked up during shipping is removed.

Normal maintenance:

Once primed and painted the type of maintenance required is directly related to the quality of the paint shish. Some paints are washable - while others are not. See the paint manufacturers' recommendations for proper care.

Handling and Storage:

The longer materials are stored on the job-site the more likely it is that damage will occur. The products must be handled with care to avoid damage and stored under cover on a clean dry surface in a dry location. The storage must be protected from the weather, moisture and away from general traffic.
Normally GRG units are not delivered to the site until the building is enclosed, wet-work is complete and the HVAC system is operating and maintaining temperature and relative humidity at occupancy levels.

Repair:

GRG products respond to normal Dry Wall repair materials and methods as outlined in the CGC Gypsum Construction Handbook. If the damage is severe the GRG product may have to be replaced. Call Petra Design Inc

Installation Instructions
GRG – Column cover

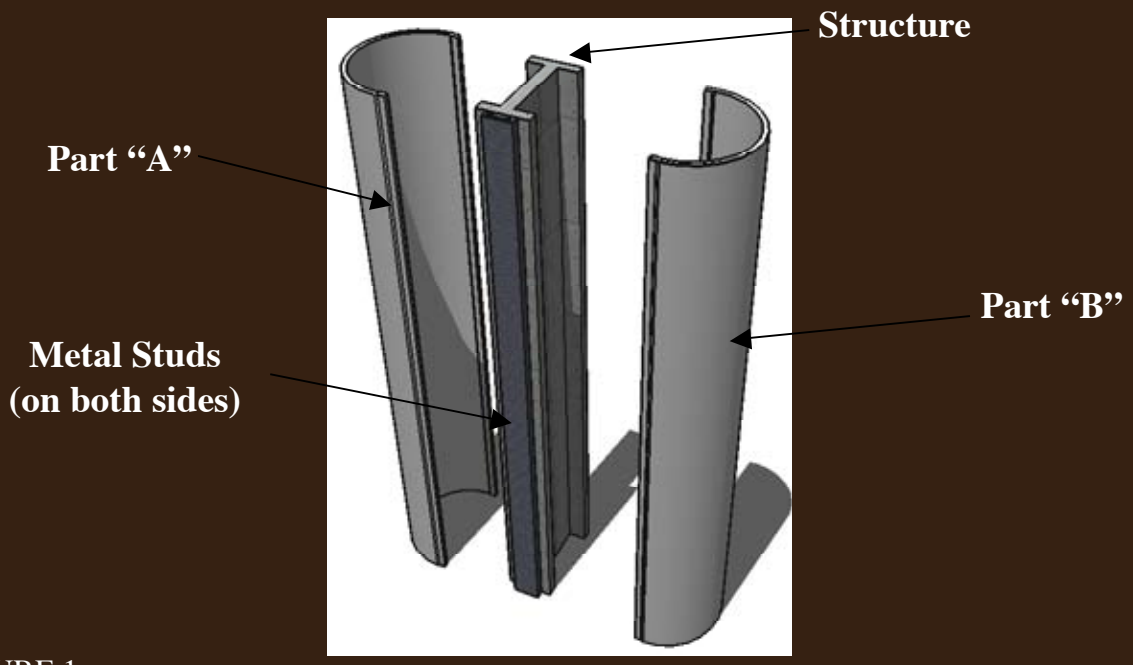


FIGURE 1
Above is the overview of the installation including; the structure, which you will need to attach metal studs to, metal stud and column covers “A” and “B”.

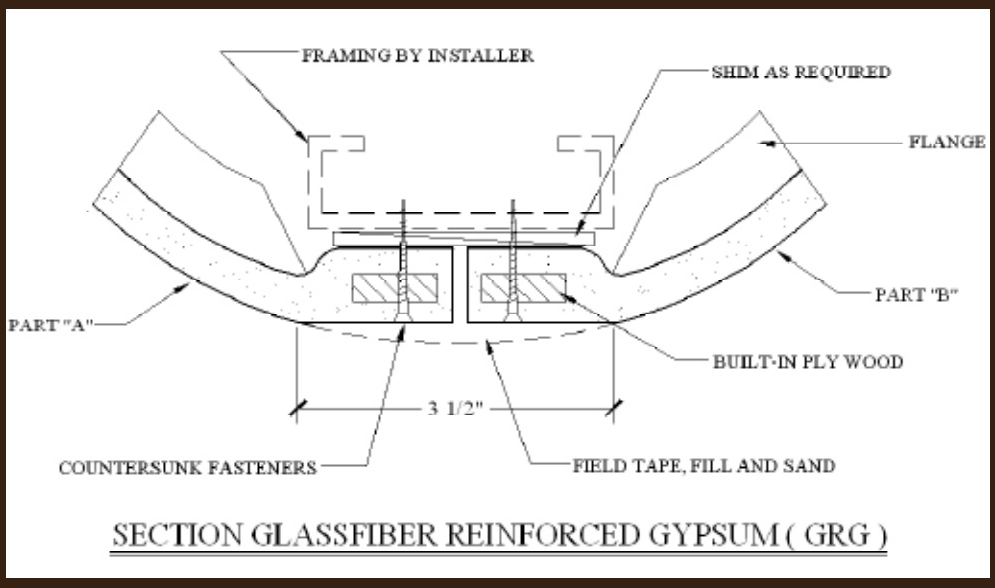


FIGURE 2
The figure above is the GRG section detail showing the finished installation at the joints

Before Installing

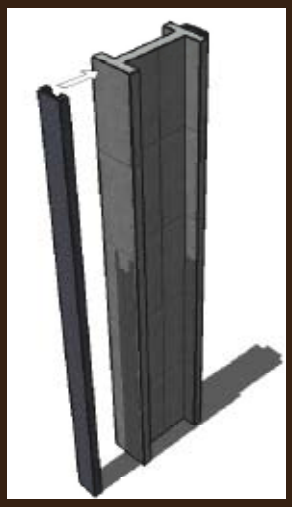
Materials Required

Stainless Steel Screws
Use proper type screw
(i.e metal screw for metal)

Primer/Paint
exterior paints only

NOTE:

All Gypsum or cement based column covers must be stored properly prior to installation –that is they must be stored in a controlled environment, weather protected, on level surfaces, with temporary supports as required. Components must not be stacked or leaned. Once these products get wet the shape cannot be guaranteed.

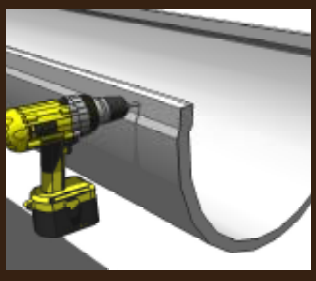


STEP 1:

Attach the metal studs to the outside on both sides of the structure. Be sure the studs are lined up to the center of the structure

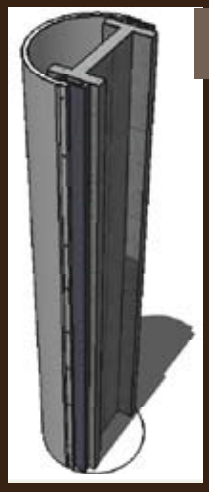
STEP 2:

Create a template for the column and transfer it to the base of the structure. Use a plumb bob to transfer the circle to the ceiling



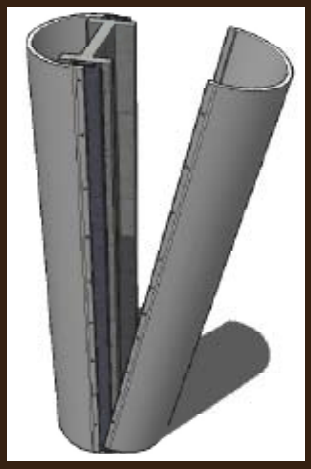
STEP 3:

Pre-drill holes for the screws in the middle of part “A” and “B” every 16 inches and counter sink



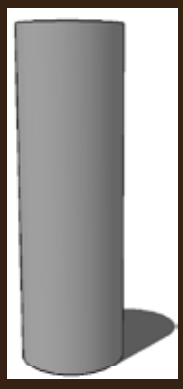
STEP 4:

Line up column “A” with the circle at the base and secure the part with stainless steel screws
Shim if necessary *



STEP 5:

Repeat “Step 4” for column “B”



STEP 6:

Tape, fill and sand with drywall compound or as outlined in the CSI. Prime then paint for a finished product

* Shimming is used to adjust the column cover into its plumb and floor level.

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Infinitive possibilities ...
to enrich every corner

Installation Instructions
CORNICE

Introduction

This is a discussion document on the installation of cornices. Materials involved are GRG, GRC, and FRP. The types of cornices are interior moldings and exterior cornice.

FRP cornices competes with materials like cast concrete for competitive advantage – when a project has been designed for cast concrete the specifications and attachments have to be re-written.

Interior - Mouldings GRG,

Method 1:

Usually attached to the wall and the ceiling at a 45° angle by one center screw on 16" – 24" centers, anchoring on the plate rails for (ceiling or wall) the studs.

EXAMPLE

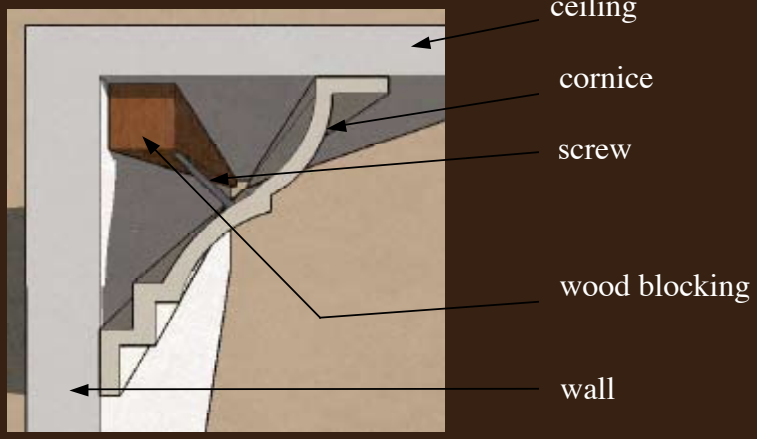


Figure 1:

Step 1: Install 2" x 2" wood blocking at the joint where the ceiling and wall meet.

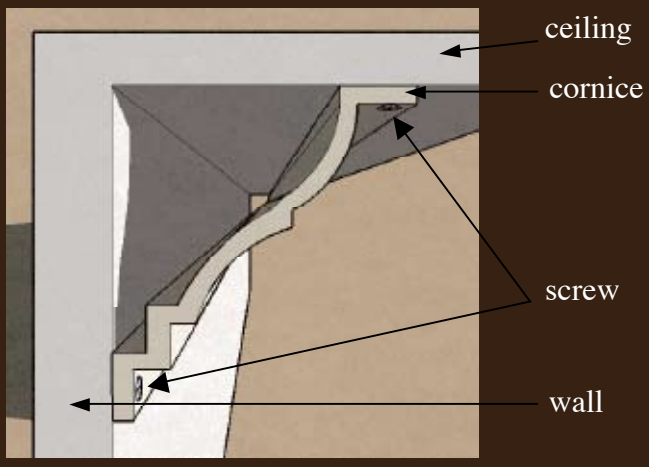
Step 2: Attach screws every 16", beginning 6" from the end, install as shown in "Figure 1". (wood support inserts are placed in the center of the cornice)

Step 3: Begin with pre-made corners and follow N.F installation instructions

Method 2:

Depending on the manufacturer the attachment may also be by two screws, at the top and bottom edges, on 16” – 24” centers, anchoring on the ceiling and wall studs.

EXAMPLE



Step 1:

Attach cornice as above – assumed that wood inserts are placed at the outer edges for support (check with Petra Design if uncertain).

Exterior - Mouldings FRP, GRC

Anchored with screws and caulking, cornices can be attached with various methods.

a) Overlap (hook over the back) with slight taper
b) Straight attachment (with no hook)
c) Attachment to L bracket on a side wall
d) Structural and non-structural applications (re-enforcement required)
e) May need to be designed for wind load and weight load applications
f) Must take into consideration rain and snow run-off

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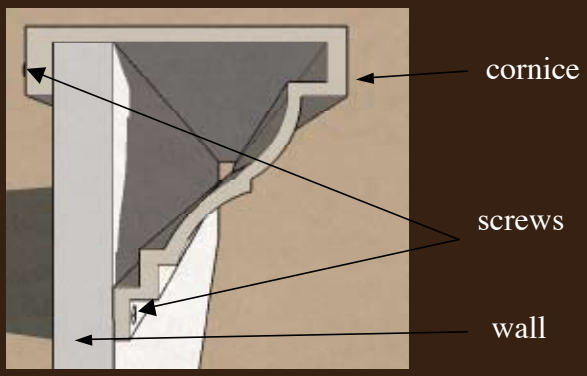
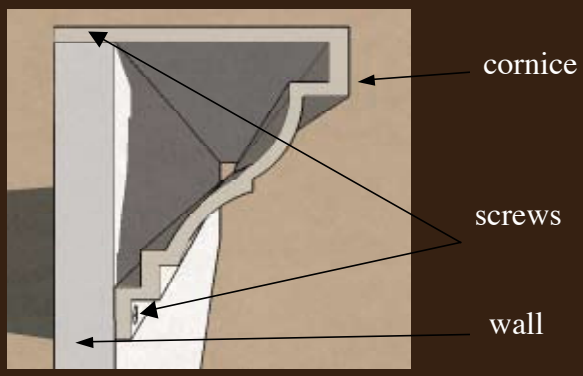
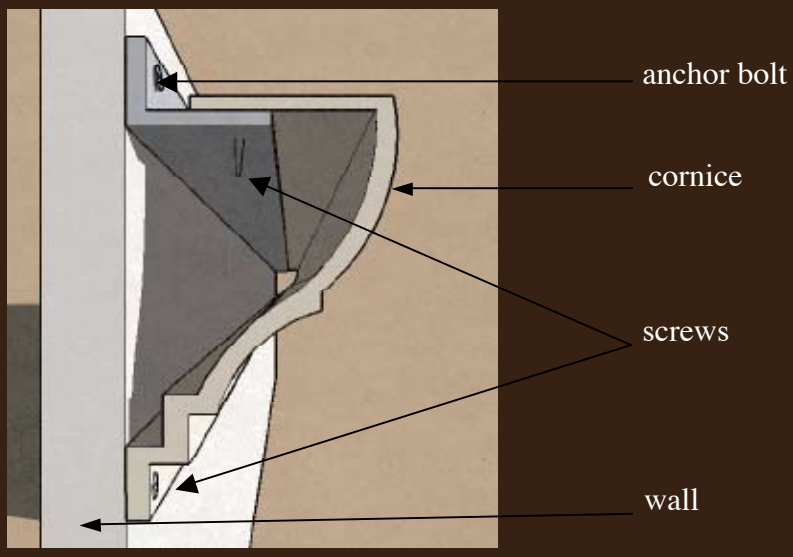
EXAMPLE A OVERLAP



EXAMPLE B STRAIGHT



EXAMPLE C BRACKET (SIDE WALL)



CROWN MOULDING INSTALLATION INSTRUCTIONS

BUILDING THE MITRE BOX

- Few commercially available mitre boxes are large enough to handle crown mouldings.
- Determine moulding dimensions; Height (against wall) & Projection (on ceiling).
- Crowns are cut upside down, so ceiling surface goes on the bottom.
- Nail wood stops for consistent positioning in box.

GUIDELINES FOR PROPER FITTING

- If Crown has an ornamental motif, locate the center of the repeat pattern.
- Start pre-fitting from the center of your main wall (ie; wall with a fireplace mantle).
- Work from the middle to the comers.
- Symmetrical comers give a professional, balanced look.
- If pattern doesn't fit precisely, cuts can be made at the center of a repeat.
- Use a surform (shaving rasp) for small adjustments.
- Cut and fit all pieces for the space prior to installation.

PREPARATION FOR INSTALLATION

- Snap a chalk line on the wall where the base of the Crown will sit.
- Snap a second line on the ceiling where the header (top) comes.
- Tap two nails into the base line for each section of moulding to be installed.
- If wall or ceiling surfaces are not straight, use temporary wood shims to fill gaps.

These can be removed after installation or trimmed flush with a utility knife prior to caulking.

- Pre-drill and countersink holes for screws at locations which can be easily filled later. Few are needed, as they are only required to hold the piece in place until glue dries.

INSTALLING THE CROWN MOULDING

- Use a thin bead of construction grade drywall adhesive (ie; Miracle brand DSA20) on plaster surfaces making contact with wall and ceiling. CAUTION: Avoid excess, as cleanup is difficult.
- Use two people to install sections. One for holding, while the other uses a screw gun.

FINE FINISHING TOOLS AND MATERIALS

- Metal "plaster sculpting" tool: One flat narrow squared end, and one rounded flat end.

- Small, hand-sized rubber or plastic container for joint mixture.
- Water bucket (1/2 Gal.).
- #6 (1/2") and #2 (1/4") natural bristle, flat, artists' paint brushes.
- Sandpaper grades: 80, 120, 220.
- Plaster (in powder form).
- Joint compound.

FINE FINISHING

- Done properly, all joints and holes should disappear (once painted).
- In small container mix: 3/4 wet plaster to 1/4 joint compound.
- Use sculpting tool and apply mixture to joint spaces.
- Carefully pack it in and smooth out the surface to blend with surrounding area.
- Go over it with a paintbrush and clean water using a light, feathering stroke.
- Use sculpting tool, a wet brush, and sandpaper (once dry) to make sharp, clean corners.
- The same technique is used to fill all screw holes.

CAULKING

- Once fine finishing is done, caulk all seams along wall and ceiling edges of the Crown.
- Caulk and plaster must be dry before painting.

PAINTING THE MOULDING

- A paint sprayer gives the most uniform appearance, but is not required.
- Be sure all surfaces are free from dirt or oily film. It is best to prime the moulding to ensure consistent color.
- Plaster accepts oil and acrylic latex paints equally well.

PRE-MANUFACTURED CORNERS
Cornices and Coves

Petra Design will provide pre-manufactured corners with GRG, GRC, and FRP materials, when requested to do so.

Recognizing the importance of purchasing corners as part of your project will not only speed up the installation but also improve the quality of the final result.

Here are a few of the advantages:

- Provides the optimum in clean crisp well finished corners.
- Shortens the installation time significantly.
- Reduces the waste experienced in field cutting of cornice materials.
- Optimizes the linear view of the entire installation.
- Provides a weather tight installation (at the weakest link).
- Eliminates the need for bolts and the caulking normally required with field cut corners.

Pre-manufactured corners are applicable to all renovations, new construction and are available as 90° (commonly referred to as outside corners) and 270° (commonly referred to as inside corners) formats.

90° Corners

270° Corners