



## **“GFRC” (FIBERGLASS REINFORCED PORTLAND CEMENT)**

### **GENERAL INSTALLATION / FIELD FINISHING INFORMATION**

RELATED REFERENCE MATERIALS for general joint finishing information and appearance criteria:

- **“PCI”** (Precast Concrete Institute) Guidelines for information on handling cement products.
- Consult the specified Paint, Sealant and Joint Compound Manufacturer’s Specifications and application instructions for proper procedures.
- **“Glass Reinforced Gypsum, a Guide”** published by CISCA and endorsed by AWCI for more similar information on “Glass Reinforced” type products’ concepts, handling, etc..
- **“Levels of Gypsum Board Finish”** cosponsored by AWCI, Painting & Decorating Contractors of America, Gypsum Association and CISCA for generic terms and issues relating to “floated” tape and bed joint qualities.

**GENERAL** - GFRC is a very strong, thin walled, composite product suitable for exterior exposure applications and for interior uses where a need is perceived for a more abuse resistant decorative material. Edge conditions vary with the application, but generally involve a built-up thickness with either wood or metal embedments at attachment points. Although the material can be drilled, cut and patched it is preferable to use parts as factory made to length or height so that connection flanges as designed into the piece are left intact and the thinner shell area thickness is not exposed. GFRC weight is +/-5 lbs. per square foot of part area. A 24” diameter x 10’-0” high half cover will weigh about 160 lbs. Plan ahead of time to safely receive and transport your shipment at the jobsite with adequate personnel and facilities for storage.

**HANDLING** - Although GFRC is strong, it is a cement based product and is subject to damage from improper handling and storage. Cement by nature is a rigid, inflexible and “brittle” material that will not tolerate twisting or stresses that other fiberglass reinforced materials would allow. Lift pieces carefully in a linear direction equally across the length and width of the shape. Do not “squeeze” or “spread” parts (i.e., across the open end of half round column covers). Any deformation from the original profile must be assumed to have compromised the integrity of the piece. Consult the manufacturer for repair or replacement instructions. Do not install damaged parts.

**STORAGE** - Store product in an upright position in a controlled environment, weather protected, and on a level surface. **DO NOT LEAN PARTS AT AN ANGLE OR STACK ON TOP OF EACH OTHER.** If there is any question as to how to store, consult the manufacturer before you void the warranty!

**NOTE:** As with any masonry type material extended periods of exposure can result in surface contamination and/or efflorescence, both of which will interfere with the integrity of the final finish. It is recommended that a coat of primer be applied to seal the surface as soon as possible after the product is installed and seams are caulked or filled. This is important when a long time between installation and final finishing is expected.

**CUTTING / DRILLING** - Use of medium or coarse carbide grit reciprocating, diamond cutting or other abrasive saw blades is recommended. Slow but steady progress reduces edge chipping. Drill bits designed for masonry/cement are recommended for drilling holes.

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**ASSEMBLY** - REFER TO THE PROJECT SHOP DRAWINGS FOR FURTHER INSTALLATION INFORMATION THAT MAY APPLY SPECIFICALLY TO YOUR ORDER. The data below should be used as a guide to procedures and materials required to complete a successful installation. Structural framing and attachments are subject to applicable local code approval.

**METAL FRAMING / SUPPORTS** - Minimum 20 gauge galvanized (exterior use), plumbed to align with inside of attachment flanges and securely anchored to adjacent structures. See GFRC Column Cover Instructions for two options. Observe caulk and leveling allowances shown on shop drawings. GFRC parts must not be allowed to bear on each other. Shim or block out to flanges if piece shape requires – do not span gaps to framing with fasteners.

**FASTENERS** - Self-drilling, self-tapping type 304 stainless steel (or coated for exterior use) Hex Washer Head. Pre-drill and countersink into GFRC flanges adjacent to seam. For “returned” flanges it is possible to “toe screw” across seams to secure parts until adhesive set if necessary for alignment. Fastener locations depend upon the part size and shape – from a minimum 6” to a probable maximum of 24” O.C. Do not overdrive fasteners or or overstress parts as cracking could occur.

**ADHESIVE** - **2-Part Epoxy.** Sikadur 31 Hi-Mod, W.R. Meadows Rezi-Weld or other 2-part epoxies suitable for exterior cement applications. Flexible construction or panel adhesives are not acceptable.

**FIBERGLASS MESH TAPE** - 2” wide, alkali resistant and suitable for use with cement in an exterior application.

**PATCHING / JOINT FINISHING COMPOUND(S)** - ***NOTE: MOST SEAM FINISHING COMPOUNDS ARE TEMPERATURE SENSITIVE AND “TENTING” OF THE WORK AREA IS RECOMMENDED IN THE COLDER MONTHS.***

Portland Cement and Acrylic Liquid Admixture/Bonding Agent for exterior application of new to cured materials is a traditional finishing method (follow manufacturers mixing directions.) Acryl-60 by Thoro Systems, Sonneborn Acrylic Additive or Sealtight Intralok by W. R. Meadows are a few available Bonding products. Bedding and shallow patching mix can include addition of fine sand – finishing mix would exclude sand or reduce the amount and/or grain size. Multiple layers, applied after the previous layer has set are recommended. Final sand with 120 grit production paper.

Additional products that can be used include: West Systems Epoxy Resin (#105) with hardener. (Follow manufacturer’s instructions.) Other commercially available, acrylic based compounds designed for weather exposure and suitable for adherence to cement include “Durofloat” by Triarch Industries, a one part, pre-mixed material. Care should be taken to follow instructions carefully regarding floating and length of time before sanding as “Durofloat” sets extremely hard.

**MONOLITHIC JOINT SUCCESS DEPENDS PRIMARILY ON ADHERING COVERS TOGETHER SO THAT ANY MOVEMENT OF ADJACENT MATERIALS IS NOT TRANSLATED TO GFRC SEAMS.**

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**CAULK JOINT / SEALANTS** - For cement use in exterior application. Formula and method as specified.

**FINISHING / PAINTING** - GFRC surfaces must be primed and sealed with a good quality material designed for use on exterior cement. The material is compatible with many smooth or textured paints and EIFS type coatings.

It is recommended that any applied finish sealer or paint allow water vapor to pass (breathable-system). Coatings based on water based latex emulsions such as polyvinyl acetate co-polymers, (styrene) acrylic co-polymers and styrene butadiene rubbers (SBR) are appropriate.

Non-breathable systems such as epoxies or urethanes can be used if water vapor transport is limited. Exterior installations should be designed with proper venting to prevent moisture buildup within the cavity of installed parts.

Care must be taken to properly prepare the surface using good painting practices by removing dusts, greases, friable (loose) materials, etc. Joint areas should be wiped clean with acetone or other fast drying solvent to assure a good bond. **DO NOT USE OIL BASED SOLVENTS, MINERAL SPIRITS, PAINT THINNER, ETC.** Rigidly follow the paint manufacturer's instructions for application.

*\*\* As of 12/1/10 we are not recommending BONDO / Auto Body type products for seam finishing. A recent seam failure has been traced back to Bondo as a possible cause and we are conducting further evaluation before recommending it again. We are actively testing alternate patching materials. Please contact us prior to installation for our latest finishing product recommendation.*