



“FRP” – GENERAL INSTALLATION INSTRUCTIONS

RELATED REFERENCE MATERIALS:

- “FRP” Patching Instructions (Field Painted or Custom Color) Install Data Sheets 2 and 3
- Consult the specified Paint, Sealant and/or Seam Patch Compound Manufacturer’s Specifications and application instructions for proper procedures.

GENERAL - FRP is an extremely strong, thin walled laminate with excellent, resilient physical properties. FRP’s expansion coefficient is approximately the same as aluminum (13in./in/°F x 10⁶). Exterior designs should include appropriate allowances for thermal movements.

HANDLING / STORAGE - Although FRP is virtually unaffected by moisture and will withstand jobsite handling, it is possible to damage the surface finish of pre-colored/textured parts. Gelcoat surfaces can be stained, scratched or chipped from overly rough treatment. Store product in an upright position in a weather protected area, and on a level surface. Do not over stress / bend parts.

CUTTING / DRILLING - Use of abrasive blades (Tungsten Carbide grit) produce good results. The number of teeth on the blade determines the finished quality of the cut. Slow but steady progress reduces edge chipping. Carbide drill bits and countersinks are recommended.

INSTALLATION / ASSEMBLY - Refer to the job specific shop drawings for particulars related to the parts supplied. Identify any factory markings for location and/or matching. Verify parts match approved dimensions. Items designed for a **“Monolithic Joint” appearance (Column Covers, etc.)** will require that parts be adhered together. The objective is to have the individual pieces function as closely as possible as “one part”, reducing independent movement and thus cracking of patch material at the joint. A good quality, marine grade 2-part Epoxy or Methacrylate adhesive is recommended. Sources include aircraft or boating materials suppliers and any commercial construction adhesive manufacturers with products designed specifically for “FRP”. PROSET Adhesive, from Gougeon Brothers, Bay City, MI is a pre-thickened, 2-part epoxy designed specifically for laminated composites. Fast to slow “Clamp Off Cure” times are possible with three different available hardeners. PLEXUS, from ITW, Danvers, MA is an advanced, structural methacrylate adhesive designed for FRP. Cure time is relatively short at one hour though.

Installation usually requires that the first half cover (and it’s separate base piece if applicable) be rigidly secured to the supports (fire rated blocking, metal studding, etc.) with the second half then adhered to the first. Additional “blind set” supports can be located to receive fasteners from the second half at the top and bottom and/or along the vertical seams. Sand and/or clean all mating surfaces with non-oil based solvent prior to assembly. Piece to piece connections must be adhered together. Pre-fit and align profiles and seams, pre-drill and countersink holes for self tapping/drilling fasteners (coated or stainless steel) 1/2” minimum in from edge at thickened flanges as shown on shop drawings, adjusting in or out as necessary. Locate a minimum 12” to 24” on center (or as per local code, load requirements). Wrap with nylon straps, banding or other method to secure pieces together until adhesive cure (5 locations minimum depending on piece length).

Items designed for **Caulk Joints (Cornices, Fascias, Moldings, etc.)** are typically furnished in lengths up to 10 feet long allowing gaps between parts to be used as expansion joints. An exterior, silicone based or 2-part sealant can be used for these joints, including backer rods and masking as per manufacturer’s instructions to produce effective

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and aesthetically acceptable seams. Install to “nailer strip” blocking, structural steel angles, etc. as shown on shop drawings through thickened flanges, pre-drilling and countersinking fastener holes as noted above. Fastener locations can be concealed behind flashing material at the top of parts or other adjacent materials to allow for less critical field patching procedures.

PATCHING / FINISHING - **Integrally Colored Gelcoat** parts that are factory pre-finished are usually not painted and therefore fastener hole patches must closely match the color of the surrounding area. For smooth FRP parts a thickened paste of the same integral color gelcoat will be supplied at delivery. This is two part system is not difficult but does require some experience – knowledge of auto body repair techniques is helpful. A gradual buildup is best. This may require 3 to 4 thin applications and sanding until the patched surface blends with the base material. Final sanding should be done with 400 or higher grit wet/dry papers. Once this is accomplished buffing of the patched area with Polishing Compound (sold in automotive supply stores) will be required to bring out the correct amount of gloss that will match the surrounding surface. White and light colored gelcoats need much less effort to attain an acceptable finished product than do dark or primary colors. See **Patching Data Sheet for Integral Color** for more information.

Integrally Textured and Colored parts that are factory pre-finished can be acceptably field finished only if the FRP part has a color and texture that was post applied (after de-molding). It is difficult to be specific regarding field finishing of this type of part. The finishing will be either simplified or more complicated as compared to a smooth surfaced piece. The amount of texture, the size and type of aggregate, and the final color all impact this operation. The specific color and texturing items must be supplied to the installer as well as the specific application technique. Mold imparted textures are almost impossible to field patch matching surrounding areas. Designs for this type of finish should incorporate concealed fastening and/or integral factory framing that can be attached to the building from the back side.

Field Painted Items are the simplest to patch. “Bondo” auto body putty is the compound of choice for field painted assemblies. This material is easy to handle, apply and sand and cures quickly allowing rapid buildup while using thin applications. Wet sanding with 300 – 400 grit paper is typically sufficient to blend the patched area with the surrounding gelcoat surface. See **Patching Data Sheet for Field Painted Items** for more information.

PAINTING FRP PARTS - FRP is a relatively hard non-porous material. Care should be taken to ensure that the surface will readily accept paint. In addition to the normal surface prep requiring that it be free of dirt, oils and other contaminants, some additional steps are necessary. Wipe the surface with wax and grease remover, lightly sand the surface to dull any gloss, using medium 120, 220, 320 grit paper and wipe down again. Final overall sand to a smooth surface with 400 grit. Prime with a product designed for gloss surfaces that is also compatible with the final coating. Prime areas that have had body putty patch work. X-I-M Products, Westlake, OH makes X-I-M Primer 400 White, that is suitable for oil and water based top coats. This primer has been tested on FRP with excellent results in preventing peel-off. Oil and Urethane Based coatings may not require priming. Two part, catalyzed acrylic urethane or polyester urethane enamels are extremely durable but may be overkill for field applied situations. High Gloss coatings may require additional sanding and surface prep. GRG Technologies, Inc. takes no responsibility for any of the products mentioned above as to their ultimate performance. This information is furnished only for convenience. The user should consult the manufacturer’s available technical information to determine the product’s appropriateness for a specific application.