



CREATIVE
COMPOSITES
GROUP

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PRODUCT LINES



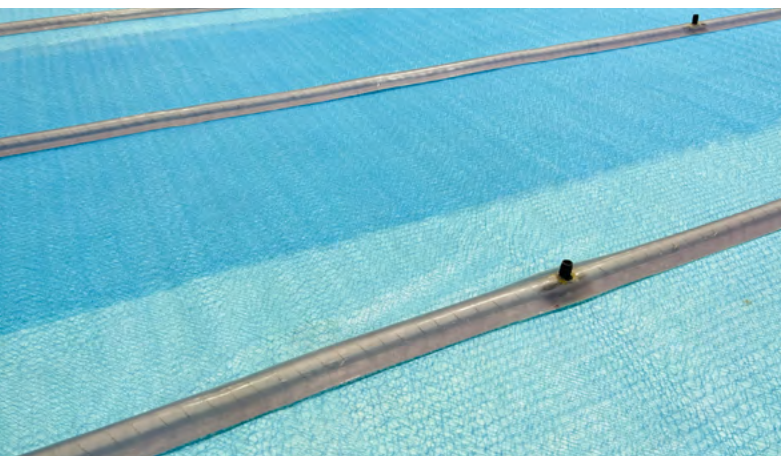
COMPOSITE MANUFACTURING CAPABILITIES

The combined manufacturing capabilities of CCG encompasses the primary processes for fabricating high performing FRP composite structures. Whether requiring tight tolerances or big parts, the Group has the right manufacturing process to meet your requirements, including anything from 30 mils to 100 feet.

Being experts in all these processes enables CCG to select the process that delivers the optimum combination of cost, performance and quality. CCG considers parameters including quantity, size, tolerance and structural requirements to provide the best value.

Pultrusion

Pultrusion creates long, consistent shapes like rods, bars and beams for high quantity applications. Reinforcement fibers are pulled through a resin bath to saturate them, and then into a heated steel die that sculpts the composite into the final shape. The process operates continuously so it can be readily automated and it is adaptable to both simple and complex cross-sectional shapes.



Vacuum Infusion

Vacuum infusion processing (VIP) uses atmospheric pressure to drive resin into dry fiber layers after the vacuum has pulled the bag down and compacted the fibers. This is the most economical process for large parts at low to medium quantities.

Filament Winding

Filament winding is an automated process that applies resin-saturated, continuous strands of fiber reinforcements over a rotating cylindrical mold. This process creates parts that can handle high operating pressures.



Hand Lamination

Reinforcement fibers are placed in an open mold, resin is poured in, and the composite cures or hardens while exposed to the air. Tooling cost for open molds is often inexpensive, making this technique well-suited for prototype and low production quantities. This process easily incorporates gel coats as the cosmetic surface.



Bridge Infrastructure

FRP composite bridge products offer great benefits to owners and users. Corrosion resistance of FRP means long life and minimal maintenance. These are engineered solutions full of design features to exceed customer requirements. Lightweight means fast and lower cost installation. All products focus on safety with non-slip overlay appropriate for the traffic type.

Vehicle Bridge Decks

Only 20% the weight of concrete, lightweight decking is perfect for movable bridges and historic truss bridges. Decking handles full truck-trailer loads and includes a nonslip overlay resistant to snow plows.



Cantilever Sidewalks

To meet the growing demand for bicycle and pedestrian traffic, the optimal solution is a lightweight sidewalk along vehicle and railroad bridges. This can be a new sidewalk or widening an existing walkway to accommodate all users.

Pedestrian Bridge Decks

This prefabricated decking is designed to meet any performance requirements, size, and shape. Design features include crown, cross-slope, non-slip overlay, curbs, drains and railing attachments to reduce on-site construction costs. Shapes and aesthetics make for an attractive bridge.



Pedestrian Bridges & Boardwalks

These fiberglass truss bridges are ideal for parks, trails, and industrial access. They are easy to install; either as prefabricated spans or from kits in remote sites. The bridges carry pedestrian, equestrian, and maintenance vehicles. Fiberglass boardwalks are stronger than wood or plastic and can be provided as individual planks or preassembled modules.

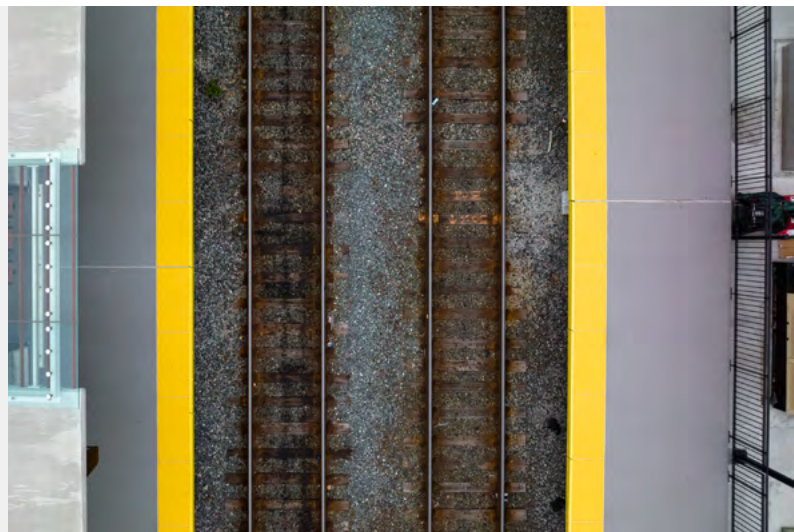


Mass Transit & Rail Infrastructure

Our FRP mass transit and rail systems are an advanced replacement for conventional materials, such as steel and concrete, to lengthen the life span of transit infrastructure. Our engineering team is the leading team for retrofitting existing platforms and replacing or covering end-of-life concrete infrastructure.

Related rail products include:

- Third-rail covers
- Rail car walls
- Corrosion resistant stairs
- Heated decking and stairs



Utility Infrastructure

Creative Composites Group designs and manufactures FRP composite utility infrastructure applications, such as utility poles, light poles and crossarms. Compared to those made from traditional materials (e.g., wood, steel, concrete), they offer better resiliency and dielectric strength increasing grid reliability and reducing maintenance costs.

StormStrong® Utility Poles

Our FRP composite utility poles have been engineered to meet American National Standard Institute (ANSI) and National Electric Safety Code (NESC) code requirements. They will not rot, rust, spall or succumb to termites or woodpeckers. StormStrong® poles are extremely resilient and have survived hurricanes. CCG's utility poles are sustainable and environmentally friendly – they don't contain chemicals or additives that could leach into the environment or be detrimental to human contact.



StormStrong® Crossarms

Our FRP crossarms are RUS approved and have been engineered to meet the requirements of the National Electric Safety Code (NESC) and to increase grid reliability. Our advanced ultraviolet light protection system exceeds the American Architectural Manufacturers Association (AAMA) 623 requirements. Lighter and stronger than wood, these are the most cost-effective and structurally efficient crossarms on the market.

FireStrong™ Poles for Grid Hardening

FireStrong utility poles are engineered to be fire-retardant. FireStrong poles will last up to 75+ years in some of the harshest environments with little to no maintenance. Our poles are designed for to harden your grid in fire-prone areas. FireStrong FRP poles will be less susceptible to damage and degradation caused by the heat from a fire. FireStrong poles come with 4 irreversible temperature gauges for post-fire inspections to ensure your grid is safe. Ask us about our fire testing and current installations.



Waterfront Infrastructure

Waterfront infrastructure projects present a unique and challenging set of demands. Marine infrastructure is constantly exposed to saltwater, whether or not it is submerged, along with UV sunlight, extreme weather conditions and even corrosive chemicals. Lightweight, strong, and flexible, FRP structures are emerging as the preferred technology to replace deteriorating wood, concrete and steel structures.

Pipe Piles

Fender systems protect critical waterway infrastructure like bridges, piers and electric towers from damage. Guide walls safely bring ferries into terminals. SuperPile® is among the most resilient and durable piling brands on the market. Make your next waterfront project StormStrong with FRP SuperPile.





StormStrong® Sheet Piles

SuperLoc® piles protect shoreline from erosion and extreme weather. These sheet piles offer high strength to weight ratio, corrosion resistance, maintenance-free operation and versatility compared to wood, vinyl, concrete or steel.

Camels and Separators

Camels and separators comprise a diverse set of floating structures that allow safe berths for vessels as they approach a docking site. Virtually any camel or separator can be made more durable with the use of FRP composites. Applications include separators for ports and log camels and piers handle small vessels to cargo ships. Able to meet extreme requirements, we supply camels for submarines and aircraft carriers for the U.S. Navy.



Specialty Applications

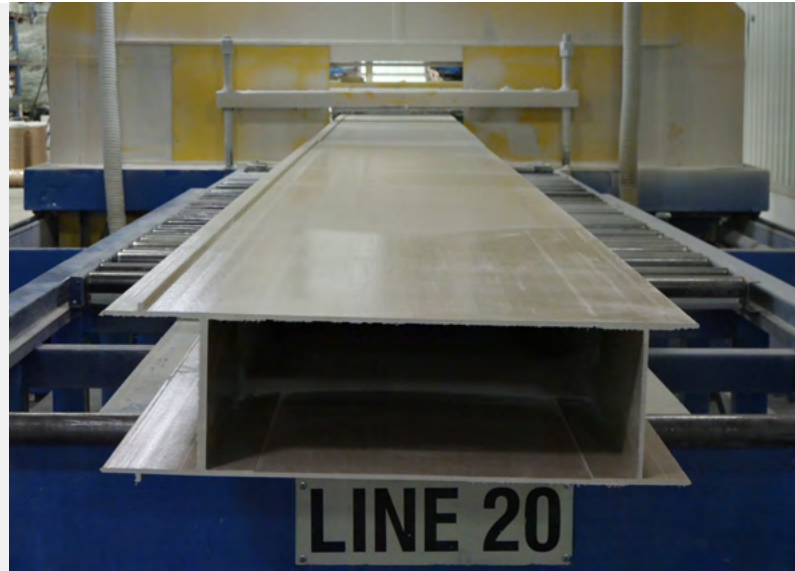
FRP may be used in any number of specialty applications. These include trench covers for piers, floating pump-out stations, and dam structures for controlling water levels in rivers. Customers value the long life and minimal maintenance.



OEM & Design/Build Capabilities

OEM and Custom Profiles

These “best in class” pultruded profiles are often the enabling technology that makes our customers’ systems special. These can be custom applications using special materials like carbon or polyurethane, or long term production for OEM customers. We provide turnkey solutions, taking products from concept to design, to tooling manufacturing, to production. This includes a lifetime tooling guarantee that is unique to the industry.



Standard Structural Shapes

This is an extensive array of pultruded fiberglass reinforced structural shapes as angles, channels, rods, tubes, plates and beams sold under the Pultex and SuperStructurals brand names. A comprehensive design manual and CAD files allow customers to easily incorporate these shapes in their structures.



CCGs Custom Molding Division

We are strategically positioned to serve our customers by offering complete engineering and design capabilities, including CAD drawings generated in AutoCAD and Solid Works, and Finite Element Analysis assessment. We bring both standard items as well as “one-off” specially molded fabrications from the design phase, through the manufacturing phase, to the final on-site installation at the customer’s facility.

Design and Build FRP Molding

Our molding division has manufacturing in Ohio and Maine. We design optimum solutions using all methods of open contact molding, including hand lay-up and filament winding. We provide a wide range of composite manufacturing processes and the know-how to help customers match the right process with the right part. It has been our experience that companies find the most value in our capability to both design and build the parts they need. We can engineer and manufacture customized composite parts to meet your design concept and performance requirements.



Heavy Industrial Corrosion

FRP is the standard material choice for any industry using strong chemicals for producing their products. The products excel in these environments with longevity and ease of repair. Applications include chemical storage tanks, process tanks, stock towers, pipes, ducts, and covers. A key value is our field services for new product installation as well as maintenance and repair of existing equipment.

Choose Creative Composites Group for Comprehensive Project Support

Your Single Source for Innovative Structural Composites Using FRP

Advance your projects beyond the limitations of traditional concrete, steel and wood by leveraging the combined strength of Creative Composites Group. We are a leader in technical innovation that is backed by the industry's most comprehensive FRP manufacturing group for infrastructure.

CCG can help you engineer and manufacture projects to meet the needs of future generations.

We offer comprehensive engineering, design and consultation. Our manufacturing capabilities include the broadest range of engineered FRP solutions to build your ideal projects. That's possible only with our proven engineering processes, end-to-end collaboration, service and support resources. Since FRP composites last longer than conventional materials, they often have a lower lifetime cost when you consider longer service life and low to no maintenance costs.

Discover Your Custom Engineered FRP Provider

CCG is committed to becoming a trusted business partner who is keenly interested in your project's success. Creative Composites Group works alongside your team, from owners to design engineers and contractors, to help you develop a custom FRP solution that meets the most demanding structural requirements and environmental conditions.

Contact us for your next engineered FRP project. We'd be thrilled to discuss it with you.

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