



High Performance Composite Solutions



Together, we will make your vision a reality.

Fibergrate in the Recreation Industry

Introduction

Fibergrate Composite Structures Inc. is a global manufacturer of fiberglass reinforced plastic (FRP) products for industrial, commercial and recreational use. Fibergrate sets the standard for high performance composite products with such proven brands as Fibergrate® molded grating, Safe-T-Span® pultruded grating, Dynarail® railing and ladder systems, and Dynaform® structural shapes. Fibergrate offers turnkey design, engineering, manufacturing, fabrication and installation services.

Within the recreation industry; corrosion resistance, safety, aesthetics and maintenance requirements are critical considerations. For five decades, Fibergrate has met the challenging conditions found in the recreation industry with its wide selection of FRP products. Key product features such as corrosion resistance, slip resistance, non conductivity and low maintenance make these products ideal for use in all types of recreational facilities.

Fibergrate's FRP products offer superior resistance to corrosive saltwater, chlorine, cleaning fluids and other chemical compounds. FRP is also designed to stand up to the harsh effects of outdoor use including extreme and varying temperatures. The result is minimal maintenance requirements, a long service life and a lower life cycle cost than traditional products. Today, Fibergrate products can be found in zoos, nature habitats, aquariums, marinas, aquatic parks, golf courses, storage facilities, gyms, swimming pools and theme parks.



Applications



- Boat Docks, Walkways
- Stairways, Decking, Bridges, Catwalks
- Access Platforms, Ramps
- Locker Rooms
- Storage Areas
- Fountains
- Wave Pool Wave Breaks and Drainage
- Playground Structures, Railing, Ladders
- Golf Course Bridges and Cart Path Areas
- Aquatic Facility Drainage Areas/ Walkways
- Swimming Pool Drains and Mechanical Rooms
- Zoo/Animal Park Screening, Access Platforms
- Aquarium Screening, Access Platforms, Barriers
- Air Intake and Personnel Protection Screens
- Nature Trail Bridges, Ramps and Outlooks

Why Fibergrate?



Corrosion Resistant: Numerous premium grade resin systems available to meet your specific needs. This unmatched protection ensures the product will withstand saltwater, chlorine, cleaning solutions and wet weather conditions.



High Strength to Weight Ratio: Less than one-half the weight of steel grating, allowing easy installation with no heavy equipment and less manpower and effortless removal for access below floor level



Slip Resistant: A meniscus top (service areas only) or permanent grit on Fibergrate's flooring products provides a safer, slip-resistant walking surface. Grating comes in varying textures including fine grit for bare feet.



Impact Resistant: FRP can withstand major impacts with negligible damage. Gratings are available to satisfy even the most stringent impact requirements.



Low Maintenance: The corrosion resistant properties of Fibergrate products reduce or eliminate the need for sandblasting, scraping and painting.

Easily Fabricated: Can be cut using circular or reciprocating saws with abrasive blades.



Electrically & Thermally Non Conductive: Fiberglass is electrically non conductive for safety and has low thermal conductivity which results in a more comfortable product when physical contact occurs.



NSF® Standard 61-Certified:

Fibergrate offers a line of pultruded and molded products that have been certified to NSF Standard 61 for potable water contact. These include Dynaform® structural shapes, Dynarail® ladder and railing systems, as well as specially formulated molded grating. This molded grating uses an isophthalic and vinyl ester resin formulation and is the only molded grating available with NSF Standard 61 certification.



UV Resistant: Fibergrate's FRP gratings are formulated for maximum UV resistance and a special coating is available for increased UV resistance on railing and ladder systems.



Heavy Metal Safe:

The EPA, OSHA and other regulatory agencies created to protect our lives and our natural resources have increased legislation to control heavy metals such as lead, chrome, cadmium and other metals in all products where exposure is a health threat. Fibergrate Composite Structures Inc. supports this strengthened legislation and has, for more than 20 years, voluntarily tested for heavy metals in our products and minimized or eliminated heavy metals from our products.



Fire Retardant: Most Fibergrate products are engineered to have a flame spread rating of 25 or less, as tested in accordance with ASTM E-84, and meet the self-extinguishing requirements of ASTM D-635.

FRP vs. Steel: When comparing the price of Fibergrate fiberglass reinforced plastic (FRP) to metallics, consider: **Value = Price / Service Life**

Cost Factor	Traditional Metallic Materials	The Fibergrate® Advantage
Safety Cost	Slips and falls are the second leading cause of industrial accidents and one of the leading causes of death. Each lost work day can cost \$50,000 to \$100,000.	Fibergrate's slip resistant surface dramatically reduces accidental slips making it the most cost-effective solution for minimizing worker accidents and lost workdays.
Initial Installation Cost	Up front, metallic components appear to be the most economical, based on material cost alone. However, metallic materials require heavy lifting equipment, added labor for cutting, welding and painting, and grating must be "edge-banded".	Although initial material investment may appear higher, don't be fooled! FRP products require no heavy lifting equipment, minimal labor, are easily fabricated with hand tools, do not need painting, and grating requires no edge-banding.
Maintenance & Replacement Cost	In highly corrosive recreational installations, metallic products often require intensive maintenance and can deteriorate in a few years or less, requiring numerous replacements within the facility life.	Fibergrate FRP products will last much longer and require little maintenance. Fibergrate systems pay for themselves after one maintenance cycle. Many Fibergrate installations have been in service for 40+ years.

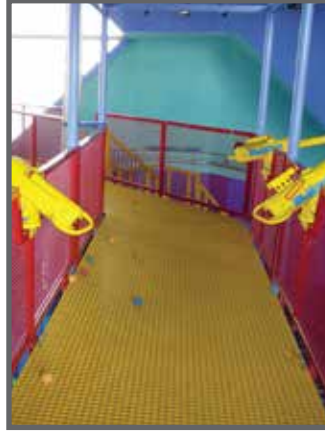
FRP Product Solutions

Safe-T-Span® Pultruded Grating



- Superior Corrosion Resistance Compared to Metal Gratings
- High Unidirectional Strength and Stiffness for Longer Spans
- Superior Slip Resistance (with Grit Top)
- Aqua Grate® Pultruded Grating is Barefoot Friendly
- Light Gray Color Minimizes Heat Buildup
- Several ADA-Compliant Configurations Available

Fibergrate Molded Grating



- Maximum Corrosion Resistance
- Bidirectional Strength (Facilitates Field Cuts and Penetrations)
- Maximum Impact Resistance
- Superior Slip Resistance (with Meniscus or Grit Top)
- More than 20 Mesh and Panel Configurations

Fiberplate® Floor Plate



- Molded in Thicknesses from 1/8" - 3/4"
- Maximum Corrosion Resistance
- Often Installed Over Traditional Surfaces for Slip Resistance (Gritted Plate) and ADA Compliance
- Non-Gritted Plates Available for Non-Walkway Applications

Dynarail® Railing and Ladder Systems



- Maximum Corrosion Resistance
- Thermally and Electrically Nonconductive
- Shipped Ready-to-Install
- Can be Coated for Maximum UV Resistance

Dynaform® Structural Shapes



- Superior Corrosion Resistance to Metal Shapes
- Long Lasting, Attractive Appearance
- Can be Coated for Maximum UV Resistance
- Thermally and Electrically Nonconductive



FRP Product Solutions

Custom Bridge Systems



- All-FRP Structure Offers Years of Low-maintenance Service
- Designed, Engineered and Fabricated In-House to Meet Your Specific Needs
- Shipped Ready-to-Assemble
- ADA Compliant Designs Available
- Lighter Weight Provides Ideal Solution for Remote Installations

Custom Platform Systems



- All-FRP Structure
- Designed, Engineered, Manufactured and Fabricated In-House to Meet Your Specific Needs
- Shipped Ready-to-Assemble
- Effortlessly Make Field Cuts and Penetrations

Covered Stair Treads



- 20% the Weight of Concrete Treads and Easy to Install
- Will Not Corrode Even With Salts and Cleaning Solutions
- Slip Resistant

Stair Tread Covers



- Provides Slip Resistance to Existing Stair Treads
- Installs Over Existing Wood, Concrete or Metal Treads
- Available With Phosphorescent Nosing (Emits Light When Light Source Is Removed)
- Easy and Economical to Install

Stairway Systems



- All-FRP Construction
- One-third the Weight of Steel Reduces Installation Costs
- Engineered to Meet Your Specific Requirements
- Designed with Dynarail® Railing Systems and Dynaform® Structural Shapes

Stair Treads



- Standard Molded and Pultruded Configurations
- Available in Open Mesh or Solid Top
- Corrosion Resistant
- Superior Slip Resistance (with Meniscus or Grit Top)
- Lightweight for Easy Installation

Case Studies

Ocean Journey Aquarium



Fibergrate provided all of the behind-the-scenes platforms for this aquarium, including the molded walkway grating and safety railing around and across service areas of the Sea of Cortez, the Open Blue exhibit tanks, and the Reservoir. Safe-T-Span® pultruded grating was used at the bottom of many exhibits to support large rocks and other media in the display. Covered grating and special hand-lay-up fiberglass framing were engineered and fabricated to provide custom sliding gates. Fibergrate's products were chosen for corrosion resistance, safety and high strength-to-weight properties.

Denver, Colorado

Russian River Boardwalks



FRP boardwalks installed along the Russian River provide access for anglers, pedestrians and cross country skiers in the winter without ruining the vegetation on the riverbanks. Heavy pedestrian traffic and constant climbing up and down the banks by anglers caused the riverbanks to lose vegetation creating bank erosion and river shallowing. Needing to find a material that would meet ADA requirements, be safe for pedestrians and allow light through to recovering vegetation, the U.S. Forest Service chose Fibergrate's Safe-T-Span® pedestrian pultruded grating. The light gray color blends well with natural

Anchorage, Alaska

Disney® - MGM Studios®



Disney® used Fibergrate® molded grating in two areas of their MGM Studio Back Lot Tour. Fibergrate was on an ocean scene set in order to provide safe, slip-resistant access throughout the attraction for the cast. Fibergrate was used along with Dynaform® structural shapes to create a corrosion-resistant faux lagoon surrounding an ice cream shop in the shape of a wading dinosaur. FRP products were chosen because of their ergonomic, corrosion-resistant, slip-resistant and low-maintenance properties.

Orlando, Florida

Ontario Place



Dynarail® railing was used as a barrier/retainer for a car ride at the Ontario Place entertainment park located along Lake Ontario, Canada. Dynarail railing was used because it is corrosion resistant and easy to maintain.

Toronto, Ontario, Canada

Case Studies

“The Beach” - Mandalay Bay



Safe-T-Span® pultruded grating, Fiberplate® and Dynaform® structural shapes were used to create this wave pool break. When the pool was originally built, the waves would wash up on the beach soaking everything in its path. The architects needed to create an area which would allow the waves to disperse and drain back into the pool. With it's corrosion- and slip-resistant and thermally nonconductive properties, Safe-T-Span is the perfect solution.

Las Vegas, Nevada

Moody Gardens



Fibergrate's FRP molded grating has been used throughout the Rainforest Pyramid. With its consistently wet environment and tropical temperatures, the pyramid must continually cycle its air. Fibergrate square mesh grating is used extensively in this air flow system, providing corrosion-resistant, ecologically-safe, open-mesh screens. Grating is also used as skimmers, drain covers and screens in several of the rainforest exhibits. Fibergrate is used in other attractions at Moody Gardens including the Aquarium Pyramid.

Galveston, Texas

McCormick Place Fountain



When the city of Chicago decided to dress up their expanded and renovated convention center, McCormick Place, they chose Fibergrate® covered grating. The covered grating was used to create fountains in an outdoor 5-acre plaza (McCormick Square) and indoors in a 900-foot long Grand Concourse which also houses retail shops and restaurants. The light weight of the covered grating allowing workers easy access to pipes as well as excellent corrosion resistance make Fibergrate® the best solution.

Chicago, Illinois

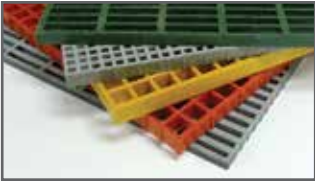
Golf Course



Located just off the 18th hole at the CEO's residence, this stairway leads from his front yard to his private beach below. The stairway was constructed from Dynarail® railing, Dynaform® structural shapes and Fibertred® stair treads to replace a corroded rusting metal stairway. The color of the stairway blends in with the natural Carmel sandstone.

Pebble Beach, California

Fibergrate Products & Services



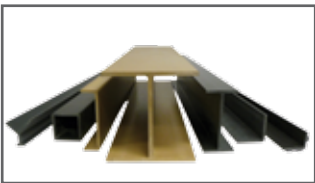
Fibergrate® Molded Grating

Fibergrate® molded gratings are designed to provide the ultimate in reliable performance, even in the most demanding conditions. Fibergrate offers the widest selection in the market with multiple resins and more than twenty grating configurations available in many panel sizes and surfaces.



Safe-T-Span® Pultruded Industrial & Pedestrian Gratings

Combining corrosion resistance, long-life and low maintenance, Safe-T-Span® provides unidirectional strength for industrial and pedestrian pultruded grating applications.



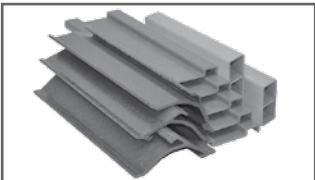
Dynaform® Structural Shapes

Fibergrate offers a wide range of standard Dynaform® pultruded structural profiles for industrial and commercial use, including I-beams, wide flange beams, round and square tubes, bars, rods, channels, leg angles and plate.



Dynarail® Guardrail, Handrail & Safety Ladder Systems

Easily assembled from durable components or engineered and prefabricated to your specifications, Dynarail® guardrail, handrail and safety ladder systems meet or exceed OSHA and strict building code requirements for safety and design.



Custom Composite Solutions

Combining Fibergrate's design, manufacturing and fabrication services allows Fibergrate to offer custom composite solutions to meet our client's specific requirements. Either through unique pultruded profiles or custom open molding, Fibergrate can help bring your vision to reality.



Design & Fabrication Services

Combining engineering expertise with an understanding of fiberglass applications, Fibergrate provides turnkey design and fabrication of fiberglass structures, including platforms, catwalks, stairways, railings and equipment support structures.



Worldwide Sales & Distribution Network

Whether a customer requires a platform in a mine in South Africa to grating on an oil rig in the North Sea, or walkways in a Wisconsin cheese plant to railings at a water treatment facility in Brazil; Fibergrate has sales and service locations throughout the world to meet the needs and exceed the expectations of any customer.

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