Chemical Industry

Market Solutions

Fibergrate
Composite Structures

Building the World to Last®

HIGH PERFORMANCE COMPOSITE SOLUTIONS

Together, we will make your vision a reality.

Fibergrate in the Chemical Industry

Introduction

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

When Fibergrate originated FRP molded grating nearly five decades ago, it was initially in response to the harsh demands of the chemical industry. Compared to traditional metal products, Fibergrate's products continue to provide better solutions structurally and economically for chemical applications. Since its inception, Fibergrate's wide range of innovative products and resin formulations have met the the ever-changing and challenging needs of the chemical industry. Fibergrate's products are ideal for use throughout chemical facilities and around all types of chemical processes, with key benefits such as corrosion resistance, increased safety, slip resistance and low maintenance. The years of experience in the industry and the unique features and benefits of FRP products have allowed Fibergrate to become the leader in offering proven solutions to the chemical industry.

FRP products have solved problems in a variety of chemical facilities producing ammonia, nitrates, acids, alkalis, polymers, petroleum derivatives, solvents and many other chemicals. Fibergrate systems have also been utilized in facilities that use harsh chemicals as raw materials or additives in their own manufacturing processes including companies that make fertilizers, electronics, batteries and specialty chemicals, or who do electroplating or pickling.

Applications

- Elevated walkways in tank farms
- Chemical loading/unloading platforms
- Access systems for hazardous waste areas
- Stair tread covers over existing stairs
- Grating for trench covers
- Access platforms for tanks and process vessels
- Walkways, skids and platforms for chemical storage areas
- Molded grating around mixing tanks and pumps
- Platforms over piping and other equipment
- Covers for track pans in fuel car loading zones

Fibergrate Benefits

Product Features and Benefits

Corrosion Resistant: Numerous resin systems are available to provide the corrosion resistance required to meet specific needs in varying chemical processes.

Slip Resistant: The meniscus and integrally applied grit surfaces of Fibergrate grating products have unmatched slip resistance for improved worker safety.

Fire Retardant: Flame spread rating of 25 or less, as tested in accordance with ASTM E-84, and meets the self-extinguishing requirements of ASTM D-635.

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.

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

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. Products are also easily cleaned with a high pressure washer.

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

Easily Fabricated: Most materials can be cut using circular or reciprocating saws with abrasive blades.

Engineering and Drafting: Some chemical projects require sealed drawing and calculations. Utilizing Fibergrate's 40+ years experience and engineering directed by a professional engineer can save time and money from concept to completion.

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.

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, 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 chemical installations, metallic products often require intensive maintenance and often 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 chemical installations have been in service for 30+ years.

Fibergrate Solutions

See how Fibergrate products can provide solutions for any chemical application -

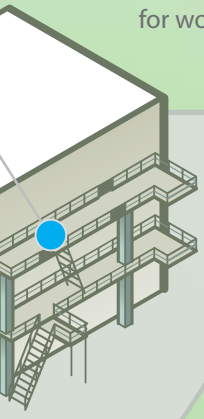
Fibergrate® molded grating and Dynarail® handrail and ladder systems provide safe access to tanks.

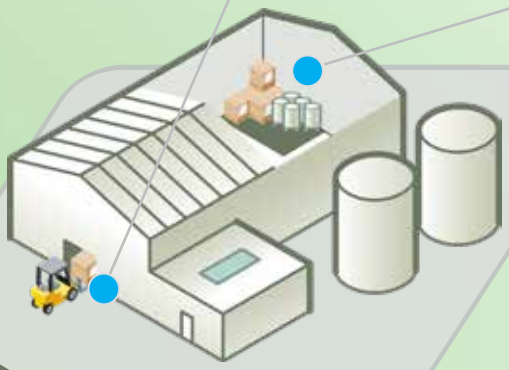
Corrosion and slip reistant Fibergrate® products including stair treads, handrail, grating, and structural profiles provide access platforms to fuel cars.

Fibergrate® grating and Dynaform® structural shapes create slip resistant walkways over existing track pans in refinery fuel car loading zones.

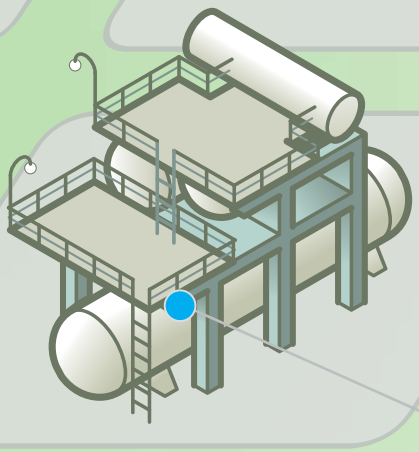
Fibergrate® High Load Capacity molded and pultuded gratings are used over trenches and can withstand heavy vehicle loads.

Fiberbrate® molded gratings and stair treads provide access platforms to chemical facility buildings and processing equipment. Dynarail® ladders and railings also ensure safety for workers.





Fibergrate® grating is used in chemical storage buildings for chemical barrels or other containers. The open mesh allows for drainage in case of accidental spills or leaks.



Dynarail® handrail, Dynaform® structural shapes and Fibergrate® grating provide safe access to chemical storage tanks, even creating walkways to access multiple tanks.

Fibertred® stair treads and Fibergrate molded grating provide corrosion resistant walkways and platforms throughout chemical facilities.

Product Solutions

Fibergrate® Molded Grating

- Maximum corrosion resistance
- Utilized for walkways or flooring
- Exceptional slip resistance with 2 non-slip surface options
- Variety of depths and panel sizes

Safe-T-Span® Pultruded Grating

- High unidirectional strength and stiffness for longer spans
- Used for non-slip walkways and flooring
- Superior corrosion resistance compared to metal gratings

Fiberplate® Gritted Floor Plate

- Installs on traditional surfaces for slip resistance
- Solid composite panel; excellent for odor control
- Corrosion resistant and light weight
- Nonporous surface allows for easy cleaning

Molded High Load Capacity Grating

- Unique one piece construction withstands vehicular turning loads
- 1-1/2" and 2" depths available
- Used in storage areas, as trench covers, flooring, ramps & loading areas

Dynaform® Structural Shapes

- High strength and durability; can withstand corrosive applications
- Thermal & electric non conductivity
- Can be coated for maximum UV resistance
- Custom shapes available

Pultruded High Load Capacity Grating

- High unidirectional strength; corrosion resistant
- Engineered to withstand forklift & tractor trailer loads
- Available in 1", 1-1/2", 2", 2-1/2" & 3" depths
- Used for trench covers, flooring, ramps & loading areas

Stair Treads, Stair Tread Covers and Stairway Systems

- Treads available in molded or pultruded configuration
- Superior slip resistance compared to metal stairs, especially in wet conditions
- Tread covers install easily over existing treads providing slip resistance

Dynarail® Guardrail, Handrail and Ladder Systems

- Superior corrosion resistance compared to metal ladders and railings
- Thermally non-conductive
- Lightweight for easy & cost effective installation
- Can be coated for maximum UV resistance

Case Studies

Chemical Plant

Project Info

-Fibergrate®
Molded Grating

-Fibertred®
Stair Treads

This chemical plant produces more than 50 million pounds of specialty chemicals for manufacturers around the globe. The facility was in need of walkways and platforms around processing areas throughout the facility. Due to the chemical activity in the processing areas, corrosion resistance was a major concern for this company's purchasing department and maintenance personnel. Fibergrate worked with them to analyze existing corrosive environments to determine the right solution for their needs. Vi-Corr® vinyl ester resin Fibergrate® molded grating and stair treads were chosen for its high corrosion resistance and ease of cutting. Fibergrate's fabrication services were utilized to cut approximately 3,000 square feet of square mesh grating for safe, corrosion and slip resistant walkways and platforms.

Loading Zones

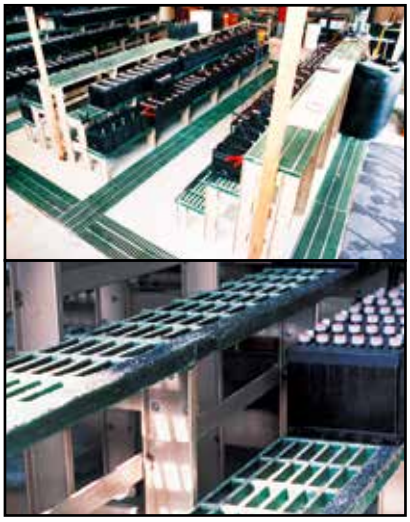
Project Info

-Fibergrate ®
Molded Grating

-Dynaform®
Structural Shapes

This chemical facility needed to bring their rail car platforms into compliance for potentially hazardous material spills in loading zone areas. They needed a corrostion resistant material for spill containment track pans at the sodium chlorate unloading terminal. Fibergrate® grating was used to provide safe walking surfaces beside and between the rails, and Dynaform® channel bars were installed to support the grating. Both the customer and the contractor for the project were happy with Fibergrate's service and materials and plan to use more Fibergrate FRP products for additional modifications in their facilities.

Battery Storage



Project Info

-Fibergrate®
Molded Grating

-Dynaform®
Structural Shapes

Chemical storage and charging rooms are notorious for severe sulfuric acid conditions which rapidly break down most structural materials used to hold batteries. In a facility in Wisconsin, safety and corrosion resistance were two important factors in choosing Fibergrate® products instead of wood which quickly disintegrates in such hostile environments. Fibergrate® installed the structure and shelving, as well as a drainage system in the floor. Thanks to the corrosion resistant properties of Fibergrate products, acid is easily removed from the shelves and drains using a simple washdown procedure. Fibergrate's products have created a long-term, low maintenance solution in this harsh corrosive environment.

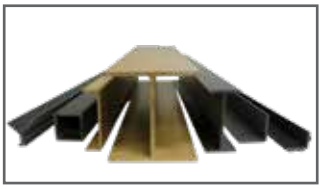
Fibergrate Products & Services

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.

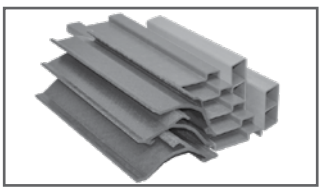


Dynaform® Structural Shapes

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.

Heavy Metal SAFE
Arsenic Barium Cadmium Chromium Lead Mercury Nickel Selenium Silver

QUALITY MANAGEMENT ISO 9001 SYSTEM CERTIFIED

Fibergrate Composite Structures

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