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 Glass Reinforced Plastic (GRP) products for industrial and commercial use. Fibergrate sets the standard for high performance composite products with such proven brands as Fibergrate® moulded 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 GRP moulded 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 GRP products have allowed Fibergrate to become the leader in offering proven solutions to the chemical industry.

GRP 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
- Moulded 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: GRP 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: GRP 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 GRP 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 50+ 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.

GRP vs. Steel: When comparing the price of Fibergrate Glass Reinforced Plastic (GRP) 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 lead to a significant cost.	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 labour for cutting, welding, painting and grating must be "edge-banded".	Although initial material investment may appear higher, don't be fooled! GRP products require no heavy lifting equipment, minimal labour, 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 GRP 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® moulded grating and Dynarail® handrail and ladder systems provide safe access to tanks.

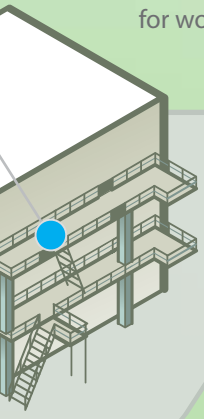
Corrosion and slip-reistant Fibergrate® products including stair treads, handrail, grating, and structural profiles provide access platforms to fuel cars.

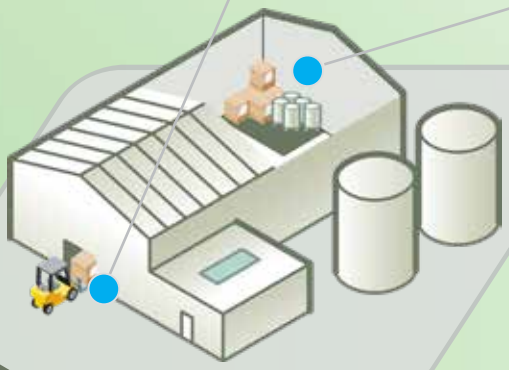
Fibergrate® grating and Dynaform® structural shapes create slip-resistant walkways over existing track pans in refinery fuel car loading zones.

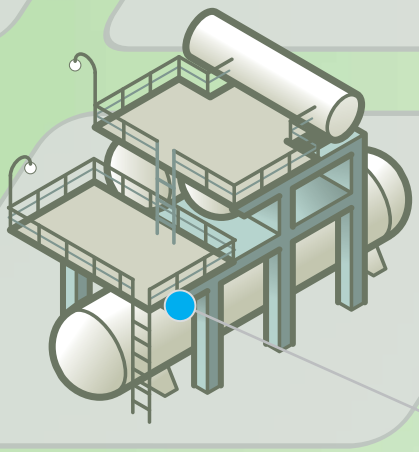
Fiberbrate® moulded gratings and stair treads provide access platforms to chemical facility buildings and processing equipment. Dynarail® ladders and railings also ensure safety for workers.

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

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 moulded grating provide corrosion-resistant walkways and platforms throughout chemical facilities.

Product Solutions

Fibergrate® Moulded 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 odour control
- Corrosion-resistant and lightweight
- Non-porous surface allows for easy cleaning

Moulded High Load Capacity Grating

- Unique one piece construction withstands vehicular turning loads
- 38mm and 51mm 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 25mm, 38mm, 51mm, 63mm& 76mm depths
- Used for trench covers, flooring, ramps & loading areas

Stair Treads, Stair Tread Covers and Stairway Systems

- Treads available in moulded 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®
Moulded 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® moulded 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

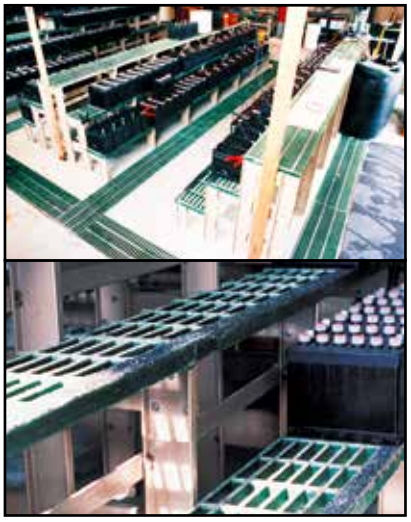
Project Info

-Fibergrate ®
Moulded 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 corrosion-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 GRP products for additional modifications in their facilities.

Battery Storage



Project Info

-Fibergrate®
Moulded Grating

-Dynaform®
Structural Shapes

Chemical storage and charging rooms are notorious for severe sulphuric 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.

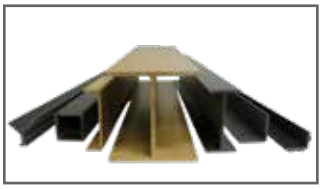
Fibergrate Products & Services

Fibergrate® Moulded Grating

Fibergrate® moulded 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® & DynaRound™ Guardrail, Handrail & Ladders

Easily assembled from durable components or engineered and prefabricated to your specifications, Dynarail® square tube and DynaRound™ round tube railing sytems, and Dynarail® 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 moulding, Fibergrate can help bring your vision to reality.

Design & Fabrication Services

Combining engineering expertise with an understanding of GRP applications, Fibergrate provides turnkey design and fabrication of GRP 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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Heavy Metal SAFE
Arsenic Barium Cadmium Chromium Lead Mercury Nickel Selenium Silver

QUALITY MANAGEMENT SYSTEM CERTIFIED ISO 9001

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