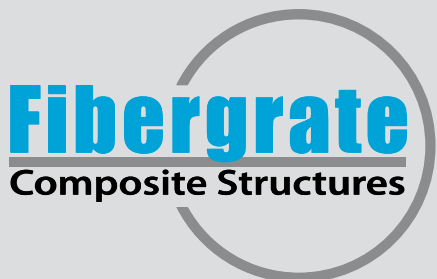


Water & Wastewater Market Solutions



HIGH PERFORMANCE COMPOSITE SOLUTIONS



Building the World to Last®



Together, we will make your vision a reality.

Fibergrate in Water & Wastewater

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, Dynarail® railing and ladder systems, and Dynaform® structural shapes. Fibergrate offers turnkey design, manufacturing and fabrication services. With the recent addition of new products for the water/wastewater market including scum baffles, troughs, launder covers, density current baffles, baffle walls and weir plates, Fibergrate stands ready to be your complete solutions provider for your water treatment needs.



Within the water and wastewater market; corrosion resistance, safety and maintenance requirements are critical considerations. For five decades, Fibergrate has met the challenges of the harsh environmental conditions found in the water and wastewater market with its wide selection of FRP products. Key product features such as corrosion resistance, slip resistance, UV resistance, flame retardancy, non conductivity, impact absorption and low maintenance requirements make these products ideal for use in all types of water/wastewater facilities. Fibergrate can also provide your facility with FRP products that are NSF Rated for Potable Water Contact.



Fibergrate's FRP products offer superior resistance to corrosive water, acids, alkalis and other chemical compounds. The result is minimal maintenance requirements, a long service life and a lower life cycle cost than ferrous metals and aluminum. Today, Fibergrate products can be found in all phases of potable water and wastewater treatment facilities including filtration, water and chemical storage facilities, and collection and treatment areas.

Applications



- Tank & equipment access platforms
- Handrails at basins, clarifiers, etc.
- Elevated platforms & walkways
- Air intake access & safety
- Weir plates & scum baffles
- Filter media support grids & structures (Biofilter, trickling filters, etc.)
- Ladders & safety cages - Inside & outside of tanks & pits
- Trench & vault covers (Up to H-20 truck traffic)

Fibergrate Benefits



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



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



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.



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



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.



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.



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



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.

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

Engineering and Drafting: WTP/WWTP 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.



NSF® Standard 61-Certified FRP Products:

Fibergrate offers a line of pultruded and molded FRP 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.



Heavy Metal Safe:

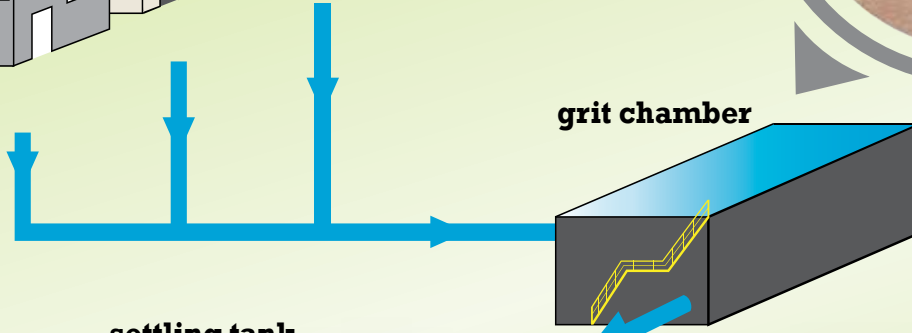
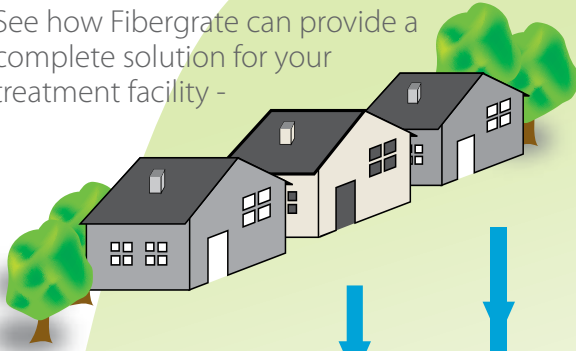
The EPA, OSHA and other regulatory agencies created to protect our lives and our natural resources have increased legislation to control heavy metals such as lead, chrome, cadmium and other metals in all products where exposure is a health threat. Fibergrate Composite Structures Inc. supports this strengthened 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 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 WTP/WWTP 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 WTP/WWTP installations have been in service for 30+ years.

Fibergrate Solutions

See how Fibergrate can provide a complete solution for your treatment facility -



settling tank

grit chamber

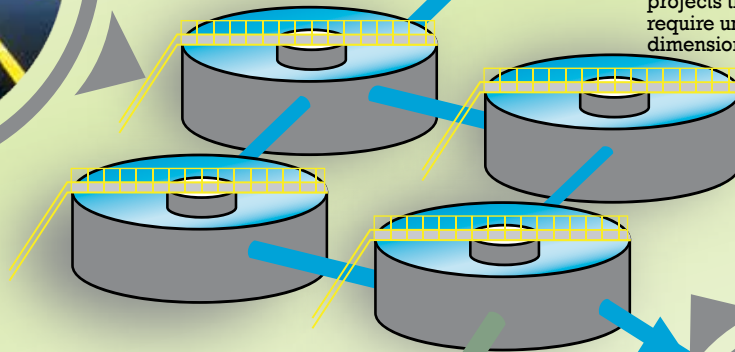
Fibergrate's stairway systems and platforms are engineered to meet your specific requirements.



Trickling filters can be covered with Fibergrate® molded grating or Safe-T-Span® pultruded grating, used for filter media support grids.



trickling filter



Fibergrate's FRP handrail and walkways can be used on and around clarifier tanks.



Fibergrate molded grating is easily fabricated for projects that require unique dimensions.



clarifiers

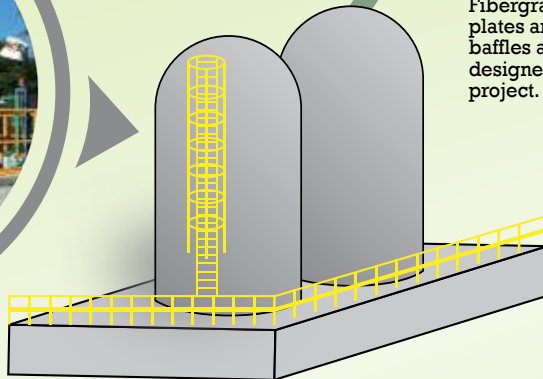
Dynarail® ladders, handrail and Fibergrate® grating walkways can make tanks safer and easier to access.



Fibergrate's weir plates and scum baffles are custom designed for each project.

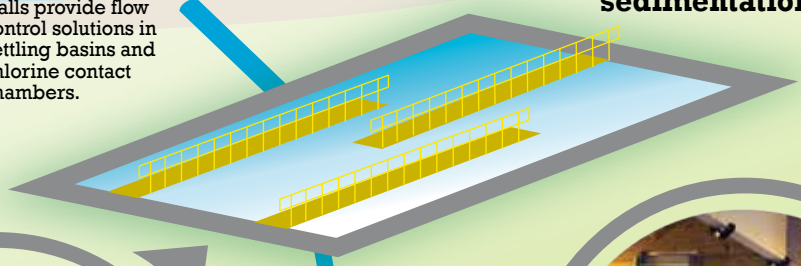
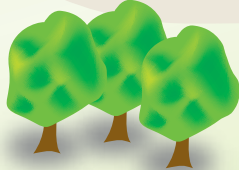


digester tanks



Fibergrate's baffle walls provide flow control solutions in settling basins and chlorine contact chambers.

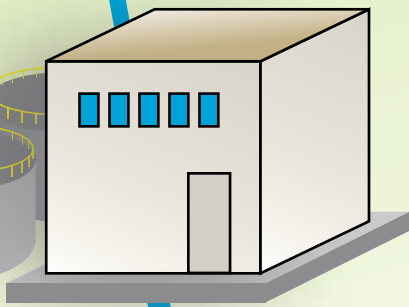
sedimentation basin



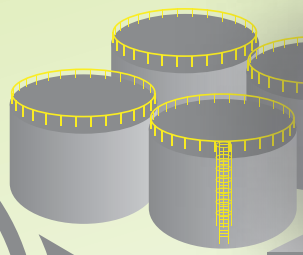
Our handrail systems and gratings are used throughout sedimentation basins.



Custom product solutions, such as this retractable stairway system, can make your facility more efficient and safe.



treatment plant



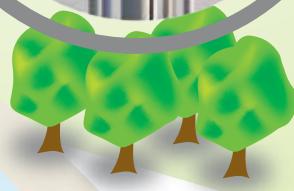
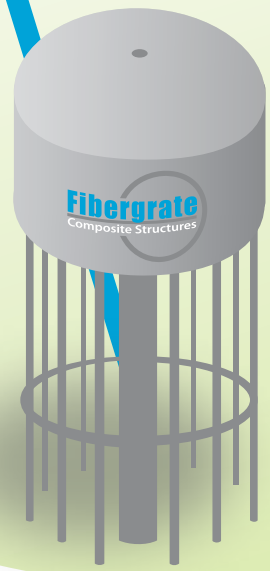
Our stairway systems, made of all-FRP materials, can be used to access tanks.



Water towers can be outfitted in Fibergrate FRP walkways, handrail and ladders to reduce maintenance and increase safety.



water tower



Product Solutions

Fibergrate® Molded Grating



- Maximum corrosion resistance
- Used 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

Covered Molded Grating



- Odor control solution
- Consists of a gridded plate cover secondarily affixed to a molded grating panel
- Can be used for walkways over tank tops and vats
- Offers maximum corrosion resistance

Fiberplate® Gridded Floor Plate



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

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

Metering Pump Stands



- Options of 1- 4 bays; floor or wall mounted with no back, molded grating back, or 1/4" plate back
- Easy installation, corrosion resistant and lightweight
- Optional drip pans and pump mount kits available

Dynarail® & DynaRound™ Railing & Ladder Systems



- Superior corrosion resistance & thermally non conductive
- Lightweight for easy & cost effective installation
- Can be coated for maximum UV resistance
- Dynarail guardrail utilizes 1-3/4" x 1/8" pultruded square tubes
- DynaRound is composed of 1.9" O.D. pultruded tubes

High Load Capacity (HLC) Molded & (HI) Pultruded Grating



- Engineered to withstand forklift & tractor trailer loads
- HLC molded grating has a unique one piece construction with depth options of 1-1/2" & 2"
- HI pultruded grating has high unidirectional strength; depths of 1", 1-1/2", 2", 2-1/2" & 3"
- Used for trench covers, flooring, & ramps in loading docks and storage areas

Product Solutions

Scum Baffles



- Available in a variety of configurations
- Provided with accessories such as splices and support brackets
- Resistant to corrosive environments

Laundry Covers



- Odor control
- Prevention of algae growth
- Keeps debris out of launders
- Custom designed in a variety of configurations

Troughs



- Custom designed in a variety of sizes and configurations
- Built to meet AWWA F101 specifications when required
- Available in a variety of corrosion resistant resins

Density Current Baffles



- Improves clarifier performance
- Provided with support brackets and splices
- Easy to install
- Corrosion resistant

Weir Plates



- Available in a variety of configurations
- NSF-61 approved resin system available
- Corrosion resistant
- Provided with accessories such as splices and washers

Baffle Walls



- Corrugated design with sloped surfaces
- NSF-61 approved resin system available
- Low cost, rapid installation
- High strength to weight ratio

Stair Solutions: Molded & Pultruded Stair Treads, Stair Tread Covers, Covered Treads, 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 and provide added slip resistance



- Stairway systems are engineered to meet your specific requirements
- Stairways are complete with FRP structure, railings and stairs
- All stair solutions are lightweight and easy to install

Case Studies

Bowery Bay



Project Info

- Custom Fabricated FRP Hoods
- Fibergrate® Molded Grating
- Dynaform® Structural Shapes
- Dynarail® Railings

The Bowery Bay facility was due for some renovations and upgrades to existing buildings. Fibergrate designed and fabricated FRP sodium hypochlorite hoods for the facility. This unique design integrated walkways to adjoin with the spray hoods for stabilization and resistance of coastal winds at the plant. Dynaform® structural shapes were used in the design of the hood and were used to support the pedestrian walkways. The walkways were constructed of Fibergrate® molded grating to provide slip resistance for workers, with Dynarail® railing on one side of each walkway for additional safety. The customer was pleased with the functionality in the design of these hypochlorite hoods and walkways that will withstand corrosion and require little maintenance for years to come.

City of Wichita



Project Info

- Safe-T-Span® Pultruded Grating
- Safe-T-Span® Pultruded Stair Treads
- Dynaform® Structural Shapes
- Dynarail® Three-Rail Guardrail

The City of Wichita chose to upgrade its water treatment facility with a safe, durable product that will protect against costly corrosion and provide a slip resistant surface for workers. Fibergrate's VEFR Safe-T-Span® pultruded grating and stair treads were chosen to replace steel in several sump areas, on stairways and on two access platforms. The access platforms also incorporated Fibergrate's Dynaform® structural shapes and a Dynarail® three-rail guardrail, engineered to meet the city's requirements. The operations manager of the facility was pleased with the appearance of the product and stated that not only do the Fibergrate products handle the cold winters well, but also continue to thrive [in the corrosive conditions].

Fort Wayne Hill



Project Info

- Fibergrate® Molded Grating
- Dynaform® Structural Shapes
- Dynarail® Handrail
- Fibertred® Stair Treads

The Fort Wayne Hill Water Resources Center in Buford, Georgia, was designed to meet the wastewater treatment and sanitary needs of Gwinnett County. Fibergrate was chosen to construct a large FRP (fiberglass reinforced plastic) structure for support and access at this facility. Dynaform® structural shapes were used for the main support structure. The flooring surfaces were constructed using Fibergrate® molded grating, creating a safe walking surface for workers. Dynarail® railings were used for added safety throughout the facility, along with Fibertred® molded stair treads for access. The client was impressed with the outcome, which met all their requests and needs.

Case Studies

San Miguel Cuyultán



i Project Info

- Dynarail® Railings
- Fibergrate® Molded Grating
- Dynaform® Structural Shapes
- Custom Shapes

The city of San Miguel Cuyultán in Jalisco, Mexico, needed FRP (fiberglass reinforced plastic) products for this project due to the corrosion resistant properties these products offer. This facility experiences high exposure to sulfur vapors and chose Fibergrate for its durability and corrosion resistance along with its low maintenance features. Fibergrate provided Dynarail® railings, platforms utilizing Fibergrate® molded grating, stair treads, and Dynaform® structural components to cover the different necessities of the treatment facility. As a result of the success of the project and Fibergrate's products, the State of Jalisco's government has decided to use Fibergrate for the rest of the wastewater treatment plant projects in the state, as well as in the nearby state of Sinaloa.

Ogden City



i Project Info

- Fibergrate® Molded Grating
- Dynaform® Structural Shapes
- Dynarail® Railings
- Fibertred® Stair Treads

The Ogden water treatment plant was originally constructed in the mid-1950s with some expansions and improvements implemented in the 1970s. A couple of decades later, the plant was completely rehabilitated and Ogden City's Water District chose Fibergrate to design a custom, retractable staircase using Fibergrate® molded grating, Fibertred® molded stair treads, Dynarail® railings and Dynaform® structural shapes. The staircase provides safe access to settling pits at this Utah filter plant, and it retracts to prevent disturbances of the scum blankets when the pits are full. Fibergrate was able to fully understand the customer's requirements which resulted in the creation of a unique application that met and satisfied their specific needs.

Pumping Station



i Project Info

- Fibergrate® Molded Grating
- Dynaform® Structural Shapes
- Dynarail® Railings
- Fibertred® Stair Treads

The Thickson Road Pumping Station located in Whitby, Ontario, Canada, is a multi-million dollar project designed to meet the water needs and requirements of the city. The customer was looking for slip resistant and corrosion resistant platforms and walkovers to complete this state-of-the-art facility. Fibergrate was chosen to provide Fibergrate® molded grating, Fibertred® stair treads, Dynarail® railing systems, and Dynaform® structural shapes to create platforms and walkways at the water pumping station. With the ease of installation and fabrication of Fibergrate products, the crossovers and platforms fit well over the existing pipes. The design is functional and will require little maintenance for many years.

The Only Complete Water Treatment Solution





Other Market Solutions



**At Fibergrate, we are building
the world to last.**



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.



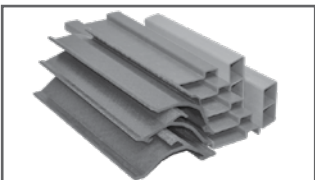
Dynaform® Structural Shapes

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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