Utility and Power

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 Utility Market

Introduction

Fibergrate Composite Structures Inc. is a global manufacturer of fiberglass reinforced plastic (FRP) products. Fibergrate sets the standard for high performance composite products with such proven brands as Fibergrate® molded gratings, Safe-T-Span® pultruded gratings, and Dynaform® structural shapes.

Fibergrate has led the revolution in structural products, away from maintenance intensive metals and heavy reinforced concrete products, towards the use of advanced composites. The pioneer in FRP components, Fibergrate structural materials provide solutions to many of the limitations of metal and concrete. These solutions include high strength-to-weight ratios, easy installation, significant safety and ergonomic characteristics, and long, low maintenance life cycles.

Access ducting has become a standard practice in the utility industry as it offers significant advantages over direct bury or overhead suspension. Access ducting allows many service providers to utilize the same highway for buildings and allows quick access for inspections, maintenance or additions. Fibergrate's FRP products are the new choice for ducting and trench covers as the benefits of its use are becoming better known to the utility industry.

Applications

- Trench Covers
- Walkways and Accessways
- Transformer Bund Grating
- Screenings and Guards

Fibergrate Benefits

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.

Corrosion Resistant: Will not rust or corrode due to weather or harsh chemicals.

Slip Resistant: Slip resistance properties far exceed those of concrete and metal, especially in wet or oily conditions.

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

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.

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.

Easily Fabricated: Can be fabricated with simple carpentry tools and require no welding. The lightweight makes it unnecessary for lifting equipment since the grating can be easily handled by two workers.

Allows Drainage: Open mesh grating removes standing water from walkways and access areas, or solid surface products can be used where needed.

Engineering and Drafting: Utilizing Fibergrate's 50 years of experience combined with 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 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 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.

Product Solutions

Trench Covers

Historically, cable trench covers have been created from heavy, reinforced concrete or metal grating. Both of these materials have significant drawbacks in appearance, safety and weight. Now, FRP is the best choice for trench and access ducting covers.

Concrete covers are heavy and unmanageable for workers, leading to more personal injuries on the job. These difficulties and the safety hazard posed by unsafe, cracked covers can prove a high liability for trench owners. Concrete is unable to withstand impacts and will crack and crumble. However, Fibergrate's FRP grating and plate has a high strength to weight ratio and is resists impacts

Metal covers and grating are also cumbersome and eventually rust and corrode, making them very unsightly and unsafe. In addition, metal trench covers are targets for theft because of their scrap value. The resulting, uncovered trenches become a very dangerous situation.

Why not provide an aesthetically pleasing Fibergrate FRP cover that will continue to provide durability and safety for years to come?

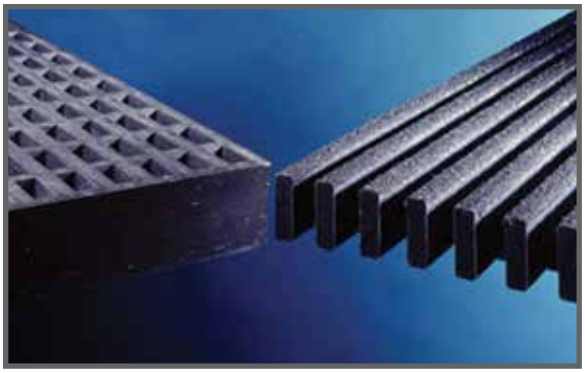
Traditional Concrete Trench Covers

Solid FRP Trench Covers

During Construction of Utility Trench

After Installation of FRP Trench Covers

Product Solutions



High Load Capacity (HLC/HI) Grating

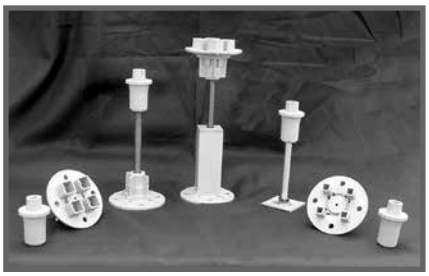
High Load Capacity (HLC/HI) Gratings are yet another product category in the arsenal of engineered solutions by Fibergrate. This specially manufactured product has been engineered to carry the forklift loads that traditional molded and pultruded FRP grating products are unable to support while capitalizing on some of the traditional features of FRP such as high strength, corrosion resistance, fire retardancy, non-conductivity, and low maintenance.

These high load gratings can be supplemented with standard molded or pultruded grating to create a trench system that will support the needs of any facility. High load gratings have at least a 48% open area for drainage and can be supplied with a solid top when needed. Fibergrate is the only manufacturer of an HLC molded grating product durable enough for vehicular turning traffic.

Grating Pedestals

Grating Pedestals are specially designed for square mesh molded grating and provide safe support for elevated flooring. Pedestals are ideal for grating support in trenches, transformer bund areas and where walkways are often reconfigured. Pedestals provide more flexibility in designing raised flooring applications as economically as possible.

Adjustable pedestals are available in heights from 3-1/4" to 72" (with additional bracing). The ease of adjustability of the pedestals will save installation time on sloped floors or trenches. Single heads can be adjusted from atop the grating, dramatically decreasing time spent during the leveling process.



Product Solutions

Transformer Bund Grating

Using Fibergrate FRP grating for transformer bund covers is becoming more popular for its convenience. The grating can be mounted on pedestals and can be adjusted to the proper heights. Using Fibergrate's grating pedestals requires no additional trench lip or structural supports and can be used when bund floors are not equal heights throughout. FRP grating and pedestals are convenient, economical and versatile for any transformer bund.

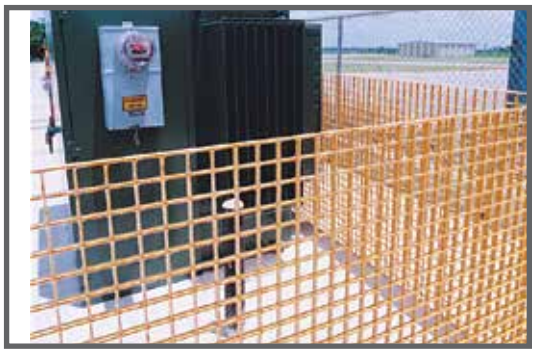
Stair Treads and Stairways

An entire stairway can be created from FRP materials including treads, stringers, railing and grating. Fibergrate provides several slip and corrosion resistant products for your stairway safety needs. Our complete stair solution line includes products for new or replacement steps or covers designed to add slip resistance to existing problematic steps. Stair treads and stairways are designed to exceed OSHA and other model building code standards for safety, strength, durability and corrosion resistance.

Product Solutions

FRP Screening

Fibergrate grating and structural shapes can provide a low maintenance, electrically transparent solution to protect people from voltage areas, moving machinery, or restricted areas. Open mesh grating allows for air circulation and visibility, or covered grating can be used for areas that require no visibility of electrical equipment.



FRP Structural Shapes

A full line of FRP structural shapes are available; including angles, channels, I-beams, wide flange beams, round tube, square tube, round rod, square bar, flat sheets and concrete embedment angles. These shapes have the same features and benefits as other Fibergrate FRP products which ensure a long, low maintenance life for projects even in harsh environments. Fibergrate is the world's foremost custom manufacturer and fabricator of highly complex and unique projects. Call today regarding a specialized solution for your project!

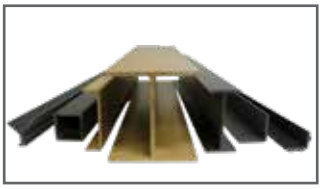
Fibergrate Products & Services

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.

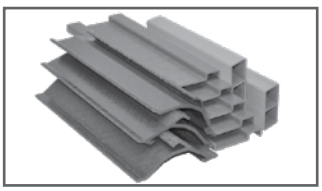


Dynaform® Structural Shapes

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

QUALITY MANAGEMENT SYSTEM CERTIFIED ISO 9001

Fibergrate Composite Structures

www.fibergrate.com | 800-527-4043 Fax: 972-250-1530 | Email: info@fibergrate.com