



FRP Solutions for the Utility Market

Trench Covers

Walkways and Access

Transformer Bund Grating

Screening and Guards

Fibergrate
Composite Structures

High Performance Composite Solutions



An Introduction to FRP



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® and Chemgrate® molded gratings, Safe-T-Span® pultruded grating, Rigidex® moltruded grating 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 including 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 known to the utility industry.

Utility Applications

Trench Covers

Walkways and Access

Transformer Bund Grating

Screening and Guards

Features and Benefits of FRP

Fibergrate FRP trench covers provide a multitude of features to save time and money while also increasing safety.

- **Lightweight Yet Durable** - Less than one-half the weight of steel and one-third the weight of concrete which means covers can be larger, therefore more efficiently laid and removed
- **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
- **Impact Resistant** - Withstands major impacts with little structural damage and no failure.
- **Easy to Maintain** - Virtually no maintenance is required. Products remain durable and more visually appealing in any environment without scraping, sandblasting or painting
- **Easily Fabricated** - Can be fabricated with simple carpentry tools and require no welding. The light weight 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.
- **Non-Conductive** - Will not conduct electrically or thermally providing additional worker safety. FRP is also electronically transparent to ensure no interference with sensitive equipment. Conductive top grating is also available when it is necessary to drain unwanted, dangerous static electricity.
- **Fire Retardant** - Exhibits a flame spread rating of 25 or less, when tested in accordance with ASTM E-84; meets the self-extinguishing requirements of ASTM D-635.



Open Molded Grating FRP Trench Cover



Solid Plate FRP Trench Cover



Open Pultruded Grating FRP Trench Cover



Solid Covered Grating FRP Trench Cover

Trench Covers

Historically cable trench covers have been created from heavy reinforced concrete or rusting metal grating. Both of these materials have significant drawbacks in appearance, safety and weight. Now, FRP is the new 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 just cannot withstand impacts and hold up against wear and tear when compared to Fibergrate's FRP grating and plate.

Metal covers and grating are also cumbersome and once rusted are very unsightly. Also consider as the price of metal rises, an increasingly common problem becomes trench covers stolen for scrap salvage which leaves a very dangerous uncovered situation behind.

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

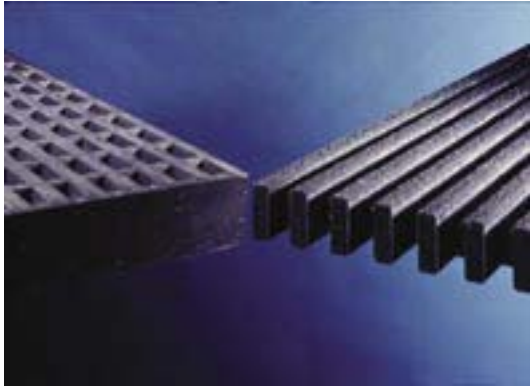


During Construction of Utility Trench



After Installation of FRP Trench Covers

HLC Grating and Grating Pedestals



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

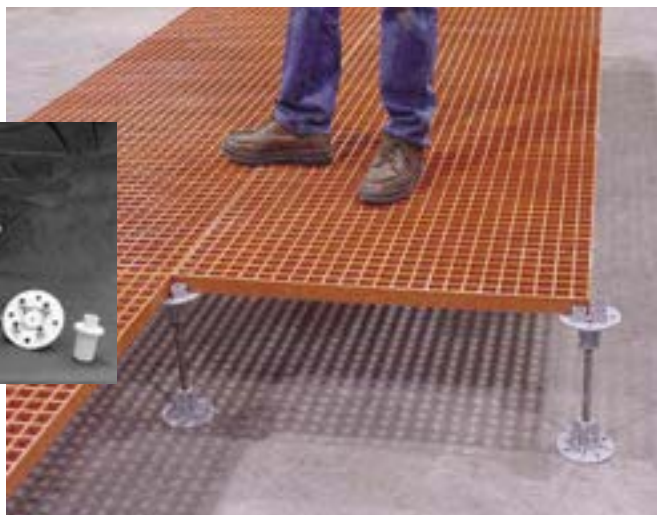


These high load gratings can be supplemented with standard molded grating to create a trench system that will support the needs of any facility. HLC gratings have at least a 48% open area for drainage or HLC can also be supplied with a solid top when needed. Fibergrate is the only manufacturer of a HLC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



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 when walkways will be reconfigured often. 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.



Transformer Bund Grating and Stairways



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, handrail 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.

Screening and Structural Shapes



FRP Screening provides a low maintenance, electrically transparent solution to protect people from voltage areas, moving machinery, or restricted areas while still allowing air circulation and visibility. Fibergrate's FRP products can even be used in areas where corrosive chemicals are present without deteriorating or becoming unsafe.



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 our other FRP products which ensures a long, low maintenance life for projects even in harsh, chemical 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 projects.



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 more than ten resins including Chemgrate CP-84 and more than twenty grating configurations available in many panel sizes and surfaces.

RIGIDEX® Moltruded® Grating

RIGIDEX Moltruded gratings are the first fiberglass gratings to combine the corrosion resistance of molded grating with the longer span capacity of pultruded grating, all at the low cost of metal gratings.



Safe-T-Span® Pultruded Industrial and Pedestrian Gratings

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

Dynarail® Handrail

Easily assembled from durable prefabricated components or engineered to your specifications, Dynarail handrail meets or exceeds OSHA and strict building code requirements for safety and design.

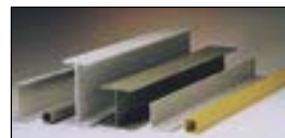


Dynarail® Safety Ladder System

Easily assembled on site, Dynarail safety ladder systems meet or exceed OSHA requirements. Though less costly than prefabricated ladder systems, these safety ladders provide a custom fit to the supporting structure.

Dynaform® Structural Shapes

Fibergrate offers a wide range of pultruded structural components for industrial use, including bars, rods, tubes, beams, channels, leg angles and plates.



Stair Solutions

Fibergrate offers a wide range of slip-resistant products to meet your stair safety needs. These durable products which include treads, tread covers and covered stair treads are a long-term, cost-efficient solution for your facility.

Grating Pedestals

Uniquely designed adjustable single and quad head pedestals for square mesh molded grating are manufactured to provide safe and economical support for elevated flooring.



Fabrication Services

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