

# Commercial Architecture Market Solutions



*Building the World to Last<sup>®</sup>*

HIGH PERFORMANCE COMPOSITE SOLUTIONS



*Together, we will make your vision a **reality.***

# Fibergrate® in Commercial Architecture

## Introduction

Fibergrate Composite Structures Inc. is a global manufacturer of Glass Reinforced Plastic (GRP) products for industrial and recreational use. Fibergrate sets the standard for high performance composite products with such proven brands as Fibergrate® moulded grating, Safe-T-Span® pultruded grating, Dynarail® handrail and ladder systems, and Dynaform® structural shapes. Fibergrate also offers turnkey design, manufacturing, fabrication and installation services.

Within the water and wastewater market; corrosion resistance, safety and maintenance requirements are critical considerations. For over five decades, Fibergrate has met the challenges of the harsh environmental conditions found in the water and wastewater market with its wide selection of GRP 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 products that are NSF Rated for Potable Water Contact.

Fibergrate's GRP 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



- Decks and Balconies
- Concealing Unsightly Equipment
- Trellis-style Shade Systems
- Fences, Walls, and Railings
- Docks, Boardwalks, and Bridges
- Rooftop Access Walkways and Staircases
- Ladders and Safety Cages, and Handrails
- Stair Treads and Stair Tread Covers

# Fibergrate Benefits



**Corrosion-Resistant:** More than 15 premium grade resin systems available to meet your needs. This unmatched protection is ensured by the manufacturing process in which fiberglass is thoroughly wetted providing continued structural integrity in tough environments.



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



**Low Maintenance:** The corrosion-resistant properties of GRP grating and other products reduce or eliminate the need for sandblasting, scraping and painting. Products are also easily cleaned with a high pressure washer.



**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.



**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.



**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.



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

- **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:** 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.



### NSF® Standard 61-Certified:

Fibergrate offers a line of pultruded and moulded products that have been certified to NSF Standard 61 for potable water contact. These include Dynaform® structural shapes, Dynarail® ladder and handrail systems, as well as specially formulated moulded grating using an isophthalic and vinyl ester resin formulation, the only moulded gratings 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.

**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 reduce 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 require 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.

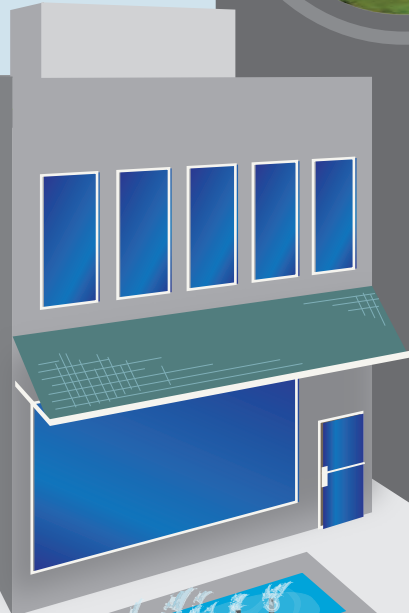
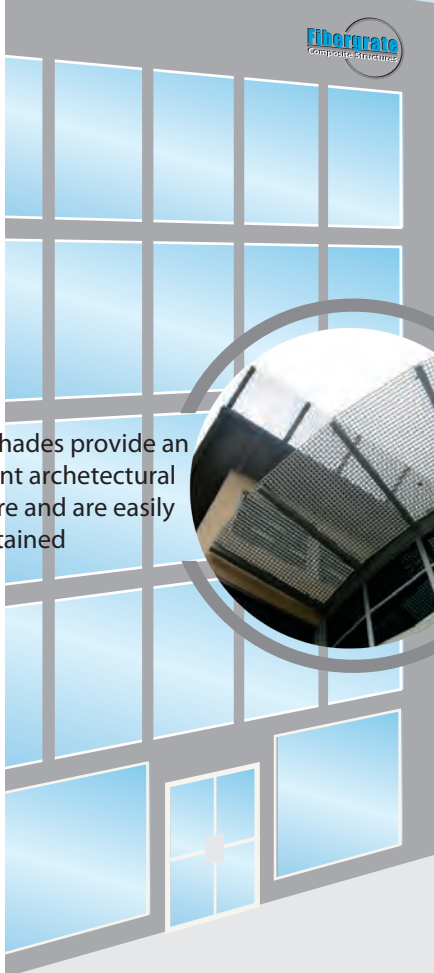




FRP structures like this one will HVAC or radio equipment without the interference of steel



Sun shades provide an elegant architectural feature and are easily maintained



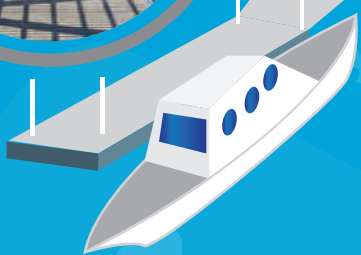
Molded grating used in fountains will never rust and require little maintenance



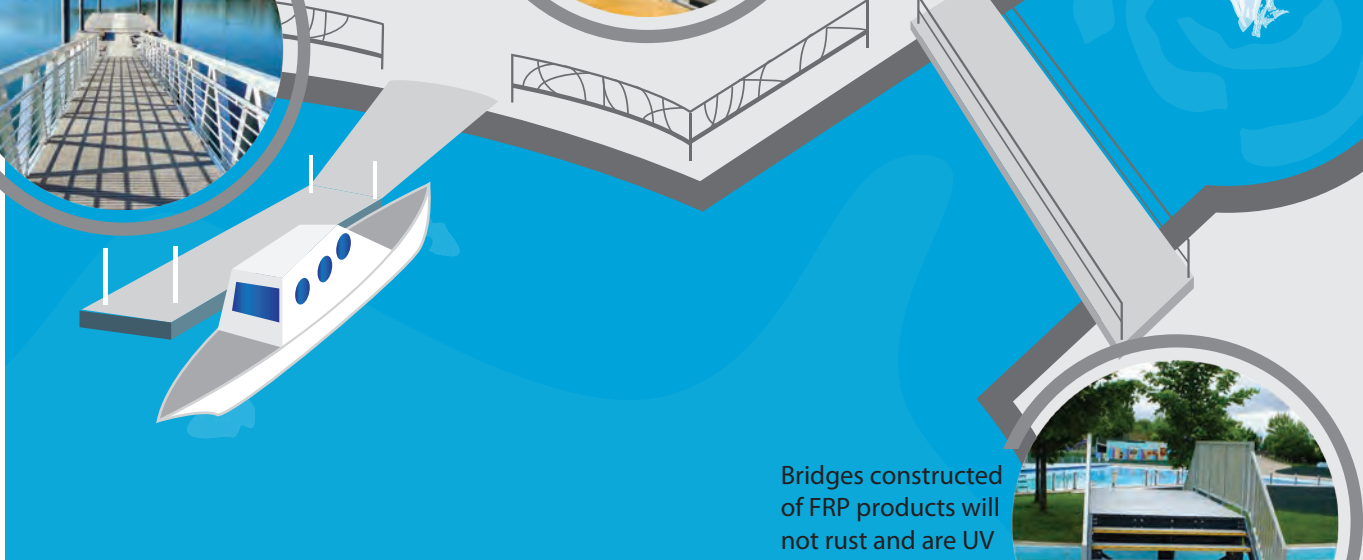
Dynarail® handrails can include custom designs and are perfect for high traffic areas



Docks made of Micro-Mesh® are barefoot friendly and ADA compliant



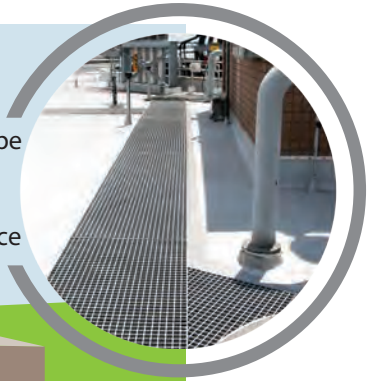
Bridges constructed of FRP products will not rust and are UV protected



Screens made of molded grating can provide shade or display advertising



Molded grating can be used for rooftop walkways to provide access for maintenance



Structures like this bus stop can be constructed from FRP material



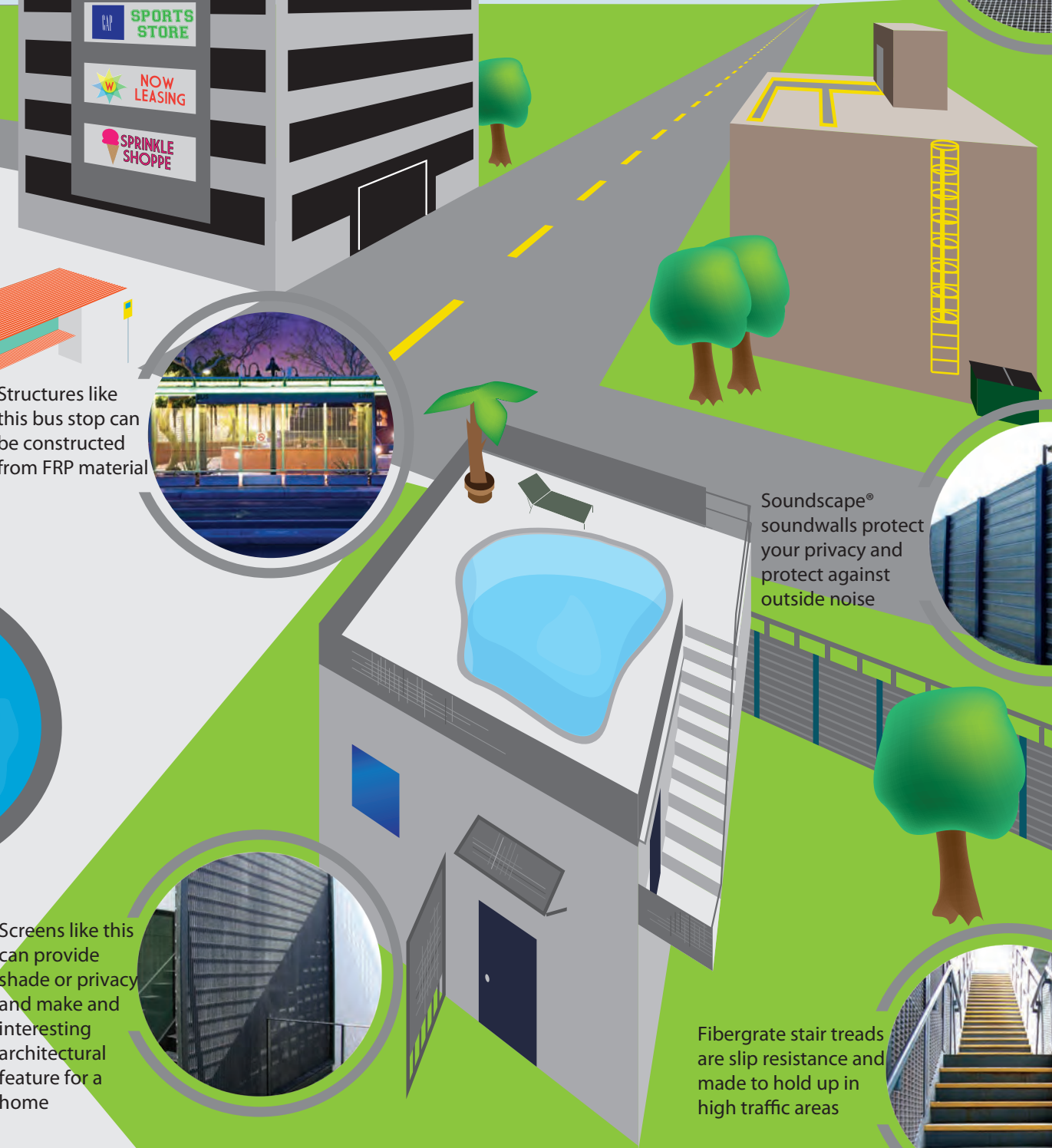
Soundscape® soundwalls protect your privacy and protect against outside noise



Screens like this can provide shade or privacy and make an interesting architectural feature for a home



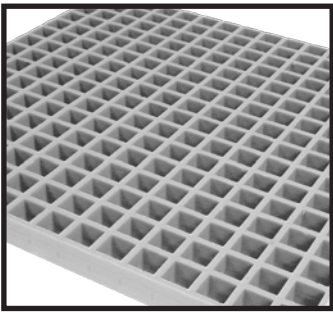
Fibergrate stair treads are slip resistant and made to hold up in high traffic areas





# Product Solutions

## Fibergrate® Moulded Grating



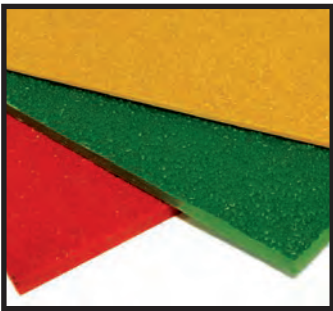
- Used for walkways, flooring, or screening
- Variety of depths, panel sizes and colours
- Maximum Corrosion and UV resistance

## 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
- Corrosion resistant and light weight
- Nonporous surface allows for easy cleaning



## Dynarail® Ladder and Handrail Systems



- Can be coated for maximum UV resistance
- Thermally non conductive
- Lightweight, making installation easy and cost effective
- More corrosion and impact resistant than metal systems

## Dynaform® Structural Shapes



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

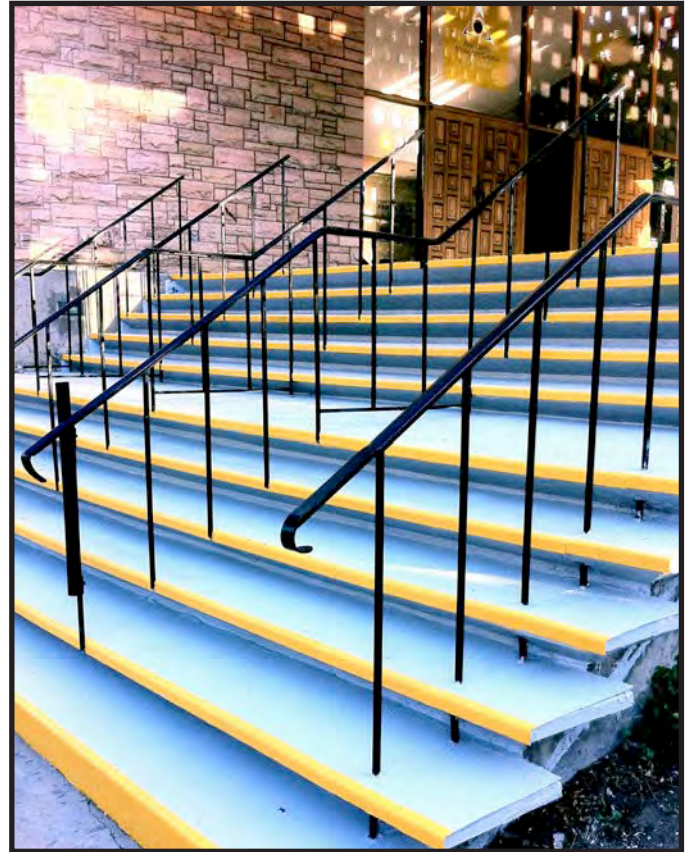


# Product Solutions

## Stair Solutions: Stair Treads, Stair Tread Covers, Covered Treads, 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
- Stairway systems are engineered to meet your specific requirements
- Stairways are complete with GRP structure, railings and stairs
- All stair solutions are lightweight and easy to install



## Moulded High Load Capacity (HLC) 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

## Pultruded High Load Capacity (HLC) 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





# Case Studies

American Bank of Texas



## **i** Project Info

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

The trendy, culturally rich and high tech influences of Austin, Texas can be seen in this suburban bank where Fibergrate succeeded in blending functionality with a modern, industrial element to create a unique sunscreen application. The goal of this project was to create a sunscreen to filter the harsh Texas sun and provide shade during the long summer months. The look for the sunscreen was to be high-tech, and industrial. Instead of Stainless steel, which would have been less cost efficient and required more maintenance, Fibergrate used moulded grating in a light grey colour. The light grey gave the appearance of steel, without the expensive installation. The moulded grating will definitely provide a strong return on investment for years to come.

Cedar Square



## **i** Project Info

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

The newly finished Cedar Square Shopping Centre is located in the fast growing Fourways district in Johannesburg, South Africa. The shopping centre had unsightly air conditioning vents on the exterior of the building. If the centre was going to attract retailers and restaurants, this was going to have to be remedied. The contractor desired light weight, aesthetically pleasing materials that would be easy to install. Fibergrate's Corvex® moulded grating was used as an alternative to conventional aluminum louvers in front of the vent shafts and office windows. It was then secured to the wall using a GRP bracket that was manufactured from Dynaform® Structural Shapes. Along with the vent covers the moulded grating was successfully used in the fountains as trench covers because of its corrosion resistance.

Snowmass Village



## **i** Project Info

- T1215® Pultruded Pedestrian Grating

Formerly known as a ranching community, Snowmass Village, Colorado is now known for its astounding selection of recreational activities. One of its many attractions is the Snowmass ski area, which is the largest of the four in the Aspen/Snowmass Mountains. With large numbers of visitors year 'round, those in charge of lodging at Snowmass have to be at the top of their game. Willow Creek Management Services, Inc. was looking for a solution to provide their guests at the Deerbrook Townhomes with the safest walkways and stair solutions to be able to walk around safely and freely. Many guests ski into their individual lodge and need non-slip surfaces that won't corrode during the harsh winter weather. Fibergrate provided T1215 pultruded grating for the walkways and stairs with a custom Sherwin Williams Black Bean colour. The client was satisfied with the outcome, which met all their requests and needs.



# Case Studies

Phoenix Bus Shelters



## Project Info

- Fibergate Custom Moulded Grating

Designing a bus shelter for a desert climate such as the one in Arizona can be a difficult task. The heat inside a traditional metal bus shelter can rise above 140°F (60°C) and puts waiting passengers exposed to excessive heat in danger. The City of Mesa was looking for a solution to protect its passengers. Fibergate along with AOC, a supplier of colorants for composites, were able to come together to create a shelter structure made out of panels that do not conduct heat and that provide shade while allowing air flow. The shade panels are configured to allow passengers to always be able to be in the shade during the hot times of the day while allowing access to the sun during the cold times. The structures provide increased visibility, access to cooling breezes and simplified maintenance as compared with the previous standard models. The performance of these custom bus shelters has been so positive in the City of Mesa, Arizona that the Public Transit Authority is expanding its use to neighboring cities.

Thickson Pump Station



## Project Info

- Fibergate Moulded Grating
- Dynaform® Structural Shapes
- Dynarail® Handrail
- Fibertred® Stair Treads

The Thickson Road Pumping Station located in Whitby, Ontario, 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-free platforms to complete this state-of-the-art facility. Fibergate was chosen to provide moulded grating, stair treads and handrail to create platforms and walkways at the water pumping station. The design is functional and will require little maintenance for many years.

Taylor Place







## Project Info



- Fibergate Moulded Grating
- Dynaform® Structural Shapes
- Dynarail® Handrail
- Fibertred® Stair Treads



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# Applications

Sunscreens		Recommended Products	
		Product	GRP Advantage
		Moulded Grating Dynaform® Structural Shapes for Support	GRP Sunscreens are lightweight, making them easy to install. They are also weather-resistant and durable, so you won't need to replace them.

Fountains		Recommended Products	
		Product	GRP Advantage
		Moulded Grating, MicroMesh® or Aquagrate®	Fibergrate® Gratings are corrosion-resistant, low maintenance and easily fabricated at a job site.

Handrails		Recommended Products	
		Product	GRP Advantage
		Dynarail® Handrail and Fibergrate® Fabrication Solutions When Custom Designs are Desired	Dynarail Handrail will not rust, is UV-resistant and is quick and easy to install.

Trellis Shade		Recommended Products	
		Product	GRP Advantage
		Dynaform® Structural Shapes	Dynaform shapes are lighter and easier to install than steel, and require less frequent maintenance.

Screening		Recommended Products	
		Product	GRP Advantage
		Moulded Grating, Pultruded Grating and Structural Shapes	Fibergrate gratings are impact resistant, and never need to be repainted.



# Applications

## Docks & Decks



### Recommended Products

Product	GRP Advantage
Aquagrate®, Micro-Mesh® or Ecograte®	Corrosion resistance, low maintenance and barefoot friendly surface are all benefits of using Fibergrate® products for docks and decks.

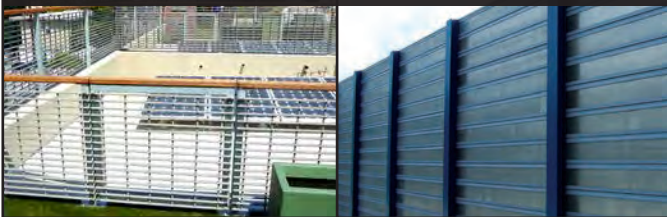
## Balconies



### Recommended Products

Product	GRP Advantage
Pultruded Grating and Dynarail® Handrail	Fibergrate® Pultruded Grating doesn't require as much maintenance and is stronger than wood, and Dynarail® Handrails won't rust like steel.

## Fences & Soundwalls



### Recommended Products

Product	GRP Advantage
Soundscape® Soundwalls or Moulded Grating	Soundscape® Soundwalls are Graffiti, Moisture and freeze/thaw resistant. They will not crack, corrode, rust, warp or rot.

## Bridges



### Recommended Products

Product	GRP Advantage
Safe-T-Span® Pultruded Grating	Safe-T-Span® Grating is impact and corrosion-resistant, which means it won't need to be replaced or repaired as often as a steel solution.

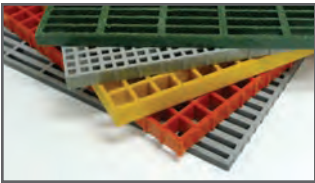
## Stairs



### Recommended Products

Product	GRP Advantage
Stair Treads or Tread Covers, Dynarail® Handrail	Unlike concrete or steel steps, Fibergrate stair treads and covers will not corrode or rust.

# Fibergrate Products & Services



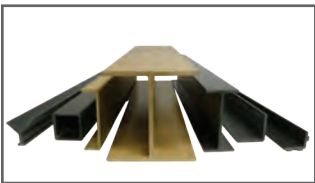
## Fibergrate® Moulded Grating

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.



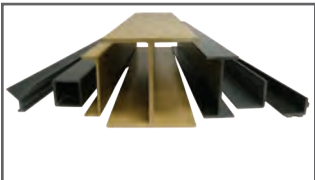
## Dynaform® Structural Shapes

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 systems, 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 fibreglass applications, Fibergrate provides turnkey design and fabrication of fibreglass 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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