



Case Study: SAFRAIL™, EXTREN®, & DURAGRID®

Diving in with Fiberglass

Located in Saskatchewan, Canada, the Shaw Centre serves as a community leisure facility adjoined by a public and private high school. As it is completely enclosed, the facility offers its community year-round access to competition level pools, aquatics areas, fitness rooms, and supplemental workout areas.

Recently, the steel handrail and baseplates in the diving deck area needed to be replaced with a more durable and corrosion resistant material. ICON Construction worked with the engineer of record to fulfill the design and specification guidelines as established by Part 4 of the National Building Code of Canada.

The chosen solution was to replace the previous handrail with a standard square 2" SAFRAIL™ system with a specialized design consideration. Each post was slightly modified to include an additional square tube and plug addition.

To connect the multiple diving decks, an erected FRP structure with access ways and landings on multiple levels was also designed out of Strongwell's FRP products. The supporting components of the structure were constructed out of EXTREN® Structural Shapes and Plate. For stair treads, DURAGRID® I-6000 pultruded grating panels were used with a 2" deep nosing on the leading edge to ensure additional slip resistance.



On each of the landings, T-1800 DURAGRID® pultruded grating panels were chosen due to span, weight, and open space guidelines. This particular series of T-shaped bar grating offers 18 percent open space while weighing only 2.6 lbs. per square foot.

All of the aforementioned FRP structures were mechanically fastened with Grade 2205 stainless steel anchors and fasteners. Furthermore, ICON Construction's ability to provide on-site fabrication and assembly of the FRP materials reduced the facility's operational downtime.

The project was completed in August of 2020 and was met with positive reviews regarding construction, installation, aesthetics, and performance. ●



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Case Study: EXTREN®

Clock Faces Cellular Needs with FRP

There was recently a need for an aesthetically-pleasing structure to encapsulate several cellular antennas at a location close to the San Diego International Airport, off Interstate 5, near the southern tip of California. In addition to blending in with the current city sightlines, the structure had to adhere to the material and design standards of the city's zoning ordinances.

Porter Concealment was hired to accomplish this job due to their extensive experience with the fabrication of composites for architectural and structural applications. The team at Porter channeled their creativity and past experience

to design and prefabricate a functioning clock tower, which also conceals the cellular antennas. The four-sided structure was comprised of LARR-approved materials, including: EXTREN® 1/8" plate, 4" tube, and 4" inch angle.

Strongwell's LARR approval grants designers, engineers, and fabricators opportunities to use Strongwell products in cellular enclosure or screening applications with confidence the materials will perform as designed and without unnecessary electromagnetic, radio, or cellular interference.

Both the fabricator and end user were pleased with the overall procurement,

design, fabrication, and installation process. The structure is expected to provide many years of useful service to the city and its residents. ●



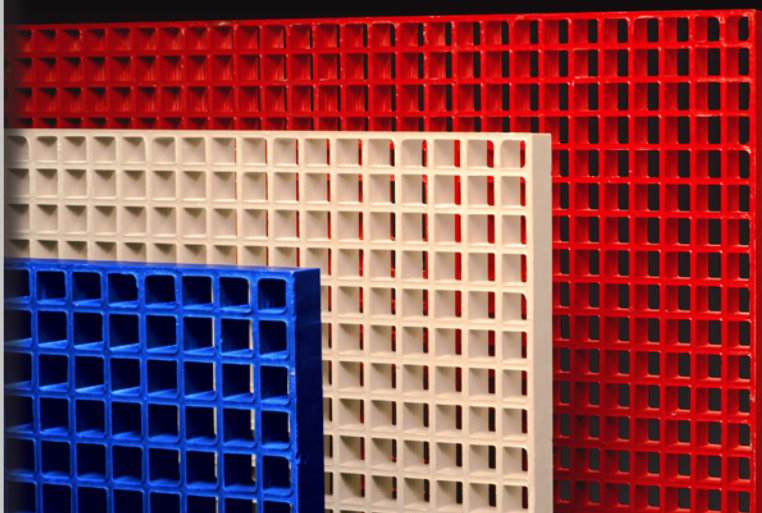
Improved DURAGRATE® Performance

Strongwell is pleased to announce that its DURAGRATE® Molded Fiberglass Gratings are now manufactured using Strongwell's premium isophthalic polyester resin as the standard system at no additional cost to its customers.

Previously, Strongwell offered a General Purpose ("GP") orthophthalic resin as its standard system, with the option to upgrade to a Premium Polyester ("PP") isophthalic resin. Now, all DURAGRATE® customers will automatically receive the premium isophthalic ("ISO") polyester resin system at previous "GP" pricing. All DURAGRATE® panels will continue to be made exclusively in the USA.

This improvement is one of three major enhancements to Strongwell's DURAGRATE® line planned for 2021. Strongwell will announce its next major improvement for DURAGRATE® later in the first quarter.

at No Additional Cost





Case Study: EXTREN®, DURASHIELD®, & DURADEK®

Rooting with FRP

As the agricultural sector continues to venture into models of sustainable farming, so have the developments to evolve beyond the usage and reliance of greenhouses. New materials and technologies have allowed farmers, entrepreneurs, and startups to harness controlled-environment agriculture.

As an early adopter of FRP, Seed International, Inc., sought out commercial and housing applications to incorporate fiberglass into distressed or remote locations. As they considered new applications for fiberglass, they realized that composites could be used to create opportunities with the development of plant growth chambers in topographically difficult or climate challenged areas.

Designed to resemble a functioning sealed ecosystem, the modular systems are self-contained units that can be installed above or below ground. Their smaller footprint allows them to be utilized with traditional or renewable energy hookups.

SEED International produced two versions of these food production chambers to a certified organic vegetable farm. The

end user needed modularity and ease of transport to and from different farming sites.

Each production chamber was designed with an assortment of FRP products to ensure overall dry weight reduction for ease of transport. Below are a few highlights of how Strongwell's products were used within the chamber:

- To ensure ease of access, minimal weight, and maximum corrosion resistance, FRP was chosen in lieu of metallic options for the door.
- DURADEK® pultruded grating was used for a shelving system to ensure durability and maximum drainage during growing and cleaning cycles.
- EXTREN® channels and angles were



used as housing for lighting sources, water collection culverts, and diversion support structures.

The design and overall end product was well received and placed into the field of service for many years. ●



Spotlight on Strongwell Talent



Jeremy Smith
Engineering Services Manager
- Virginia Operations

Jeremy Smith has been promoted to the position of Engineering Services Manager. The Design/Drafting and Setup Departments will now report to Jeremy. Jeremy began his work with Strongwell as a Process Engineer in 2015. Since that time, he has served in a variety of roles, most recently acting as Engineering Services Coordinator to lead process engineering projects through Design/Drafting, Machine Shop, and Machine Build to ensure successful, on-time delivery.



Benny McEliea
Quality Inspection Supervisor
- Virginia Operations

Benny McEliea has been promoted to Quality Inspection Supervisor for Virginia Operations. In his new role, Benny will report directly to the Quality Manager. Reporting to Benny will be the Quality Department Inspectors at the Bristol and Highlands Locations. Benny began his career with Strongwell in 1984 as a Pultrusion Operator. He has held several positions of increasing responsibility over his years of service, most recently serving as the Lead Quality Inspector.



Literature Updates:

- GRIDFORM™ Flyer
- SAFSTRIP® Brochure
- Pool Applications Flyer
- Harsh Environments Flyer
- Marinas & Docks Flyer
- Offshore Guardrail/Handrail Flyer
- HS Armor Panel Brochure
- Curb Angle Flyer
- PULSTAR® Brochure
- Cooling Tower Pipe Saddles Flyer
- SAFDECK® for Cooling Tower Fan Decks Flyer
- Grating Field Fabrication Guide
- DURAGRATE® Brochure
- Design Manual Section 12 (I+M)
- Molded Grating and Treads Products and Fabrications Specification
- Corrosion Resistance Guide
- Availability List (I+M)
- DURATREAD™ Flyer

Visit www.strongwell.com for the latest resources.



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What's in this Issue:



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Rooting with FRP



Literature Updates



Spotlight on Strongwell Talent



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**NEWS & APPLICATIONS**



Unmatched technical expertise

One of the major reasons Strongwell has earned the reputation as the world leader in pultrusion is its technical capabilities.

Strongwell has used its 65+ years of pultrusion experience to develop a wide array of R&D resources and personnel. Other pultruders are very limited in the in-house testing they can perform, the materials they can qualify and use, and/or the resources available to remain on the cutting edge of pultrusion technology. Investing in these capabilities is a part of the Strongwell DNA.

TECHNICAL CAPABILITIES

**Full Scale Testing**

January 2021 Email