



Case Study: COMPOSOLITE® & EXTREN®

Composites Continue to Be a Utility Game Changer

Over the last decade, Strongwell's COMPOSOLITE® Secondary Containment System has been the method of choice for oil containment systems for American Electric Power (AEP). The fabricated system utilizes COMPOSOLITE® structural panels and EXTREN® square tubes, angles and plates. As a result, AEP maintains compliance with the Environmental Protection Agency's Spill Prevention Control Countermeasure (SPCC) regulations (40 CFR Part 112). The mandate dictates that utilities must take steps to prevent the "reasonable potential" of an oil spill reaching navigable water.

Prior to Strongwell's system, AEP used pour-in-place concrete containment systems around its oil-filled substation equipment. Concrete is labor intensive and dependent upon location and temperature restrictions. AEP also tried berm dikes, but associated equipment access and maintenance proved to be difficult.

Recently, Strongwell and C.I.Agent Solutions® collaborated with AEP on a substation in Blacksburg, Virginia which used C.I.Agent's Oil Filtration Panel System coupled with an AEP liner. The installer, Service Electric Co., was able to complete the job despite frigid temperatures. Team members complimented the ease and simplicity of this particular installation, as this was their first interaction with a composite secondary containment system.

The provider of the barrier boom, C.I.Agent Solutions®, has installed over 10,000 SPCC Compliant Secondary Containment Solutions

Systems and developed a completely customizable containment drainage system utilizing Strongwell's COMPOSOLITE® Secondary Containment System coupled with their C.I.Agent Solutions® Geomembrane Liner Floor and C.I.Agent Solutions® HFF Oil Stop Valve.

Each COMPOSOLITE® Secondary Containment System is corrosion and UV resistant, strong, low in thermal and electrical conductivity, cost effective, resistant to direct flame and easy to install. On typical installations, the COMPOSOLITE® system requires half the man hours of a concrete system and no special equipment is needed, resulting in significant job savings. The system is delivered in a kit form to job sites and includes drill bits, adhesive, adhesive applicator and fasteners. ●



STRONGWELL

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Case Study: DURASHIELD®

Composites Provide Pump Houses with Modular Access

Designed to be lightweight while possessing values for excellent corrosion resistance, insulation and strength, DURASHIELD® has inserted itself into the modular building business in one of Illinois' fastest growing cities.

DURASHIELD® foam core building panels were used to partially fabricate three pump houses for the City of Joliet. The renovation of each building was designed by the Engineering Solutions Team with the assistance of Strongwell's Structural Engineering group. One of the major concerns from the previous well houses was the lack of maintenance and refurbishment access to the large water pumps due to structurally static walls and roof. This updated design utilizing DURASHIELD® allowed the walls and roof to be removed so a crane could be positioned to access the large water pumps.

Each building used 3"x24" DURASHIELD® as siding and roofing panels, which have historically performed successfully in the field against 40 lb. snow loads and 100 mph winds. Each tongue and groove panel has



BEFORE



DURING

a 4 lb. per cubic foot of rigid closed cell polyurethane foam core which registers an R-value of 17.

Adler Roofing purchased and installed the 3" DURASHIELD® and was complimentary about the ease and simplicity of fit, quality, finish, and tongue and groove design for all of the pump houses. The upgraded pump houses will easily outlast the previous pump houses to ensure years of maintenance-free service to the City of Joliet. ●



AFTER



Case Study: EXTREN®, EXTREN DWB® and SAFRAIL™

Composite Design Aids Rail Safety Crews

One of the most discussed issues in electrified refurbishment and new-build rail projects is employee safety. In a recent



project, Pipex px®, an international distributor of Strongwell products, supplied, fabricated and delivered 223 linear feet of FRP (fiber reinforced polymer) composite walkways and three composite refuges (a dead-end employee escape area) which ran parallel to the railway lines between Network Rail's Bicester and Islip Station in the United Kingdom. Each walkway measured two feet in width and ranged in lengths from 26 feet to 59 feet, with the escape areas measuring approximately 24" x 36". The structures were

made of EXTREN® Series 525 plates, 24" FRP I-beam profiles and SAFRAIL™ FRP handrails. Structural elements were fully bonded without mechanical fasteners.

Pipex px® Engineering Services Department faced a daunting challenge with a portion of the walkway which had to span almost 60 feet across a river. The extensive span required the use of 36" EXTREN DWB® for 45 linear feet combined with an FRP splice joint constructed from EXTREN® plates with steel bolts. The splice joint was designed in

accordance with Eurocode to meet a service load of 2 kN/m² using hand calculations supported by FEA (Finite Element Analysis). An in-house water load test was later conducted to measure actual deflection, which was 4 kN/m² at 8.5mm.

Pipex px® designed this custom application with a life expectancy of at least 60 years. It was fabricated offsite to enable a fast-track installation and delivery while weighing about a third of its metallic counterpart with low electrical conductivity. ●





Case Study: DURAGRID® FRP Grating the Ideal Material for Piers

Connected to Lake Michigan is Pentwater Lake, where the City of Pentwater recently replaced wooden planks on a public fishing pier with 1,200 square feet of Strongwell's DURAGRID® T-1800 1-½" pultruded grating. DURAGRID® T-1800 was used to replace the wooden planks on this pier due to frequent maintenance concerns resulting from weather and constant foot traffic. Wooden planks were also frequently damaged during large storms. Combined with the chemical impact of de-icers and a constant exposure to the brackish water of the lake, wooden planks were simply not the best choice for this application.

Progressive Engineering and the City of Pentwater found the corrosion, rot and mildew resistant DURAGRID® pultruded grating to be an ideal replacement for the wooden planks while also adding to the aesthetic beauty of the pier and surrounding area. The greatest appeal of the T-1800

grating with 1-½" T-bars, however, was its span length while maintaining enough stiffness to accommodate multiple visitors at one time. Wood planks typically shrink, rot, absorb water and degrade over time, which generates year round safety concerns.

DURAGRID® pultruded grating brought other numerous advantages to the customer as well. The grating allows for easy and smooth wheel accessibility and a nonskid surface during the wet and cold months. Progressive Engineering complimented how the grating was also easy to install and maintain, low in thermal and electrical conductivity, aesthetically pleasing, and was available in a variety of custom colors. ●



Spotlight on Strongwell Talent



Anne Robida

Virginia Operations Administrative Assistant - VA Operations

Anne Robida has joined Strongwell in the position of Virginia Operations Administrative Assistant. Anne will report to the Director, Virginia Manufacturing Operations and provide administrative support to the operations team. Anne graduated from Dickinson College in Carlisle, PA with a BA in Political Science, and earned an Italian Studies Certificate from the Dickinson Center for European Studies in Bologna, Italy. Anne brings to Strongwell 15 years' experience in Human Resources Administration and Event Coordination.



Ildefonso Hernandez

Production Supervisor - Mexico

Ildefonso Hernandez has joined Strongwell as a Production Supervisor for STRONGWELL S. de R.L. de C.V. Ildefonso will report to the Plant Manager and will be in charge of a production shift for Mexico facility. A native of Monterrey, NL; Ildefonso received his Bachelors of Industrial Engineering from Universidad del Norte in Monterrey in 2003. Ildefonso was most previously Process Engineer at Stabilit in Nuevo Leon and has a wide experience in the pultrusion process.



Amaira Zamora

Receptionist - Mexico

Amaira Zamora has joined Strongwell as Receptionist for STRONGWELL S. de R.L. de C.V. Amaira will report to the Human Resource Manager and will be supporting administrative activities for the Mexico facility. A native of Monterrey, NL; Amaira received her Bachelors of Communication from Universidad Humanista in Monterrey in 2012. Amaira was most previously employed in the area of Special Projects at MARCO (Contemporary Art Museum).



Jose Antonio Gonzalez

Accounting Manager - Mexico

Jose Antonio Gonzalez has joined Strongwell as the Accounting Manager for STRONGWELL S. de R.L. de C.V. Antonio will report to the Plant Manager and the Controller of Minnesota & Mexico Operations, and will coordinate all the accounting functions for the Mexico facility. A native of Monterrey, NL; Antonio received his Bachelors of Accounting from UANL Universidad Autonoma de Nuevo Leon in San Nicolas de los Garza in 2004, and then completed his Master's in Finances from EGADe in 2014. Jose was most previously employed as Accounting and Administration Manager at Villacero in Nuevo Leon.



Antonio Alanis

Production Supervisor - Mexico

Antonio Alanis has joined Strongwell as Production Supervisor for STRONGWELL S. de R.L. de C.V. Antonio will report to the Plant Manager and will be in charge of a production shift for the Mexico facility. A native of Montemorelos, NL; Antonio has a wide experience leading personnel. Antonio was most previously employed as Production Supervisor at Villacero.



Jorge Martinez

Engineering / Quality Coordinator - Mexico

Jorge Martinez has joined Strongwell as the Engineering / Quality Coordinator for STRONGWELL S. de R.L. de C.V. Jorge will report to the Plant Manager and will coordinate all the production processes and quality assurance for the Mexico facility. A native of Monterrey, NL; Jorge received his Bachelors of Mechanical and Metallurgical from UANL Universidad Autonoma de Nuevo Leon in San Nicolas de los Garza in 1998, his specialization in Tribology from UANL in 2000, and is currently finishing his Master's in Business Administration. Jorge was most previously employed as Head of Pultrusion at Stabilit in Nuevo Leon, and is very familiar with the pultrusion process.



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Literature Updates

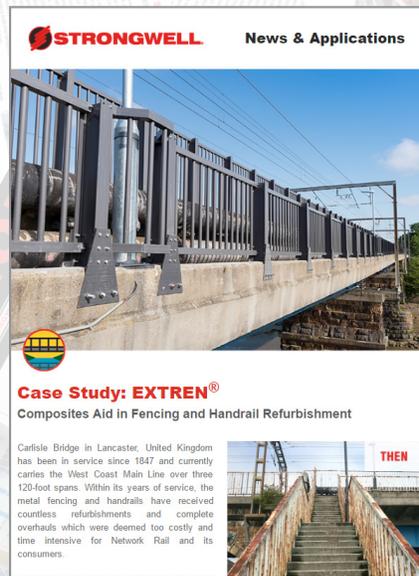
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SAFPLANK® HD Brochure

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