

COMPOSITES MARCHES ON AGAINST MARSH CONDITIONS

Off the coast of South Carolina is a boardwalk within the Francis Marion National Forest. The boardwalk measures almost 400 feet in length and is an extension of an estimated 4,000-year-old natural trail measuring 1.5 miles in total length. Throughout the years, it has endured multiple natural disasters such as hurricanes, floods, and wildfires.

Previously constructed out of timber and treated wood decking, the boardwalk has been completely replaced three times in less than two decades due to environmental exposure and weather-related damage. Recently, the National Forest Service assessed the condition of the boardwalk and decided to seek durable nonbuoyant materials implemented with better construction that would require little to no maintenance.

With its extensive experience in composites fabrication, A Fiberglass Solution (AFS) partnered with a local contractor and the National Forest Service to replace timber piers, structural supports,



BEFORE (WOOD)



and deck boards, with a variety of domestically produced pultruded composites.

To replace the structural underpinnings and supports, EXTREN[®] 500 series structural shapes were used. Square tubes, channels, plates, and I-beams were fabricated for seating areas and to support the entire walking surface of the boardwalk.

Pedestrian-rated walking surfaces were outfitted with DURAGRID[®] T-1800 grating panels. This grating series eliminated concerns of standing water on the walking surface due to the product's 18% open space design. This open space also allows sufficient sunlight to pass through the structure to support ecological growth underneath. In addition to those benefits, the grating also offers wider spans and greater load capacity than its wooden predecessor. With the exception of 316 stainless steel fasteners for through bolt connections, the entire boardwalk was constructed out of fiberglass.

The new frame design allows for heavier loads and wider spans than previous iterations, and the new six-foot-wide boardwalk also offers expanded viewing platforms and seating areas to accommodate larger groups. Designed with a 75-year life expectancy, this new structure will continue to showcase the area's natural beauty and history for multiple generations. ●

TECHNICAL DATA

Product:	Pedestrian Trail Boardwalk and Seating
Process:	Pultrusion, Fabrication
Materials & Sizes:	DURAGRID [®] T-1800 Pultruded Grating EXTREN [®] Series 500 Structural Shapes: - square tube, channel, plate, I-beam
For:	A Fiberglass Solution (AFS) Corp.
User:	National Forest Service / Public



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