

AUSTAL LAUNCH CASE STUDY

Samson high-performance synthetic winch lines significantly reduce prelaunch rigging times



Austal-USA saves time and money launching with Samson ropes

OVERVIEW: Austal-USA shipyard in Mobile, Alabama, builds state-of-the-art ships for commercial and military use. Construction begins in shore-side construction halls. When the vessels are ready to launch, they are typically hauled out of the construction hall using rail trucks onto a floating drydock for the eventual launch. With a constant schedule of launches, efficiency is the order of the day.

BUSINESS SITUATION: Austal-USA has built two catamaran super ferries. They are the largest catamaran hulls ever built in the U.S. Both launches used the same basic configuration. The floating drydock was positioned at the end of the pier in front of the construction hall. Two shore side winches were used to hold the drydock in position while the vessel was moved into place. Another winch at the end of the floating drydock pulled the hull out of the construction hall and onto the drydock, while a fourth winch at the rear of the construction hall provide tension to prevent a spontaneous launch.

The two launches provided an even playing field by which to measure the relative efficiency of using wire ropes vs. high-performance synthetic ropes. For the first launch, all four winches were spooled with 1-1/2" steel wire rope. The sheer weight of these cumbersome ropes made handling them challenging and time consuming. Rigging the holdback mooring lines on the drydock took nearly 4.5 hours alone. The entire process began at 8 a.m. and was completed 12 hours later.

In planning the second launch, Doug Thorn, operations manager for Austal-USA sought recommendations on synthetic ropes in hope of having a smoother, less time-consuming launch.

THE SOLUTION: Based on the project requirements, SWOS, a Samson Master Distributor and Fabricator located in Houston, Texas, recommended 2-5/8" diameter Samson AmSteel® Blue, made with Dyneema® fiber, for the holdback mooring pendants, which they supplied in 340-foot slings with hawser thimbles spliced onto both ends. AmSteel® Blue is an all-purpose 12-strand single braid that has proven itself in the commercial marine industry for more than 16 years. It is a direct, size-for-size replacement for wire ropes that is at least as strong, yet safer and much easier to handle. And with a specific gravity of .98, it floats.

SWOS recommended that the haul out and tensioning winches be outfitted with 550 feet of 2-1/4" diameter Samson Turbo-75™ with a hawser thimble spliced into one end. Samson's Turbo-75 is a 12-strand single-braided Dyneema® fiber core, protected by a tough braided Dyneema® fiber cover to provide the ultimate in cut and abrasion resistance while maintaining lightweight and extremely high strength. The round, firm construction works extremely well on winches, yet the rope is still light enough to float.

Setting the mooring holdbacks was accomplished in a little less than 45 minutes, and the entire operation from setting the mooring lines on the drydock to completing the transfer to the dry dock was completed in seven hours.

Thorn was very pleased with the dramatic time-savings on the second launch. He reports that Austal-USA is developing a new, modular shipbuilding operation at the Mobile yards, and is contemplating the use of synthetics to move modular units along the assembly sequence. Austal-USA has already identified a pending operation for which they'll be ordering a couple more long lengths of synthetic ropes.

This launch is another example of high-performance synthetic ropes successfully taking on marine applications once dominated by wire ropes. Samson's alternatives provide a level of strength, ease of handling, safety, and efficiency that cannot be matched by wire rope.

Prelaunch rigging operations took nearly 4.5 hours with wire rope.

On the second launch, using Samson high-performance synthetic winch lines, the same operations were accomplished in a little less than 45 minutes.



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KEY BENEFITS: AmSteel®-Blue and Turbo-75™ winch lines offer many advantages over wire ropes:

- > **Lightweight and easy to handle for more efficient, safer rigging. Spooling times and rigging times are significantly reduced, as are injuries.**
- > **There are no dangerous “fish hooks” that occur with worn steel wire ropes.**
- > **In the event that the line parts, it does not “snap back” like wire ropes.**
- > **The average service life of Samson high-performance synthetics is two to three times the life span of wire ropes in the same application.**
- > **Wire requires regular maintenance and relubing that can require specialized spooling equipment, adding to the overall cost of ownership.**
- > **High-performance synthetics have an average return on investment of three years.**

THE SAMSON ADVANTAGE: Samson’s superior customer service program ensures the longest possible service life. It is all part of The Samson Advantage, a value-added program for your rope offered to all our customers, which includes pre-sale surveys, on-site training in splicing and inspections, and periodic professional inspections to determine appropriate retirement criteria based on actual usage and handling.

For more information on Samson’s complete line of high-performance ropes specifically designed for commercial marine applications, visit our website, www.SamsonRope.com, or contact our customer service department.



Winch line and mooring holdback line positions.

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Tugs begin to move the dockside drydock toward the end of the construction hall.



AmSteel®-Blue holdback lines keep the drydock in position, while the winch lines pull the ferry aboard.



Turbo-75 provides tension to prevent a spontaneous launch.



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