



Sailing along in the Volvo Ocean Race

When the 2017-18 Volvo Ocean Race finishes its long course around the world in The Hague on June 30, every sail will contain Teijin Aramid's Twaron®, every boat will have ropes reinforced with Technora®, and every on-board standard repair kit will include Endumax® tape. As the saying goes, when the going gets tough, the tough get going!

A long and challenging history

The story goes that the idea behind the prestigious Volvo Ocean Race was thought up over a beer in a pub in Portsmouth, in the United Kingdom, in 1971. Since then, the yacht competition has grown into a world-famous event,

attracting international media coverage and multimillion dollar sponsorship. Held every three years, the race involves months of enduring gale-force winds, mountainous seas and sleep deprivation for the participating crews. For four decades, these extreme challenges have brought the race to the attention of the scientific and industrial community, who have often used the race as the testing ground for the latest technology and material science innovation. From the sails to boat hulls, and from the ropes to the standard repair kits, every piece of equipment has to be carefully designed.

The sails: Reinforced with Twaron®

At 45,000 nautical miles, the 2017-18 edition of the race is the longest in the race's history, and – by the end – the sails

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will have had to handle the winds of four massive oceans. To complete this epic challenge, every boat is equipped with twelve sails on board, plus another seven in storage, that have manufactured by the American supplier North Sails. Specifically, to create the high-end performance sails, they employ a special 3Di lamination process and use pre-impregnated tapes made of black Twaron® aramid and other materials. This particular blend of fiber provides the optimal durability and reliability, and ensures that the race will run its course in safe and reliable conditions.

Driving the race performance

Over the years, developments in the high-performance fiber industry, including the development of Twaron®, have significantly improved racing conditions. “The advanced technology used in sails today makes the vessels more manageable and improves their performance,” explains Bill Pearson, Technical Director of North Sails. “The weight is especially important. Lighter sails lower a boat’s center of gravity, reducing heeling and improving speed. And, of course, lighter sails also mean sailors need to use less energy to trim, furl, and stow. In addition, the lower stretch achieved by using the Twaron® fiber allows sails to maintain their shape over a broader wind range and can dramatically improve upwind performance.”

Technora® and Endumax®: Strength and durability

Teijin Aramid’s contribution to the race goes beyond the use of Twaron® in the sails, and extends to the use of Technora® reinforcement in the sailing lines of each boat, and Endumax® film in the standard repair kits. It’s clear why: weight for weight, Technora® is eight times as strong as steel, and Endumax® is eleven times as strong. In addition, both products offer a wide range of high-performance properties, including high heat and chemical resistance, high modulus, wear resistance and long-term dimensional stability. Thanks to these special qualities, the participating crews of the Volvo Ocean Race – as well as their families – can be confident of their safety and race performance. After all, when performance counts, the choice is clear!

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