

Yamaha Motor Monthly Newsletter

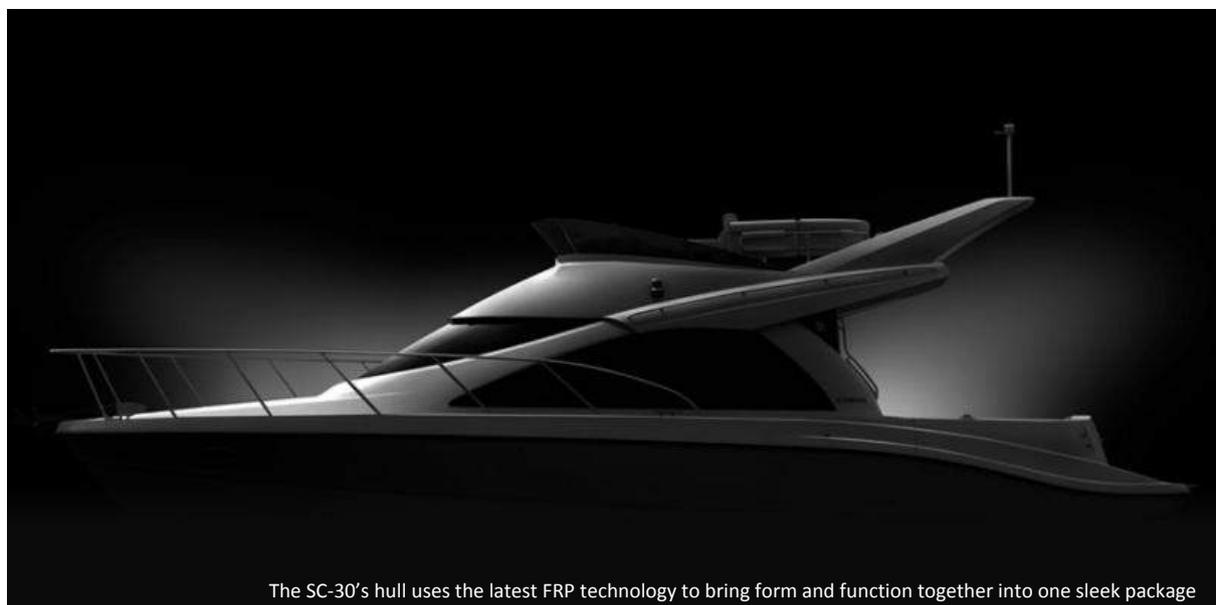


Spotlight: Fiber Reinforced Plastics

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Fiber Reinforced Plastics

It's not just plastic



The SC-30's hull uses the latest FRP technology to bring form and function together into one sleek package

While motorcycles are a representative part of Yamaha Motor's business, we are proud that the performance, reliability and durability of our outboard motors have won us the top spot in world market share today (Yamaha Motor survey, 2011). These market-leading traits are made possible through Yamaha Motor's core competencies in small engine technology, electronic control technology and fiber reinforced plastics (FRP) technology. Particularly, our knowhow in the realm of FRP has played a significant role in winning our strong presence in the commercial and recreational marine industries because it allows for more weight saving, precision engineering, greater structural strength and more.

In Japan, Yamaha Motor is a full-fledged manufacturer of boats with an extensive lineup consisting of everything from utility boats and commercial fishing craft to luxury cruisers. Having solidified our status as Japan's top boat maker, Yamaha Motor is setting off for new horizons abroad, beginning exports of our latest offerings like the outboard-powered SR-X sport fishing boat to other markets in Asia. But this progress is thanks to a vision that Yamaha Motor founder Genichi Kawakami had long ago when he first came across FRP technology during his travels abroad.

Roots in the early '60s

Yamaha's first use of FRP in boats is actually linkable to archery. Kawakami was fond of the sport and was trying to enhance the precision of the bows of the time. During his 1958 inspection tour of the marine markets in North and South America, he obtained some FRP archery bows and saw the increasing usage of the material and the prevalence of marine recreation in the U.S. market. This not only convinced him of the potential advantages of FRP in manufacturing,



The CAT-21 was a hit in Japan and opened up new possibilities in the country for the enjoyment of marine leisure

but also that there would come a time when watersports and marine recreation would be commonplace in Japan as well. After extensive research into the material, Yamaha manufactured Japan's first FRP bow a year later in 1959, and this was followed by the unveiling of its first FRP boats, the RUN-13 and CAT-21, in 1960. Much like the way carbon fiber is today, FRP was very advanced material at the time, as it was light yet strong, and this commercial application in Japanese boats was groundbreaking. The product launch brought great interest and was hailed as the start of Japan's "boating boom." More than 300 units were sold that very day.



Yamaha put its hull-building skills to the test in constructing its first ever carbon composite body for the *Nippon Challenge* race boats

Fast-forward some 30 years and Yamaha had gone from releasing its first FRP boat to putting this expertise towards building the *Nippon Challenge* race boats for the America's Cup as well as fielding the team for the YAMAHA sailing yacht in the grueling Whitbread Round the World Race (now the Volvo Ocean Race). This desire to continually push back boundaries and seek new heights is a part of our "Spirit of Challenge," an integral part of Yamaha DNA. The experience and data gained from competitions like these was fed back and used to further evolve our product lines and expand into new areas.

Always moving forward

Steady technological progress has made FRP a commonly used material and allowed Yamaha Motor to succeed as not only the leading boat maker in Japan but also the top manufacturer of swimming pools in the domestic market. As another way to "offer a more fulfilling life to people around the world" and as a product built using our over 50 years of experience in the marine industry, Yamaha FRP pools are used for a variety of purposes from kindergarten use all the way up to Olympic-level training. This "hardware" (products) is supplemented by a full array of "software" (services) like expert advice for minimizing facility and operating costs and pool facility management.



This "package" style can also be found in our boat business. In Japan, besides boat sales, Yamaha Motor operates a marine leisure club called "Sea-Style" that provides a rental service using Yamaha boats, hosts club events and more, designed to bring the joy of spending time on the water to as many people as possible, just as our founder envisioned.

From the foresight of Genichi Kawakami to taking on new and tougher challenges, FRP technology and its advantages have made undeniable contributions to the Yamaha Motor of today. As a global manufacturer in so many lines of business, we need to remember that - it's not just plastic.

For a video of FRP hulls during the manufacturing process:

<http://www.yamahaboats.com/labs/quality> (Yamaha Motor Corporation, U.S.A.)

Message from the Editor



Happy New Year! We're starting out 2013 with a fresh new look! I hope you'll look forward to your copy of this new monthly periodical as we delve into the past and the present of Yamaha Motor. For this first issue, I'd like to bring you all a quick look into one of our core competencies, fiber reinforced plastics or FRP for short. We use this technology extensively in our boat and pool businesses here in Japan, but it has applications in a multitude of areas.

If you're interested in getting more details or using the contents here in a report or news article, please don't hesitate to contact me through the e-mail or telephone number listed below. If you have any suggestions or ideas for an article you'd like to see published, let me know!

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