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"CARBONICS"

G M T Advanced Engineered Composites

NEW PRODUCTS BULLETIN

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GMT

TO: Yacht Designers
Naval Architects
Sailmakers
Project managers
Sparmakers
Hardware manufacturers
Custom boat builders

☐ STRENGTH & FITNESS FOR CRUISING & RACING SAILBOATS

We would like to take a moment of your time to introduce some new products that will be of interest to your clients.

Based on our experience over the past six years we know that **G M T** has a real contribution to make in the field of advanced composite technology in the marine industry. **G M T** was founded in 1984 by Henry Elliot and Eric Goetz. High strength, light weight, reliable composite parts at a reasonable price are our specialty. Here are some examples of tried and tested **G M T** components.

☐ AROUND THE WORLD WITH G M T CARBON BLADES & POSTS

The **Whitbread Round the World Race** and the **Globe Challenge** constitute the world's toughest sporting challenges to both crew and equipment. It's no accident that four competitors in these races relied on **G M T** equipment to steer them through 27,000 miles of the most intense competition and extreme conditions.

G M T has delivered over a hundred composite steering systems. In the millions of miles that these yachts have sailed, not a single **G M T** blade or post has failed. With this unblemished record, we can offer a limited **Five Year Warranty**.

Our engineering staff will work with you to design a post and bearing system that is rugged yet light. Typical composite posts are 25% the weight of stainless steel. The blade will then be carved to exactly the shape you specify by our multi-axis CNC milling machine. Final surface is finished ready to accept anti-fouling. **G M T** also offers a number of bearing solutions.

Call our engineering staff for lightweight, composite solutions for IMS boats.

☐ G M T PRE-PREG CARBON STEERING WHEELS & PEDESTALS

When we introduced the **G M T Weight Loss Program for Racing and Cruising Yachts** we knew that the real contribution to weight reduction would come from a complete carbon fiber steering system. As you know, weight savings in the ends of the boat are a cost-effective way of improving performance. Our semi-custom wheels weigh 20% of the stainless equivalent (a 50-inch **G M T** carbon wheel weighs 4.5 lbs). Carbon pedestals for wheels and winch grinder systems are also available.

☐ G M T PRE-PREG CARBON SPARS "SAVIORS FOR THE CRUISING YACHT"

Cruising sailboats stand the most to gain from advanced composite technology. Because most cruising yachts have shoal draft requirements and comprehensive equipment inventories, displacement and stability are compromised along with comfort and performance when conventional spars are used. The use of carbon fiber and other composites for masts, booms and spinnaker poles will lower the center of gravity and improve all around performance. For example, a carbon fiber tube will only weigh 50% of an equivalent strength aluminum tube. For a 100-foot yacht the mast weight alone can be reduced by over 2,000

pounds by using composites. Another advantage is greater longevity because of the better fatigue qualities of carbon.

Results from our on-going research and development program are encouraging. The day when you can confidently recommend **G M T** composite spars to your clients is here.

☐ G M T - IMS SOLUTIONS:

The **G M T** engineering staff has been hard at work developing lightweight, strong, cost effective solutions for rudder post and blades for yachts competing under the IMS rule (where the use of carbon fiber is prohibited) The **G M T** - IMS option gives architects the flexibility to balance budget with performance. A choice of post materials includes stainless steel or aluminum. S-Glass posts may be a solution for some size yachts. For most situations S-Glass is a practical material for the blade.

☐ G M T COMPOSITE ENGINEERING SERVICES:

G M T Engineering and Design department can support designers and naval architects throughout the design process. As you look for ways to reduce weight and improve performance and comfort, our engineering department is available to assist you. With their knowledge of structural analysis, composite engineering and spar design, they will work closely with you to optimize structures and systems.

☐ G M T DIVERSITY:

In six short years **G M T** has established the industry standard for precision, high quality, custom, composite components. The variety of work demonstrates the diversity of the company.

The projects of the past two years include a free-standing wingmast for a monohull, carbon pre-preg mast components for ***Stars & Stripes*** (catamaran), tank test models, rowing shells, a kayak prototype for the Olympic Gold Medal winner (1988), several projects for defense contractors, and wind generator blades.

☐ SPEED & STRENGTH FOR MATADOR 2

G M T manufactures custom composite steering quadrants for all sizes of sailing craft. The carbon quadrant can be attached to a post of any size or material. **G M T** supplied several custom components for *Matador 2* including rudder blade and post and a carbon quadrant weighing in at 11 pounds!

G M T WEIGHT LOSS PROGRAM

Example —50-Foot Racer/Cruiser Yacht

Item	LBS	KGS
Rudder blade (carbon) & post (prepreg)	62.0	28.2
Quadrant (prepreg)	6.0	2.7
Steering pedestals	4.5	2.1
Steering wheel — 78-inch diameter	7.5	3.4
Estimated weight savings over conventional materials	**50%-80%**	

***For a new perspective on performance, call* G M T**

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