

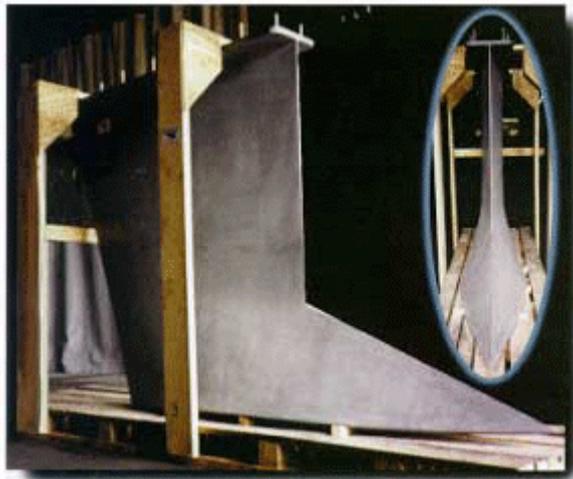
THE EVEN KEEL

*Volume 6
July 1998*

Morris 47 - Sophisticated Keel For A Gentleman's Racer

Chuck Paine's design for the new Morris 47, has met the challenge of creating a very fast racer, that also will be a safe and comfortable blue water yacht. The owner, a long time sailor, has a passion for racing, and his favorite haunts are the Chesapeake, but he has been known to sail in the Mediterranean and the Arctic.

The Morris 47 is an anomaly, built for speed and comfort. The high performance **MARSKEEL TECHNOLOGY** Keel, is a stainless steel hollow fin with an integrally cast lead bulb. Hollow fin designs provide a much lower center of gravity, but create a challenge for the keel maker, particularly in high performance boats. These keels require high strength and demand the most from keel design.



*Crated and ready for installation, a side view and rear view (inset) of the Morris 47' L-shaped keel. One important feature of Mars' services is the design of the upright shipping crate. These crate designs provide for easier handling and simple 'bolt-on' ease of installation, that is a hallmark of **MarsKeel Technology**.*

The fin, therefore, is made from 316L stainless steel, with Aquamet 22 Super Structures at the top and bottom of the keel. 316L alloy was used because its lower carbon content enhances corrosion resistance. The owner stipulated that C.W. Paine design the racer/cruiser for a 20 year career of active sailing.

The top plate is precision machined stainless steel, that is tapped for the Aquamet keel bolts that are welded to the Armature Design Bolt Cage. At the bottom of the fin is an elaborate Aquamet structure that links the lead bulb to the fin.

The fin and bulb junction is Kevlar wrapped, protecting against differences in the dissimilar expansion coefficients of the two metals.

The final finish is provided by cleaning the keel using a glass bead blast and applying nitric-hydrofluric acid pickle paste to remove

any scale and weld tint. An initial 20mm coat of Wearax is applied, followed by fairing with Phillybond Blue 6A. The designer's templates (see photo pg 2.) are used to

measure precision, ensuring final fairing accuracy. The final finish is achieved using 3 coats of Interprotect with dry

sanding between applications.

Beyond the high tech keel, the Morris 47 has state of the art technology in its epoxy fiberglass hull, carbon rig and rudder. The use of modern materials creates rating problems within IMF rules, but the first and foremost issue in the design was to build speed.

Penalties for the spinnaker pole that overruns the fore triangulation formula, along with all the other sophisticated materials was considered carefully in Paine's design, but the tradeoff of speed versus rating won out.

The last anomaly is the comfort of interior design that features cabins with sleeping berths that are comfortable heeled over at sea. The interior is benevolent with Tom Morris' luxury of finish and appointments, including heavy Corian counters.

Fittingly so, the Morris 47 is a racing gentleman's cruiser.



The designer's templates are utilized to ensure final fairing is very precise.

MARS METAL COMPANY	
4140 MORRIS DRIVE	
BURLINGTON, ONTARIO,	
CANADA L7L 5L6	
CONTINENTAL TOLL FREE:	
1-800-381-KEEL (5335)	
TEL: (905) 637-3862	
FAX: (905) 637-8841	
E-MAIL: SALES@MARSMETAL.COM	