

FABRICATED *Fin*



Fast facts

- Lower CG, better performance than a lead casting.
- Wide range of production materials available, from A36 to 2205 Duplex and everything between.
- Allows wide range of finishing options, from hand fairing (+/- 1-2mm) to CNC surfacing (4/1000").
- Competitive pricing and delivery times.
- Possibly smaller sectional area.
- Internal volume of fin can be used for other uses, tankage for example.

Are you looking for higher performance keel options for your yachts other than the standard all lead casting? MarsKeel Technology has the solution for you with a combination of a fabricated fin and cast lead bulb.

In terms of design and engineering, MarsKeel Technology can assist you with the entire project or support your design firm with the technical details required by the Canadian Welding Bureau (CWB is the governing body that certifies the welding technicians, setting the standards and procedures for all types of welding in Canada) and the Lloyds Register or RINA.

In terms of the production, MarsKeel Technology offers a wide range of metals available for a fabricated fin, including A36 to armour plate, CHT 100 to high strength Stainless Steel, 2205 Duplex and Weldox 900-700, plus many more. The actual production can range from a bump formed plate assembled with pre-cut internal parts to fully CNC-machined panels being fitted together into a fabrication.

These different processes offer very different keels. The formed plate fin is generally hand-faired, offering a surface tolerance of approximately +/- 1-2mm. Examples of this standard are SWS

100 and 110. The pre-machined plate assembly style is used when a CNC-machined surface is required; this surface will have a tolerance of approximately 0.004", plus applied paint roughness. Examples of this style are the SWS 9401, TP 52.

In terms of production price, the fabricated fin and attached cast bulb will be comparable to an all lead cast keel. As the size of the keel increases, it becomes far more cost effective, when you include the possible costs of shipping over-sized loads around the world. The competitive price is accomplished partly because of the reduction in the price for the tooling, (pattern and mold needed in an all lead cast keel) which is needed for just a bulb rather than for the entire keel, based on a fin made using the general formed fabrication using either 316 SS or A36.

The timeline for a fabricated fin and cast bulb is also very similar to an all lead casting. This is accomplished by the simultaneous construction of the fabricated keel fin and bulb. They run down independent production systems until they are either attached or dry fitted.

Choosing a fabricated fin allows the designer to use the internal volume of the fin for other purposes. Depending on the type

of keel, this volume can be used for tankage, as was done in a fin used on one of our latest projects, or as a location for operating systems, i.e. hydraulic cylinders, as done in another project. Utilizing this offered volume in the fin allows the relocation or location of weight lower in the yacht, which in turn lowers, or at least maintains, the CG of the yacht.

The attributes of the fabricated fin and cast lead bulb keel design option offer the designer, engineer and builder material and surface tolerance flexibility, as well as additional usable volume and improved sailing performance. When coupled with our competitive production timing and pricing over the all lead casting, in most applications a solid fin design and a fabricated option is something to be carefully considered.

Completed projects can be viewed at www.marskeel.com. For more information, please call +1.905.637.3862 or email sales@marskeel.com.



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