

# The OTTO-five

## Background

Krister Bergström and Karl-Otto Strömberg met in the early eighties when they sailed 505. They both shared the same dedication to develop the 505 further and it could be true to say that this project was initialised twenty years ago. Even though things have improved significantly since then there are still room for further improvements and the fastest 505 are still not yet built. Krister and Karl-Otto will certainly try hard to build the fastest one and will make their best to always offer the fastest available 505.

By doing so Krister and Karl-Otto would like to think that they contribute to develop the class in a positive way and it will be great fun doing.

Priorities will always be Performance, Function and Toughness. – 505 build for racing.

## Krister Bergström design

The moulds used are basically the Kulmar moulds. The moulds are in perfect condition and Paul Kulmar contributed significantly to ensure that the moulds would come to use again.

As seen in Malmö there have been some changes to the Kulmar design. The centreboard case and top is new to hoist the new high aspect centreboards. Already the second hull, which will be finished in august 2003, will include significant improvements.

- No 2 will have a new spinnaker tube. It is a major change compared to the systems available.
- The deck is full sandwich. Performance, function and toughness have to balance and even though it adds 1 kg the new design is probably the right compromise.
- The weight will be reduced from 80 kg to 75 kg.
- The finish on the first hull was unnecessary rough the second is far much better.

## Production methods and materials

There are to our knowledge mainly two different manufacturing processes established. Prepreg in combination with honeycomb and hand lay up in combination with foam core.

The OTTO-five introduces a third method, vacuum infusion. This allows the use of stitched mat where each layer / direction of fibre runs in the same plane. In combination with extraordinary high fibre fraction it results in both extremely high strength and E-modulus of the laminate. - An easy and fairly adequate way to compare stiffness is to listening for the natural frequency of the boat when you knock on it. The higher the tone is the stiffer the boat is. Please try it next time you come a cross an OTTO-five.

Due to some tricks there is no use for any surface mat and the hull consists solely of foam, resin, some gelcoat and a substantial amount of continuous carbon. Surface mat and resin

are replaced in favour for carbon and a high-density core. The core density is the same density you normally find as reinforcements and it is the same all over. The high-density core adds structural rigidity and really improve impact resistance. The high-density core will also make it easier to fit out the boat.

## Foils

It is unavoidable to look into rudders and centreboards if you want to build the fastest 505 and Krister has spent much time over the last years to design and test new foils. This experience forms a solid base for the new generation foils that will be available later this autumn. The foils will incorporate features as hydro elastic tailoring – a technology to optimise the structural response.

## Test pilots

A few boats, rudders and centreboards will be produced this winter to trim production and refine the concept. The pre series boats and foils are for sale, there is an opportunity to make a barging and you can contribute to the development of the fastest 505 yet.



## Sales

The 2004 design will be ready for delivery early next year, in time for the season. Prices are not yet decided but please do not hesitate to ask for an offer. We will offer everything from bare hull to fully equipped and trimmed boats ready to use.

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