

## New Boat-Concept

**Demonstrates Recyclability  
of Thermoset Composites...**



The original single-skin laminates of sprayed glass fiber reinforced polyester in deck and hull are reduced by 50% and combined with a sprayable polyester based mixture containing 33-40% ground scrap. All core materials normally used, such as plywood, Coremat and Divinycell are also replaced with scrap mixture. This gives a content of about 20% recycled materials by total weight of the boats.

Tests of the concept laminates have shown that equal bending strength at the same surface weight of a laminate is achieved when replacing 50% by weight of the standard laminate with the scrap-mix core. The concept laminate will then be about 15% thicker than the standard laminate because of its lower density. When replacing marine plywoods with equal thickness of scrap-mix the bending strength increase of the screw holding strength for sandwich laminates have been measured when replacing plywood with the scrap mix.

The equipment for processing the scrap mix are a grinder, a high/low shear mixer and a special designed spray equipment. The spray-up process with recycled materials is licensed by Seagull of Volusia County, Inc. USA.

The boat concept is developed in the inter-Nordic program "Recycling of Thermoset Composites" by SICOMP, (Swedish Institute of Composites) OMC Ryds, Sweden, and Neste Chemicals, Finland. Extensive evaluations of mechanical properties are on-going activities within the project, that will proceed through 1997. The project is coordinated by SICOMP, Sweden, and sponsored by the Nordic Industrial Fund and NUTEK (Swedish National Board for Industrial and Technical Development).

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