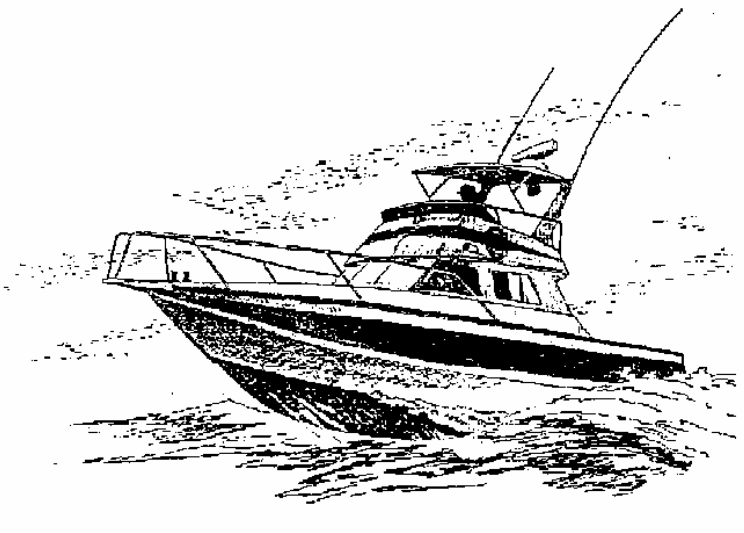
W H Y ALUMINIUM ?

A welded aluminium hull, as compared to fibreglass, will yield a more durable, longer lived boat, easily customized to customer requirements, that is simply and quickly repaired and is easily retrofitted to meet changing operating requirements.



General

In America, aluminium is the first choice of government agencies for boats in the 6 to 20 metre range. Aluminium is used for most small to medium sized commercial fishing boats in the north-western US, and it is used in most crew boats in the Gulf of Mexico. Aluminium has long been accepted as the premier material for fine yachts, both sail and power, and has been the choice for most America's Cup sailboats since 1974.

Many small thin hulled boats are fastened with rivets, with some welding on thick sections. Aluminium boats plated with 3mm or thicker material, such as our range are "fastened" using the metal inert gas (MIG) welding process. Aluminium has a higher strength to weight ratio than most other boat building materials. Aluminium has exceptional dent resistance and aluminium boats typically weigh 30 to 40% less than their fibreglass counterparts and 45 to 55% less than their steel counter parts. Weight savings provide a number of performance bonuses. For example, in a given size and shape of boat, lighter weight means greater speed with the same horsepower,

reduced fuel consumption with the same speed, or a greater payload - more cargo or more range - all meaningful advantages. Light weight also provides reduced draft for a given payload.

Durability and Repairability

Aluminium has great toughness. It will survive impacts that neither steel nor fibreglass will survive. In such cases the steel or fibreglass will rupture, while aluminium will merely dent. Like steel, aluminium has considerable ductility, i.e.. The ability to withstand permanent deformation without rupture. It has one third the modulus of elasticity of steel, thus it absorbs the energy of any impact over a greater distance than steel. Stress levels therefore are considerably less than would be the case in steel. Fibreglass, on the other hand, is extremely brittle and is thus subject to cracking and fracture during impact.

Aluminium boats are much easier to repair than fibreglass boats, particularly fibreglass boats with foam liners. With aluminium, dents can often be pounded out with a hammer, but if necessary, sections of a plate can be cut out with a saw and simply replaced winning off repaired one boat, a 15 metre which drove into a rock at 18 knots, in a matter of a couple of man days of work. A similar fibreglass boat might well have sunk, and probably would have been damaged beyond economically feasible repair.

Flammability

Aluminium does not burn. Fibreglass boats contain petroleum based resins which burn energetically. Fire retardant resin makes them harder to "light", but nonetheless the burning is energetic once started.

Ease of customisation.

Since aluminium boats are not built from moulds as are fibreglass boats, changes in design, modification in the location of bulkheads, size of cabins, etc. Are all accomplished much more readily than with

fibreglass. The ease with which equipment can be relocated by cutting and welding or drilling and bolting is also advantageous. With the advent of computer aided design, custom hull shapes and arrangements can be provided at prices which are competitive with

low volume production runs.

Corrosion resistance.

The salt water corrosion resistance of 5000 series aluminium is excellent and has been demonstrated by the aluminium company of America (ALCOA) in a thirty year test from the mid 1930's to the mid 1960's at which time a section of an aluminium hull was retired from its test site in Narragansett bay because so little was happening to it. Corrosion problems with aluminium boats can usually be traced to either the use of improper alloys, galvanic or electrolytic corrosion, all of which may be easily eliminated through proper material selection, proper wiring, bonding and isolation procedures.