

## Boat 012 – Basic Specification

Measurements	Metric system throughout, unless otherwise noted (screw lengths and gauges for example). All linear dimensions are given in millimetres (and “mm” is not always suffixed to the numbers).
Timber	Mahogany, Brazilian or African (often now called Ghana Mahogany), or Red Meranti for solid structural timber work. Most other hardwoods and softwoods are suitable but avoid Teak, Iroko and Oak for structural lamination and bonding (with the exception of the teak laid to the decks). Avoid softwoods with a high resin content (e.g. Pitchpine) or softwoods with large or loose knots. For timbers that are used extensively in the boat, it is preferable to choose timbers with a density of 550g/m <sup>3</sup> or less so as not to build up excessive structure weight. Buy all timber kiln dried if possible and store in dry and well ventilated conditions. Stick between baulks/planks of timber to allow good air circulation. Moisture content of timber should be 12% or less. The timber types given in the specifications below are those considered most suitable.
Plywood	<p>Must be WBP (weather &amp; boil proof) grade minimum. BS1088 is the UK marine grade. 5-ply is better than 3-ply (applies to 6mm thickness - thicker ply will automatically be 5-ply or more). WBP Gaboon ply is excellent and to be preferred wherever possible, because it is relatively light in weight, has a good surface finish and is very suitable for WEST™. Gaboon ply is often available in “Marine” and “Lloyds” grades - “Marine” grade is usually fine (but it doesn’t necessarily mean BS 1088). BS 1088 is the British Standard for marine grade and controls glue (which is WBP), structure and timber species. With wood epoxy systems BS 1088 ply is not entirely necessary, provided that the ply used is structurally sound (not too many voids, no veneer corrugations, sufficient plies, minimal surface filler etc.) and the bond is WBP. When decoratively veneered ply is used structurally, the decorative veneers must also be bonded on with be WBP grade adhesives.</p> <p>Beware of cheap “Far Eastern” or similar plys. They can be satisfactory, but they are often heavy, with a poor surface finish and the quality can be doubtful. Even those stamped BS1088 are not necessarily really BS1088, especially if sourced outside the</p>

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UK – BS1088 is only enforceable in the UK, even though it is used as an indication of marine quality throughout much of the world.

Always check the Standard for Marine Ply in your own country and try to find a reputable supplier.

### Furniture & secondary structures

The furniture is made from plywood and solid timber with plywood panels. Many items of the furniture are also used structurally - these are called secondary structures. The timber to be used decoratively needs to be chosen carefully so that it fits in with the timbers used for the primary structures and also with the style of the interior, and is also readily and reasonably economically available.

### Coating system

WEST™ wood epoxy materials. The use of #207 coating hardener on larger surfaces will provide a better finish (use ordinary #205 hardener on the first two coats). Minimum three coats on all structures and areas of the boat. See also WEST™ fact sheet.

### Glue

WEST™ #105/#205 resin mix modified with #403 microfibres (about 7% to 10% by weight - but you will soon judge better by consistency which should be a thickish paste, but still runny). End grain and bare timber to be wetted out with #105/#205 and allowed to stand for 15 minutes before gluing with resin/#403 mix. Pre-coated areas (where the WEST™ coating has gone off to be sanded thoroughly and any surface “sweat” removed. Timber direct from the saw is suitable for gluing. Timber from the planer can be shiny, with the surface cells compressed - roughen slightly with medium abrasive paper. See also WEST™ fact sheet.

### Filleting

WEST™ #105/#205 resin mix modified with #405 filleting blend.

### Decorative finishes

Exterior clear finishes should be UV resistant. We recommend that one coat of 2-pot varnish is applied before using conventional varnishes - otherwise the conventional varnish may have difficulty in curing. The same applies to paint finishes - one coat of 2-pot first, then conventional or acrylic.

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Fastenings	<p>Very few structural fastenings are required, most fastenings being used to hold items together while glue cures. However for convenience most fastenings are left in place, rather than being withdrawn.</p> <p>Brass or stainless countersunk wood screws are fine. Use a Stanley “screwsink” of the correct size for the screw when boring off for screws to obtain best hold and clean countersinks. Stanley “plugcutters” are available for each gauge of screw and the dowels produced match the countersink made by the screwsink. Where screws are not to be dowelled over (glue dowels in with WEST™), or filled over with WEST/#407 microballons, fudge plenty of WEST™ down screw hole (a pipe cleaner is ideal for this). Wax screw if it is required to be withdrawn later.</p> <p>Nails can be used wherever suitable. Use stainless steel, or bronze. Avoid steel, including galvanized or sheradized, unless the fastening is to be removed.</p>
Backbone (Hog, stem & apron)	African Mahogany laminations
Chine	African Mahogany or Douglas Fir lamination
Coachroof carlings	African Mahogany or Douglas Fir.
Coachroof runners	African Mahogany, Brazilian Mahogany or Teak.
Coachroof sides	9mm Gaboon ply.
Coachroof top	9mm Gaboon ply.
Decks	9mm Gaboon ply.
Floors	12mm Gaboon ply.
Frames	12mm Gaboon ply/solid timber as drawings.
Hull skin	12mm Gaboon ply.

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King plank	African Mahogany or Douglas Fir.
Main carlings	African Mahogany or Douglas Fir.
Mast runner	African Mahogany or Douglas Fir.
Shelves	African Mahogany or Douglas Fir.
Sternpost and knee	African Mahogany.
Transom	12mm Gaboon ply, with African Mahogany fashion pieces and beam.
Useful WEST™ System reading and viewing	Basic application technique VHS training video. The Gougeon Bros. on Boat Construction. WEST™ system Technical Manual.