



SP Systems
Composite
Engineering
Materials

A High Performance Painting Scheme for Wooden Boats

Where the scheme is Applicable

This scheme, which uses a combination of SP Systems high quality coating products, is recommended for wooden boats of glued construction, i.e. cold-moulded, strip planked or of plywood where kiln dried timber has been used in the construction. **The scheme is unsuitable for boats of traditional construction, or where wood with high moisture content has been used.**

The essential elements of the scheme are:

- To fully encapsulate the timber on all surfaces with a water-proof epoxy 'membrane' thereby stabilising it against movement due to moisture exchange in any environment.
- To finish with high performance fillers, undercoats and a gloss finish which will fully disguise the fact that wood was used as a substrate and give a finish which rivals the best GRP gelcoat finishes.

Only full encapsulation of the timber (i.e. hull and deck coated inside and out) with a sufficient thickness of epoxy will give a surface adequately stabilised to receive the high performance top coatings. The tough polyurethane paint systems, are acknowledged as the most durable for this type of application.

Benefits of the Scheme

Compared to more conventional coating schemes, this scheme has proved over many years to give a wooden surface the best possible protection from environmental attack, particularly moisture and ultra-violet radiation. At last, the owner of a wooden boat can use it as he would a GRP craft without the worry of the time consuming and expensive traditional annual maintenance.

The scheme is applicable to boats of all sizes, from canoes and racing dinghies to large yachts.

The Products and their Functions

Product	Description	Function
SP320	Clear, solvent-free epoxy.	Serves as a clear, highly adhesive, thick application primer. The most convenient and economical way to fill the grain and provide a waterproof barrier.
SP Microballoons and SP Colloidal Silica	Low density filler ingredients available separately.	When added to mixed SP 320 epoxy system, creates low density, non-sag filler mixes which are very easy to sand and are inexpensive.
SP Hibuild 302	A pigmented, solvent-based epoxy undercoat/surfacer available in either grey or white. Heavily filled with high build and fast drying characteristics and relatively soft and easy to sand, it is applied to surfaces requiring some fine fairing.	Fills small blemishes and undulations which can be sanded fair with coarse or medium abrasives.
Polyurethane undercoat (Blakes Poly Undercoat or Awlgrip 545)	A two-pack polyurethane undercoat system. Moderately fast drying and medium build with good pigment density. Relatively hard when cured. Should be applied to a surface which is already fair.	Gives a uniform opaque colour base for gloss coatings. Can be applied to a high standard of finish which requires the minimum of surface preparation before gloss coating.
Polyurethane topcoat (Blakes Poly Gloss, Epifanes Polyurethane or Awlgrip Urethane Premium Topcoat)	A two-pack polyurethane gloss paint system ideal for either brush or spray application (with the appropriate thinners).	Provides the ultimate in surface protection for stabilised wood structures. Highly resistant to discolouration by u/v radiation, chemical attack and abrasion.

The Products and their Functions

Day	Activity	Notes
Day One	Apply 2 coats of SP 320 by brush ' wet-on-tacky' - i.e. apply 2 nd coat when 1 st coat is gelled, but not hard.	If roller is used - apply 3 coats to compensate for reduced coating thickness per coat. Apply another 1 or 2 coats for most hulls other than racing dinghies.
Day Two	Wet sand surface with 120 grit wet-or-dry paper, then apply 2 coats of Hibuild 302 (+ 1 further coat if required).	Alternate grey and white colours can be used to get the most even coverage.
Day Three	Day for curing.	
Day Four	Sand surface with 80 grit then 120 grit production paper to a smooth, fair finish.	Use a sanding block. If, after sanding, low spots are apparent, low density epoxy filler may be required.
Day Five	Apply 2 coats of polyurethane undercoat.	
Day Six	Sand using 240 grit wet-or-dry paper used wet.	Follow recommended overcoating intervals.
Day Seven	Apply 1 coat of polyurethane gloss.	
Day Eight	Sand with 320 grit wet-or-dry paper used wet.	If paper is clogging, leave for a further 24 hours before sanding.
Day Nine	Apply final coat of polyurethane gloss.	

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SP Systems therefore strongly recommend that representative test panels and component sections are built and tested by the user in order to define the best process and materials to use for the desired component. This should be done under conditions as close as possible to those that will be used on the final component.

SP Systems' guides are being continuously reviewed and updated. Please ensure that you have the current version before using the product, by contacting SP Systems' Marketing Services and quoting the rev. no. in the bottom left-hand corner of the page.

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