Coating of New Ferro Cement Hulls

Before attempting to overcoat new cement the boat should be left to cure for at least 28 days, and then water dried for as long as possible. Care should be taken to avoid build up of water on the uncoated inside of a hull, as water will permeate through the cement possibly causing the outside coating to be blown off through hydrostatic pressure.

Before coating all protruding wires should be hammered back into the hull and filled over with WEST SYSTEM® epoxy thickened with 403 Microfibre Blend. Wire protruding from the cement will inevitably lead to cratering later in the life of the boat.

It should be understood that the adhesion of epoxy to the cement is limited by the cohesive strength of the cement layer immediately beneath the coating. Accordingly surface preparation is very critical.

Cement is a very alkaline material and it should be kept in mind that if the epoxy coating is inadequate traces of alkali may permeate to the surface causing serious colour changes in the top coating.

Exterior

When choosing fairing additives, we recommend the use of 410 Microlight under light coloured paints and phenolic microballoons under dark coloured paints.

Surface Preparation

1. Laitance (loose material) should be removed with a wire brush.

2. The standard procedure for the preparation of a massive concrete structure involves washing with a 50% solution of concentrated Hydrochloric Acid in water, spreading at 0.5 litres per square metre. This is certainly much too strong for use on a dedicated structure such as a boat hull and accordingly the acid should be only 10%. As soon as frothing has ceased (approx. 10 minutes) the surface should be very thoroughly hosed down and left several days to dry completely. To test if concrete is fully dry, a vinyl tile left against the surface overnight should show no moisture condensation.

Remember to wear goggles and rubber gloves when working with acid.

3. Dig out any corrosion craters and punch exposed wires well in, filling if necessary.

4. Apply WEST SYSTEM® resin/hardener at 10 square metres/litre. Use a brush or roller and take care to wet the surface thoroughly.

5. A second coat of WEST SYSTEM® resin/hardener should be applied as soon as the first coat has cured, enough that it will support the
second coat normally within a 2 - 4 hour period depending on temperature. Leave to cure overnight then amine scrub prior to the secondary bonding of other materials. (see no:8)

6. Fair up using WEST SYSTEM® epoxy modified with 410 Microlight.

7. Finally finish with at least three coats of WEST SYSTEM® resin/hardener, spreading with a roller and finishing with a brush to burst air bubbles.

8. Now amine scrub the cured epoxy barrier coat using a Scotch-Brite pad and warm water, clean and dry surface with white paper towel and sand to an 80 grit finish.

9. Finally a good two part linear polyurethane paint may be applied above or below the water-line or antifouling may be applied directly below the water-line.

Note: Undercoats over WEST SYSTEM® epoxy are of little value except to provide a colour base from top coats with typically low hiding power such as reds, oranges and yellows. It is preferable, in fact, to pigment the first resin coat to achieve a colour base.

Interior

1. Remove laitance with a wire brush. Ensure that surface is fully dried.

2. Dig out any craters and fill if necessary.

3. Apply WEST SYSTEM® resin/hardener as in stage 3 to 8 for exterior.

4. Internal fitting out may be carried out normally using WEST SYSTEM® epoxy and powder modifiers.

5. After finishing the interior may be coated with a good two pack polyurethane enamel. Sanding thoroughly to achieve a good key is always essential.

ATL composites

ATL composites Pty Ltd
Tel (+61) 7 5563 1222
Fax (+61) 7 5563 1585
info@atlcomposites.com
www.atlcomposites.com
www.westsystem.com.au