

### DESCRIPTION

This system describes how the area below the waterline of a wooden yacht may be coated with a two component polyurethane system.

### PRINCIPAL CHARACTERISTICS

This coating system may be applied directly to properly pre-treated wood and may be recoated with most types of anti-fouling.

### SURFACE CONDITION

Wood, dry and in good condition.

### SURFACE PREPARATION

New untreated wood

1. Grit paper new wood completely, especially oily and greasy woods like Oregon pine, teak, iroko and pine;
2. The surface should be dry and free from grease, loose particles and other contamination (moisture content maximum 12%);
3. Remove all dust and residue from the surface.

Maintenance

1. Clean the surface thoroughly with fresh water to remove all contamination such as salt deposits, dirt, grease and other foreign matter, preferably by high pressure water cleaning and with a suitable cleaner;
2. Remove old layers of paint completely (also one component paints or anti-fouling, even when these are in a good condition) using paint strippers or by sanding. When using paint strippers the surface should be cleaned afterward with water followed by Double Coat Degreaser.
3. Previous layers of two component paint which have good adhesion and which are in good condition should be abraded; preferably by grit paper;
4. The surface should be dry and free from grease, loose particles and other contamination (moisture content maximum 12%);
5. Remove all dust and residue from the surface.

### MATERIALS AND SPREADING RATES

The following materials are used in this paint system:

Variopox Injectiehars	spreading rate approx. 0,2 l/m <sup>2</sup>
Variopox Impregneerhars	spreading rate approx. 0,3 l/m <sup>2</sup>
Variopox Plamuur	spreading rate depends on condition surface
Variopox Finishing plamuur	spreading rate depends on condition surface
Variobond	spreading rate depends on condition surface
IJmopox HB coating	spreading rate approx. 0,3 l/m <sup>2</sup>
IJmopox Verdunner	spreading rate depends on application methode
Double Coat Ontvetter	spreading rate depends on condition surface

### APPLICATION

New, untreated wood

1. Apply one coat of Variopox Injectiehars (minimum spreading rate approx. 0,2 l/m<sup>2</sup>). Gritpaper after curing;
2. Apply two coats of Variopox Impregneerhars (minimum spreading rate approx. 0,3 l/m<sup>2</sup>). Gritpaper after curing;
3. Apply two to three coats of IJmopox HB coating at a total dry filmthickness of 225 µm (minimum spreading rate approx. 0,3 l/m<sup>2</sup>);
4. Apply an anti-fouling when required.

Already painted surfaces

1. Apply as spot-repair to damaged and bare areas one coat of Variopox Injectiehars (minimum spreading rate approx. 0,2 l/m<sup>2</sup>). Gritpaper after curing;
2. Apply two coats of Variopox Impregneerhars (minimum spreading rate approx. 0,3 l/m<sup>2</sup>) to damaged and bare areas. Gritpaper after curing;
3. Repair damaged areas with a suitable filler such as Variopox Plamuur, Variopox Finishing plamuur or Variobond. Gritpaper surface after curing;
4. Apply two to three coats of IJmopox HB coating to a total dry film thickness of 225 µm (minimum spreading rate approx. 0,3 kg/m<sup>2</sup>);
5. Apply an anti-fouling when required.

Maintenance

Repair damaged areas using the recommendation for already painted surfaces.

#### ADDITIONAL INFORMATION

- Wood  
Wood is a natural product and will deteriorate under the influence of moisture, mould and fungus. The speed of this process depends on various factors, amongst others the type of wood, the temperature, the moisture content of the wood, of the boat is exposed to sweet or salt water, etc. Applying a suitable coating system will improve the durability and extend the lifetime. Tropical woods may contain contaminants which may cause coating defects such as discoloration, slow curing, blistering or loss of adhesion. Thorough degreasing and careful sanding of such woods will prevent problems.
- Previous paint: one or two component?  
When it is not known if the previous coating system was based on one- or two component products, this can be determined with a simple test. Soak a small piece of cloth in Double Coat Ontvetter and leave this for 15 minutes on the surface. Remove the cloth and check the surface. When the previous paint has not dissolved, is not softened and cannot be easily removed it is most probably a two component paint. Only then it is possible to apply a fresh coat of two component paint.
- Repair (only for finishes in colour, not transparent)  
Damaged areas and dents may be repaired with Variopox Plamuur. When a smooth, fine finish is required, Variopox Finishing Plamuur may be used as second filler. Grit paper surface after application and curing of the filler and clean and degrease surface with Double Coat Ontvetter. Touch-up repaired areas with the following layer of the coating system to eliminate absorption of the filler. As alternative to Variopox Plamuur, Variobond may be used as filler or bonding paste.
- Durability and surface preparation  
The durability of any paint system depends on a number of variables, amongst others: total dry film thickness, method of application, skill of labour, the conditions during which the coating is applied and cured, the exposure conditions during service and the preparation of the surface. Insufficient surface preparation might lead to blistering and loss of adhesion.
- Anti-fouling  
Most types of anti-fouling may be applied on top of IJmopox HB coating.
- Overlap with coating system above the waterline  
Please note IJmopox ZF primer or Double Coat cannot be applied over an anti-fouling. This is important at the overlap between the below- and above water area.

## 22: WOOD – BELOW THE WATER LINE

- Sanding

A durable adhesion will be obtained by thorough preparation of the surface. This may be achieved by sanding the surface. Sanding is also necessary when the time elapsed between application of each coat exceeds the maximum overcoating interval.

During application of the finishing coats, we recommend to use for each coat a finer grit paper. The table gives the recommended grit sizes:

Grit paper:	Recommended for:
P24 – P36	Suitable for steel prior to application of IJmopox ZF primer.
P60	Suitable for polyester gelcoat prior to the use of epoxy adhesives and bonding pastes.
P60 – P80	Suitable for: <ul style="list-style-type: none"> <li>Removal of old coats of paint,</li> <li>Sanding aluminium prior to application of IJmopox ZF primer.</li> </ul>
P120	Suitable for: <ul style="list-style-type: none"> <li>Sanding polyester gelcoat prior to repair with fillers,</li> <li>Sanding of Variopox Injectiehars, Variopox Impregneerhars and Variopox Universele hars.</li> </ul>
P120 – P180	Suitable for: <ul style="list-style-type: none"> <li>Wood, after application of first coat of paint,</li> <li>Epoxy fillers,</li> <li>Polyester fillers,</li> <li>Sanding of IJmopox ZF primer and/or IJmopox HB coating between each coat.</li> </ul>
P180 – P220	Suitable for: <ul style="list-style-type: none"> <li>Sanding of Variopox Injectiehars, Variopox Impregneerhars and Variopox Universele hars,</li> <li>Sanding of IJmopox ZF primer or IJmopox HB coating prior to application of Double Coat.</li> </ul>
P220 – P280	Suitable for sanding gelcoat prior to application of Double Coat.
P320 – P400	Suitable for sanding Double Coat between each coat.
P600	Suitable for sanding Double Coat prior to application of the final coat Double Coat when dark colours are used such as DC 855, DC 854 and RAL 5011, etc.
Finer than P600	Suitable to remove dull areas prior to polishing.

- Example application schedule

step		dry film thickness (µm)	spreading rate (m <sup>2</sup> /l)	recoating interval at 20 °C	preparation before next step
1	Pre-treatment				
2	Apply Variopox Injectiehars	n.a.	n.a.	16 hours	Sanding P120.
3	Apply first coat Variopox Impregneerhars	n.a.	n.a.	3 hours	No sanding when applied wet-in-wet, otherwise sanding with P120.
4	Apply second coat Variopox Impregneerhars	n.a.	n.a.	16 hours	Sanding P120.
5	Repair with Variopox Plamuur, Variopox Finishing plamuur or Variobond	n.a.	n.a.	48 hours	Sanding P180.
6	Apply first coat of IJmopox HB coating grey or white	75	9,3	8 hours	When recoated with a next coat of IJmopox HB coating within 72 hours no preparation is required, otherwise sanding with P180.
7	Apply second coat of IJmopox HB coating grey or white	75	9,3	8 hours	
8	Apply third coat of IJmopox HB coating grey or white	75	9,3	8 hours	When recoated with anti-fouling within 12 hours, no preparation is required, otherwise sanding with P180

- Relation dry/wet film thickness

Volume % IJmopox thinner	0	2	4	6	8
Wet film thickness Variopox Injectiehars at 50 µm dry film thickness	50				
Wet film thickness Variopox Impregneerhars at 100 µm dry film thickness	100				
Wet film thickness IJmopox HB coating at 75 µm dry film thickness	107	110	113	117	120

For detailed information on the products mentioned in this sheet, please refer to our technical information sheets.

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*Disclaimer*

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