25: WOOD – SUPERSTRUCTURE

DESCRIPTION

This system describes how the superstructure 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. This system is scratch resistant, resistant to a wide range of chemicals and provides excellent colour and gloss retention. Depending on the requirements, a solid colour system or a transparent system is available.

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, 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^2
Variopox Impregneerhars	spreading rate approx. 0,3 l/m^2
Variopox Plamuur	spreading rate depends on condition surface
Variopox Finishing plamuur	spreading rate depends on condition surface
Variobond	spreading rate depends on condition surface
Double Coat	spreading rate approx. 0,35 kg/m^2 (solid colour finish)
Double Coat Karaat	spreading rate approx. 0,10 l/m^2 (semi-transparent finish)
Double Coat Dubbel UV	spreading rate approx. 0,45 l/m^2 (transparent finish)
	spreading rate approx. 0,35 l/m^2 (semi-transparent finish)
Double Coat Kwastverdunner	spreading rate depends on application method
Double Coat Ontvetter	spreading rate depends on condition surface

APPLICATION

New, untreated wood, solid colour finish

1. Apply one coat of Variopox Injectiehars (minimum spreading rate approx. 0,2 l/m^2). Gritpaper after curing;
2. Apply one coat of Variopox Impregneerhars (minimum spreading rate approx. 0,3 l/m^2). Gritpaper after curing;

3. Repair damaged areas with a suitable filler such as Variopox Plamuur, Variopox Finishing plamuur or Variobond. Gritpaper surface after curing (see additional information);
4. Apply four to five coats of Double Coat at a total dry film thickness of 160 µm (minimum spreading rate approx. 0,35 l/m^2).

New, untreated wood, transparent finish
1. Apply one coat of Variopox Injectiehars (minimum spreading rate approx. 0,2 l/m^2). Gritpaper after curing;
2. Apply five to six coats of Double Coat Dubbel UV at a total dry film thickness of 200 µm (minimum spreading rate approx. 0,45 l/m^2).

New, untreated wood, semi-transparent finish
1. Apply one coat of Variopox Injectiehars (minimum spreading rate approx. 0,2 l/m^2). Gritpaper after curing;
2. Apply one coat of Double Coat Karaat at a total dry film thickness of 40 µm (minimum spreading rate approx. 0,10 l/m^2 ;
3. Apply four to five coats of Double Coat Dubbel UV at a total dry film thickness of 160 µm (minimum spreading rate approx. 0,35 l/m^2).

Maintenance
Repair damaged areas using one of the above recommendations.

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 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 be 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 or semi-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.

- 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: • Removal of old coats of paint, • Sanding aluminium prior to application of IJmopox ZF primer.
P120	Suitable for: • Sanding polyester gelcoat prior to repair with fillers, • Sanding of Variopox Injectiehars, Variopox Impregneerhars and Variopox Universele hars.
P120 – P180	Suitable for: • Wood, after application of first coat of paint, • Epoxy fillers, • Polyester fillers, • Sanding of IJmopox ZF primer and/or IJmopox HB coating between each coat.
P180 – P220	Suitable for: • Sanding of Variopox Injectiehars, Variopox Impregneerhars and Variopox Universele hars, • Sanding of IJmopox ZF primer or IJmopox HB coating prior to application of Double Coat.
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 then P600	Suitable to remove dull areas prior to polishing.

- Example application schedule (solid colour finish)

step		dry film thickness (µm)	spreading rate (m^2/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 Variopox Impregneerhars	n.a.	n.a.	16 hours	Sanding P120.
4	Repair with Variopox Plamuur, Variopox Finishing plamuur or Variobond	n.a.	n.a.	48 hours	Sanding P180.
5	Apply first coat of Double Coat	40	10,8	24 hours	When recoated with a next coat within 48 hours no preparation is required, otherwise sanding with P240-P320.Use between subsequent coats finer gritpaper to avoid visible scratches.
6	Apply second coat of Double Coat	40	10,8	24 hours	
7	Apply third coat of Double Coat	40	10,8	24 hours	
8	Apply fourth coat of Double Coat	40	10,8		

25: WOOD – SUPERSTRUCTURE

- Example application schedule (transparent system or semi-transparent system)

step		dry film thickness (µm)	spreading rate (m^2/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 of Double Coat Dubbel UV	40	10,0	24 hours	The first coat may be replaced by Double Coat Karaat. When recoated with a next coat within 48 hours no preparation is required, otherwise sanding with P240-P320.Use between subsequent coats finer gritpaper to avoid visible scratches.
4	Apply second coat of Double Coat Dubbel UV	40	10,0	24 hours	
5	Apply third coat of Double Coat Dubbel UV	40	10,0	24 hours	
6	Apply fourth coat of Double Coat Dubbel UV	40	10,0	24 hours	
7	Apply fifth coat of Double Coat Dubbel UV	40	10,0	24 hours	

- 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				
Volume % Double Coat Kwastverdunner	0	3	6	9	12
Wet film thickness Double Coat at 40 µm dry film thickness	77	78	80	82	84
Wet filmthickness Double Coat Dubbel UV at 40 µm dry film thickness	80	82	85	87	90

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

Date: January 15