

2: POLYESTER – BELOW THE WATER LINE

DESCRIPTION

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

PRINCIPAL CHARACTERISTICS

This coating system may be applied directly to properly pre-treated gelcoat and offers an excellent resistance against osmosis. This paint system may be recoated with most types of anti-fouling.

SURFACE CONDITION

Polyester gelcoat, in good condition, without damage due to osmosis. See system 1 for the repair of areas damaged by osmosis.

SURFACE PREPARATION

New building

1. Degrease the surface and carefully remove all deposits of mould release agents using Double Coat Ontvetter;
2. Grit paper the surface;
3. Remove all dust and residue from the surface;
4. Repeat the treatment with plenty Double Coat Ontvetter. The surface should be dry and free from grease, loose particles and other contamination.

Maintenance

1. Clean the surface thoroughly 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 one component paint completely (even when these are in a good condition);
3. Remove old layers two component paints with insufficient adhesion, preferably by grit paper.
4. Let the surface dry.
5. Grit paper the surface;
6. Previous layers of two component paint which have good adhesion and which are in good condition should be abraded; preferably by grit paper;
7. Remove all dust and residue from the surface;
8. Degrease the surface thoroughly using Double Coat Ontvetter. The surface should be dry and free from grease, loose particles and other contamination.

MATERIALS AND SPREADING RATES

The following materials are used in this paint system:

Variopox Plamuur	spreading rate depends on condition surface
Variopox LG plamuur	spreading rate depends on condition surface
IJmopox HB coating	spreading rate approx. 0,3 l/m ²
IJmopox Verdunner	spreading rate depends on condition surface
Double Coat Ontvetter	spreading rate depends on application method

APPLICATION

New, untreated surfaces

1. Apply two to three coats of IJmopox HB coating to a total dry film thickness of 225 µm (minimum spreading rate approx. 0,3 l/m²). Gritpaper between each coat.
2. Apply an anti-fouling when required.

Already painted surfaces

1. Repair damaged areas with a suitable filler. Gritpaper surface after curing.
2. Apply two to three coats of IJmopox HB coating to a total dry film thickness of 225 µm (minimum spreading rate approx. 0,3 l/m²). Gritpaper between each coat.
3. Apply an anti-fouling when required.

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Maintenance

Repair damaged areas using the recommendation for already painted surfaces.

ADDITIONAL INFORMATION

- **Repair of GRP**
 Damaged areas and dents may be repaired using a filler. Each damage, scratch or pinhole should be treated carefully. Scratches may be abraded and filled. Dents and cracks should be gritpapered until the laminate is exposed. After curing of the filler the surface should be cleaned with Double Coat Ontvetter.
 Suitable fillers are:
 - Variopox Plamuur;
 - Variopox LG plamuur;
 - Variopox Finishing plamuur.

- **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.

- **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.

- **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: <ul style="list-style-type: none"> • Removal of old coats of paint, • Sanding aluminium prior to application of IJmopox ZF primer.
P120	Suitable for: <ul style="list-style-type: none"> • Sanding polyester gelcoat prior to repair with fillers, • Sanding of Variopox Injectiehars, Variopox Impregneerhars and Variopox Universele hars.
P120 – P180	Suitable for: <ul style="list-style-type: none"> • Wood, after application of first coat of paint, • Epoxy fillers,

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Grit paper:	Recommended for:
	<ul style="list-style-type: none"> • Polyester fillers, • Sanding of IJmopox ZF primer and/or IJmopox HB coating between each coat.
P180 – P220	Suitable for: <ul style="list-style-type: none"> • 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

step		dry film thickness (µm)	spreading rate (m ² /l)	recoating interval at 20 °C	preparation before next step
1	Pre-treatment				
2	Repair with Variopox Plamuur, Variopox Finishing plamuur or Variopox LG plamuur	n.a.	n.a.	24 hours	Sanding P180.
3	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.
4	Apply second coat of IJmopox HB coating grey or white	75	9,3	8 hours	
5	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 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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