

O: POLYESTER – RENOVATION OF OSMOSIS

page 1 of 4

DESCRIPTION

This system describes how to renovate polyester below the waterline of a GRP yacht after osmosis.

PRINCIPAL CHARACTERISTICS

When polyester below the waterline is severely infested with osmosis, renovation will be necessary. This system is recommended as renovation method for such deteriorated surfaces. This coating system is compatible with most types of anti-fouling.

For osmosis repair or osmosis prevention see system 1, Polyester osmosis repair

SURFACE CONDITION

Polyester gelcoat infested with osmosis, with or without previous coating system.

SURFACE PREPARATION

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 the gelcoat and any old layers of paint and anti-fouling completely. Suitable methods are:
 - Blasting with grit or any other suitable abrasive material:
After this procedure surface defects may become visible. Repair these defects before continuing;
 - Mechanical peeling:
By means of peeling a fixed thickness is removed from the surface. As a result, the surface will be very smooth. Grit sand the surface with P60 before continuing;
 - Planing with an electrical plane (GelPlane):
Avoid cuts. By means of planning a fixed thickness is removed from the surface. As a result, the surface will be very smooth. Grit sand the surface with P60 before continuing;
 - Manual scraping with hot air gun:
Low cost method but time consuming;
3. Do not use an angle grinder, this will result in an uneven surface;
4. Grit paper the surface with P60;
5. Rinse the surface with fresh water and liquid soap to neutralize and remove acids;
6. Check the pH of the surface. Repeat rinsing until the surface reacts neutral, not acidic;
7. Leave the surface to dry completely, this can take a few months;
8. Measure the moisture content using a Skipper Plus. An acceptable value is 15 at scale 2;
9. Leave the surface to dry further when the moisture content is too high.

MATERIALS AND SPREADING RATES

The following materials are used in this paint system:

Variopox Plamuur	spreading rate depends on condition surface
IJmopox HB coating	spreading rate approx. 0,5 l/m ² (osmosis renovation)
IJmopox Verdunner	spreading rate depends on condition surface
Double Coat Ontvetter	spreading rate depends on application method
Poltix Resin M-EB	spreading rate approx. 0,5 kg/m ²

APPLICATION

Osmosis renovation, old polyester

1. Check the pH of the surface. The pH should be close to neutral (pH=7). Repeat rinsing when the surface is acidic;
2. Check the moisture content of the surface with a Skipper Plus. Leave the surface to dry when the moisture content is above 15 at scale 2;

O: POLYESTER – RENOVATION OF OSMOSIS

page 2 of 4

3. Apply two layers Poltix Resins M-EB. Apply in each layer Poltix Oppervlaktemat.
4. Avoid entrapment of air by de-aerating the wet fiber/resin layer with a de-aeration roller;
5. Apply three to four coats of IJmopox HB coating to a total dry film thickness of 375 μm (minimum spreading rate approx. 0,5 l/m²). Gritpaper between each coat.
6. Apply an anti-fouling when required.

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:

O: POLYESTER – RENOVATION OF OSMOSIS

page 3 of 4

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, 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	Apply first coat of Poltix Resins M-EB and Poltix Oppervlaktemat	Approx. 750 µm.	n.a.	direct	Apply both layer wet-in-wet. The minimum temperature should be 15 °C. Sanding P120
3	Apply first coat of Poltix Resins M-EB and Poltix Oppervlaktemat	Approx. 750 µm.	n.a.	direct	
4	Apply first coat of IJmopox HB coating grey or white	125	5,6	8 hours	When recoated with a next coat of IJmopox HB coating within 72 hours no preparation is required, otherwise sanding with P180.
5	Apply second coat of IJmopox HB coating black or grey	125	5,6	8 hours	
6	Apply third coat of IJmopox HB coating grey or white	125	5,6	8 hours	When recoated with anti-fouling within 12 hours, no preparation is required, otherwise sanding with P180

O: POLYESTER – RENOVATION OF OSMOSIS

page 4 of 4

- Relation dry/wet film thickness

Volume % IJmopox thinner	0	2	4	6	8
Wet film thickness IJmopox HB coating at 125 µm dry film thickness	179	184	189	195	200

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

Date: January 15

Disclaimer

Although the information and recommendations are presented in good faith and believed to be correct at date of issue, De IJssel Coatings B.V. makes no representations as of the completeness or accuracy thereof. In no event De IJssel Coatings B.V. will be responsible for damages of any nature whatsoever resulting from the use of this information. De IJssel Coatings B.V. reserves the right to change the information sheet without prior notifications. This information sheet supersedes any previous publications.