

3: POLYESTER – ABOVE THE WATER LINE

DESCRIPTION

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

PRINCIPAL CHARACTERISTICS

This coating system may be applied directly to properly pre-treated gelcoat and is scratch resistant, resistant to a wide range of chemicals and provides excellent colour and gloss retention.

SURFACE CONDITION

Polyester gelcoat, in good condition.

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:

IJmopox ZF primer	spreading rate depends on condition surface
IJmopox Verdunner	spreading rate depends on condition surface
Double Coat	spreading rate approx. 0,3 kg/m ²
Double Coat Kwastverdunner	spreading rate depends on application method
Double Coat Ontvetter	spreading rate depends on application method

APPLICATION

New, untreated surfaces

1. Surfaces showing micro-porosity should be pretreated with one or two layers of IJmopox ZF primer. Gritpaper between each coat;
2. Apply three coats of Double Coat to a total dry film thickness of 120 µm (minimum spreading rate approx. 0,3 kg/m²). Gritpaper between each coat.

Already painted surfaces

1. Repair damaged areas with a suitable filler. Gritpaper surface after curing.
2. Surfaces showing micro-porosity should be pretreated with one or two layers of IJmopox ZF primer. Gritpaper between each coat;

3: POLYESTER – ABOVE THE WATER LINE

3. Apply three coats of Double Coat to a total dry film thickness of 120 μm (minimum spreading rate approx. 0,3 kg/m²). Gritpaper between each coat.

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. Apply two coats of Double Coat to the repaired areas to reduce the absorption of the filler, this will also avoid dull areas in the final coat.
Suitable fillers are:
 - Variopox Plamuur (lightgreen, excellent water resistance, good sanding properties);
 - Variopox LG plamuur (grey, excellent water resistance, light weight, good sanding properties);
 - Variopox Finishing plamuur (cream, excellent water resistance, good sanding properties);
 - Poltix Superplamuur (grey, rapid curing, excellent sanding properties, for above water only);
 - IJmofix (white, rapid curing, smooth, excellent sanding properties, for above water only);
 - Poltix Vezelplamuur (rapid curing, for larger repairs, to be finished with Poltix Superplamuur or IJmofix, for above water only).
- **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.
- **Micro-porosity**
Micro-porosity is a phenomenon which may occur on new and old, weathered gelcoat. Micro-porosity is visible as small pinholes in the surface. Painting a surface showing micro-porosity with Double Coat might lead to surface defects in the layer of Double Coat. A coat of primer such as IJmopox ZF primer will eliminate surface defects.
- **Haircracks and crackle**
Small cracks and crackle in the GRP surface are difficult to repair. A filler is difficult to apply as the crack and crackle are too small and too difficult to grit paper. A lasting repair is possible using a generous coat of IJmopox ZF primer (or IJmopox HB coating). Apply the material with a squeegee and rub the primer into the cracks and crackle. Repeat this procedure when necessary. Next, sand the surface and apply the next layer of the paint system.
- **Overlap with coating system below 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.

3: POLYESTER – ABOVE 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"> 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 of 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, Poltix Superplamuur or IJmofix	n.a.	n.a.	48 hours	Sanding P180. Apply spotrepair Double Coat when no micro-porosity is visible.
3	Apply IJmopox ZF primer in case of micro-porosity	50	11,0	16 hours	Sanding P180.
4	Apply first coat of Double Coat	40	10,8	24 hours	When recoated within 48 hours no preparation is required, otherwise sanding with P240 - P320. Use between each layer finer grit paper to avoid scratches in finish.
5	Apply second coat of Double Coat	40	10,8	24 hours	
6	Apply third coat of Double Coat	40	10,8	24 hours	

- Relation dry/wet film thickness

Volume % IJmopox thinner	0	3	6	9	12
Wet film thickness IJmopox ZF primer at 50 µm dry film thickness	91	94	96	99	102
Volume % Double Coat kwastverdunner	0	2	4	6	8
Wet film thickness Double Coat at 40 µm dry film thickness	77	78	80	82	84

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.