International

Boat Paint Guide

With removable color card

UK Edition

international-yachtpaint.com

AkzoNobel

For over a century...

...we've been creating the most innovative paint solutions to protect, beautify and improve the performance of all types of boats.

No matter where you are, in whichever waters around the globe, you'll find high performance coatings backed by meticulously researched knowledge and support from International®.

Whether we're in the lab researching and developing new products, or at sea putting our products to the test, we're in our element. Getting the chemistry right is critical to us, as is knowing the subtle differences between people and water all over the world. Wherever there are boats, we're right at the heart of the matter, making connections, solving problems, sharing knowledge.

Ask the experts

At International®, we recognise the importance of providing high-quality technical support and advice to all our customers. Whether you're a novice or a more experienced DIY'er, you're sure to have a question for us – and we'd love to help – here's how you can reach us...

international-yachtpaint.com

iyp.uk@akzonobel.com

+44 (0) 1489 77 50 50

Product Data Sheets

Material Safety Data Sheets

Product Labels

Got a question? We've got experts who've got the answer!

International® and the environment

We have products and systems designed to help you reduce your boating environmental footprint. Call us or visit **international-yachtpaint.com** for more information.

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Glossary of terms

Product guide

Use this guide to our antifouling products to help you choose the perfect product for your project.

	SPC	Polishing				Slow Polishing	Hard		Thin Film	Special Purpose
	Micron® 350	**Micron® 300**	**Cruiser® 250**	**Cruiser® 200**	**Boatguard 100**	**Trilux 33**	**Ultra 300#**	**VC® Offshore EU#**	**VC®17m Extra#**	**Trilux Prop-O-Drev**
Key attributes	• Our best ever self-polishing antifouling for the harshest fouling areas • Outstanding 24 month's protection against fouling in warm and cold waters • Self-polishing copolymer (SPC) reduces build-up of paint* • Suitable for fresh, salt and brackish waters	• Premium polishing antifouling, suitable for the harshest fouling conditions • Offers multi-season protection in a single application • Reduced paint build-up due to polishing action • Only available in Dark Grey	• Effective polishing antifouling for both power and sailing boats • Offers one year's protection in all but the harshest fouling conditions • Improved colour retention to maintain a pleasing finish	• Bright white colour that results in a striking finish • A quality polishing antifouling that prevents build-up of paint on the hull • Suitable for use on all substrates including aluminium	• Economical, polishing antifouling that can be used in fresh, salt and brackish waters, whether they're warm or cold • Gives you a whole year's antifouling protection • Improved colour retention	• Slow polishing, avoids seasonal paint build-up • For all substrates including aluminium; recommended for propellers and boottops • Bright colours, including bright white • Effective fouling protection for up to 18 months	• Premium hard antifouling, so it will hardly wear away • Protects against all types of fouling in high challenge areas • Available in a range of improved, truer colours	• Suitable for salt and freshwater • Hard, smooth finish can be burnished to a smooth profile • For racing sailboats and power boats	• Thin film antifouling for racing sailboats and powerboats • Low friction surface • Hard, smooth surface • Quick drying for fast re-launch	• Aerosol application for difficult to reach areas • For propellers, outboards and sterngear • For aluminium, stainless steel and alloy
Previous product	Micron® Extra 2, Micron® Optima	Micron® Extra 2	Cruiser® Uno EU	Cruiser® Bright White	Boatguard EU	–	Interspeed Ultra 2	–	–	–
Thinner / Cleaner	Thinner No.3	Thinner No.3	Thinner No.3	Thinner No.3	Thinner No. 3	Thinner No.3	Thinner No.3	VC® General Thinner	VC® General Thinner	VC® General Thinner
Practical coverage (m^2 per litre)	9.0	9.0	9.0	9.0	9.0	8.3	9.0	10.5	10.0	1 can per medium outdrive
Number of coats	2 (12 months) 3 (24 months)	2 (12 months) 3 (24 months)	2	2	2	3 (18 months)	2	2-3	2-3	3
Substrates (Substrates must be suitably primed)	GRP / W / S / L	GRP / W / S / L	GRP / W / S / L	GRP / W / S / A B / SS / L	GRP / W / S / L	GRP / W / S / A B / SS / L	GRP / W / S / L	GRP / W / S / L	GRP / W / S / L	A / B / SS
Application method	Brush / Roller	Brush / Roller	Brush / Roller	Brush / Roller	Brush / Roller	Brush / Roller	Brush / Roller	Roller	Roller	Aerosol
Suitable for high fouling areas	● ● ● ●	● ● ●	● ●	● ●	●	● ●	● ● ●	● ●	● ●	● ●

* For benefits of SPC see Page 7.

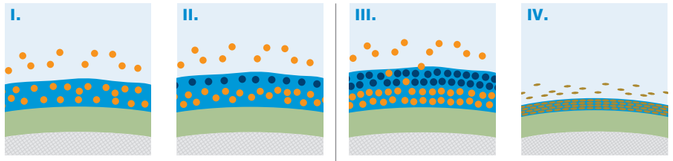
GRP Glass-reinforced plastic W Wood S Steel
A Aluminium B Bronze SS Stainless Steel L Lead
● Good ● ● ● ● Outstanding

Important: If you are regularly travelling at high speed (eg. 30 knots) you might experience early wear through. Consult your local International® representative for further advice if you are unsure about the suitability of a product for your specific requirements.

Suitable for burnishing to provide a smoother finish.
Use antifouling paints safely. Always read the label and product information before use.

Types of antifouling

The types of antifouling available can be split into two types, hard and eroding. You will also find other descriptions such as ablative, polishing or self-polishing. All these descriptions can be put under the umbrella of eroders.



I. SPC (Self Polishing Copolymer)

- SPC products undergo a chemical reaction in seawater to deliver a consistent polishing and biocide release rate
- SPCs typically have a reduced leached layer compared to polishing systems – maintaining performance for longer
- These types are used by vessel owners who require longer periods between maintenance, and anyone looking for increased all-round performance
- Haul and relaunch without repainting

II. Polishing

- Polishing action provides controlled biocide release for long-term performance
- Wears away with use
- Low maintenance – reduced build-up shortens preparation time
- Haul and relaunch without repainting

III. Hard

- Hard, durable, season-long finish
- Resistant to abrasion and rubbing
- Suitable for fast craft and craft on dry moorings
- Scrubbable finish

IV. Thin Film

- Optimised for high speeds
- Ultra smooth, low-friction surface for performance boat owners, that:
  - Increases speed
  - Improves fuel efficiency
  - Reduces fuel consumption
  - Extends engine life
  - Minimises paint build-up

Substrate
Primer
Antifouling paint
Copper flake
Copper oxide
Cavities in leached layer

Is my new antifouling compatible?

Once you've identified the International® antifouling that's most suitable, if you have an existing coating on your hull you will need to establish the compatibility of the two products. Use this simple table to check compatibility between International® antifoulings and also with competitor products.

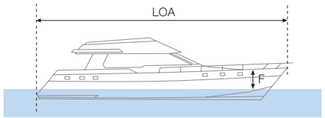
Existing Antifouling (in Good Condition)	New Antifouling: Micron® 350	Micron® 300	Cruiser® 250	Cruiser® 200	Boatguard 100	Ultra 300	Trilux 33	Trilux Prop-O-Drev	VC® Offshore EU	VC®17m Extra
Micron® Optima / Micron® WA	●	●	●	●	●	●	●	●	●	●
Micron® Extra 2 / Boatguard EU Cruiser® Uno EU / Cruiser® Bright White	●	●	●	●	●	●	●	●	●	●
Trilux 33 / Interspeed Ultra 2	●	●	●	●	●	●	●	●	●	●
VC® Offshore EU	●	●	●	●	●	●	●	●	●	●
VC®17m / VC®17m Extra	●	●	●	●	●	●	●	●	●	●
Unknown product	●	●	●	●	●	●	●	●	●	●
Previous antifouling in poor condition	●	●	●	●	●	●	●	●	●	●
Awlgrip® Awlstar Gold Label	●	●	●	●	●	●	●	●	●	●
Hempel Tiger Extra / Hempel Hard Racing	●	●	●	●	●	●	●	●	●	●
Hempel Glide Speed	●	●	●	●	●	●	●	●	●	●
Seajet Shogun / Seajet Emperor	●	●	●	●	●	●	●	●	●	●
Flag Cruising / Flag Performance	●	●	●	●	●	●	●	●	●	●
Jotun Mare Nostrum	●	●	●	●	●	●	●	●	●	●

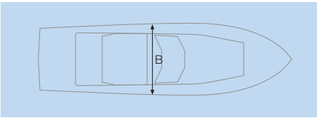
- ● Apply after a light wet sand. Wash with fresh water and allow to dry.
- ● Remove the antifouling using Interstrip AF. See **removing antifouling** on Page 35.
- ● Apply a barrier coat of Primocon® before applying antifouling. See **applying antifouling** on Page 45.

How much antifouling paint do I need?

Use these following quick steps to calculate the amount of paint you need:

1. Work out the area to be painted using the appropriate formulation (below).
2. Divide the area by the practical coverage of the paint you've chosen to determine how many litres per coat you will need.
3. Multiply the litres per coat by the number of coats to give your total paint requirement.

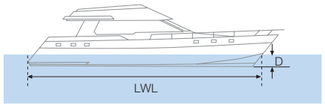




LOA Length Overall LWL Length Waterline B Beam D Draft F Freeboard

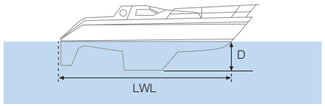
Underwater area formulations

Full bodied craft



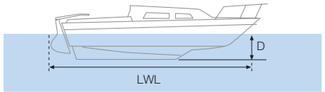
LWL x (B + D) = Underwater Area (m²)

Fin keeled racing craft



0.50 x LWL x (B + D) = Underwater Area (m²)

Medium draft racing craft



0.75 x LWL x (B + D) = Underwater Area (m²)

Tips

Apply an extra coat to all leading and trailing edges, water-line, trim-tabs, outdrives, keel and rudder. High turbulence in these areas tends to wear the antifouling faster.

Always use the specified amount of antifouling. Under-application can result in premature fouling and costly mid-season haul out.

For more information see the **Antifouling product guide** on Page 4.

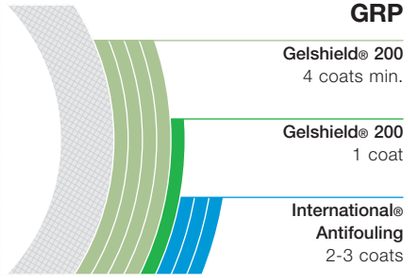
Important: If you own an aluminium boat, only apply antifouling paints specifically recommended for aluminium to prevent corrosion.

Never apply products containing Cuprous Oxide to aluminium.

Below water systems:
Two-part products

These schemes provide the maximum level of protection available.

GRP

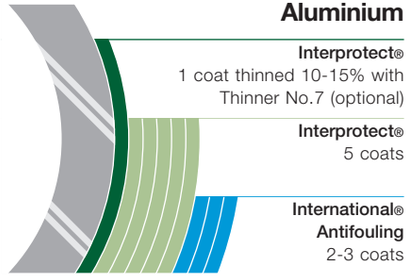


Gelshield® 200
4 coats min.

Gelshield® 200
1 coat

International® Antifouling
2-3 coats

Aluminium

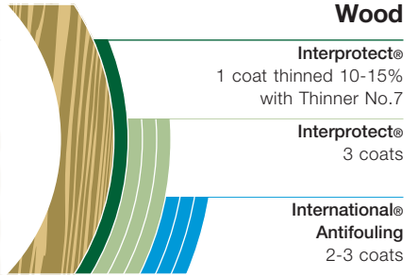


Interprotect®
1 coat thinned 10-15% with Thinner No.7 (optional)

Interprotect®
5 coats

International® Antifouling
2-3 coats

Wood

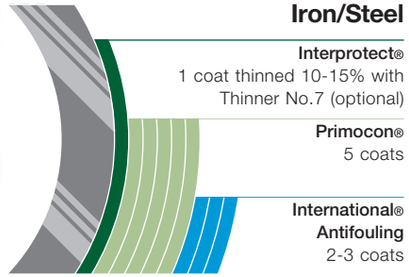


Interprotect®
1 coat thinned 10-15% with Thinner No.7

Interprotect®
3 coats

International® Antifouling
2-3 coats

Iron/Steel

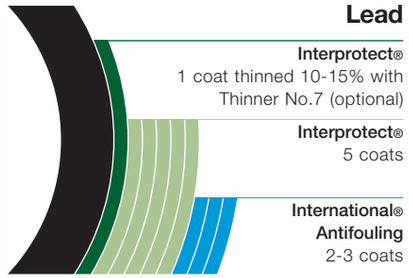


Interprotect®
1 coat thinned 10-15% with Thinner No.7 (optional)

Primocon®
5 coats

International® Antifouling
2-3 coats

Lead



Interprotect®
1 coat thinned 10-15% with Thinner No.7 (optional)

Interprotect®
5 coats

International® Antifouling
2-3 coats

- Surface Primer
- Primer
- Tie Coat
- Antifouling

Filler

If required for small areas, Watertite Filler should be applied after the first coat of Gelshield® 200 or Interprotect®.

See **substrate preparation** on Pages 28-29.

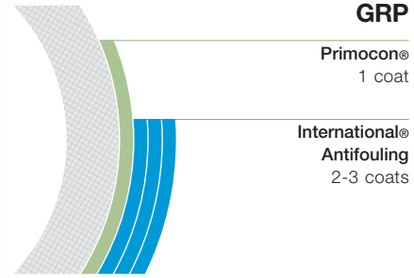
Important: If you own an aluminium boat, only apply antifouling paints specifically recommended for aluminium to prevent corrosion.

Never apply products containing Cuprous Oxide to aluminium.

One-part products

These schemes provide a good level of protection.

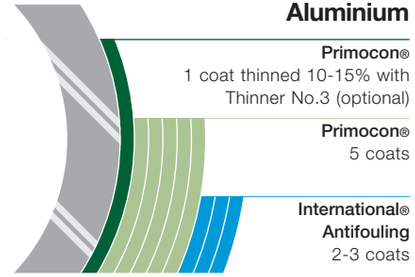
GRP



Primocon®
1 coat

International® Antifouling
2-3 coats

Aluminium

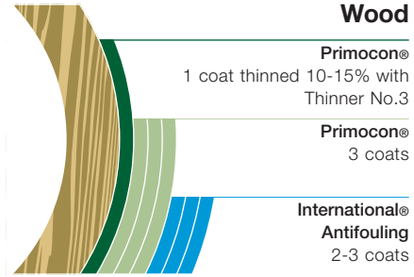


Primocon®
1 coat thinned 10-15% with Thinner No.3 (optional)

Primocon®
5 coats

International® Antifouling
2-3 coats

Wood

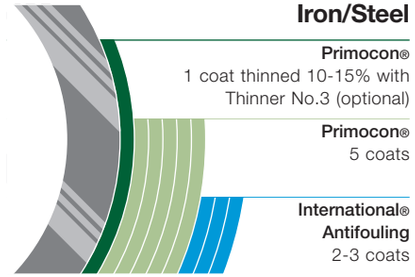


Primocon®
1 coat thinned 10-15% with Thinner No.3

Primocon®
3 coats

International® Antifouling
2-3 coats

Iron/Steel

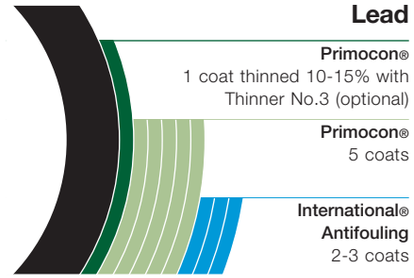


Primocon®
1 coat thinned 10-15% with Thinner No.3 (optional)

Primocon®
5 coats

International® Antifouling
2-3 coats

Lead



Primocon®
1 coat thinned 10-15% with Thinner No.3 (optional)

Primocon®
5 coats

International® Antifouling
2-3 coats

- Surface Primer
- Primer
- Antifouling

Filler

If required for small areas, Watertite Filler should be applied between the first and second coats of primer.

See **substrate preparation** on Pages 28-29.

Important: If you own an aluminium boat, only apply antifouling paints specifically recommended for aluminium to prevent corrosion.

Never apply products containing Cuprous Oxide to aluminium.

Propellers, outdrives and sterngear

Outdrives are built out of aluminium. This presents compatibility issues with cuprous-oxide containing antifoulings. Propellers are typically made with aluminium, bronze or stainless steel. See painting outdrives, stern gear, propellers and keels on Page 48.

Aluminium, Steel

Interprotect®
1 coat thinned 10-15% with Thinner No.7

Interprotect®
5 coats
(or **VC® Prop-O-Drev Primer** – no surface primer required)

Trilux 33
(or **Trilux Prop-O-Drev**)
3 coats min.

Bronze

Trilux 33
(or **Trilux Prop-O-Drev**)
3 coats min.

VC® products

Use these schemes when using VC antifoulings.

GRP

VC® Tar 2
3-5 coats

International® VC® Antifouling
2-3 coats

Lead

VC® Tar 2
3 coats min.

International® VC® Antifouling
2-3 coats

Iron/Steel

VC® Tar 2
4 coats min.

International® VC® Antifouling
2-3 coats

Filler

If required for small areas, Watertite Filler should be applied after the first coat of VC® Tar 2.

See **substrate preparation** on Pages 28-29.
See **osmosis protection schemes** on Page 51.

- Surface Primer
- Primer
- Antifouling

Removing old antifouling

If your existing antifouling is in poor condition, we recommend removing it completely before repainting. **Interstrip AF** has been formulated for removing antifouling from all substrates and is safe to use on glass fibre without harming the gelcoat.

GRP Glass-reinforced plastic
W Wood
S Steel
A Aluminium

Key attributes
- One-part stripper for aged antifouling
- Not aggressive so won't damage gelcoats

Substrates (Substrates must be suitably primed)
GRP / W / S / A

Suitable for above the waterline ●

Suitable for below the waterline ●

Coverage (m² per litre) Variable

Application method Brush

Why do I need a thinner?

Thinners are solvents which are usually the same, or very similar, to those used within the product they are recommended with. Thinners can be used as an additive to ease application, or to clean brushes and equipment.

Thinner No.1

A general purpose thinner, for use with one-part paints (excluding antifouling) and varnishes.

Thinner No.3

Typically used with antifouling paints (excluding VC® products).

Thinner No.7

Formulated for use with epoxy type products.

Thinner No.9

For use with two-part polyurethane products.

VC® General Thinner

Specially formulated for use with VC® products.

Product guide

Use this guide to our topside products to help you choose the perfect product for your project.

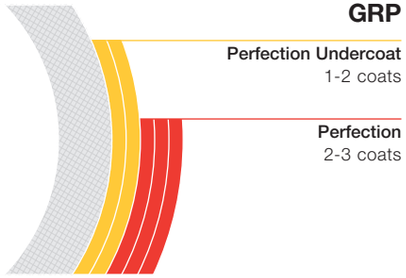
	Perfection	Toplac®	Super Gloss HS	Interdeck®	Danboline®
Key attributes	• Ultimate performance, two-part polyurethane finish • Chemical cure for the hardest finish & highest abrasion resistance • Unique UV protection for superior, long-lasting gloss and colour • Professional-quality results made easy • Easy mix ratio	• Solid reputation – admired on yachts and boats for decades • Easy to use – silky-smooth flow achieves a brush-mark-free, professional look • Silicone alkyd technology delivers a high-gloss shine and rich, lustrous colour • Excellent durability; lasts longer than conventional one-part enamels	• One-part high-gloss topcoat optimised for roller application • High solid technology for increased coverage and less solvent • Quick and easy to apply, with good flow and durability • Good durability	• Slip resistant polyurethane deck paint • Contains fine mineral additive for hard wearing, non-slip surface • Suitable for all substrates • Low sheen finish prevents sunlight dazzle • Apply straight from the can with brush or roller	• Hard wearing coating for bilges, lockers and bulkheads • Chemical resistance to fumes, fuel and oil • High opacity for thorough coverage • Cleans easily for reduced maintenance
Thinner	Thinner No. 9	Thinner No. 1	Thinner No. 1	Thinner No. 1	Thinner No. 1
Practical coverage (m^2 per litre)	11.9	12.0	12.0	10.8	11.0
Number of coats	2-3	2-3	1-2	1-2	1-2
Substrates (Substrates must be suitably primed)	GRP / W / S / A	GRP / W / S / A	GRP / W / S / A	GRP / W / S / A	GRP / W / S / A
Application method	Brush / Roller	Brush / Roller	Brush / Roller	Brush / Roller	Brush / Roller
Recommended undercoat	Perfection Undercoat	Pre-Kote	Pre-Kote	–	–
For a satin finish add	Polyurethane Matting Additive	Matting Additive	–	–	–
For a non-slip finish add	Non-Slip Additive	Non-Slip Additive	–	–	–

GRP Glass-reinforced plastic W Wood S Steel A Aluminium

Above water systems:
Two-part premium paint systems

These schemes provide the maximum level of protection available.

GRP

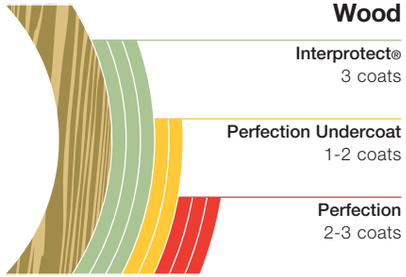


Perfection Undercoat
1-2 coats

Perfection
2-3 coats

Note: This scheme only applies if your gelcoat is in sound condition. If the gelcoat is old or has become porous it is essential to seal it first. For best results seal with a two pack epoxy primer such as Interprotect® before applying the undercoat.

Wood

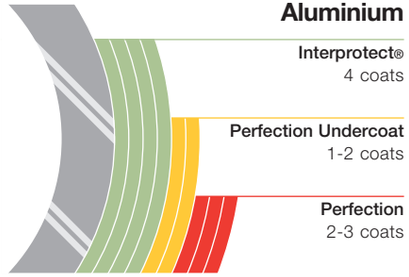


Interprotect®
3 coats

Perfection Undercoat
1-2 coats

Perfection
2-3 coats

Aluminium

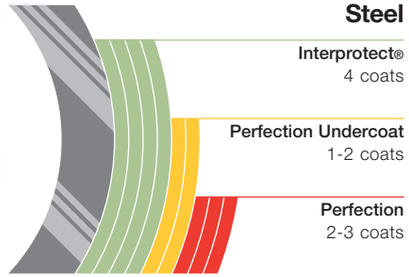


Interprotect®
4 coats

Perfection Undercoat
1-2 coats

Perfection
2-3 coats

Steel



Interprotect®
4 coats

Perfection Undercoat
1-2 coats

Perfection
2-3 coats

Filler

If required for small areas, Watertite Filler should be applied after the first coat of primer.

Oily woods

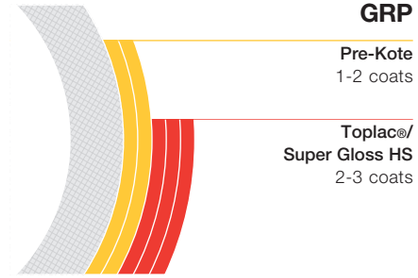
Hard woods such as Teak and Iroko, that are oily by nature, must be degreased adequately with the correct solvent prior to the application of a first thinned coat of varnish.

- Primer
- Undercoat
- Topcoat

One-part conventional paint systems

These schemes provide a good level of protection.

GRP

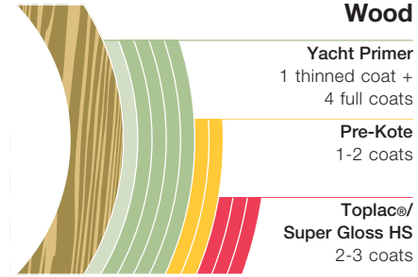


Pre-Kote
1-2 coats

Toplac®/ Super Gloss HS
2-3 coats

Note: This scheme only applies if your gelcoat is in sound condition. If the gelcoat is old or has become porous it is essential to seal it first. For best results seal with a two pack epoxy primer such as Interprotect® before applying the undercoat.

Wood

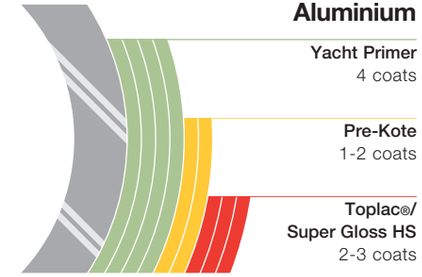


Yacht Primer
1 thinned coat +
4 full coats

Pre-Kote
1-2 coats

Toplac®/ Super Gloss HS
2-3 coats

Aluminium

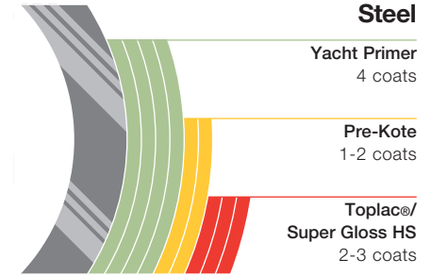


Yacht Primer
4 coats

Pre-Kote
1-2 coats

Toplac®/ Super Gloss HS
2-3 coats

Steel



Yacht Primer
4 coats

Pre-Kote
1-2 coats

Toplac®/ Super Gloss HS
2-3 coats

Filler

If required for small areas, Watertite Filler should be applied after the first coat of primer.

Oily woods

Hard woods such as Teak and Iroko, that are oily by nature, must be degreased adequately with the correct solvent prior to the application of a first thinned coat of varnish.

- Primer
- Undercoat
- Topcoat

Product guide

Use this guide to our varnish products to help you choose the perfect product for your project.

	Perfection Plus	Schooner®	Compass®	Goldspar® Satin	Original	Woodskin
Key attributes	• Ultimate performance, clear, two-part polyurethane varnish • Chemical cure for the hardest finish & highest abrasion resistance • Superior gloss lasts four times longer than conventional one-part varnishes • Professional-quality results made easy • 2:1 mix ratio: easy to measure and mix	• Premium quality, traditional tung oil varnish with excellent UV protection • Rich golden colour and deep gloss • Good flow-out and self-levelling characteristics for easier application	• Fast-dry, high durability, polyurethane high gloss varnish • Excellent resistance to abrasion, oils and chemicals • Apply 2 coats per day, sand only after 2-3 coats • Light amber colour • Contains HALS* and UV absorbers	• A satin finish polyurethane varnish for interior use • Resistant to hot water, mild acids and alkalis • Fast-dry formulation minimises dust contamination	• Traditional, general purpose gloss varnish • Good flow, flexibility and gloss retention • High clarity finish for light colour woods • Interior, exterior and over existing varnish	• Hybrid wood oil/ varnish acts as a waterproof skin for wood • Micropores allow film to breathe, preventing cracks and flakes • Easy to prepare and apply • Natural Teak colour enhances the beauty of any wood • No sanding required between coats
Thinner	Thinner No. 9	Thinner No. 1	Thinner No. 1	Thinner No. 1	Thinner No. 1	Do not thin
Practical coverage (m² per litre)	12.0	14.0	12.9	10.3	11.7	10.0
Number of coats (Will vary depending on usage. Please check product label/data sheet.)	2-5	4-6	3-5	3	3	3 min.
Suitable for use direct to oily timber (e.g. teak or iroko)	●	●	●	●	●	●
Application method	Brush / Roller	Brush / Roller	Brush / Roller	Brush / Roller	Brush / Roller	Brush
UV protection/gloss retention	● ● ● ● ●	● ● ●	● ● ●	For interior use only	● ●	● ● ●
For a satin finish add	Polyurethane Matting Additive	Matting Additive	Matting Additive	–	Matting Additive	–

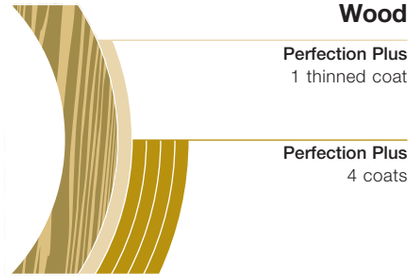
Note: For a non-slip finish, use **Non-Slip Additive** with your chosen varnish.

* HALS (Hindered Amine Light Stabilisers) contributes to the durability of the coating

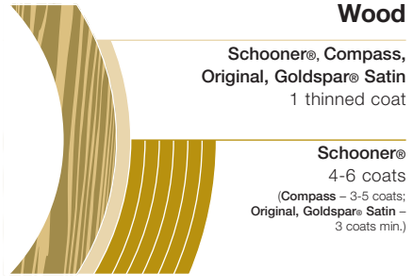
● Good ● ● ● ● ● Outstanding

Varnish systems:

Two-part premium system



One-part conventional system



Primer Varnish

Watertite – the only filler you need

Your boat is not only under attack from the elements. Damage can also result from collisions or other physical impacts, creating dents, imperfections and irregular surfaces on your hull. This can in turn cause your boat to suffer further damage from osmosis.

Watertite is a two-part solventless filler, compatible with most common substrates and usable both above and below the waterline. It can easily restore a surface by filling in and levelling these damaged areas up to 20mm depth, producing an easier surface for the application of subsequent coatings.

As a highly water-resistant filler, Watertite is also ideal for treating and preventing damage caused by osmosis, such as blistering. Quick-drying and easy to apply, Watertite has a newly optimized formula and represents the ideal solution for osmosis damage and spot-repair.

Key attributes

- **Sturdy filler:** Creates a smooth, strong finish able to hold up across larger areas, filling up to a depth of 20mm in a single application.
- **Water-resistant:** Two-part, water-resistant formulation can be applied above and below the waterline, ideal for combating osmosis.
- **Quick spot-repair:** Quick-drying for rapid spot repair or multiple coatings, with no shrinkage, making it easy to apply to a precise thickness.

Coverage (m² per litre)
1.0 (at 1mm thick)

Substrates (Substrates must be suitably primed)
GRP / W / S / A / L

Application method Trowel

Suitable for above waterline ●

Suitable for below waterline ●

GRP Glass-reinforced plastic W Wood S Steel A Aluminium L Lead

Product guide

Use this guide to our undercoats to help you choose the perfect product for your project.

	Perfection Undercoat	Pre-Kote
Key attributes	• High performance two-part polyurethane undercoat • Provides an excellent base for a long-lasting gloss finish • Easy application, fast drying and easy sanding • Semi-gloss appearance	• Undercoat for one-part finishes • Excellent opacity allows for easy colour changing • Long-lasting, easy to apply and rub down • Long overcoating times allow coat-on-coat application
Typically used	Under Perfection Finish (can also be used under Toplac® and Interdeck®) **Do not use over one-part products**	Under International® one-part finishes **Do not use under two-part products**
Thinner	Thinner No. 9	Thinner No. 1
Practical coverage (m² per litre)	11.8	12.0
Number of coats	1-2	1-2
Substrates (Substrates must be suitably primed)	GRP / W / S / A	GRP / W / S / A
Application method	Brush / Roller	Brush / Roller
Suitable for above waterline	●	●
Suitable for below waterline	●	●

Note: Perfection Undercoat/Pre-Kote can blend with topcoat to give coloured undercoating.

GRP Glass-reinforced plastic W Wood S Steel A Aluminium

Product guide

Use this guide to our primers to help you choose the perfect product for your project.

	Yacht Primer	Primocon®	Interprotect®	VC® Tar 2	Gelshield® 200	Gelshield® Plus	VC® P-O-D Primer
Key attributes	• Conventional one-part primer for use above the water • Quick drying, with anticorrosive properties • Pigments contain aluminium flake to provide an anti-corrosive protective barrier	• Conventional one-part primer for use below water • Quick drying, with anticorrosive properties • Can be used under all International® antifoulings* or as a barrier coat over incompatible or unknown antifoulings	• Quick drying, easy to apply, two-part epoxy primer • Offers excellent anticorrosive protection • Can be used as an antifouling tie-coat over existing or unknown epoxy primers	• Osmosis defence for GRP and anticorrosion barrier for metal • Advanced self-levelling formulation requires no sanding between coats • Smooth surface – ideal primer base for antifoulings	• Quick drying, easy to apply, epoxy primer for protection of GRP against osmosis • Provides protection against osmosis in five coats (250µm) • Useable down to 5°C • Fast drying allows multiple coat application in a single day	• A high build, solventless epoxy primer • Available in two colours to aid self-on-self application • Contains no harmful solvents to migrate into the hull and cause reblistering	• Primer for use with Trilux Prop-O-Drev antifouling • Aerosol application makes it ideal for painting awkward shapes • Excellent adhesion to properly prepared metal and factory enamelled surfaces
Typically used	Above water, under one-part undercoats **Do not overcoat with two-part products**	Below water, under International® antifoulings or to seal unknown antifoulings * **Do not overcoat with two-part products**	Where a high-performance anti-corrosive system is required **Do not use over one-part products or antifoulings**	Under VC® antifoulings, due to exceptionally smooth surface profile **Do not use over one-part products**	To prevent osmotic blistering on fibreglass hulls and bilges **Do not use over one-part products**	To treat osmotic blistering on fibreglass hulls **Do not use over one-part products**	Specifically formulated for use on outdrives, outboard legs, propellers and sterngear
Thinner	Thinner No. 1	Thinner No. 3	Thinner No. 7	VC® General Thinner	Thinner No. 7	Do not thin	Thinning not required
Practical coverage (m² per litre)	12.0	7.4	8.1	11.0	8.1	6.0	2.5
Number of coats	4	1-5	1-5	3-7	5-6	4	2
Substrates (Substrates must be suitably primed)	W / S / A / Z	GRP / W / S / A L / Z	W / S / A / L / Z	GRP / S / A / L	GRP	Apply to hull after removing gecoat	A / L / Z
Application method	Brush / Roller	Brush / Roller	Brush / Roller	Brush / Roller	Brush / Roller	Brush / Roller	Aerosol
Suitable for above waterline	●	●	●	●	●	●	●
Suitable for below waterline	●	●	●	●	●	●	●

GRP Glass-reinforced plastic W Wood S Steel A Aluminium L Lead Z Zinc

Product guide

International's range of boatcare products work together in easy to use systems which will clean, restore, protect and maintain gelcoat, painted surfaces and wood.

Clean

Super Cleaner

- High strength formula which removes dirt, oil, wax and grease prior to sanding and painting
- Use diluted for general cleaning or undiluted for stubborn dirt

Clean

Stain Remover

- A thick gel formula which easily removes tough stains such as rust and waterline discolouration

Restore

Liquid Rubbing

- Restores shine on gelcoat and painted surfaces and is suitable for manual and machine buffing
- A medium grade polish which removes scratches and oxidation ready for polishing

Restore

Marine Polish

- Creates a smooth, high gloss finish with wax protection, bringing a shine to surfaces in good condition. Suitable for manual and machine buffing
- Fine graded polish for gelcoat and painted surfaces and protects against damage from salt water, sunshine and oil

Easy to use boatcare systems

	Clean	Restore	Protect	Maintain
Quick	Super Cleaner	Polish and Wax		Boat Shampoo
Thorough	Super Cleaner + Stain Remover*	Liquid Rubbing* + Marine Polish	Marine Wax	Boat Shampoo
Ultimate	Super Cleaner + Stain Remover*	Liquid Rubbing* + Marine Polish	UV Wax Sealer	Boat Shampoo
Wood	Super Cleaner	Teak Restorer	Teak Oil	

* If required

Protect

Polish and Wax

ALL IN-ONE FORMULA

- A quick and easy all in one formula with abrasives and wax which cleans, restores and protects paint and gelcoat surfaces in need of light restoration

Protect

Marine Wax

- Protecting sealer for longer lasting gloss which produces a shiny, hard, dirt-repellent surface, preventing premature dulling and oxidation

Protect

UV Wax Sealer

- UV absorbing wax sealer for the ultimate long-lasting protection for gloss finishes
- Provides an easy to clean, hard, dirt-repellent surface

Maintain

Boat Shampoo

- Mild universal cleaner suitable for general washing of all surfaces
- Can be diluted with fresh or salt water and leaves surfaces clean

Teak and hardwood

Restore

Teak Restorer

- Cleans and brightens teak and hardwoods restoring natural colour

Protect

Teak Oil

- Traditional Scandinavian formula which enhances and protects teak and hardwoods. Contains a rust inhibitor to protect metals

Tip

Rubbing and polishing provides gloss to the surface. Wax protects against dirt and dullness.

Before you start

Health & safety

Providing health and safety precautions for paint products is a legal requirement and forms a specific section on our labels. However, the wording is laid down by law and is often difficult to understand. This section is intended to help you understand the information in our literature and on our product labels to make applying paint a safer job. Before starting work always read the label. Each tin will display a number of warning symbols and written warning phrases which will quickly indicate those areas where particular care should be taken. Other general safety precautions are detailed below and will help should any problem occur whilst using our paints.

Personal health

Avoid ingestion

Food and drink should not be prepared or consumed in areas where paint is stored or is being used. In cases of accidental paint ingestion seek immediate medical attention. Keep the patient at rest, do NOT induce vomiting.

Avoid inhalation

The inhalation of solvent vapour from paint, or dust from sanding, can be reduced by the provision of adequate ventilation or extraction. If this is not sufficient, or if specifically stated on the label, suitable respiratory protection should be used. Wear a cartridge type respirator when abrading old antifoulings – never burn off or dry-sand antifoulings as this may create harmful fumes or dust.

In badly ventilated areas wear an air-fed hood or cartridge respirator with an organic vapour filter. Solvent fumes are heavier than air. Breathing these fumes can make you dizzy, feel drunk and headachy and could even result in collapse. Read the label carefully and ensure that the recommended protection is worn.

Avoid eye contact

Eye protection should be used during paint application and when there is any risk of paint splashing on the face. Safety glasses or goggles are inexpensive, available from many DIY stores, and are well worth wearing. Use eyewear that complies with EN 166. If material does contaminate the eye, it is recommended that the eye is flushed with clean fresh water for at least 15 minutes, holding the eyelids apart, and medical attention sought.

Avoid skin contact

Skin irritation can occur from contact with paint products. You should, therefore, always wear protective gloves and protective clothing when applying or mixing any paint products. Overalls, which cover the body, arms and legs, should be worn. Skin cream, of a non-greasy barrier type, may be used on the face. Do NOT use petroleum jelly as this can help the absorption of paint into the body. Remove rings and watch straps before commencing work, as these can trap paint particles next to the skin. Remove any paint that does get onto the skin by washing with warm water and soap or an approved skin cleanser. After washing, apply a skin conditioner. Never use solvent or thinners to clean the skin.

Risk of fire or explosion

Most paints contain organic solvents – some of which evaporate into the air upon opening the container. Any dangers can be reduced if a few simple precautions are taken:

- **Avoid naked flames** where paint is being stored, opened or applied
- **Do not smoke**
- **Store paint in a well-ventilated, dry place** away from sources of heat and direct sunlight
- **Keep the tin tightly closed**
- **Avoid sparks** from metals, electrical appliances being switched on and off, or faulty electrical connections
- **Do not leave paint soaked rags lying around,** in the pockets of overalls or in waste bins. **Some types of paint can dry out and auto-ignite**

For further information on Personal Protective Equipment, visit **international-yachtpaint.com**

Step-by-step guides

28 How to prepare bare substrates
30 Always check the weather!
32 Making small repairs to GRP surfaces
33 Removing aged finishes or varnishes
35 Removing antifouling
36 Applying finishes
38 Painting your bilge
40 Preparing a non-slip deck
43 Applying varnishes
45 Applying antifouling
48 Painting outdrives, sterngear, propellers and keels
49 How to protect against osmosis
51 Osmosis protection schemes

How to prepare bare substrates

All surfaces should be thoroughly degreased and free from any sanding debris prior to the application of any paint to the surface.

Aluminium

Degrease with solvent or Super Cleaner. Sand well using 60-120 grade (aluminium compatible) paper. Clean thoroughly and allow to dry. Prime using an International® primer as soon as possible (within 8 hours) following the product recommendations provided in the paint systems guides.

Lead

Degrease with solvent or Super Cleaner. Sand well using 120 grade paper or power wire brush. Clean thoroughly and allow to dry. Prime using an International® or VC® primer following the product recommendations provided in the paint systems guides.

Zinc/Galvanised Steel

Degrease with solvent or Super Cleaner. Sand well using 60-120 grade paper. Clean thoroughly and allow to dry completely. Prime using an International® or VC® primer following the product recommendations provided in the paint systems guides.

Steel

Degrease with solvent or Super Cleaner. Grit blast to Sa 2.5 – near white metal surface. If grit blasting is not possible, grind the metal surface with 24-36 grade abrasive discs to a uniform, clean, bright metal surface with a 50-75 micron anchor pattern. Use angle grinder on small areas. Clean thoroughly and allow to dry completely. Prime using an International® or VC® primer following the product recommendations provided in the paint systems guides.

Stainless Steel

Light grit blast to produce a profile of 50 microns, clean thoroughly and allow to dry completely prior to application of an International® primer following the product recommendations provided in the paint systems guides.

Bronze

Clean thoroughly and abrade to bright metal using 80 grade paper. Take care when abrading bronze propellers, as excessive abrading can alter the profile of the propeller causing it to be out of balance. Clean thoroughly and allow to dry completely before applying products recommended for application direct to bronze (see paint systems guides).

Cast Iron

Degrease with solvent or Super Cleaner. Grit blast to Sa 2.5. If grit blasting is not possible, grind the metal surface with 24-36 grade abrasive discs to a uniform clean surface with a 50-75 micron anchor pattern. Use an angle grinder on small areas or a wire brush, prepare to a minimum St.3 according to ISO8501-1. Clean thoroughly with solvent and allow to dry completely. Ensure that all evidence of corrosion (e.g. iron oxide and iron sulphide) is removed prior to the application of an International® or VC® primer, following the product recommendations provided in the paint systems guides.

Fiberglass

Degrease with solvent or Super Cleaner. Sand well using 180-220 grade paper. Clean thoroughly and allow to dry completely. Prime using an International® or VC® primer following the product recommendations provided in the paint systems guides.

Bare Wood/Plywood

Sand smooth with 80-180 grade paper and then 280 grade paper. Remove sanding dust by brushing or dusting. Wipe down thoroughly with solvent and allow to dry completely, to ensure any residual sanding dust is removed, before applying products recommended for application direct to wood (see paint systems guides).

Oily Woods e.g. Teak

Ensure that the surface is thoroughly degreased using a recommended solvent to ensure all oils are removed. Sand smooth with 80-180 grade paper and then 280 grade paper. Remove sanding dust by wiping with solvent, to ensure any residual dust is removed. Ensure the surface is completely dry before applying products recommended for application direct to wood (see paint systems guides).

Always check the weather!

When painting outside, always check what weather conditions are anticipated during the preparation, application and drying phases of any project. Should fair weather prevail, whether or not to commence painting will then depend on the air and surface temperatures, humidity and dew point.

You may find the following hints and tips helpful when planning your project – further, product-specific guidelines can be found on individual product labels and data sheets.

General guidance notes:

- Dew point is important when applying paint to a surface, as the evaporation of the solvent from the paint draws heat and/or energy from that surface, cooling it down. If conditions are right condensation may form on the surface of the paint resulting in various problems.
- Relative humidity is important as air can only hold so much water or solvent vapour at any one time. So, as the relative humidity increases, the level of solvent vapour the air can hold reduces, meaning paint will effectively dry more slowly.
- Air and substrate temperature will affect the drying properties of any paint. Failing to observe the recommended drying times can result in coating failure, including improper drying, wrinkling and loss of adhesion.
- Always avoid extreme air or temperature conditions; International® products are tested across a range of temperatures, to ascertain the drying times and application characteristics of each product. Drying time recommendations are provided on our products labels; further information relating to weather considerations can be found on our product data sheets, available on our web site.
- Low temperatures will increase drying times; always check the ‘through-dry’ of each interim coat, before sanding or overcoating.
- Sanding too early can cause the paint to wrinkle under the sand paper, in some cases even tearing or gouging into the paint film making refurbishment difficult. Sanding before the paint film is ‘through-dry’ can also block the sand paper, meaning more sheets are needed to complete the task.

Note: When applying two-part products in higher temperatures the pot life of the product will also be affected, reducing your work time window.

- Overcoating too early can cause wrinkling, blistering and loss of gloss in the finished paint job.
- High temperatures will reduce drying times, but can make application more difficult, as product flow and levelling can be compromised – particularly when applying finishes or varnishes. Where appropriate, thinning recommendations to help with higher temperature application are provided on labels and data sheet.
- Do not paint in direct sunlight, or when the substrate itself is excessively warm, as the residual heat of the substrate can adversely affect the application and drying properties of any paint product; this can result in poor flow and levelling, rapid drying, cracking and loss of gloss.

Surface temperature can be measured using a surface thermometer.

Note: Remember that surfaces heat up and cool down at a different rate to the surrounding air temperature, meaning even though the ambient temperature might seem warm, the temperature of the surface being worked on may still be quite cold. Very often one side of a boat will be in the shade and the other in bright sunlight meaning the application conditions will differ. Additionally, in the morning the surface temperature of the sunny side will generally be lower than the ambient temperature, whereas in the afternoon it may be higher.

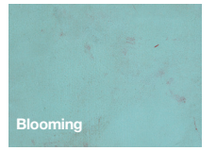
Key points to note when applying finishes and varnishes:

- Dry, well ventilated conditions are preferable when applying finishes or varnishes. Whilst gentle air movement will assist the drying process, a dust-free environment is critical to achieving a good quality gloss finish; always avoid painting in windy conditions.

Note: Choosing a faster drying product or scheme, where available, will help to minimise the window for dust contamination.

- The effects of dust contamination may be further reduced by sanding lightly between each coat, removing residual dust by wiping down with a suitable solvent and allowing to dry before applying the next coat. This will also help improve the initial aesthetics.
- Avoid applying two-part finishes or varnishes late in the afternoon or when relative humidity exceeds 80% as these products are particularly sensitive to moisture. Condensation during application or due to overnight ambient temperature changes can affect the chemical cure of these products resulting in loss of gloss.
- When painting or varnishing timber avoid applying if the ambient temperature is increasing (or predicted to increase) significantly. This is because rising temperatures cause timber to expand, which can lead to blisters forming in the paint or varnish film. A good tip is to apply when the temperature is falling, as the timber will better absorb the paint or varnish, giving better overall results.

Blistering


Blooming

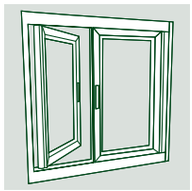
Key points to note when applying epoxies (e.g. Watertite, Interprotect®, Gelshield® Plus)

- Whilst curing in high humidity conditions, particularly at lower temperatures, epoxies can develop an ‘amine bloom’ on the surface. This slightly sticky substance must be removed and can normally be washed off with a mild detergent. If it is not removed it can lead to the de-lamination of subsequent coats. Failure to remove the bloom will also make sanding more difficult.
- High humidity conditions can reduce the amount of solvent evaporation during the drying/curing stages; with epoxies this can lead to a ‘soft cure’. As epoxy-based materials are generally applied at a higher film thickness, solvent can remain trapped in the film for many days leading to slow or poor final cure.
- Although epoxies generally cure well in most conditions, when the temperature falls to 7°C or below, curing can slow or even stop. Remember to check both day and overnight temperatures whether working outdoors or in a shed.
- Epoxy products usually respond well to a little heat; on cold days introducing a safe form of heating into the application area is well worth considering.

Making small repairs to GRP surfaces

When working with fillers it’s important to remember that epoxy fillers are recommended for both above and below the water areas; polyester fillers are suitable for use above the water only. International® Watertite is a two-part epoxy filler, suited to most DIY repairs above and below water.

1. Health & safety



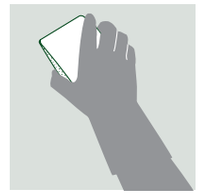
Before commencing preparatory work, ensure the area you are working in is adequately ventilated. Ensure you are wearing the correct PPE; we recommend safety spectacles, goggles or visors, nitrile rubber gloves, overalls (ensuring skin is not exposed) and a face mask.

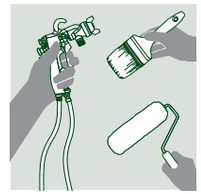
Before starting your project, always **check the weather conditions**! See Pages 30-31.

2. Inspection

Inspect for damage. Small repairs can be tackled easily, but any damage affecting a large area, or affecting the structure or hull integrity, should be referred to a professional for proper assessment.

3. Preparation and priming

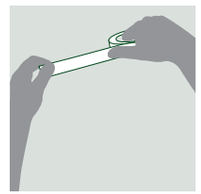




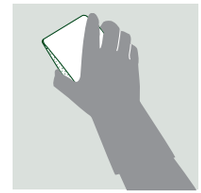
Remove any loose filler or gelcoat and abrade edges to remove loose material. Remove all debris and prime with an International® or VC® primer, according to the scheme recommendations provided elsewhere in this guide. For an osmosis protection scheme use Gelshield® 200 or VC® Tar 2.

See Pages 49-51 for information on **osmosis treatment and prevention**.

4. Applying the filler



Mask off the damaged area and apply Watertite using a palette knife or spatula. Allow to cure, following the recommendations provided on the product label.



Once cured, sand with 80-220 grade paper. The finished repair should be smooth and level with the surface. If required a second layer of filler may be applied, repeating the same process. The repaired area can then be primed, ready for painting.

See Page 45 for **sandpaper guidelines**.

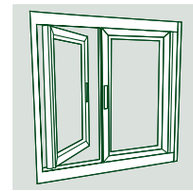
Working with epoxy fillers?

- Two-part epoxy fillers are the most widely used fillers in the yachting industry. They are invariably solvent free. A benefit of being solvent free is that they do not attack the underlying primer.
- Epoxies must be mixed in the proper ratio. Too much curing agent and they will leave a sticky film on the surface that is not suitable for overcoating. Too little curing agent will weaken the filler and cause it to crumble later on.
- Below the waterline, epoxy fillers must be used. Polyester fillers should not be used as they have a greater propensity to absorb water.

Removing aged finishes or varnishes

When preparing a surface previously painted with a finish or varnish scheme it may be necessary to remove the aged product, back to bare substrate. This will be required if the existing coating is in poor condition or if you’re intending to apply a two-part product onto a surface previously painted with a one-part finish or varnish.

1. Health & safety

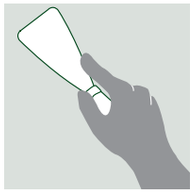


Before commencing preparatory work, ensure the area you are working in is adequately ventilated. Ensure you are wearing the correct PPE; we recommend safety spectacles, goggles or visors, nitrile rubber gloves, overalls (ensuring skin is not exposed) and a face mask.

Before starting your project, always **check the weather conditions**! See Pages 30-31.

‘Step-by-step’ project guides

2. Inspection

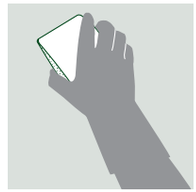


Inspect for damage. Small repairs can be tackled easily, but any damage affecting a large area, or affecting the structure or hull integrity, should be referred to a professional for proper assessment.

3. Cleaning

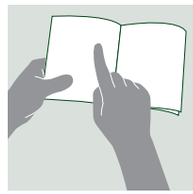
Clean the surface with Super Cleaner and rinse with fresh water to remove any polish, wax or contaminants.

4. Removing aged finish



Abrade using 60-120 grade paper, removing as much of the paint or varnish as possible.

5. Preparation



Prepare according to substrate, following bare substrate preparation guidelines.

See Pages 28-29 for **bare substrate preparation** guidelines.

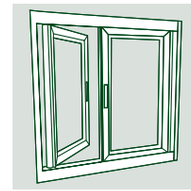
Hints to help you achieve a perfect finish

- We do not recommend using a chemical paint stripper when working with fibreglass as this may cause damage to the substrate.
- When working with wood, always work in the direction of the grain, whether sanding or applying varnish. This will avoid scratches that can still show through, even after many coats of paint or varnish.

Removing antifouling

If your existing antifouling is in poor condition, we recommend removing it completely before repainting. Interstrip AF has been formulated for removing antifouling from all substrates and is safe to use on glass fibre without harming the gelcoat.

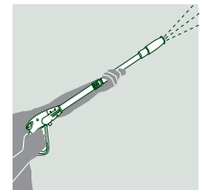
1. Health & safety

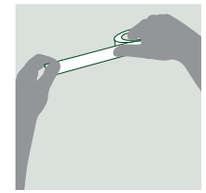


Before commencing preparatory work, ensure the area you are working in is adequately ventilated. Ensure you are wearing the correct PPE; we recommend safety spectacles, goggles or visors, nitrile rubber gloves, overalls (ensuring skin is not exposed) and a solvent mask or a respirator (if working on larger areas or in confined spaces).

Before starting your project, always **check the weather conditions**! See Pages 30-31.

2. Preparation





High pressure fresh water wash, to remove loose antifouling; ensuring all residue and wash water is contained and disposed of, according to local legislation. Mask off areas to be stripped.

Is your existing antifouling in good condition?

If your existing antifouling is in good condition, it may not need removing and can simply be overcoated, following a high pressure fresh water wash. Always ensure you check for compatibility before applying new antifouling; incompatible or unknown antifouling should be sealed with Primocon®. See Page 8 for more information on **antifouling compatibility**.

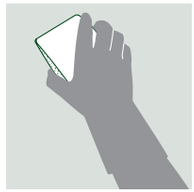
3. Applying Interstrip

Apply Interstrip AF liberally, using an old brush, following the application guidelines provided on the product label.

Leave on the surface for at least 10 minutes. The product needs time to work; the time needed will vary depending on the temperature and the amount of old antifouling on the hull.

For best results, work on a small area at a time – do not allow the product to dry out. See product label for more information.

4. Removing antifouling



Remove while still soft with a blunt scraper. Interstrip AF can remove several coats at a time, but heavy build-up may require more than one application. Residue should be disposed of according to local legislation. Reapply fresh antifouling after sanding and priming the hull.

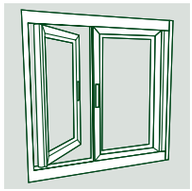
See Page 45 for **antifouling application** advice.

Applying finishes

Before starting any painting project consider the 3 most critical questions:

1. What preparation is necessary
2. Does the substrate matter and
3. What repair and upkeep is needed. Pages 16-17 of this guide will provide this information and help you choose the best product for your project.

1. Health & safety



Before commencing preparatory work, ensure the area you are working in is adequately ventilated. Ensure you are wearing the correct PPE; we recommend safety spectacles, goggles or visors, nitrile rubber gloves, overalls (ensuring skin is not exposed) and a solvent mask.

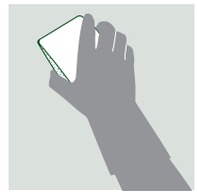
Before starting your project, always **check the weather conditions**! See Pages 30-31.

Note: For health and safety reasons, two-part polyurethane products should only be spray applied by a professional applicator.

2. Inspection

Check for areas of damage, separation or peeling, or any other indications that the existing coating is not firmly adhered to the substrate.

3. Preparation



In good condition

Clean with Super Cleaner to ensure any residual polish, wax or surface contaminants are removed. Rinse with fresh water and allow to dry. Sand smooth with 280-320 grade paper. Clean thoroughly and allow to dry completely. Continue at Step 6.

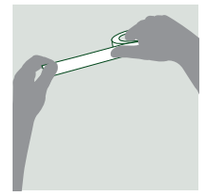
In poor condition

If previous finish is cracking, peeling or showing signs of separation from the substrate this should be totally removed. Continue at Step 6.

See Page 33 for advice on **removing existing finishes**.

Bare substrate

4. Masking



Before priming/undercoating, mask off the area to be painted.

5. Priming

Bare substrates should be primed to promote good adhesion and provide a smooth even surface, prior to undercoating. Your choice of primer will be dictated by the substrate; product recommendations are provided on labels and data sheets.

Remember to pay particular attention to drying times and overcoating intervals.

Note: Due to the porous nature of aged gelcoats, the risk of moisture or solvent entrapment – leading to blisters – is increased; applying Interprotect® followed by Perfection Undercoat can reduce this risk and seal the gelcoat, prior to applying the finish.

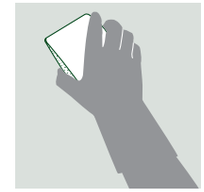
6. Undercoating

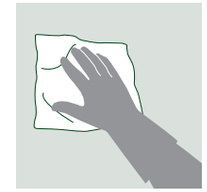
Primed or previously painted surfaces should be undercoated. An undercoat will provide additional depth of colour and improve the durability and film build of the overall paint system. International® offers two undercoats for use with its finishes range.

See Pages 16-17 for **undercoat recommendations**.

Note: Mixing the second coat of undercoat 50:50 with the topcoat will produce a satin effect, which will highlight any imperfections (to be sanded smooth) as well as improving the gloss and depth of colour of the finish.

7. Application





Sand the undercoat smooth with 320-400 grade paper and remove dust with a wipe or tack rag. Apply the finish, according to label recommendations.

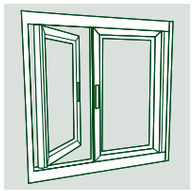
Achieve a perfect result every time!

- Ensure an even spread by holding the brush at 45° – this minimises brush marks.
- The best finish is achieved on large areas by two people, one to apply the paint, the other following immediately behind to ‘tip off’ the finish.
- Clean or change brushes every 20 minutes or so. Always use lint-free cleaning cloths.
- Stir the can occasionally during the work.
- Dampen the ground with water before commencing painting to avoid any dust rising.
- Use a worn brush for the final coat, this will ensure less brush marks.
- Painting is best achieved on warm, dry mornings – cold weather retards drying and damp will spoil the gloss.
- Never apply direct from the can as this will introduce contamination.
- Always pour the amount of paint that you expect to use into a separate container.

Painting your bilge

A freshly painted bilge is much easier to wipe down and keep clean, reducing the risk of odours that may result from unwanted residue. A clean bilge will also make it easier to find small parts or fastenings, which may have been dropped whilst working on your engine or other equipment.

1. Health & safety



Before commencing preparatory work, ensure the area you are working in is adequately ventilated. Ensure you are wearing the correct PPE; we recommend safety spectacles, goggles or visors, nitrile rubber gloves, overalls (ensuring skin is not exposed) and a solvent mask or a respirator (if working on larger areas or in confined spaces).

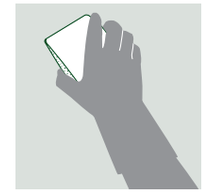
Before starting your project, always **check the weather conditions**! See Pages 30-31.

Previously painted surfaces

2. Inspection

Check for areas of damage, separation or peeling, or any other indications that the existing coating is not firmly adhered to the substrate.

3. Preparation



In good condition

Clean with Super Cleaner and rinse with fresh water. Allow to dry. Sand smooth with 280-320 grade paper. Clean thoroughly and allow to dry completely. Continue at Step 5.

In poor condition

If previous finish is cracking, peeling or showing signs of separation from the substrate this should be totally removed.

See Page 33 for advice on **removing existing finishes**.

Bare substrate

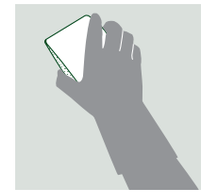
4. Priming

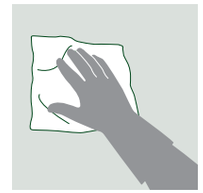
Bare substrates should be primed to promote good adhesion and provide a smooth even surface, prior to applying Danboline.

Your choice of primer will be dictated by the substrate; product recommendations are provided on labels and data sheets. Remember to pay particular attention to drying times and overcoating intervals.

Note: Pay particular attention if the substrate is the reverse side of moulded GRP – this does not need to be primed.

5. Application





Sand the undercoat smooth with 180-280 grade paper and remove dust with a wipe or tack rag.

Apply 1-2 coats of Danboline.

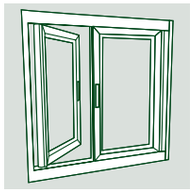
Note: For added protection against moisture absorption and osmosis in bilge areas, use International® Gelshield® products – prior to applying Danboline – always follow the label instructions.

‘Step-by-step’ project guides

Preparing a non-slip deck

A deck demands a tough coating to protect it from everyday wear and tear. Where a non-slip surface is required International® offers 3 alternative solutions.

1. Health & safety



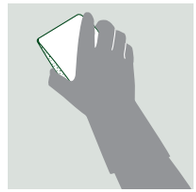
Before commencing preparatory work, ensure the area you are working in is adequately ventilated. Ensure you are wearing the correct PPE; we recommend safety spectacles, goggles or visors, nitrile rubber gloves, overalls (ensuring skin is not exposed) and a solvent mask.

Before starting your project, always **check the weather conditions**! See Pages 30-31.

2. Inspection

Check for areas of damage, separation or peeling, or any other indications that the existing coating is not firmly adhered to the substrate.

3. Preparation



Non-slip deck paint – in good condition

Scrub the surface with Super Cleaner, using a stiff scourer such as a heavy duty 3M Scotch-Brite™ pad. Rinse with fresh water and allow to dry.
Continue at Step 6.

Other paint – in good condition

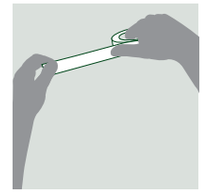
Clean with Super Cleaner, rinse with fresh water and allow to dry. Sand smooth with 280-320 grade paper. Clean thoroughly and allow to dry completely.
Continue at Step 6.

In poor condition

If previous finish is cracking, peeling or showing signs of separation from the substrate this should be totally removed.

See Page 33 for advice on **removing existing finishes**.

4. Masking



Before priming/undercoating, mask off the area to be painted.

Bare substrate

5. Priming

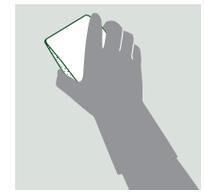
Your choice of primer will be determined by the substrate and the choice of deck finish product.

Priming recommendations are provided on labels and data sheets. Remember to pay particular attention to drying times and overcoating intervals.

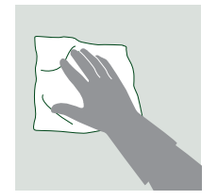
Note: Due to the porous nature of aged gelcoats, the risk of moisture or solvent entrapment – leading to blisters – is increased; applying Interprotect® followed by Perfection Undercoat can reduce this risk and seal the gelcoat, prior to applying the finish.

Using Interdeck (ready-mixed formula)

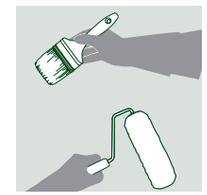
6. Application



Sand the primer (if used) with 180-220 grade wet or dry paper.



Remove dust with a dust wipe or tack rag, according to label recommendations.

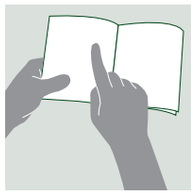


Mix Interdeck thoroughly; apply 1-2 coats. For best results either stipple by brush or use a mohair roller.

‘Step-by-step’ project guides

Using Non-Slip Additive with International® Toplac® or Perfection (hand-mixed method)

7. Application



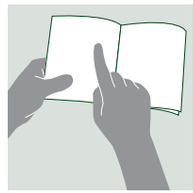
Choose your paint system – see Pages 16-17 of this guide. Apply primer (if required) and undercoat following label recommendations.

Add the contents of the Non-Slip Additive sachet to International® Perfection or Toplac®.

Mix thoroughly. Apply 1-2 coats to deck area, using a brush or roller. For best results either stipple by brush or use a mohair roller.

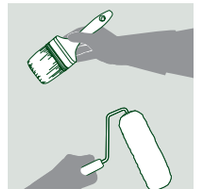
Using Non-Slip Additive with International® Toplac® or Perfection (broadcast method)

8. Application



Choose your paint system – see Pages 16-17 of this guide. Apply primer (if required) and undercoat following label recommendations.

Apply one coat of topcoat. While the paint is still wet, sprinkle Non-Slip Additive over the surface. Allow to dry thoroughly following the recommendations provided on the finish label. Remove excess grit.

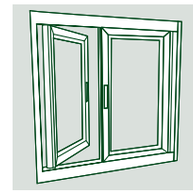


Apply second coat of finish.

Applying varnishes

To achieve a professional result from any varnish project, thorough preparation is critical. If applying on to a previously varnished surface, the condition of the existing coating and its compatibility with the new varnish product should be thoroughly checked before commencing any preparatory or application work.

1. Health & safety



Before commencing preparatory work, ensure the area you are working in is adequately ventilated. Ensure you are wearing the correct PPE; we recommend safety spectacles, goggles or visors, nitrile rubber gloves, overalls (ensuring skin is not exposed) and a solvent mask.

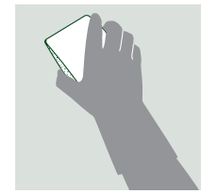
Before starting your project, always **check the weather conditions**! See Pages 30-31.

Previously varnished surfaces

2. Inspection

Check for areas of damage, separation or peeling, or any other indications that the existing coating is not firmly adhered to the substrate.

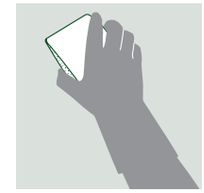
3. Preparation



In good condition

Clean with thinners. Sand smooth with 280-320 grade paper. Remove sanding dust by brushing or dusting. Wipe down thoroughly with solvent and allow to dry completely, to ensure any residual sanding dust is removed. Continue at Step 6.

Note: Small imperfections may be spot primed and sanded down prior to full varnish application.



In poor condition

If previous varnish is cracking, peeling or showing signs of separation from the substrate this should be totally removed. Continue at Step 5.

See Page 33 for advice on **removing existing varnishes**.

‘Step-by-step’ project guides

Bare wood

4. Preparation

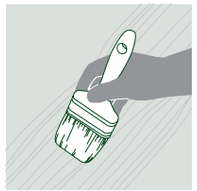
Bare wood should be prepared following the appropriate bare substrate preparation guidelines.
Continue at Step 5.

See Pages 28-29 for **substrate preparation guidelines**.

Note: It is important to ensure all sanding residue is removed prior to varnishing, as this will impair adhesion and give a ‘bitty’ finish. Before commencing any varnish work, decant the amount of varnish you expect to use into a separate container, to avoid introducing contamination into the tin.

5. Priming

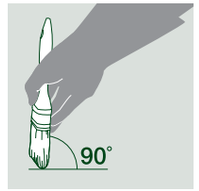
To promote penetration of the surface and the adhesion of subsequent coats; we recommend thinning the first coat of varnish. Decant the amount of varnish you expect to use into a separate container. Thin for priming according to label recommendations.



Apply 1-2 thinned coats of varnish following label recommendations.

6. Application

Applying varnish with a brush is usually the best method, although roller application can be effective on large, flat surfaces.



Brush out, using firm strokes along and then across the grain, holding the brush at 90º to the surface.

Finally, ‘tip off’ by gently stroking surface with the brush at a 45º angle, following the grain. The brush you use should be used only for varnishing.

Always follow recommendations

Always follow the scheme recommendations as specified on the label; this will indicate the minimum number of coats required and the sanding recommendations between coats. This information will vary depending on the product. To achieve long-lasting protection, you should plan to apply up to ten coats (depending on the system). As the number of coats increases, sanding between coats with a fine grade paper will increase the level of gloss and depth of lustre.

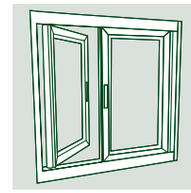
Sanding hints and tips

- Keep the sandpaper clean and change it frequently.
- Sand by numbers, finishing the surface with a progressively finer grade of paper.
- Varnishing is best achieved on warm, dry mornings – cold weather slows drying and damp spoils the gloss.
- Always use a clean brush, previously used only for varnish.
- Always buy the highest quality varnish and brush available. This will ensure you achieve the most attractive finish.
- Clean new brushes before use.
- Test the finish on a spare piece of wood before applying to the boat.
- On large areas use a foam roller to apply the initial coat, followed immediately behind with a wide brush for the finishing strokes – this is best done by two people.
- After cleaning with the correct thinners, wash the brush in detergent and warm water, dry and wrap in greaseproof paper in a fine chisel shape.
- Alternatively, having cleaned and washed the brush, suspend by its handle to avoid any ‘fishtailing’ of the bristle.
- As the varnish ages in the tin you may find there are lumps or contamination. Sieving the varnish into a separate container through cheesecloth, a paint filter or an old stocking is a good solution to this problem.
- Don’t use varnish which has been open for a long period as it will have picked up dust.
- Do not varnish wood when exposed to direct sunlight.
- Never leave bare wood exposed too long as it will absorb moisture from the atmosphere.

Applying antifouling

Antifouling can be applied using a brush or roller. Using a small roller is less work on the arm but takes longer to cover the surface area. If a brush is preferred, choose a large width brush; the finish will not be as smooth as a topside paint so the type of brush used is not critical.

1. Health & safety



Before commencing preparatory work, ensure the area you are working in is adequately ventilated. Ensure you are wearing the correct PPE; we recommend safety spectacles, goggles or visors, nitrile rubber gloves, overalls (ensuring skin is not exposed) and a solvent mask.

Before starting your project, always **check the weather conditions**! See Pages 30-31.

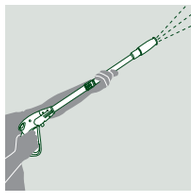
‘Step-by-step’ project guides

Previously painted surfaces

2. Inspection

Check for areas of damage, separation or peeling, or any other indications that the existing coating is not firmly adhered to the substrate.

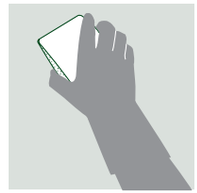
3. Preparation



In good condition

High pressure fresh water wash, to remove loose antifouling; ensuring all residue and wash water is contained and disposed of, according to local legislation. Allow to dry. Check for compatibility. Continue at Step 5.

See Page 8 to check **antifouling compatibility**.

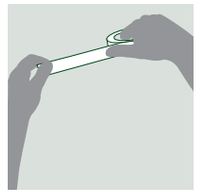


In poor condition

If previous varnish is cracking, peeling or showing signs of detachment from the substrate this should be totally removed.

See Page 35 for advice on **removing existing antifoulings**.

4. Masking



Before priming or applying antifouling, mask off the area to be painted.

5. Repair/Priming

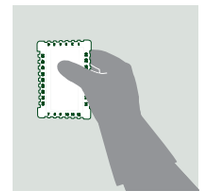
Repair damage with Watertite Epoxy Filler where necessary. Inspect GRP for gelcoat damage and signs of osmosis – treat accordingly.

Seal incompatible or unknown antifoulings with Primocon®. Bare substrates should be primed, according to substrate. Product recommendations are provided on labels and data sheets. Remember to pay particular attention to drying times and overcoating intervals.

See Pages 49-51 for advice on **osmosis treatment**. See Page 32 for advice on **repairing GRP**.

6. Application

Mix paint thoroughly with a stirring stick, ensuring that any settlement is mixed in. Apply according to label recommendations, using a brush or roller.



Apply the antifouling at the correct thickness; this may mean an extra coat is needed, depending on application methods and conditions.

Apply an extra coat to leading and trailing edges; e.g. waterline, trim tabs, outdrives, keels and rudders. These areas experience more water turbulence and so more wear on the paint surface.

Follow overcoating times and immersion times carefully. Failure to do this could result in detachment, blistering or cracking of the antifouling. The marine environment is harsh for paint so it must be allowed to dry thoroughly before immersion.

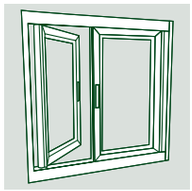
Remember your PPE!

Most antifoulings contain biocides so should be handled with care; ensure the correct personal protective equipment (PPE) is worn at all times.

Painting outdrives, sterngear, propellers and keels

Outdrives and stern gear are usually constructed from aluminium. Propellers are usually bronze or aluminium. Keels are typically cast iron or lead. It’s important to choose an antifouling that is hard, durable and suitable for these high wear areas and also one that is compatible with the substrate you are painting.

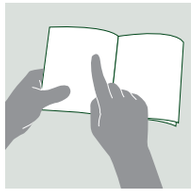
1. Health & safety



Before commencing preparatory work, ensure the area you are working in is adequately ventilated. Ensure you are wearing the correct PPE; we recommend safety spectacles, goggles or visors, nitrile rubber gloves, overalls (ensuring skin is not exposed) and a solvent mask.

Before starting your project, always **check the weather conditions**! See Pages 30-31.

2. Preparation



The key to protecting your underwater metals from corrosion is correct preparation of the substrate and choosing the best priming solution for your project.

Before commencing any preparation, it is important to establish the type of metal you are working with.

Once you’ve confirmed your substrate see Pages 28-29 for **substrate preparation information** and follow this advice carefully.

3. Priming

Apply a primer recommended for the selected antifouling and substrate.

Always follow the recommendations given on the product label.

See Page 12 for **primer recommendations**.

4. Applying antifouling

Apply the selected antifouling, following the label recommendations on film thickness, overcoating and immersions times carefully.

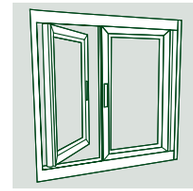
Note: Not all antifoulings are suitable for application to bronze and aluminium, so it’s important to check compatibility when selecting which antifouling product to use. See Pages 4-13 for antifouling product information.

Take care with zinc anodes!

Care should be taken not to paint zinc anodes, which are often located next to the prop shafts, as this will seriously reduce their effectiveness. When painting your outdrives, underwater metals and keels, the longevity of any antifouling is difficult to predict as coating adhesion can be an issue, particularly on propellers. Thorough surface preparation is critical to promote good adhesion between the substrate and the coating.

How to protect against osmosis

1. Health & safety



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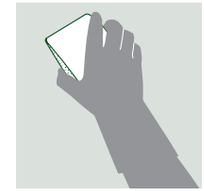
Before starting your project, always **check the weather conditions**! See Pages 30-31.

2. Preparation



Degrease with solvent or Super Cleaner. Sand well using 180-220 grade paper. Clean thoroughly and allow to dry completely.
If your hull is new, proceed to Step 4.

‘Step-by-step’ project guides

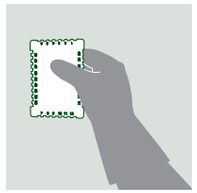
3. Inspection

Inspect the gelcoat for signs of damage or cracking. Small defects can be repaired with Watertite Epoxy Filler following the instructions on the product label.

Note: Look out for any warning signs that may suggest that water has entered the laminate or that osmosis may have occurred.

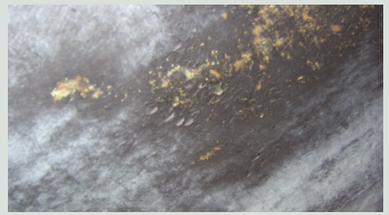
If more extensive damage is found or suspected we recommend that you seek the advice of a professional surveyor before continuing.

4. Application



Apply Gelshield 200, building up to minimum dry film thickness of 250 microns (this will typically take around 5 coats) using a brush or roller. For ease, alternate between the grey and green shades, beginning and ending with grey.

Warning signs



Blisters

Blisters can vary from small pinhead blisters, to areas as large as the palm of a hand. The presence of any fluid behind a blister indicates a potential problem.

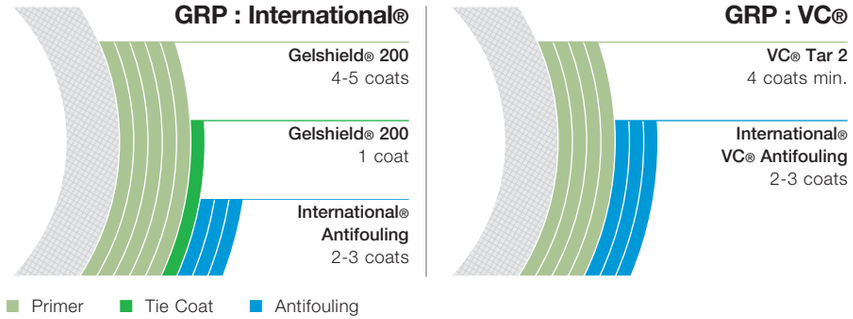
Star crazing

This effect can occur where the gelcoat is brittle. Fine cracks usually form due to severe flexing or impact damage, allowing water to seep into the laminate.

Pinholes

Tiny bubbles present in the gelcoat reduce its effectiveness and promote rapid water absorption.

Osmosis protection schemes



How to treat osmosis

1. **Proper preparation of the gelcoat:** This includes getting all of the antifouling paint and primers off and removal of as much gelcoat as necessary to get the hull dry (i.e. the entire gelcoat or just small areas). A professional, who has looked at your boat, should make this determination.
2. **Drying of the hull:** This is the most critical step in the process. If you do not get the hull dry it will re-blister. We recommend a comprehensive washing and drying procedure.
3. **Application of Gelshield® Plus:** This solventless epoxy seals up the laminate and fills any cloth that has been voided of resin. It provides a water barrier to minimise the possibility of reoccurrence of damage. Contact our Technical Help Desk to obtain a copy of the Gelshield Plus booklet.
4. **Application of Gelshield® 200:** This will act as a tie-coat to the antifouling.

Gelshield® Plus

High build solventless epoxy for osmosis treatment

- A high build, solventless epoxy primer
- Available in two colours to aid self-on-self application
- Contains no harmful solventsto migrate into the hull and cause reblistering

Gelshield® 200

Epoxy primer for osmosis protection

- Quick drying, easy to apply, epoxy primer for protection of GRP against osmosis
- Provides protection against osmosis in five coats (250µm)
- Useable down to 5°C
- Fast drying allows multiple coat application in a single day

Our commitment

Doing more with less

We realize that our future depends on our ability to do radically more with less.

So we're taking a major leap forward to connect value creation to resource efficiency.

It's a dynamic and committed approach to sustainability which will drive innovation and enable us to better serve our customers and our markets.

This is our commitment to doing more with less.

The International® brand has a long history of environmental stewardship and compliance. Our brand shows respect and care for the environment as we believe that a healthy planet is essential to human life and a sustainable future.

Sustainable business

We're working together with customers and suppliers to develop leading solutions that create more value from fewer resources

20%
of revenue by 2020 from products that are more sustainable for our customers than those of our competitors

REI
(Resource Efficiency Index)
A new indicator measuring how efficiently we generate value, expressed as gross margin divided by cradle-to-grave carbon footprint

Resource efficiency

We're increasing our resource efficiency across the value chain, including our use of renewable materials, to reduce our environmental footprint and to create more value from fewer resources

25-30%
more efficient resource and energy use across the entire value chain by 2020 (measured by cradle to grave carbon footprint reduction)

Capable, engaged people

We're developing our employees, working with our suppliers and customers and forming partnerships to create more value from fewer resources

> 4 out of 5
Employee engagement score, as measured by Gallup Q12

Glossary of terms

A

Activator/Curing Agent: Catalyst, hardener, accelerator, reactor; a material which accelerates a reaction

Adhesion: Bonding strength; the attraction of a coating to the substrate

B

Barrier Coat: Coat used to allow application of a paint which is not compatible with an existing scheme

Base: Refers to the usual larger volume size of a two-pack system – usually the non-activator part. May also refer to any bare surface to be painted

C

Coverage Rate: Non-technical number that tells you how much area you can paint with a given volume of material

Curing: Hardening

D

DOI (Distinction of Image): Measurement of the clarity of the coating by its ability to reflect the image of a given object

Dry Film Thickness (DFT): The film thickness of paint after all of the solvent has evaporated from the wet paint

F

Film: Any single coat or layer of paint applied to a surface, rather than a 'paint scheme'

Film Build: Dry thickness characteristics per coat

G

Gloss: Sheen; ability to reflect; brightness

M

MSDS: Abbreviation for Material Safety Data Sheet

O

Opacity: Hiding power

Orange Peel: Dimpled appearance of dried film; resembling orange peel

P

Pot Life: Time interval after mixing during which liquid material is usable with no difficulty

Primer: First complete coat of paint of a painting system applied to a surface. Such paints are designed to provide adequate adhesion to new surfaces or are formulated to meet the special requirements of the surfaces

R

Resin: A material, natural or synthetic, contained in varnishes, lacquers, and paints; the film former

S

Sealer: Paint used to seal the substrate or previous coats and prevent interaction between subsequent coats applied

Substrate: Surface to be painted

T

TDS: Abbreviation for Technical Data Sheet

Thinner: A liquid used for reducing the viscosity of paints

Tie Coat: A coat of paint applied to a previous coat to improve the adhesion of subsequent coats or to prevent other surface defects e.g. bubbling of a subsequent coating

Two-Pack: Paints based on binders which cure by the chemical reaction between two components

V

Viscosity: A measure of fluidity

W

Wet Edge: Keeping the paint wet enough when it is applied by brush so it can be brushed back into without showing lines of demarcation from one painted area to the next

Wet Film Thickness (WFT): The thickness of paint when it is first applied before solvent evaporation takes place

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