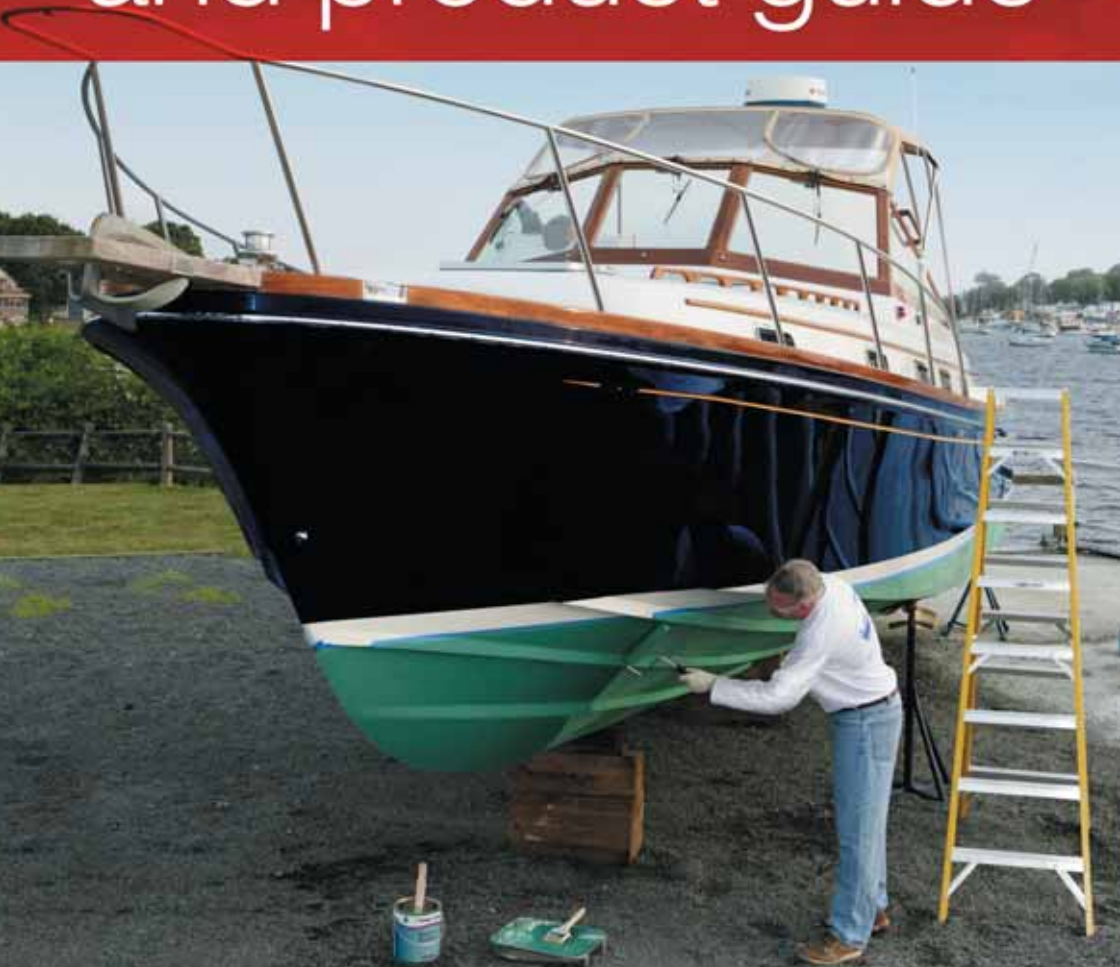


boat painting and product guide





International
yachtpaint.com

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the freedom to enjoy boating

As the No.1 yacht coatings company in the world, we know two things:

- 1. You want to go out and enjoy your boat – whether you cruise or race; and***
- 2. If you are worrying about your coating, then it is hard to enjoy your boat.***

That is why our entire company works with one goal in mind: to provide you – our customer – the Freedom to Enjoy Boating.

HOW DO WE DO THIS?

By delivering solutions! When you have a boat maintenance or repair problem, you need a solution and not just a product. So, that's what we aim to deliver. Yes, that means products and product systems that you must use in your project. High quality products and systems that are proven to deliver the protection you need, to ease and simplify your maintenance and to make your boat as beautiful as she can be.

But it also means easy selection of the right product for your project and delivering essential technical support and information to answer your questions. It also means providing you with technical literature and yachtpaint.com, our industry-leading website.

And finally, it is about providing you with products which are safe in the environment and safe for you to use.

This is the promise that International makes to you. We will deliver high quality solutions that you can trust. They will be safe and we will make it as easy as possible for you to choose our products, use our products and get the information you need for a successful project.

WORRY FREE SOLUTIONS.

***THIS IS HOW WE PROVIDE YOU WITH
THE FREEDOM TO ENJOY BOATING!***

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The cover image was shot on location in Rhode Island, USA. International Paint would like to thank Brewer Cove Haven Marina for their cooperation. Special thanks also to Robert Bating, owner of the featured boat, Caledonia.

Visit our website for more information – yachtpaint.com

topsides, decks, bilges and cabins

introduction	4	how to paint like a professional	10
the perfect paint for your project	6	choosing the right filler	11
handy specifications	8	features, hints and tips	12

TOPSIDES,
DECKS,
BILGES
& CABINS

caring for your wood

introduction	14	how to paint like a professional	19
the perfect varnish for your project	16	features, hints and tips	20
handy specifications	18		

CARING
FOR
YOUR WOOD

antifouling

introduction	22	paint calculator	32
how to choose your ideal antifouling	24	outdrives, underwater metals and keels	33
handy specifications	28	features, hints and tips	34
how to paint like a professional	31	antifouling compatibility chart	35

ANTIFOULING

fibreglass – blister repair and prevention

introduction	36	how to protect against osmosis	39
how to recognise and treat osmosis	38		

FIBREGLASS
BLISTER
REPAIR &
PREVENTION

epoxy resin system – Epiglass®

quick reference guide	41	how to glue and fillet bond	42
-----------------------	----	-----------------------------	----

EPOXY RESIN
SYSTEM

primers and undercoats

quick reference guide	44
-----------------------	----

PRIMERS &
UNDERCOATS

thinners, cleaners and flow agent

quick reference guide	46
-----------------------	----

THINNERS,
CLEANERS &
FLOW AGENT

complete boatcare product range

quick reference guide	48
-----------------------	----

BOATCARE

everything else you need to know

substrate information	50	equipment guidelines	53
health and safety	52	coverage chart	54

EVERYTHING
ELSE



check out our alphabetical index at the back of our brochure

3 EASY STEPS TO A PERFECT FINISH

PRODUCT SELECTION

6–7

Pick the best product for your project

HANDY SPECIFICATIONS

8–9

*Step-by-step guide to your project
from our technical team*

HOW TO PAINT LIKE A PROFESSIONAL

10–13

*Instructions for an expert result
explained by our professionals*



OUR MOST FREQUENTLY ASKED TOPSIDES QUESTION:

“How can I make my decks non-slip?”

*‘International offers two solutions for
re-finishing a non-slip deck:*

Stir and apply – Interdeck®

*Our ready to use, slip resistant, single-
component finish that can be applied over
bare GRP or any other substrates, over
an International topside primer.*

Mix your own non-slip finish

*Any International topside finish (including
Perfection®) can be transformed into a
non-slip deck finish by the addition of
International Non-Slip Additive and Matting
Additive. These additives consists of
man-made plastic spheres, which are regular
in shape. They have a low tendency to
collect dirt, and excellent non-slip properties.
Apply two coats of paint with International
Non-Slip Additive mixed in.*

WHAT IS DOI AND WHY SHOULD I CARE?

DOI is an acronym for ‘Distinction of Image’.

It refers to the clarity of the coating, as
measured by its ability to accurately reflect the
image of a given object. DOI can be measured
on a numeric scale. DOI is generally considered
in the industry to be a quality indicator, as it
measures the smoothness of a coating and
the ‘wetness’ of the gloss.

Most people have an everyday measure of
DOI when they look at any painted surface.
A glossy, high quality surface has a higher
DOI than a muddy, drab surface.

topsides, decks, bilges and cabins

PAINT FINISHES

Apart from providing an enhanced cosmetic finish to your boat, paints provide a barrier of protection against the elements that will attack the surface during the season: sea, rain, wind and sun.

THE 3 MOST CRITICAL QUESTIONS FOR ANY PAINTING PROJECT

1) What preparation is necessary?

The most critical aspect of a painting job is preparation. Poor surface preparation will always show through the final coat; will reduce the effectiveness of the coating system and can potentially lead to the premature failure and separation of the coating from the substrate. As a guide you should be aware that you will need to spend up to 80% of the job on preparation and priming, in order to achieve a first class finish of which you will be proud.

2) Does the substrate matter?

Yes! Quite simply, if you are painting onto metal or glass fibre you can use any of our paint systems. However, for wooden substrates, your choice may be different. All one-part paint systems are suitable for all wood constructions.

Do not use Perfection® two-part polyurethane on carvel and clinker (or lapstrake) constructions.

The wood in these flexible constructions moves as the moisture content varies, leading to cracking. For more stable wood systems – like double diagonal planking, cold or hot moulded veneers, plywood and strip planking, where epoxy or Resorcinol type adhesives have been used, you can use any of our systems.

3) What repair and upkeep is required?

Areas where there is considerable foot traffic or harsh abrasion, such as gunwale rails and coaming sides, will need frequent repair to keep them in pristine condition. Perfection offers excellent resistance to abrasion, but can still wear through in excessive circumstances. Our one-part systems are easier to touch up than our high performance, two-part systems, and may be more suitable for these areas.








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The perfect paint for your project

Use this guide to our topside paint products, which answers the most common customer questions, to help you pick the perfect paint for your project.

IMPORTANT: Use the correct primer for your choice of finish.



COMMON PROBLEMS	SOLUTION CHOICES	 PERFECTION®	 TOPLAC	 BRIGHTSIDE®	 INTERDECK®	 DANBOLINE
		<ul style="list-style-type: none"> • Ultimate performance 2-part polyurethane finish • Professional quality results made easy • Highest gloss & highest abrasion resistance • Unique UV protection for longest-lasting colour and gloss 	<ul style="list-style-type: none"> • Premium quality one part silicone alkyd copolymer finish • Excellent UV resistance • Extended gloss and colour retention characteristics • Easy to apply giving deep, lustrous finish 	<ul style="list-style-type: none"> • Hard, high gloss one part polyurethane finish • With Teflon® for easy cleaning, resistance to staining and added abrasion resistance • Range of bright, crisp colours 	<ul style="list-style-type: none"> • Slip resistant polyurethane deck paint • Contains fine mineral additive for hard wearing, non-slip surface • Suitable for all substrates • Apply straight from the can with brush or roller 	<ul style="list-style-type: none"> • Hard wearing coating for bilges and bulkheads • Chemical resistance to fumes, fuel and oil • High opacity for thorough coverage • Cleans easily for reduced upkeep
Can I achieve a high-gloss, professional looking, topside finish with this paint?		👍👍👍	👍👍👍	👍👍👍	∅	∅
I have lots of sunlight beating down on my boat. What topside paints offer the best UV protection?		👍👍👍	👍👍👍	👍👍	👍👍	👍
I want a topside finish with a very long-lasting gloss.		👍👍👍	👍👍👍	👍👍	∅	∅
I want an easy to apply topside paint.		👍👍	👍👍👍	👍👍👍	–	–
I do not want a high gloss finish in my cabin areas. Can I get a satin, or semi-gloss finish with your products?		YES (with Polyurethane Matting Additive at appropriate ratio)	YES (with Matting Additive at appropriate ratio)	YES (with Matting Additive at appropriate ratio)	–	–
What paint should I use for a non-slip deck?		👍👍👍 (with Non-Slip Additive)	👍 (with Non-Slip Additive)	👍👍 (with Non-Slip Additive)	👍👍👍	∅
When painting my cabin, which paint will give me the best alcohol and chemical resistance?		👍👍👍	👍👍	👍👍👍	∅	∅
Which product should I use to paint my bilge blockers?		∅	∅	∅	∅	👍👍👍
Can I use this product over an existing topside one-part finish?		∅	YES	YES	YES	YES
My boat gets lots of abuse and abrasion. Which topside products offer the best protection?		👍👍👍	👍👍	👍👍👍	–	–
Which paint should I use for waterline striping?		👍	👍👍	👍👍👍 (available in small packs)	–	–

KEY:



Excellent for this purpose



Good for this purpose



Average for this purpose



DO NOT USE for this purpose

TWO-PART PREMIUM PAINT SYSTEMS

This preparation scheme provides the maximum level of protection available

STAGE	PRODUCT	GRP	ALUMINIUM	WOOD	STEEL	WORK TIME*	OVERCOATING TIME**
CLEAN	Super Cleaner	YES	YES	YES	Ø	1	
ABRADE		180-220 grade	Mechanically	80-180 then 280 grade	Mechanically	2-4	
PRE PRIMER	UCP	Ø	Ø	1	Ø	1	12
PRIMER	Interprotect®	Ø	1	1	1	1	5
FILLER	Watertite Epoxy Filler (if required)	Ø***	YES	YES♦	YES		See product label
PRIMER	Interprotect®	Ø	3	2	3	1	5
UNDERCOAT	Perfection® Undercoat	1-2	1-2	1-2	1-2	1	16
TOPCOAT	Perfection®	1-2	1-2	1-2	1-2	2	14
TOTAL PROJECT TIME:						2 WEEKENDS	

* Average time to apply one coat to average sized boat of 8m/25 feet.
** Minimum wait time between coats or between overcoating with the next step in the system, at a temperature of 15 C.
*** If filling small areas of GRP use Watertite Epoxy Filler. If filling larger areas use an epoxy filler and seal with coats of Interprotect®.
♦ Watertite is not suitable for major filling or use as a caulking compound. Recommended for minor imperfections and hairline cracks.
Please consult product data sheets (available from International yachtpaint.com) for overcoating times at different temperatures.
Data sheets may also be viewed via our website yachtpaint.com.

KEY: No. of coats Minutes Hours Do not use for this purpose

Handy Specifications

ONE-PART CONVENTIONAL PAINT SYSTEMS This preparation scheme provides a good level of protection

STAGE	PRODUCT	GRP	ALUMINIUM	WOOD	STEEL	WORK TIME*	OVERCOATING TIME**
CLEAN	Super Cleaner	YES	YES	YES	Ø	45	
ABRADE		180–220 grade	Ø	80–180 then 280 grade	Mechanically	1–2	
PRESERVE	Intertox®	Ø	Ø	2–4	Ø	1–2	2
SURFACE PRIMER	Etch Primer	Ø	1	Ø	Ø	30	See product label
PRE PRIMER	Yacht primer	Ø	Ø	1 Thinned 10–15%	Ø	2	18
PRIMER	Yacht primer	Ø	1	1	1	2	18
FILLER	Waterlike Epoxy Filler (if required)	YES	YES	YES*	YES	2–4	See product label
PRIMER	Yacht Primer	Ø	3	3	3	2	18
UNDERCOAT	Pre-Kote Undercoat	1–2	1–2	1–2	1–2	1	24
TOPCOAT	Toplac	1–2	2–3	1–2	2–3	2	16
TOTAL PROJECT TIME:						3 WEEKENDS	

* Average time to apply one coat to average sized boat of 8m/25 feet.
** Minimum wait time between coats or between overcoating with the next step in the system, at a temperature of 15°C.
◆ Watertite is not suitable for major filling or use as a caulking compound. Recommended for minor imperfections and hairline cracks.
Please consult product data sheets (available from International.yachtpaint.com) for overcoating times at different temperatures.
Data sheets may also be viewed via our website International.yachtpaint.com.

KEY: No. of coats Minutes Hours Do not use for this purpose



How to paint like a professional



PREPARATION AND PRIMING FOR TOPSIDES PAINT WORK

To achieve a good finish, the condition of the existing paint work should be thoroughly checked to determine the extent of the preparation required. Look for areas of damage, separation or peeling of the paint or any other signs that the paint does not have a firm hold on the substrate.

- 1** Clean the hull with Super Cleaner to remove any contamination.
- 2** Re-inspect the hull to ensure no damage has been missed.
- 3** If the paint is in good condition, sand with 280–320 grade wet or dry paper and when dry, wipe with a dust wipe to remove any dust residue.
- 4** If the paint shows localised areas of damage, these areas can be repaired using Watertite Epoxy Filler (see page 11).
- 5** If the previous coating is cracking, peeling or generally showing signs of separation over the whole area, it should be totally removed. Typical methods are scraping, sanding, grinding and/or using a chemical paint stripper.
- 6** Application of an undercoat will provide additional depth of colour and durability to the finished surface. To create the best finish we advise mixing the second coat of undercoat 50:50 with the topcoat. This will create a satin finish which highlights final imperfections which can thus be sanded smooth. This procedure will also help achieve greater gloss and colour depth in the topcoat.

Repairing with fillers

Your boat is not only under attack from the elements. Damage may also result from collision, abrasion and other mechanical damage. Fillers can be used for small scale repairs, and picking the right one for the job is essential if the result is to last.

Choosing the right filler

Fillers are available with a number of different characteristics specific to how they will be used. Some have been formulated for quick drying and easy repair characteristics on topside areas. Others require greater care having been designed as long lasting, water resistant fillers for use on the hull below the waterline. It is best to ensure that you have selected the right filler for the job in hand. To assist in selecting the product, we have listed the range of fillers below together with their appropriate uses.

PRODUCT	USE ON				ONE-PART OR TWO-PART	ABOVE WATER LINE	BELOW WATER LINE	USE EQUIPMENT CLEANER
	GRP	STEEL	ALUMINIUM	WOOD				
INTERFILL® 100  <ul style="list-style-type: none"> • Quick drying • Ready mixed 				✓	1	✓		No.1
WATERTITE EPOXY FILLER <ul style="list-style-type: none"> • Quick drying • Easy to mix • Water resistant 	✓	✓	✓	✓	2	✓	✓	No.7

HINTS TO HELP YOU ACHIEVE A PERFECT RESULT EVERY TIME

TWO-PART 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.
- ✓ Epoxy fillers are preferred over polyester fillers below the waterline as polyester fillers have a greater propensity to absorb water.

TESTING FOR COMPATIBILITY: To test if an existing topside paint product is compatible with our two-part polyurethane finish; tape a cloth soaked in Thinners No. 9 to the previously painted substrate for 24 hours. If the surface is softened, it is probably not compatible. In this instance only a one-part paint product should be applied.



APPLYING THE FINISH

1

APPLYING BY BRUSH

Use the largest brush possible. Long flexible bristles are best for gloss paints. When applying by brush a good technique is the 'Union Jack' method. Paint is applied to the surface with a diagonal brushing action from the left and right (Step 1). This is then spread further with horizontal strokes (Step 2) before finally 'laying off' with light vertical strokes (Step 3). This results in any brush marks being able to flow out to give the best possible finish.

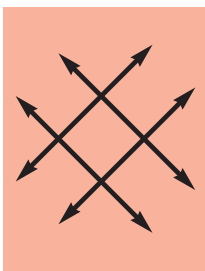
2

APPLYING WITH ROLLER AND BRUSH

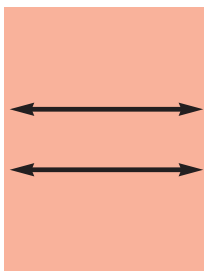
Our products are formulated so that a great gloss finish can be obtained through application with a solvent resistant, high-density small cell size foam roller. This will minimise the formation of bubbles in the surface that can occur with mohair and large cell foam rollers. The paint applied will be thinner and so more coats may be required.

The roller is used to apply paint to the surface and the pad or brush is used to create a smooth surface by 'tipping off.' This works particularly well when two painter's work side by side.

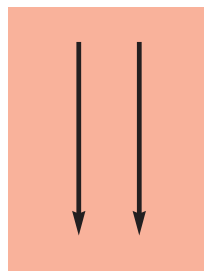
Always test your choice of application method, to establish if it provides the finish you require.



Step 1



Step 2



Step 3



PAINTING THE BILGES

- 1

Clean thoroughly with Super Cleaner. (In the case of GRP you should decide if any anti-osmosis treatment is necessary. Please refer to the Anti-Osmosis section on pages 36–40 for further information).
- 2

If the bilges have been painted before, remove all old, flaky paint, and make sure the area to be painted is completely dry.
- 3

Remove all oil and grease from your bilges before painting.
- 4

Paint with two coats of Danboline. This is a highly durable finish that can withstand oils and chemicals, knocks and scrapes, and is equally effective for use in lockers and on bulkheads.

HINTS TO HELP YOU ACHIEVE A PERFECT RESULT EVERY TIME

PAINT FINISHES

- ✓

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 lay 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 at any one time into a separate container.

How much paint do I need?	– POWER					– SAIL				
Overall Length (metres)	6.1	7.6	9.1	10.7	12.2	6.1	7.6	9.1	10.7	12.2
Overall Length (feet)	20	25	30	35	40	20	25	30	35	40
Beam (metres)	1.5	2.5	3.5	4.0	4.5	2.0	2.4	3.5	3.7	4.0
Freeboard Height (metres)	1.0	1.25	1.25	1.5	1.5	0.75	1.0	1.25	1.25	1.5
Litres Required*	2.6	4.4	5.5	7.7	8.7	2.1	3.5	5.5	6.3	8.5

*Average amount, based on 2 coats.

3 EASY STEPS TO A PERFECT WOOD FINISH

PRODUCT SELECTION 16–17

Pick the best product for your project

HANDY SPECIFICATIONS 18

Step-by-step guide to your project from our technical team

HOW TO PAINT LIKE A PROFESSIONAL 19–21

Instructions for an expert result explained by our professionals

OUR MOST FREQUENTLY ASKED VARNISH QUESTION:

“What is the best varnish for interior and exterior wood?”

‘We have several varnishes to meet your needs. Exterior high gloss varnishes with excellent ultra-violet protection include:

Goldspar® – A one-part polyurethane varnish with incredible abrasion, chemical and water resistance.

Perfection® Varnish – A two-part polyurethane designed to be an extremely durable clear coating for wood and epoxy surfaces.

Schooner® Varnish – A traditional easy to use tung-oil varnish with a classic varnish look.

So if you have an area to varnish that gets a lot of abrasion use Goldspar or Perfection. If you are varnishing over a clear epoxy such as Epiglass® use Perfection and if you want that beautiful traditional look of varnish use Schooner.

Goldspar® Satin – has been designed for interior surfaces. It is a low sheen polyurethane varnish producing a flexible but very hard-wearing surface, that is resistant to scratching and abrasion.’

UV PROTECTION

Varnishes have always been considered a mysterious blend of black art and science but there are only five main ingredients that go into a top quality marine varnish – oil, resin, solvent, driers and additives. The trend in modern varnish technology that most directly affects the long-term durability of varnish is the use of additives specifically to combat the effects of UV energy. i.e. sunlight.

The first, and most commonly used additive is the UV absorber. UV absorbers diffuse the UV energy through the coating so that degradation of substrate is avoided.

International uses two additional additives to help protect the varnish from UV damage – surface stabilisers and antioxidants. Surface stabilisers work at the surface to repair damage from UV light by pulling together polymer segments. By keeping the surface stabilised, colour and gloss are maintained.

Antioxidants are used to combat photo-degradation and oxidation. This helps maintain colour stability and keeps the varnish from fading and becoming cloudy.

caring for your wood

VARNISH

Wood has a beauty of its own that a good varnish job will enhance and protect. The varnish you choose may be for a specific task or for a wide range of uses. Varnishes applied to your boat provide a barrier to protect against the elements that will attack the surface during the season – sea, UV radiation from the sun, but also rain and wind. The chosen varnish also enhances the natural appearance of the wood, thereby maintaining and even improving the value of the boat.



INTERNATIONAL®: 3 LAYERS OF UV PROTECTION

- 1) In paint, some protection is offered by colour pigments. In clear varnish no pigment exists. Varnishes from International are specially designed to reflect ultra-violet radiation, and therefore have a longer life.
- 2) Our high performance Schooner®, Goldspar® and Perfection® Varnish products are boosted by UV absorbing and light stabilising agents which absorb radiation and convert it to less harmful wavelengths to protect the wood from UV attack.
- 3) Even with this protection some radiation can still penetrate the film, creating 'free radical' elements, which contribute to varnish breakdown. To counter this, we add HALS (Hindered Amine Light Stabilisers) to our varnishes, which effectively track down, isolate and neutralise these free radicals, extending the protective life of the varnish beyond the expectancy of other UV protection packages.

REMEMBER: Like in most paint applications, preparation is the most difficult and important part of the project – and is likely to take up to 80% of the total work time.








The perfect varnish for your project

Use this guide to our varnish products, which answer the most common customer questions, to help you pick the perfect varnish for your project.

If varnishing bare wood, thin your first coat of varnish by up to 15%. This first "penetrating coat" will soak into the wood, giving a better, smoother base for your varnish job, that will last longer



COMMON PROBLEMS	SOLUTION CHOICES				
	 PERFECTION® VARNISH	 SCHOONER®	 GOLDSPAR®	 GOLDSPAR® SATIN	 ORIGINAL
	<ul style="list-style-type: none"> • Ultimate performance polyurethane two part varnish • Excellent chemical and abrasion resistance and very hard finish • Exceptional gloss and gloss retention • Ultimate UV protection – up to 4 times ordinary varnishes 	<ul style="list-style-type: none"> • 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 • Suitable for interior and exterior use 	<ul style="list-style-type: none"> • High quality one part polyurethane varnish • Suitable for interiors, exteriors and over existing varnish • Good UV resistance and abrasion resistance • Quick drying 	<ul style="list-style-type: none"> • Goldspar quality interior varnish with a satin finish • Good flow-out and fast drying for easier application • Scratch and alcohol resistant • For interior use 	<ul style="list-style-type: none"> • Traditional, general purpose gloss varnish • Good flow, flexibility and gloss retention • High clarity finish for light colour woods • Interior, exterior and over existing varnish
With which varnish can I achieve a high gloss, professional looking finish?	👍👍👍	👍👍👍	👍👍	∅	👍
What's the best varnish for interior wood?	👍👍	👍👍	👍👍	👍👍👍	👍
What's the best varnish for scratch resistant, exterior decking?	👍👍👍	👍👍	👍👍👍	∅	👍
Is this product suitable for interior and exterior wood?	YES	YES	YES	INTERIOR ONLY	YES
How durable and long lasting is this varnish?	5–7 yrs	3–4 yrs	1–2 yrs	1–2 yrs	1–2 yrs
Can I apply this directly onto existing varnish?	YES, IF EXISTING VARNISH IS A TWO-PART	YES	YES	YES	YES
Which thinners do I need?	THINNERS NO.9	THINNERS 333 (for thinning only)	THINNERS NO.1	THINNERS NO.1	THINNERS NO.1
Which varnish offers the best UV protection, and resistance to yellowing?	👍👍👍	👍👍👍	👍👍👍	👍	👍
Which varnish offers the best gloss retention?	👍👍👍	👍👍	👍👍	∅	👍👍
KEY: 👍👍👍 Excellent for this purpose 👍👍 Good for this purpose 👍 Average for this purpose ∅ DO NOT USE for this purpose					

Handy Specification

VARNISH SCHEME RECOMMENDATIONS

STAGE	PRODUCT	PREVIOUSLY VARNISHED	BARE WOOD	OILY WOOD (TEAK, IROKO)		WORK TIME *	OVERCOATING TIME **
				PREVIOUSLY VARNISHED	BARE WOOD		
ABRADE		280–320 grade	80–180, then 280 grade	280–320 grade	80–180, then 280 grade	1	
PRE-TREATMENT	UCP or Schooner® Goldspar®, Original, Perfection®	Ø	1 Thinned 10 - 15% ****	Ø	1 Thinned 10 - 15% ****	1	14
VARNISH CHOICE	Schooner®	4 ****	4–6 ****	4 ****	4–6 ****	1	14
	Goldspar®	3	3	3	Ø	1	15
	Goldspar® Satin	3	3	3	Ø	1	15
	Original	3	3	3	Ø	1	24
	Perfection®	4	4	4 †	4	1	14
TOTAL PROJECT TIME:							3 WEEKENDS

* Average time to apply one coat to average sized boat of 8m/25 feet.
 ** Minimum wait time between coats or between overcoating with the next step in the system, at a temperature of 15°C.
 Please consult product data sheets (available from International Yachtpaint.com) for overcoating times at different temperatures. Data sheets may also be viewed via our website yachtpaint.com.
 *** For increased durability and added depth of gloss, apply additional coats of Schooner®.
 **** Do not use UCP, Goldspar, Original.
 † Always avoid applying a two-part product onto a surface previously varnished with a one-part varnish.

KEY: No. of coats Minutes Hours Do not use for this purpose



How to paint like a professional



WHAT SHOULD YOU CONSIDER IN YOUR CHOICE OF VARNISH?

In order to choose between these various varnishes, you will find it useful to consider your project from a number of different angles.

WHAT PREPARATION IS NECESSARY?

Probably the most critical aspect of any job is the preparation of the surface prior to application of preservatives, primers or topcoats. Poor preparation will always show through to final coat, will reduce the effectiveness of the coating system and can potentially lead to the premature failure and separation of the coating from the substrate.

As a guide you should be aware that you will need to spend up to 80% of the duration of the job on these two activities alone, in order to achieve a first class finish of which you will be proud.

DOES THE SUBSTRATE MATTER?

Carvel and clinker (or lapstrake) constructions are flexible in nature; the wood tends to move as the moisture content varies. Hard systems such as the two-part polyurethanes cannot sufficiently flex to accommodate this movement and are therefore likely to crack. These systems are more suited to the highly stable constructions of double diagonal planking, cold or hot moulded veneers and strip planking where epoxy or Resorcinol type adhesives have been used.

Conventional and premium one-part systems are suitable for all wood constructions.

WHAT REPAIR AND UPKEEP IS REQUIRED?

Areas where there is considerable foot traffic or harsh abrasion, such as gunwale rails and coaming sides, will need frequent repair to keep them in pristine condition. While the high performance systems offer excellent resistance to abrasion they can still wear through in excessive circumstances. As conventional and premium one-part systems are considerably easier to touch in and make good than the harder high performance systems, they are more suitable for these areas.



PREPARATION FOR VARNISH WORK

To achieve a good finish, the condition of the existing varnish should be thoroughly checked to determine the extent of the preparation required.

1

Look for areas of damage, separation or peeling or any other signs that the varnish does not have a firm hold on the substrate.

2

Clean and prepare the surface by washing with Super Cleaner to remove any contamination. Then inspect again to ensure no damage has been missed.

3

VARNISH – GOOD CONDITION – NO DAMAGE:

Sand with 280-320 grade wet or dry paper and when dry, wipe with a dust wipe.

VARNISH – GOOD CONDITION – SOME DAMAGE:

These areas may be repaired using Interfill 100. Spot priming and varnishing may then be required and the area rubbed down prior to the full varnish job.

VARNISH – POOR CONDITION:

If the previous varnish coating is cracking, peeling or generally showing signs of separation over the whole area, it should be totally removed by either scraping, sanding or with a chemical paint stripper.

PRO TIP: Always work in the direction of the grain, whether sanding or applying varnish. This will avoid scratches that can even show through many coats of varnish.





APPLYING VARNISH

1

We recommend that the first coat of varnish applied is thinned up to 15%. This will promote good penetration of the surface and adhesion of subsequent coats.

2

After the first coat has been applied the surface will appear rough. This is a result of the exposed ends of grain absorbing the varnish and lifting. Sand smooth with a medium grade paper – 320 to 400.

3

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



Brush out the varnish with firm strokes along and across the grain holding the brush at 90° to the surface. Then 'tip-off' by gently stroking the surface with the brush at 45°, following the grain. Your brush should be used for varnish only.

4

A minimum of three full, un-thinned coats is recommended for all varnishes. However, to achieve long lasting protection, you should plan to apply up to ten coats, depending on the system. As the number of coats increases, sand in between to increase the level of gloss and depth of lustre.

HINTS TO HELP YOU ACHIEVE A PERFECT RESULT EVERY TIME

- ✓ Round the edges of any scrapers with a file to avoid gouging.
- ✓ 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.
- ✓ Never apply direct from the can, as this will introduce contamination.
- ✓ Always pour the amount of varnish that you expect to use at any one time, into a separate container.
- ✓ 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.

3 EASY STEPS TO ANTIFOULING PROTECTION

PRODUCT SELECTION 24–25

Pick the best product for your project

HANDY SPECIFICATIONS 28–30

Step-by-step guide to your project from our technical team

HOW TO PAINT LIKE A PROFESSIONAL 31–35

Instructions for an expert result explained by our professionals

OUR MOST FREQUENTLY ASKED ANTIFOULING QUESTION:

“How do I know that the product I want to apply is compatible with my old antifouling?”

‘Applying your desired International antifouling has never been easier. Compatibility is an issue most boat owners worry about, but there are three easy choices to solve this problem.

- 1. Check for compatibility** with old antifouling. If the product is known use the International compatibility chart on page 35.
- 2. Use Primocon® as a tie-coat primer** over the old paint. If the old antifouling is unknown you can apply Primocon® primer directly. Then simply overcoat with the International Antifouling of choice (do not use this system with VC® 17m Extra).
- 3. Remove the old antifouling.**

If the old antifouling is in poor condition you may prefer to remove the old paint and start with a fresh surface. Interstrip Antifouling can remove several coats of most antifouling paints in one application. After stripping you are ready to prime and paint.’



WHY HAVE TEFLON® IN OUR PRODUCTS?

As a boat owner you naturally want the best quality products that you know will perform better than others, and give you the maximum long term value for money.

Teflon® is an extraordinary and versatile technology EXCLUSIVELY available in coatings from International Yacht. Teflon® has a coefficient of friction lower than ice, making it the most slippery material in existence. Its non-wetting properties have seen it used extensively in water-repellent fabrics and in coatings for easy cleaning surfaces. Its excellent heat resistance has meant it has been used extensively by NASA in the design of heat shields and space suits.

By featuring Teflon® in our antifouling products you get the benefit of smooth, low-friction surfaces that minimise drag and extremely hard coatings that resist damage and are exceptionally easy to clean. See the individual product performance characteristics in our Antifouling Product Selection table on pages 24 & 25.

antifouling

Antifouling is the most common (and most important) painting job carried out by boat owners. You can very easily do a professional quality job yourself, but you must bear in mind a few important points.

The type of antifouling you choose should be tailored to the fouling challenges in your boating area. Different water qualities and temperatures produce different types and breeds of fouling. Even in a small area the differences can be quite dramatic, due to outfalls, pollution, inflows from rivers and streams, the speed of flow of the water – and even shading from cliffs, trees and buildings.

It is vital to protect your boat through antifouling as once fouling has a hold on your hull, it will rapidly colonise the surface, making it difficult to remove. Prevention is therefore much better than cure.

THERE ARE THREE KEY REASONS ANTIFOULING GROWTH SHOULD BE PREVENTED:

SAFETY: Heavy fouling growth reduces responsiveness of the craft as well as making it sit lower in the water. This can have serious implications in challenging weather conditions.

PROTECTION: Prolonged fouling growth will damage the substrate of the hull. For example, the natural glues organisms use to attach to the hull damage wood and glass fibre.

SPEED & EFFICIENCY: Fouling causes drag, which slows you down and increases fuel costs.

THE INTERNATIONAL ANTIFOULING RANGE PROVIDES PROTECTION FROM THE THREE KEY FOULING CHALLENGES:

ANIMAL: Animal fouling, such as barnacles, release millions of microscopic barnacle larvae into the water. These larvae need to attach to a static object to allow them to feed. Most boats remain static for 90% of their time afloat, and offer perfect feeding grounds for all types of fouling.



WEED: Static objects attract common seaweeds, many of which will simply fall off as the hull travels through the water. However, some, such as Brown Weed, are more resilient and can withstand high speeds through the water.

SLIME: Slime is another major form of fouling. Slime is caused by billions of single celled algae which produce a syrupy medium in which to settle. Once established they provide settling ground for more algae, so coatings of slime can grow quite thickly as they are not detached as they move through the water.

How to choose your ideal antifouling...

We at International manufacture a wide variety of antifouling to meet all sorts of fouling challenges and, often more importantly, different boating styles. The charts on these pages will help you sort out which product is perfect for your boating style and fouling challenge.

On these pages, pick the features along the left margin that suit your boating style, and then read across the charts to select your perfect antifouling.

		<div>Ultimate Performance</div> <div>MICRON® OPTIMA</div> <div><ul style="list-style-type: none">Revolutionary antifouling technology for the absolute cleanest hullsMinimum build up - reduced preparation timeActivated Biolux® technology for sustained antifouling protectionWater based – low odour, easy clean up</div> <div>Contains Copper Oxide and Zinc Pyrithione</div> <div></div>	<div>Multi-Season Protection</div> <div>MICRON® EXTRA</div> <div><ul style="list-style-type: none">Premium, multi-season copolymer antifouling for harshest fouling areas24 months protection from one complete applicationMinimum paint build up, washes away with useBiolux® technology for sustained antifouling protection</div> <div>Contains Copper Oxide and Dichlofluanid</div> <div></div>	<div>One Coat</div> <div>CRUISER® UNO</div> <div><ul style="list-style-type: none">One season's protection in all but harshest fouling conditionsOne coat to save timeFor power (up to 25 knots) and sail boatsCan be re-immersed within 24 hours</div> <div>Contains Copper Oxide and Dichlofluanid</div> <div></div>
<div>POLISHING</div>	<div>FOR POWER & SAIL</div>			
<div>HARD</div>		<div>Ultra Strong</div> <div>INTERSPEED ULTRA</div> <div><ul style="list-style-type: none">Ultra strong formula for high fouling areasHard, durable finishBiolux® technology for sustained antifouling protection</div> <div>Contains Copper Oxide and Dichlofluanid</div> <div></div>	<div>Aluminium Hulls</div> <div>TRILUX</div> <div><ul style="list-style-type: none">Hard antifouling in bright coloursSuitable for all substrates including aluminiumFor fast, active craft and craft on dry mooringsBiolux® technology for sustained protection</div> <div>Contains Copper Thiocyanate and Dichlofluanid</div> <div></div>	<div>Fresh Water</div> <div>WATERWAYS PLUS *</div> <div><ul style="list-style-type: none">For use in fresh water and inland waterwaysSuitable for application several weeks before immersionProvides a hard scrubbable finishIdeal for fleet operators</div> <div>Contains Copper Oxide and Zineb</div> <div></div>
<div>PERFORMANCE/ THIN FILM TEFLON®</div>		<div>High Speed Performance</div> <div>VC® OFFSHORE WITH TEFLON®</div> <div><ul style="list-style-type: none">Suitable for salt and freshwaterWith Teflon® for ultra smooth, low friction surfaceHard, smooth finish can be burnished to a very low profile</div> <div>Contains Copper Oxide and Dichlofluanid</div> <div></div>	<div>Thin Film Technology</div> <div>VC® 17M EXTRA</div> <div><ul style="list-style-type: none">Extra strong thin film antifouling for racing sailboats and powerboatsWith Teflon® for a low friction surfaceHard, smooth surfaceQuick drying for fast re-launchAvailable in bright white</div> <div>Contains Copper Metal, Copper Thiocyanate and Zinc Pyrithione</div> <div></div>	
<div>SPECIAL PURPOSE</div>		<div>Aerosol Application</div> <div>TRILUX PROP-O-DREV</div> <div><ul style="list-style-type: none">Aerosol application for difficult to reach areasFor propellers, outboards and sterngearFor aluminium and steel</div> <div>Contains Copper Thiocyanate</div> <div></div>	<div>Aluminium</div> <div>TRILUX</div> <div><ul style="list-style-type: none">Hard antifouling in bright coloursSuitable for all substrates including aluminiumFor fast, active craft and craft on dry mooringsBiolux® technology for sustained protection</div> <div>Contains Copper Thiocyanate and Dichlofluanid</div> <div></div>	



‘BIOLUX® TECHNOLOGY’ is a unique antifouling technology developed by International. It consists of a system of organic boosting biocides incorporated in a highly effective controlled release film













'BIOLUX® TECHNOLOGY' is a unique antifouling technology developed by International. It consists of a system of organic boosting biocides incorporated in a highly effective controlled release film.

...that's perfect for your style of boating

Picking the perfect paint sometimes can be boiled down to one or two simple problems you need to solve. This table shows the most common problems boat owners are trying to solve.

Read across the table to identify the paint that suits your needs.

COMMON PROBLEMS	POLISHING			HARD			PERFORMANCE/ THIN FILM TEFLON®		SPECIAL PURPOSE COATINGS	
	 Micron® Optima	 Micron® Extra	 Cruiser® Uno	 Interspeed Ultra	 Trilux	 Waterways Plus	 VC® 17m Extra	 VC® Offshore with Teflon®	 Trilux Prop-O-Drev	 Trilux
Which antifouling has the best properties for racing?				👍👍	👍👍		👍👍👍	👍👍👍		👍👍
Which antifouling can I use on aluminium propellers?	Ø	Ø	Ø	Ø	👍👍👍	Ø	Ø	Ø	👍👍👍	👍👍👍
Which antifouling can I use on bronze propellers?	Ø	Ø	Ø	Ø	👍👍👍	Ø	Ø	Ø	👍👍👍	👍👍👍
I need an antifouling/bottom coating that will last for more than one season		👍👍👍								
Which antifouling(s) are recommended for high fouling areas?	👍👍👍	👍👍👍	👍👍	👍👍👍	👍👍	Ø	👍👍	👍👍👍	👍👍	👍👍
Which antifouling should I use on aluminium hulls?	Ø	Ø	Ø	Ø	👍👍👍	Ø	Ø	Ø	Ø	👍👍👍
I need a fast, simple solution to antifouling my boat			👍👍👍						👍👍👍	
I need an antifouling formulated for fresh water areas	👍👍	👍👍	👍👍	👍👍	👍👍	👍👍👍	👍👍	👍👍	👍👍	👍👍
I need a bright coloured antifouling for boot-top striping	Ø	Ø	Ø	Ø	👍👍👍	Ø	Ø	Ø	Ø	👍👍👍
KEY: 👍👍👍 Excellent for this purpose 👍👍 Good for this purpose 👍 Average for this purpose Ø DO NOT USE for this purpose										

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



WARNING: 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, USE ONLY RECOMMENDED PRODUCTS: TRILUX AND TRILUX PROP-O-DREV.

TWO-PART PRODUCTS

This preparation scheme provides the maximum level of protection available

STAGE	PRODUCT	GRP	ALUMINIUM	WOOD	IRON / STEEL	LEAD	WORK TIME*	OVERCOATING TIME**
CLEAN	Super Cleaner	YES	YES	YES	Ø	YES	1	
ABRADE		180 grade	Mechanically	80-280 grade	Mechanically	Mechanically	2-4	
PRESERVATIVE	Intertox® (if needed)	Ø	Ø	2-4	Ø	Ø	1-2	2
SURFACE PRIMER	Etch Primer	Ø	1	Ø	Ø	1	1	See product label
PRIMER	Interprotect®/Gelsield 200	1 Gelsield 200	1 Interprotect®	1 Interprotect®	1 Interprotect®	1 Interprotect®	1	5
FILLER	Watertite (if needed)	YES	YES	YES♦	YES	YES		6
PRIMER	Interprotect®/Gelsield 200	3 Gelsield 200	4 Interprotect®	2 Interprotect®	4 Interprotect®	4 Interprotect®	1	See product label
TIE-COAT	Gelsield 200	1	Ø	Ø	Ø	Ø	1	5
ANTIFOULING	International Antifouling	2-3	2-3	2-3	2-3	2-3	1	See product label
TOTAL PROJECT TIME:							2 WEEKENDS	

* Average time to apply one coat to average sized boat of 8m/25 feet.

** Minimum wait time between coats or between overcoating with the next step in the system, at a temperature of 15°C.

♦ Watertite is not suitable for major filling or use as a caulking compound. Recommended for minor imperfections and hairline cracks. Please consult product data sheets (available from International Yachtpaint.com) for overcoating times at different temperatures.

Data sheets may also be viewed via our website yachtpaint.com.

KEY:  No. of coats  Minutes  Hours  Do not use for this purpose

ANTIPOULING

Handy Specifications

ONE-PART PRODUCTS

This preparation scheme provides a good level of protection

STAGE	PRODUCT	GRP	ALUMINIUM	WOOD	STEEL	WORK TIME*	OVERCOATING TIME**
CLEAN	Super Cleaner	YES	YES	YES	Ø	1	
ABRADE		180-220 grade	Mechanically	80-180 grade	Mechanically	2-4	
PRESERVATIVE	UCP/Primocor® (thinned 10-15%)	Ø	Ø	1	1	1	UCP 12 Primocor® 3
SURFACE PRIMER	Etch Primer	Ø	1	Ø	Ø	45	See product label
PRIMER	Primocor®	Ø	1	1	1	1	3
FILLER	Waterfite (if needed)	YES	YES	YES*	YES		6
PRIMER	Primocor®	1	4	2	4	1	See product label
ANTI-FOULING	International Antifouling	2-3	2-3	2-3	2-3	1	See product label
TOTAL PROJECT TIME:						2 WEEKENDS	

* Average time to apply one coat to average sized boat of 8m/25 feet.
 ** Minimum wait time between coats or between overcoating with the next step in the system, at a temperature of 15°C.
 ♦ Waterfite is not suitable for major filling or use as a caulking compound. Recommended for minor imperfections and hairline cracks.
 Please consult product data sheets (available from international.yachtpaint.com) for overcoating times at different temperatures.
 Data sheets may also be viewed via our website yachtpaint.com.

KEY:  No. of coats  Minutes  Hours  Ø Do not use for this purpose

VC® PRODUCTS

Use this protection scheme when using VC antifoulings

STAGE	PRODUCT	GRP	IRON / STEEL	LEAD	WORK TIME*	OVERCOATING TIME**
CLEAN	Super Cleaner	YES	Ø	YES	1	
ABRADE		240 grade	Mechanically	Mechanically		
PRESERVATIVE	Intertox® (if needed)	Ø	Ø	Ø	1-2	2
SURFACE PRIMER	Etch Primer	Ø	Ø	1	1	See product label
PRIMER	VC® Tar12	1	1	1	1	3
FILLER	Watertite (if needed)	YES	YES	YES		6
PRIMER	VC® Tar12	3	min 3	min 2	1	See product label
ANTIFOULING	VC® Antifouling	2-3	2-3	2-3	1	See product label
TOTAL PROJECT TIME:					2 WEEKENDS	

* Average time to apply one coat to average sized boat of 8m/25 feet.

** Minimum wait time between coats or between overcoating with the next step in the system, at a temperature of 15°C.

Please consult product data sheets (available from international.yachtpaint.com) for overcoating times at different temperatures.

Data sheets may also be viewed via our website yachtpaint.com.

KEY:  No. of coats  Minutes  Hours Ø Do not use for this purpose



WARNING: DO NOT APPLY ANTIFOULINGS OVER TOPSIDE FINISHES, TO PREVENT REACTION.

ANTIFOULING



How to paint like a professional



	IS MY NEW ANTIFOULING COMPATIBLE WITH MY EXISTING PAINT? <i>The condition of any existing coating is important in order to provide a sound surface for the new antifouling.</i>
OPTION 1	KNOWN ANTIFOULING Check for compatibility; see compatibility chart on page 35 or at yachtpaint.com . If you know what antifouling is currently on your boat, you can quickly determine whether your International paint choice is compatible.
OPTION 2	UNKNOWN; PRIME BEFORE PAINTING Remove any loose, flaking areas with a scraper. Rinse with fresh water and allow to dry before applying the new antifouling. If the old coating is in poor condition it is advisable to remove it. Use Primocon® as a tie-coat primer. If you do not know what the old antifouling is on your boat, it is still easy. Apply our Primocon® primer directly to the old antifouling. Then simply overcoat with the International coating of your choice (<i>not compatible with VC® 17m Extra</i>).
OPTION 3	UNKNOWN; REMOVE Remove old antifouling. If you would prefer to remove the old antifouling, we have the easy solution, Interstrip Antifouling. It's compatible with your valuable fibreglass hull and can remove several coats of paint in one application. After stripping, you are ready to prime and paint your newly cleaned hull.

IMPORTANT: Now that you've stripped your hull, it's important to inspect for any gelcoat damage before repainting. Also, consider applying our industry-leading Gelshield 200 gelcoat blister protection system, to prevent long term water osmosis damage.








APPLYING ANTIFOULING

1	Ensure you are wearing the recommended protective clothing and eyewear. Information on this can be found on the label, at the back of this booklet or at yachtpaint.com . Stir the paint thoroughly before application. It contains very heavy compounds, which can settle to the bottom of the can.
2	Common application methods include roller or brush. Spray application can be undertaken, except for Micron® Optima or VC® 17m Extra, but requires specialist equipment.
3	ROLLER APPLICATION: Use a short mohair roller of either radiator or larger size, (<i>unless otherwise stated on the can</i>). A smaller roller is less work on the arm but can take slightly longer.
4	BRUSH APPLICATION: Use a large width brush (<i>e.g. 5"</i>). The finish will not be as smooth as a topside paint, therefore, the type of brush used is not critical.
5	It is very important to apply the correct thickness of antifouling even if it means putting on an extra coat. Everyone applies paint differently, so take care to apply all of the paint calculated using the guidance at the back of this manual. Normally recommended thickness is achieved by the application of two coats.
6	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.
7	Follow overcoating times and immersion times carefully. These are the biggest causes of antifouling detachment. Water is a very aggressive environment for paint and it is therefore very important that the paint is allowed to dry thoroughly, before launch.
8	Usually Thinners No. 3 is suitable as a thinner and equipment cleaner. This does not apply to all antifouling, so please read the label before application. Thinning is not advised, but up to 10% may be added to aid application in very hot or windy conditions. We also advise that all equipment is washed out immediately after use.

HOW MUCH ANTIFOULING PAINT DO I NEED?

Determining how much antifouling you will need is fairly simple. Here are two quick guides to help you purchase the correct amount:

- 1) Calculate the area needing paint. For a rough estimate of the area to be painted, multiply the length of your hull (LOA) by the beam and multiply by 0.85. ($LOA \times B \times 0.85 = \text{Area}$) Then divide the area by the coverage (see page 54) of the paint you've chosen to determine how many litres per coat you will need, or
- 2) Refer to the reference chart below for a quick estimate:

	Hull shape A				Hull shape B				Hull shape C			
												
X (metres)	6.1	7.6	9.1	12.2	6.1	7.6	9.1	12.2	6.1	7.6	9.1	12.2
X (feet)	20	25	30	40	20	25	30	40	20	25	30	40
Litres required* (standard range)	4.0	5.0	7.0	12.0	3.0	4.0	5.0	9.5	2.0	2.5	3.5	6.0
Litres required* (VC® range)	3.0	4.0	5.5	9.5	2.5	3.0	4.5	7.5	1.5	2.0	3.0	5.0

*Average amount based on 2 coats

Note: for coverage information on other products, such as primers, please refer to the chart on page 54.

outdrives, underwater metals & keels

Outdrives are built out of aluminium. This presents compatibility issues with cuprous-oxide containing antifoulings. Similarly, propellers are typically made with aluminium or bronze. Keels are made of iron, steel or lead, or in some cases a mixture of a lead shoe on a steel keel.

It is important to establish the construction material of the metal you are working on. In particular, the keel needs to be treated with great care when preparing to keep it durable and free from corrosion.

THERE ARE 2 CRUCIAL ISSUES TO CONSIDER WITH ALL UNDERWATER METALS:

1) SUBSTRATE 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. The first step is to identify what metal your substrate is, then to look up which products are compatible with the substrate in the table below.

2) ANTIFOULING SOLUTIONS

The second step is to simply choose your antifouling solution. Two rules should be followed:

- **Never apply an antifouling containing cuprous oxide to aluminium**
e.g. outdrives, hulls
- Choose a hard, durable antifouling that will stand up to the wear and tear in these difficult areas.

REFER TO PAGE 24 TO SELECT THE BEST ANTIFOULING FOR YOUR PROJECT

SUBSTRATE	STANDARD PROTECTION	LONG LASTING PROTECTION
ALUMINIUM	ETCH PRIMER, THEN PRIMOCON®	INTERPROTECT®
STEEL/IRON	PRIMOCON®	INTERPROTECT®
LEAD	ETCH PRIMER, THEN PRIMOCON®	INTERPROTECT®

For more information on how to prepare your metal substrate for a perfect result, please refer to the 'Everything Else You Need To Know' section on page 50.

PROPELLERS, OUTDRIVES AND STERNGEAR

STAGE	PRODUCT	ALUMINIUM	BRONZE	WORK TIME*	OVERCOATING TIME**
CLEAN	Super Cleaner	YES	YES	20	
ABRADE		Mechanically	Mechanically	30 to 60	
SURFACE PRIMER	Etch Primer	1	Ø	5 to 15	See product label
PRIMER	Interprotect®	5	Ø	10 to 20	5
ANTIFOULING	Trilux, Trilux Prop-O-Drev	2-3	2-3	10 to 20	See product label
TOTAL PROJECT TIME:				1 WEEKEND	

* Average time to apply one coat to average sized boat of 8m/25 feet.

** Minimum wait time between coats or between overcoating with the next step in the system, at a temperature of 15°C. Please consult product data sheets (available from International yachtpaint.com) for overcoating times at different temperatures. Data sheets may also be viewed via our website yachtpaint.com.

KEY: No. of coats Minutes Hours Do not use for this purpose



PROPELLERS, OUTDRIVES AND STERNGEAR

- 1** Clean thoroughly and abrade surface with 80 grade sand paper.
- 2** Etch prime and/or prime the surface (as recommended in the specification table on page 33).
- 3** Apply suitable antifouling (refer to our product selection table on pages 24–25).



KEEL SYSTEMS

SURFACE PREPARATION

Remove any poor condition, flaking coating to ensure the substrate is sound. Rub the surface down with wet and dry paper. Leave to dry thoroughly before inspecting condition on the substrate again.

IRON AND STEEL

GRIT BLAST TO SA 2.5. Heavy duty discing can also be used, but this is unsuitable for high performance systems, where all the paint should be removed.

LEAD

Remove the tarnished oxide layer by rubbing down with an emery cloth or by powered wire brushing. Remove grease and contamination by washing with Super Cleaner. Prime with a single coat of Etch Primer, followed by specified other primer(s).

CAST IRON

Angle grind, until metal is bright. Prime with Primocon®.

**REFER TO THE HANDY SPECS ON PAGES 28–30
FOR OUR FULL ANTIFOULING SCHEMES**



HINTS TO HELP YOU ACHIEVE A PERFECT RESULT EVERY TIME

- ✓ Good preparation and priming is essential to ensure that the antifouling adheres to the surface for the duration of the product life.
- ✓ All antifoulings change colour when they are immersed. Don't be surprised if when you finish the job, the colour differs slightly from the colour chart. The true colour will develop 3 or 4 weeks after immersion.
- ✓ Along the water line antifouling can look dirty or even turn green. This is due to the reaction of the paint with oxygen. To avoid this problem use Trilux along the waterline and clean periodically to prevent fouling build-up.
- ✓ Boot-topping antifouling should not be applied over a topside finish.
- ✓ Propellers, outboards and sterndrives are either constructed of aluminium or bronze. There are no reaction problems in using copper containing products on bronze. For more information see page 33.
- ✓ 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 the coating adhesion is an issue, particularly on propellers.

ANTIFOULING COMPATIBILITY CHART

CHOSEN ANTIFOULING		MICRON® OPTIMA	MICRON® EXTRA	INTERSPEED ULTRA	CRUISER® UNO	TRILUX	WATERWAYS PLUS	VC® 17m EXTRA	VC® OFFSHORE WITH TEFLON®	TRILUX PROP-O-DREV
PREVIOUS ANTIFOULING (IN GOOD CONDITION)	MICRON® OPTIMA	●	●	●	●	●	●	Ø	●	●
	MICRON® EXTRA MICRON® CSC EXTRA CRUISER® UNO BOATGARD WATERWAYS	●	●	●	●	●	●	Ø	●	●
	TRILUX VC® OFFSHORE EXTRA VC® OFFSHORE MPX INTERSPEED ULTRA	●	●	●	●	●	●	●	●	●
	VC® 17m EXTRA	Ø	Ø	Ø	Ø	Ø	Ø	●	●	●
	UNKNOWN PRODUCT	B	B	B	B	B	B	Ø	B	B
	PREVIOUS ANTIFOULING IN POOR CONDITION	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø
	BLAKES TIGER	B	●	●	●	●	●	Ø	●	●
	BLAKES HARD RACING	B	●	●	●	●	●	Ø	●	●
	BLAKES PILOT	B	●	●	●	●	●	Ø	●	●
	BLAKES TITAN FGA/ULTRA	B	●	●	●	●	●	Ø	●	●
	AWLGRIP® AWLSTAR GOLD LABEL	●	●	●	●	●	●	Ø	●	●
	JOTUN NON STOP	●	●	●	●	●	●	Ø	●	●
	JOTUN RACING	●	●	●	●	●	●	Ø	●	●

KEY: ● Apply the chosen antifouling directly after a light wet sand, wash with fresh water and allow to dry.

Ø Remove the antifouling totally using Interstrip.

B Apply a barrier coat of Primocon® before applying the chosen antifouling.

Visit our website for more information – yachtpaint.com

OSMOSIS (BLISTER) PROTECTION & TREATMENT

WHAT IS OSMOSIS?

37

HOW TO RECOGNISE & TREAT OSMOSIS 38

Step-by-step guide to osmosis treatment

HOW TO PROTECT AGAINST OSMOSIS 39

Step-by-step guide to osmosis protection

osmosis (oz-mO'sis, os-), —*n.*

Dictionary definition;

The diffusion of fluids through membranes or porous partitions.

Yachter's definition;

Boat owner's greatest enemy.

Water absorbs through gelcoat causing damage and weight gain.

Can be prevented with the GELSHIELD SYSTEM.

AN OUNCE OF PREVENTION IS WORTH A POUND OF CURE...

The importance of having a moisture-free hull cannot be overemphasised. The drier the laminate, the lighter the hull, the better the performance, the more efficient fuel use and the longer the gelcoat life. A boat hull that has absorbed moisture will also sit lower in the water than intended and will reduce the responsiveness of the boat.

The GELSHIELD SYSTEM was designed to repair hulls which have experienced gelcoat blistering. However, the best time to attack hull blistering is before it happens. Taking preventative action before a problem occurs will greatly reduce the likelihood of an expensive repair and increase resale value. If you're buying a new boat, protect your investment with the GELSHIELD SYSTEM before it ever goes in the water!

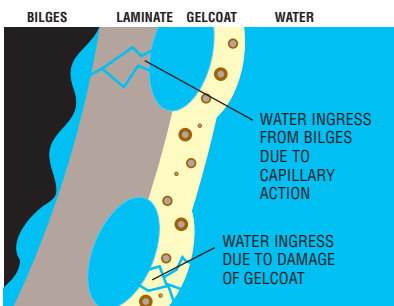


fibreglass

blister repair & prevention

WHAT IS OSMOSIS?

Osmosis is a process of degeneration within a glass fibre laminate. It is caused by a chemical reaction between water and unreacted substances remaining in the manufactured hull. The water enters the hull through the gelcoat and, once inside, reacts with the chemical components creating acidic substances. These substances create pressure behind the gelcoat, which causes blisters and eventually cracking. Once the gelcoat is breached in this manner, the underlying laminate is capable of absorbing water like a sponge.



Osmosis is not only caused by water on the outside of the hull – bilge water from the inside can also cause a problem. It is therefore worth making efforts to keep your bilges dry.

WHEN MIGHT OSMOSIS OCCUR?

Any unprotected hull is likely to show signs of osmosis eventually, like rust on a car.

The exact length of time before osmosis occurs depends on many factors, including: the type of water in which the hull is moored; the temperature of the water and most importantly, the quality of the original hull construction.

In some cases, reactive impurities in the gelcoat and laminate will cause osmosis in the early life of the boat. This is a structural problem and should be referred back to the boat manufacturer. However, even well-built, fibreglass hulls will eventually experience osmosis and blistering. This is why we recommend applying an epoxy protection layer, even to new boats.



REMEMBER: PREVENTION IS BETTER THAN CURE!

How to paint like a professional



HOW TO RECOGNISE AND TREAT OSMOSIS

THE MAIN SYMPTOM, 'BLISTERS' – Blisters are the most common warning sign and if identified should be followed up with immediate professional examination. 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. If the fluid has a pungent, vinegary odour or feels greasy or sticky when rubbed between the thumb and forefinger, there is a high probability of osmosis. Before any treatment is carried out, you need to establish what has caused the problem. We recommend that you seek the advice of a professional surveyor.

Some blisters occur for reasons other than osmosis. They are often evident as a rash of small pinhead blisters or swellings, either locally (often around the water-line) or over the entire underwater area. These blisters are hard and difficult to break and when broken open will be dry, with no odour evident. The likely cause is air voids. This is not a serious problem, but hull moisture levels should be checked before commencement of any remedial treatment.

OTHER WARNING SIGNS TO LOOK FOR ARE –

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.

PROMINENT FIBRES – Seen protruding beneath or through the gelcoat and can cause 'wicking' where water is drawn into the hull by capillary action.

UNDERCURING OF THE GELCOAT – Incorrect mixing or application in unsuitable conditions can cause failure to cure properly. This results in porosity and may lead to water ingress.



WHAT TO DO IF OSMOSIS DOES OCCUR

1

PROPER PREPARATION OF THE GELCOAT

This includes getting all of the antifouling paint 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-blisters. 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.

4

APPLICATION OF GELSHIELD 200

This will act as a tie-coat to the antifouling.

RECOMMENDED OVERCOATING INTERVALS

TEMPERATURES	PRIMING Gelshield 200 Coat-On-Coat	FIRST COATING OF ANTIFOULING
5°C	10 – 6	10 – 24
15°C	5 – 6	5 – 9
23°C	3 – 6	3 – 7
35°C	2 – 6	2 – 5
NUMBER OF COATS	5/6	1

KEY: Hours  Months 

HOW TO PROTECT AGAINST OSMOSIS (BLISTERS)

Protection is always better than cure and it really does make sense to protect a new boat as well as an older craft. To achieve this protection it is necessary to sheath the hull with a water barrier to seal the surface. This is done over the existing gelcoat. There is no better time to apply an anti-osmosis system than when the boat has not yet been launched. Some boat builders now offer Gelshield treatment from International as part of their production process, so it is worth finding out if this is the case. However, it must be stressed that protective systems cannot stop osmosis once it has started, or prevent it from occurring in poorly constructed hulls. It is important that a full check is undertaken before starting.

OSMOSIS PROTECTION SCHEME

STAGE	PRODUCT		GRP	WORK TIME*	OVERCOATING TIME**	
CLEAN	Super Cleaner		YES	1		
ABRADE			180 grade	2-4		
PRIMER	Gelshield 200	VC® Tar2	1	1	5	3
FILLER	Watertite (if needed)		YES		6	
PRIMER	Gelshield 200	VC® Tar2	3/4	1	5	3
ANTIFOULING TIE-COAT	Gelshield 200		1	1	5	See product label
ANTIFOULING	International Antifouling	VC® Antifouling	2-3	1	See product label	
TOTAL PROJECT TIME:				2 WEEKENDS		

KEY:  No. of coats  Minutes  Hours  Do not use for this purpose




* Average time to apply one coat to average sized boat of 8m/25 feet.

** Minimum wait time between coats or between overcoating with the next step in the system, at a temperature of 15°C.

Please consult product data sheets (available from International yachtpaint.com) for overcoating times at different temperatures.

Data sheets may also be viewed via our website yachtpaint.com.

Your best line of defence against osmosis

COMMON PROBLEMS	SOLUTION CHOICES	ANTI-OSMOSIS PRIMER	ASSOCIATED OSMOSIS SYSTEM PRODUCTS	
				
		GELSHIELD 200 Epoxy primer for osmosis protection	GELSHIELD PLUS High build solventless epoxy for osmosis treatment	WATERTITE EPOXY FILLER Quick drying epoxy filler for above and below waterline
PROTECTING NEW/USED HULL (GOOD CONDITION) FROM OSMOSIS		YES	NO	NO
REPAIR OF GRP HULL DAMAGED BY OSMOSIS*		YES***	YES**	YES

* Osmosis treatment and repair should be carried out only by a qualified professional – contact the International helpline for further information

** Not to be used direct to Gelcoat. If solvent free system is required on gelcoat, apply 1 coat of Epiglass before application of Gelshield Plus.

*** Only in conjunction with Gelshield Plus Solventless Epoxy

IF THE BOTTOM IS NEW OR UNPAINTED	
1	Scrub the surface thoroughly with Super Cleaner using a stiff brush. Flush with fresh water to remove any residue and allow surface to dry.
2	Inspect the hull for signs of damage or cracking and repair any defects with Watertite Epoxy Filler. Any small areas should also be filled with Watertite Epoxy Filler. Larger areas should be patch primed with Gelshield Plus Solventless Epoxy. In the event of more extensive damage being found, make sure that the water has not already entered the laminate.
3	Sand the gelcoat thoroughly using 180 grit sandpaper, then remove the sanding residue using Super Cleaner.
4	Mix three parts Gelshield 200 base to one part Gelshield 200 curing agent, by volume. Mix only what can be used in five hours. Apply coats of Gelshield 200 following the overcoating intervals in the chart on page 39. Gelshield 200 is available in two colours for ease of overcoating. Apply five to six coats (minimum thickness 250 microns). Finally apply International antifouling paint following the overcoating intervals listed on page 39.

IF THE BOTTOM HAS BEEN PREVIOUSLY PAINTED, COMMENCE WITH STEP 2.



IMPORTANT: THE APPLICATION OF THE GELSHIELD PROTECTION SYSTEM COULD PROTECT AGAINST SERIOUS AND COSTLY STRUCTURAL PROBLEMS IN THE LATER LIFE OF YOUR HULL.

construction & repair with Epiglass® Epoxy

EPOXY RESINS AND MULTI-PURPOSE ADDITIVES

Epiglass® has always been at the forefront in the supply of epoxy resin products for boat use. As far back as the 1950's, Epiglass® resin technology was amongst the first to be developed in New Zealand specifically for marine use.

The Epiglass® system of epoxy resin, hardener and powder additives can be used for a wide variety of jobs on the boat. Epiglass® can be made to act as a base for varnish, glues, fillers or laminating resin. So if you are restoring an old boat, building a new one or simply keeping your boat in a state of good repair, Epiglass® can help produce high quality, long lasting results.



MIXING EPIGLASS®

Calibrated pumps are available as a convenient and easy dispensing system for Epiglass®. Pumps avoid spillage and contact of the resin and hardener with skin when mixing, an important factor when using epoxy material.

1

Mix by volume, four parts resin to one part hardener.
(When using Epiglass® pumps, one stroke from each pump will deliver the proper 4:1 ratio.)
Ensure pumps are fully primed as product may drain out between uses.

2

Stir slowly and thoroughly.




3

If necessary, add the appropriate fillers to achieve consistency desired.



IMPORTANT: TO FIND MORE INFORMATION ON PROJECTS YOU CAN
COMPLETE WITH EPIGLASS® EPOXY, VISIT **yachtpaint.com**

Product Selection

COMMON USES OF EPIGLASS® EPOXY SYSTEM	 HT9000 Epiglass® Resin Mix	 HT110 Epiglass® Glue Powder	 HT220 Epiglass® Wood Fibres
	<ul style="list-style-type: none"> • High strength and durability is suitable for sheathing, laminating, filling, fairing and gluing • Low viscosity formula for ease of mixing and wet out • 4:1 mix ratio • Solvent free, phenol free, and low odour, for a safer, cleaner working environment • Good water barrier properties, can be used above and below the waterline 	<ul style="list-style-type: none"> • Durable, high strength epoxy glue mix for all applications • Viscosity can be adapted to diverse working conditions by varying volume of added glue powder. 	<ul style="list-style-type: none"> • White cellulose fibre for adding to glue mixes when bonding, especially suitable for fillet bonding
	SEALING FIBREGLASS	YES	
	LAMINATING	YES	
	SHEATHING	YES	
	FILLING & FILLETING	YES	YES (wood fillets)
	BONDING WOOD	YES	YES

Type of mix required by volume	HT9000 Epiglass® Resin Mix	HT110 Epiglass® Glue Powder	HT220 Epiglass® Wood Fibres
LOW VISCOSITY GLUE MIX	1	1	
HIGH VISCOSITY GLUE MIX/FILLET MIX	1	1	1

Note: The above chart is parts by volume of additive to mixed resin and hardener. Volume can be altered to suit a particular job.

FILLET BONDING WITH EPIGLASS®

WHAT ARE FILLET JOINTS? – Fillet joints are an extremely simple and effective way of bonding two parts of a structure together. Examples of where a fillet joint may be used are:

- In a bulkhead/hull/joint.
- Angle joints in interior furniture.

Fillet bonding is also useful for joining plywood of less than 6mm in thickness. It can be used on thicker grades, but as the fillet radius becomes larger, the economy and effectiveness of the joint is reduced.

FILLET RADIUS CALCULATION

The fillet is shaped by using a round ended stick or spatula of the same radius as the desired fillet. The formulae below indicate the requirements for the fillet radius as dictated by the filler density.

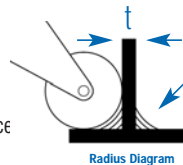
FILLET BONDING MIX

Radius (r) = 2.5 to 5 times timber thickness (t)

FAIRING MIX (LOWER DENSITY ALTERNATIVE)

Radius (r) = 4 to 12 times timber thickness (t)

These formulae act as a guide only, based from our tests and experience. There are many variables depending on the consistency and mix of extenders. We recommend that you construct a test fillet joint and ensure that when loaded to failure after a full cure, the failure occurs in the timber and not the fillet joint. The approximate quantity required per metre length of fillet – including wastage is:



Volume (ml) of fillet mix = radius (mm) x radius (mm) x 0.25 x length (m)

GLUING WITH EPIGLASS®	
1	Prepare surface thoroughly. Sand and...
2	Wipe down with Epiglass Epoxy Solvent.
3	Accurately measure Epiglass Resin and Hardener and mix well.
4	Prime absorbent surfaces with a light coat of Epiglass resin mix.
5	Blend in Glue Powder and any low density fibres until the desired viscosity is achieved. The thicker the glue line, the thicker the glue viscosity required.
6	Clamp and secure components as necessary. Do not overclamp or the joint will become starved of glue.
7	Remove surplus before curing.
8	Allow adequate curing before release of clamping pressure.



IMPORTANT: DO NOT GLUE BELOW 10°C ALWAYS USE PROPER PROTECTION! ALWAYS ENSURE THAT ALL IMPERFECTIONS IN THE BOND SURFACES ARE FILLED PRIOR TO FILLETING. AFTER SANDING, ALL DUST AND CONTAMINANTS SHOULD BE REMOVED BY WIPING WITH EPIGLASS SOLVENT BEFORE APPLYING THE FILLET MIXTURE.

Primers and Undercoats

QUICK REFERENCE GUIDE

<div> <div>● = PRIMER</div> <div>● = UNDERCOAT</div> </div>				CAN BE APPLIED TO				* ONE- PART OR TWO- PART	ABOVE WATER LINE	BELOW WATER LINE	FOR USE UNDER			USE THINNER NO.
				GRP	STEEL	ALUMINIUM	WOOD				ANTIFOULING	FINISH	VARNISH	
●	YACHT PRIMER • Suitable for all above water substrates: wood, steel and aluminium • High adhesion and quick drying				✓	✓	✓	1	✓			✓		1
●	PRIMOCON® • Effective anticorrosive primer suitable for all underwater substrates • Versatile undercoat for all major antifouling schemes and conversion coat for unknown antifouling • Quick drying		✓	✓	✓	✓	✓	1		✓	✓			3
●	ETCH PRIMER • Provides an excellent key on aluminium, galvanised steel, lead, and zinc-sprayed surfaces • Single coat				✓			2	✓	✓		✓		7
●	UCP • Universal clear primer • Exceptional adhesion properties • More durable than conventional primers						✓	1	✓			✓	✓	9
●	INTERPROTECT® • Excellent water barrier properties and suitable for all substrates • Fast drying • Excellent adhesion and abrasion resistance		***	✓	✓	✓	✓	2	✓	✓	✓	✓		7
●	VC® TAR2 • Osmosis defence for GRP and anticorrosion barrier for metal • Advanced self-levelling formulation requires no sanding between coats • Smooth surface – ideal primer base for antifouling		✓	✓	✓			2		✓	✓			VC®
●	PRE-KOTE • For GRP or primed wood, steel or aluminium • Good opacity • Easy to apply, fast drying and easy sanding • Recommended undercoat for all International one part finishes		✓	**	**	**	**	1	✓			✓		1
●	PERFECTION® UNDERCOAT • Easy application, fast drying and easy sanding • Excellent gloss hold out ensures topcoat retains its gloss effect for longer • Semi-gloss finish		✓	**	**	**	**	2	✓			✓		9

* Two part primers may be overcoated with one or two part systems but please note that two part systems (undercoats, antifouling, finishes and varnishes) must not be applied over one part primers

** May also be coated over suitably primed steel, aluminium and wood, but not to the bare substrates

*** For GRP below water use Gelshield 200

Thinners, cleaners and flow agents

QUICK REFERENCE GUIDE

PRODUCT	THINNER	EQUIPMENT CLEANER	FLOW AGENT	FOR USE WITH					SUITABLE FOR USE WITH		SPECIAL NOTES
				ANTIFOULING	PRIMERS	UNDERCOATS	FINISHES	VARNISHES	ONE-PART PRODUCTS	TWO-PART PRODUCTS	
 No. 1	✓	✓			✓	✓	✓	✓	✓		General purpose thinner and cleaner
 No. 3	✓	✓		✓	✓				✓		Not suitable for use with VC Antifouling or Optima. For use with Primocon primer
 No. 7	✓	✓			✓					✓	Formulated for use with epoxy type products
 No. 9	✓	✓				✓	✓	✓		✓	For use with two-part polyurethane products, and UCP
 No. 100	✓	✓					✓			✓	For use with two-part polyurethane products.
 VC® THINNER	✓	✓		✓	✓				✓	✓	Specially formulated for use with VC® products
 No. 333 FLOW AGENT			✓				✓	✓	✓		For use with Brightside, other finishes and varnishes

What is a flow agent?

A flow agent is a specially formulated blend of solvents, compared to a thinner which is usually simply the same (or very similar) solvent that is in the product to which it is added.

The flow agent formula is designed to:

- Improve the flow characteristics of the product
- Maintain the product's "hold up" to prevent sags or runs
- Improve wet edge time
- Promote a more uniform flow-out of pigment and resin during drying to facilitate a glossy, wet-look finish without brush marks

complete boatcare range

Introducing the International Boatcare range of products. Each product in the International Boatcare range is designed to both beautify and protect your boat and have been formulated with ease of use in mind. These products can be used either on their own or in combination with others. By following this simple 3-step multipurpose boatcare system you can care for your boat in the least amount of time! All International Boatcare products are safe for painted, GRP, wood and metal surfaces.



3 step multi-purpose boatcare

All the products in this Boatcare range can be used individually or in combination with others, and have been specially designed with ease of use in mind. This complete range provides everything you need for in-season maintenance.

By following this simple 3 step guide you can clean, restore, polish and protect your boat in the least amount of time and achieve results that shine!

1: cleaning

Super Cleaner

- High strength formula removes wax, dirt, oil and grease
- Does not damage acrylic glass
- **Rinse surface, choose concentration (fresh or seawater), wash with sponge, rinse**
- **Repeat as required**

GRP ✓ Paintwork ✓



Boat Shampoo

- Concentrated wash & wax. Environmentally friendly formula, that leaves surfaces shiny and water repellent
- Can be used with fresh or salt water
- **Rinse surface, choose concentration (light or heavy cleaning), wash with sponge, rinse**
- **Repeat as required**

GRP ✓ Paintwork ✓



2: preparation & restoration

High Strength Stain Remover

- High strength gel removes yellowing and stains
- Works chemically – no need to rub or scrub surfaces
- **Apply generously with a sponge, leave for 15 mins, rinse**

GRP ✓ Paintwork ✓



Liquid Rubbing

- Mild formula that removes light scratches and marks
- Restores gloss and lustre
- **Apply with a clean dry cloth, polish off in circular movements**

GRP ✓ Paintwork ✓



THE TEFLON® ADVANTAGE! Teflon is an extraordinary and versatile technology known for its friction reducing, easy to clean and non-stick properties it also adds durability and longevity to finishes. UV rays, salt, oil, bird droppings, acid rain along with engine exhaust, rust, and waterline stains all make the marine environment a very hazardous place for your boat. Teflon makes surfaces easier to clean, increases durability and adds a super low friction, non-stick, dirt repellent finish. Teflon technology is now available in **PREMIUM POLISH** and **UV PROTECTING WAX SEALER** thereby making it easier to clean and protect your boat.



3: polishing & protection

1 step polish & wax

Polwax

- Clean, polish and wax all in one
- Simple solution to save you time and effort
- **Apply with clean dry cloth, polish off in circular movements**

GRP ✓ Paintwork ✓



Advanced 2 step polish & wax

Premium Polish

- Superior quality polishing wax for an ultra gloss finish
- Contains Teflon® – excellent protection against dirt and oil
- **Apply a thin layer with clean dry cloth, allow to dry, polish off in circular movements to a high gloss**

GRP ✓ Paintwork ✓



UV Protecting Wax Sealer

- Thin film wax technology – seals the surface for ultimate UV protection
- Contains Teflon® – excellent protection against dirt and oil
- **Apply a thin layer with clean dry cloth, allow to dry, polish off in circular movements to a high gloss**
- **Repeat as required**

GRP ✓ Paintwork ✓



2 step woodcare

Enjoy the beauty of natural teak with this simple 2-step woodcare system. Clean, restore and protect your deck, hand and toe rails, cockpit gratings etc with minimum effort.

1: restoration

Teak Restorer

- Cleans and restores Teak and other hard woods to new
- Does not bleach or damage surrounding surfaces
- **Soak Teak (fresh or seawater), apply generously, leave for 5 mins, scrub across grain, rinse with fresh water**



2: protection

Premium Teak Oil

- Penetrates even damp wood to protect and enhance
- Contains rust protection wax for screws and nails
- **Apply 1-2 coats with a cloth/brush, allow to dry**



This section covers three important areas you need to consider, whatever job you are undertaking; Substrate Information, Equipment Guidelines and Health & Safety.



everything else you need to know

Throughout this guide we have been stressing the importance of good and thorough preparation and priming. Taking the time to understand your substrate and its characteristics can often provide you with basic information to help identify possible problems you may encounter.

WORKING WITH FIBREGLASS

Fibreglass, or GRP as it is often known, is made from polyester resin reinforced with chopped or woven glass fibres. Once the resin sets to a hard matrix the resulting laminate is strong and rigid. The smooth exterior is a protective gelcoat, made from polyester resin.

Despite its obvious advantages, experience has shown that glass fibre is susceptible to the effects of sunlight and the marine environment.

There are two problems to be aware of:

Glass Fibre is prone to osmosis!

For detailed information see pages 36–40.

Gelcoats fade!

Eventually the gelcoat will begin to fade. This is the result of the attack of UV (Ultra Violet) light in sunlight. Polishing with wax may delay this, but eventually a coat of paint will be needed to protect the surface.

WORKING WITH ALUMINIUM

Aluminium is an excellent material for boats, but care needs to be taken in its use to ensure a good result. Aluminium alloys are prone to corrosion if untreated or damaged. When new alloys are exposed, an oxide layer forms on their surface.

The oxide layer does not protect the alloy in the long term when exposed to damp marine environments. Attention to the preparation of a new hull and the maintenance of an existing hull can save you considerable difficulties and costly repairs in the future.

Aluminium Inspection: Periodically the paint system will need to be removed in areas of stress and the corrosion treated. Careful inspection on an annual basis of all weld seams will allow for early identification of the occurrence of this problem.

Aluminium Compatibility: Aluminium reacts with some copper-based antifouling paints causing serious corrosion. Therefore antifoulings containing metallic copper or cuprous oxide should never be used on aluminium, whilst copper thiocyanate based antifoulings can be used if the aluminium is primed properly.



IMPORTANT: TO FIND MORE INFORMATION ON SUBSTRATES AND PREPARATION & PRIMING, VISIT OUR WEBSITE yachtpaint.com

WORKING WITH WOOD

Wood is the only natural boat building material used today, and although it generally requires more maintenance than the more common glass fibre vessels, a well cared for boat built of wood will always attract admiring glances when she slips into view.

The fibrous nature of timber means that it has a tendency to absorb moisture from the atmosphere, and swell and contract to varying degrees depending on the type of construction. For a varnish or paint coating to stay intact it will need to be quite flexible in nature. Moisture contents in wood can allow the growth of fungal spores, which leads to rotting and decay. Wood can also be subject to attack by marine borers, which eat the wood fibres. Wood therefore needs to be protected by good quality preservatives and coatings. Many different woods can be used, which can differ immensely.

HARDWOODS

Hardwood comes from slow growing deciduous trees. They have a tighter grain when compared to soft woods. This tight grain has good strength characteristics across the timber as well as along its length, making it particularly suitable for decorative application, as well as boat building.

Mahogany – will last for many years in a marine environment with little protection as the seawater has an antiseptic quality. The same is not true with regard to fresh water, which will lead to rot and decay if allowed to permeate the wood fibres. Mahogany should, therefore, be protected from freshwater at all times and wherever possible washed down with seawater.

Teak and Iroko – are particularly oily timbers with a natural resistance to rot and decay. Additionally they contain silica, which gives them hardwearing characteristics.

Oak – Ferrous metals, such as steel and iron, react badly with oak due to the tannin in the fibres. This will cause dark staining and even chemical attack on the metal by the tannic acid, which is formed.

SOFTWOODS

The grain in these woods is long, straight and generally wider spaced than hardwoods as these trees grow faster. This means that their strength is mostly along their length so they are used in such applications as masts and spars, tillers, rubbing strakes, oars and planked hulls.

WORKING WITH STEEL

Steel is a heat-treated alloy based on iron with lower carbon content and small quantities of other elements. The high strength of steel in relation to the plate thickness and the ability to cut and bend it into many different shapes makes it suitable material for building hulls and superstructures. Fastenings such as bolts and rivets are often a different alloy for added strength, while fittings contain added chromium, which makes it stainless and resistant to rust. Having stated that steel is a good material for building boats, it is

important to be aware of some of the characteristics of the material in order to ensure good results.

Steel corrodes! The most common form of corrosion in steel is rust. For the reaction to take place, water must also be present. The marine environment is therefore an ideal place for rust to occur.

Steel stretches! Due to the high flexibility and strength of steel it is hard to break, but impact damage may well result in a dent owing to the metal stretching and deforming locally. This can present problems for a protective coating, which may not be so flexible.



Health & Safety

Labelling of Health and Safety precautions for paint products is a legal requirement and forms a specific section on our labels. However the words are laid down by law and are often difficult to understand. In this section we try to guide you through the symbols and text in order to enable you to take on board some of the advice given. In addition some further information is provided 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. Potential risks, and measures needed to protect yourself during application, are shown below:

WARNING SYMBOLS

Corrosive – This material will attack the eyes and skin and can give you burns.

Harmful – This material may harm you from skin contact, from breathing in or ingesting. The wording will indicate which.

Irritant – This material may cause a skin rash.

Highly Flammable – A spark or cigarette end will start a fire, more easily than with petrol. Paint or thinners in tins, or vapours in the air, can catch fire or explode.

General Precautions – 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 antifouling with wet and dry paper – never burn off or dry sand antifouling as this may create harmful fumes or dust.

In badly ventilated areas wear an air-fed hood or cartridge respirator with 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. Spray painting creates additional health hazards. Spray mists should not under any circumstances be inhaled. Read the label carefully and ensure recommended protection is worn; generally an air-fed hood is the best protection as it provides a fresh air feed to the user.

Avoid eye contact – Eye protection should be used during 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 British Standard 2092. 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.

THE 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**



Equipment Guidelines

The equipment used for applying the finish can make a difference to the success of your project. Guidelines for the best equipment to use are always detailed on the paint can and if a particular type of brush or roller is required, it will be specified. Further details are available at yachtpaint.com, however, this section should give you a few pointers.

- ✓ **PAINT REMOVAL** When removing old paint, a scraper should be used. Keep the tool sharp. A good idea is to round off the corners to minimise the risk of gouging. A 'dragging' type is usually more controllable than a 'pushing' type.
- ✓ **SANDING** When sanding, the amount of paper you will use will vary enormously. A very approximate guide would be one sheet per square metre of bare substrate, such as wood or glass fibre. It is always better to use a sanding block to achieve a smoother surface. For previously painted surfaces, half a sheet per square metre is a rough guide and rubbing down between coats will use a similar amount. **ANTIFOULING MUST ONLY BE WET SANDED.**
- ✓ **PREPARATION** A suitable stirrer will be needed to stir the paint prior to use; an old screwdriver is not suitable for this job. A pallet knife or stirring stick is best. Remove surface dust with a dust wipe.

The area to be painted must be masked off using a high quality clean edged tape. There are two types available; paper masking tape which is suitable for antifouling, and high performance tapes which are suitable for topsides finishes and will prevent creep.

- ✓ **BRUSHES** It is always important to use a good quality brush, which is as large as you can comfortably use. A good brush is a good investment, which should be thoroughly cleaned after use.
- ✓ **ROLLERS** Generally, a medium pile roller can be used for antifouling application, and a small cell foam roller for gloss finishes.
- ✓ **SPRAY** Application of all paint products by spray requires specialist equipment. When spraying Two-Part products an air-fed mask must be worn. Spraying of two-part polyurethane products is not advised.

All paints are designed to allow application of the correct wet film thickness when applying the recommended number of coats. This is obviously only a guideline as different people will apply different thicknesses depending on their technique or the equipment used.

Problems of over-application can occur, but these are minimised by ensuring the correct over coating times are adhered to.

By ensuring the correct quantity of paint is applied as calculated using the coverage chart at the back of this manual, problems of under-application should also be minimised.

As already stated, the application method you choose will have a direct effect on the amount of paint that is applied in each coat. A rough guide to the amount of paint applied by the different methods is as follows:

APPLICATION METHOD	AMOUNT
FOAM ROLLER	20–40 MICRONS
MOHAIR ROLLER	20–50 MICRONS
BRUSH	20–60 MICRONS
CONVENTIONAL SPRAY	30–100 MICRONS
AIRLESS SPRAY	50–200 MICRONS



COVERAGE CHART

ANTIFOULING **		
PRODUCT	COVERAGE/LITRE	NUMBER OF COATS
MICRON® OPTIMA	8.3	2-3†
MICRON® EXTRA	10.0	2-3† 3-4††
CRUISER® UNO	8.5	1-2†
INTERSPEED ULTRA	9.4	2-3†
TRILUX	10.5	2-3†
WATERWAYS PLUS	8.5	2-3†
VC® 17m EXTRA	11.0	2-3†
VC® OFFSHORE WITH TEFLON®	10.8	2-3†
ANTI-OSMOSIS		
GELSHIELD 200	8.1	5-6
GELSHIELD PLUS	REFER TO INTERNATIONAL	
VC® TAR 2	11.3	3-7
PRIMERS *		
YACHT PRIMER	12.0	4
INTERPROTECT®	8.1	2-5
PRIMOCON®	7.4	1-5
ETCH PRIMER	18.0	1
INTERTUF JBA016	8.0	4-5
PAINT FINISHES		
INTERLUX SUPER	12.0	1-2
BRIGHTSIDE®	13.5	2-3
TOPLAC	12.0	1-2
PRE-KOTE	12.0	1-2
PERFECTION®	12.0	1-2
PERFECTION® UNDERCOAT	12.0	1-2
INTERDECK®	9.5	1-2
DANBOLINE	11.0	1-2
VARNISHES *		
ORIGINAL	11.7	3(M)
GOLDSPAR®	12.0	3(M)
GOLDSPAR® SATIN	10.3	3(M)
SCHOONER®	14.0	7
PERFECTION®	11.0	4(M)
INTERTOX®	8-12	2-4
UCP	17.5	1-4
As the number of coats increases (sanded in between), the level of gloss will increase as will the depth of the luster.		
FILLERS		
INTERFILL® 100	N/A	N/A
WATERTITE EPOXY FILLER	1.0 (@ 1MM THICKNESS)	N/A

KEY: ○ SQUARE METRES ● NO.OF COATS (M) MINIMUM † ONE SEASON †† MULTI SEASON

*Coverage will vary according to wood type and first coat coverage will be lost. **Always read the label. Use pesticides safely.

alphabetical index

a

ALUMINIUM

Working with aluminium 50

ANTIFOULING

Applying antifouling 32

Common problems and solutions 26–27

Compatibility 31,35

Handy specifications 28–30

Hints for a perfect result 34

How much paint do I need? 32

How to choose your ideal antifouling 24–25

How to paint like a professional 31

Outdrives, underwater metals & keels 33

The benefits of Teflon® 22

b

BILGES

Painting the bilge 13

BOATCARE

Common problems and solutions 48–49

Product selection 48–49

c

CABINS

Chemical & alcohol resistance 6–7

COMPATIBILITY CHART (Antifouling)

31,35

COVERAGE CHART

54

d

DECKS

Non-slip decks 4,7

e

EPIGLASS®

Common uses 42–43

Construction and repair 42–43

Mixing Epiglass® 41

Product Selection 42–43

EPOXY (see Epiglass®) 41

EQUIPMENT GUIDELINES 53

f

FIBREGLASS (see also Osmosis)

Blister repair and prevention 38

Working with fibreglass 50

FILLERS 11,12,42,43

Choosing and using fillers 11

h

HEALTH AND SAFETY

52

k

KEELS 33–34

m

MASTS 48–49

o

OSMOSIS

How to recognise and treat 38

Fibreglass blister repair and prevention 38–39

How to protect against osmosis 39

Protective products 40

What is osmosis? 37

OUTDRIVES 33–34

p

POLYURETHANE PAINT 6,7,11,12

PRIMERS & UNDERCOATS

Quick reference guide 44

s

SPARS 48–49

STEEL

Working with steel 51

t

TEFLON® 22,24,25

THINNERS

Quick reference guide 46

TOPSIDES

Decks, cabins and bilges; Product selection 6–7

Applying the finish 11

Common problems and solutions 6–7

Filling holes, voids and nicks 12

Handy specifications 8–9

Hints for a perfect result 10–13

How to paint like a professional 10

Paint compatibility test 11

Perfection high performance system 12

Preparation and priming 10

UV Protection 6,7,14–17

v

VARNISH

Product selection 16–17

Handy specifications 18

UV protection 14–17

VARNISHING

Applying varnish 21

Common problems and solutions 16–17

Hints for a perfect result 21

How to paint like a professional 19

Preparation 20

w

WATERLINE 24–25

WOOD

Working with wood 51

PAINT PRODUCTS & THE ENVIRONMENT

Containers – Dispose of old cans carefully. Do not discard cans or pour waste into watercourses, use the facilities provided. It is best to allow paints to harden before disposal.






Brushes – When cleaning brushes, dispose of the waste solvent carefully.

Old antifouling and wash down – Where possible, collect removed paint chippings/dust and dispose of correctly. When washing down or scrubbing old antifouling, try to avoid contamination of water washing if possible.

IN ALL CASES, CONTACT YOUR LOCAL AUTHORITY FOR INFORMATION ON WASTE DISPOSAL FACILITIES.

yachtpaint.com



-  *Comprehensive boat painting guide*
-  *Product data sheets*
-  *Handy hints and tips*
-  *Frequently asked questions*
-  *Where to buy International Paint products*

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