

# finishes



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# Why paint your boat?



# Why paint your boat?



# Paint protects *and* extends the boat's life

- UV Rays – exposure to the sun's harmful UV rays leads to degradation in the surface of glass fibre and the premature ageing of wood
- Moisture – can cause problems in both wooden and steel vessels
- Finally, paint restores the aesthetic appearance of the vessel, helping to maintain its value



# However, remember that...

- To paint a surface badly is counterproductive
- It is a waste of time to apply paint:
  - on top of unsound old paint
  - onto a badly prepared surface
- Similarly, avoid the temptation of false economies:
  - cheaper alternatives can cost more in the long run
  - do not thin paint beyond recommendations
  - skimping on recommended number of coats **WILL** adversely affect performance and lifespan

# The correct equipment for the job

# Equipment for this job





# Equipment for this job



Personal safety:  
glasses, gloves, overalls and dust filter masks

# Equipment for this job



Wet & dry:  
sheet or abrasive pad

# Equipment for this job



Paint brushes, pads and rollers

# Equipment for this job



Don't forget:  
dust sheet, paint tin and stirrer...



# Equipment for this job



...and paint!

# The correct brush for the job

- A full-bodied, natural bristle 3 inch brush is best for painting topsides.
- Cheap brushes inevitably suffer from bristles falling out, or they leave brush marks due to their coarseness – use a high quality brush to eliminate these potential obstacles.
- Good brushes are worth their extra cost because they'll give you a better job, faster.



# Brush care

- Protect your investment by thoroughly cleaning them after use, working solvent through the bristles by hand to dissolve and flush away all traces of paint.
- Shake the excess solvent from the brushes and repeat the above cleaning process if necessary.
- Use rags to remove remaining solvent.
- Give the brushes a final rinse with warm water and household detergent.
- Let the brushes dry thoroughly at natural temperature before dry-storing them.

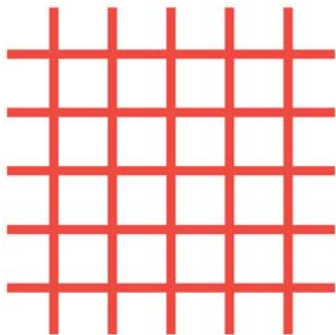


# Surface preparation and application



# Before painting – surface preparation

- Examine the scheme closely for signs of blistering and peeling
- If in doubt about integrity, try this simple adhesion test:
  - using a scalpel, make a series of deep cuts into existing surface in a grid shape (below) of approx 3mm cubes
  - wipe surface with clean cloth and then stick Sellotape firmly over the grid
  - pull Sellotape sharply upwards to remove it
  - count the number of squares removed:
    - mainly intact = overcoating possible
    - >10% of squares removed = remove paint scheme



**Grid of 3mm cubes cut  
into paint surface**

# Painting over existing schemes – compatibility

- Once integrity of existing scheme has been verified, it is important to ensure that old and new coatings are compatible with each other.
- **The General Rule:**
  - **High performance coatings**  
(eg. two component epoxies and polyurethanes) can be overcoated with almost any type of paint.
  - **Conventional coatings**  
(eg. yacht enamels) can only be overcoated with other single component materials – this is because the aggressive solvents used in high performance coatings attack conventional coatings causing softening and wrinkling.

# If the existing scheme is in good condition...

- Sand with 280-320 grade 'wet or dry' paper.
- When dry, wipe with a dust wipe to remove any dust residue
- **The advantage of undercoating:**
  - Will provide additional depth of colour and durability to the finished surface.
  - For best results, mix the second coat of undercoat 50:50 with the topcoat.
  - This will create a satin finish which highlights final imperfections, which can then be sanded smooth.
  - This also produces greater gloss and colour depth in the topcoat.

# If the existing scheme is in poor condition...

- Once a paint coating starts to peel or detach itself, it can no longer protect the surface below.
- In the case of wood, water trapped beneath lifting flakes can actually attack the wood and lead to its eventual deterioration.
- Dry scraping is the most effective way to remove the damaged surface so that the bare wood is exposed again and can then be made ready for new coating application.





# Scraping tools



Flat Blade Cabinet Scrapers and Mill File  
necessary to keep them sharp

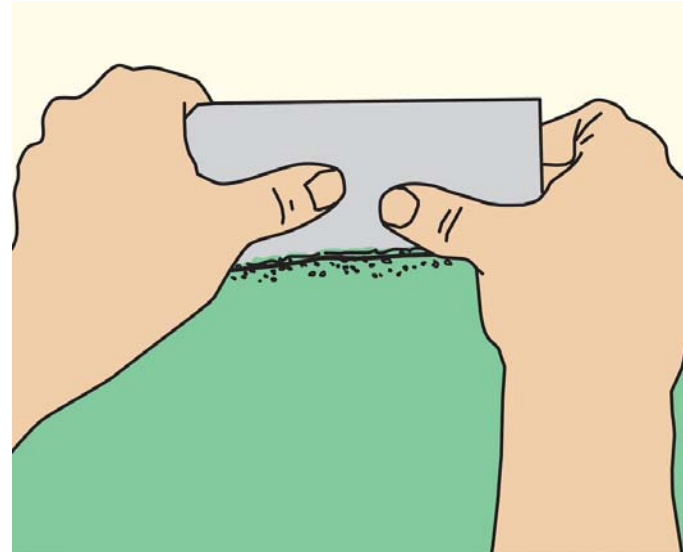
# Scraping techniques

- Using a cabinet scraper effectively can save a good deal of sanding effort – as well as the cost of expensive paper.
- Hold the scraper so that it is tilted slightly towards you; the scraping action should also occur as you drag the tool in this direction.
- Sharpen the scraper regularly and it will continue to remove paint effectively.



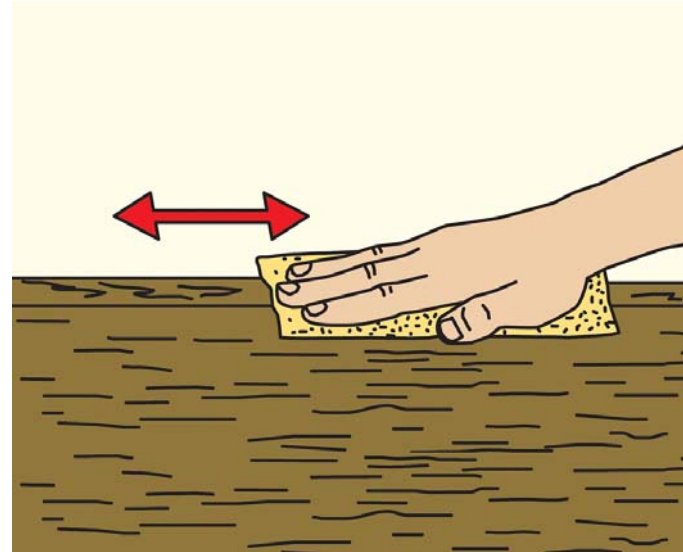
# Scraping techniques

- There are two stages to the scraping operation:
  - Heavier strokes to remove the old surface,
  - Followed by lighter strokes to ensure the scraped area blends in smoothly with adjacent areas of intact paintwork.
- If, even after lighter strokes, scraping has still not produced the desired results, sanding can be used as the final stage of the “blending in” process.



# Sanding techniques

- The main reason for sanding is to clean and smooth paintwork so that the new paint will go on evenly and adhere well.
- Where the existing coating is sound, light sanding is all this is necessary to dull the surface sheen and so be sure of an adequate key.
- For paintwork preparation, 120 grade sandpaper should be sufficient, although rough surfaces may require a grain as coarse as 100, or even 80 grade.

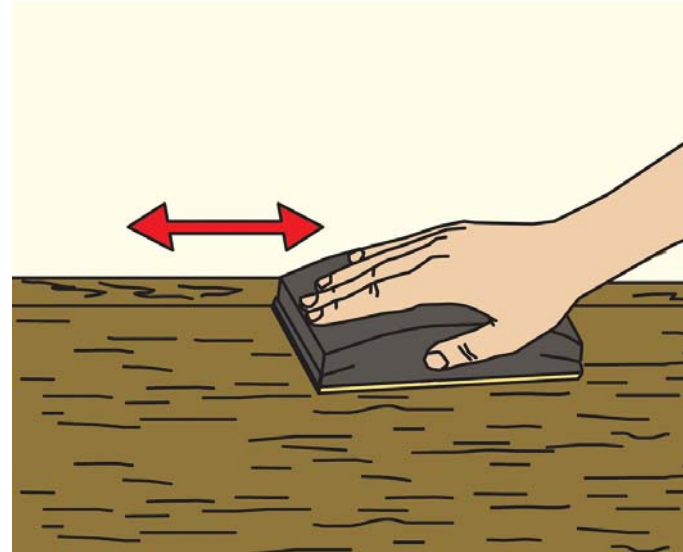




# Sanding techniques

Last but not least...

- Clean up thoroughly after sanding:
  - Thorough sweep down – or better, vacuuming with a brush attachment
  - Followed by a rub down with a 'tack rag'



# Tack rags

- A tack rag is a clean cloth dabbed with a suitable thinner used for the final stage of pre-paint preparation.
- They are commercially available from paint and hardware stores and are very cheap.
- Alternatively, you make your own by dampening a clean cloth with the thinner that is compatible with your chosen topcoat. Ring the cloth well so that it is barely damp.



# Mechanical preparation using 'wet or dry' abrasive pad



# Cleaning and degreasing new hulls

- MUST BE COMPLETED **BEFORE** STARTING ANY MECHANICAL PREPARATION ON ANY SUBSTRATE.
- Thorough cleaning and degreasing is the most important element of good surface preparation.
- **Contaminants:** mould release waxes, lubricants, fuels, polishes, cutting oils and sea salt!
- **Solvent degreasing:** > small areas > use clean cloths and degreasing solvent > repeat process *at least* one more time.
- **Contaminants:** > large areas > apply water soluble degreaser with clean cotton cloth > leave for 15 mins > rinse with copious amount of fresh water until water forms continuous film (not beads) on surface.

# Further preparation – damage repair

- If damage has penetrated coating scheme, surrounding area must be ‘feathered back’ using coarse sanding paper followed by localised priming.
- **Aluminium:** thorough mechanical preparation is preferable to the localised use of self-etch primers (these must only be applied to completely bare metal).
- After primer has been applied, epoxy filler may be required to restore original surface profile. Avoid over-filling as it will be hard work to sand off excess and there will be greater risk of damage to surrounding area.
- After filling is completed, patches of filler should be primed, undercoated and then sanded smooth before the whole area is painted.

# Before applying the paint

- **Ideal ambient conditions:**

- Paint temperature should be 20°C (68°F) – if necessary, stand tin in warm water with lid loosened for 10 mins before use.
- Finishes should be applied in cool, still weather, when there is no wind to raise dust or dry paint too quickly.
- Do not paint in hot weather or in direct sunlight: the paint will set too quickly resulting in poor gloss.

- **Avoiding paint contamination:**

- Do not dip brush directly into paint tin: pour a quantity of paint out into separate container ('paint kettle' with ladder hook is the best solution).
- Dampen the ground with water before commencing painting to avoid dust rising or use dust sheets



# Techniques for professional paint results



*Overlap marks in topside paint are avoided by always having a “wet edge” to work from.*

*This means the paint is applied to the surface fast enough to ensure that it doesn’t get tacky before you “pick it up” and continue along the surface with your newly replenished brush.*

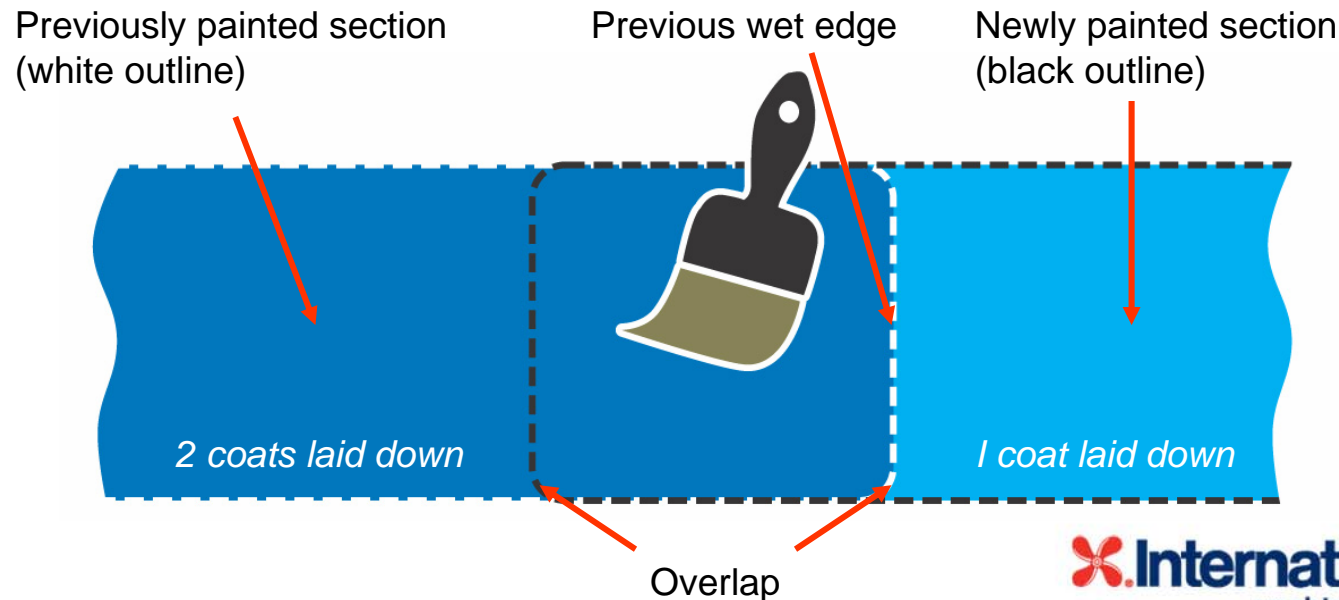
*Work from one end of the boat to the other, use large brushes and spread and smooth the paint rapidly – if the surface is a large one, the job will require several people.*

# Good painting techniques

- Dip the brush into the paint to a level halfway up the bristles.
- After you have wiped off just enough of the excess to prevent the brush from dripping, start spreading the paint rapidly.
- Using firm brush strokes in a horizontal plane, it should be possible to lay down a reasonably sized band of paint (say, at least 2 feet long and 8 inches high (60 x 20cms)).
- The coating should be as thick as possible without it starting to run.

# The fundamentals of Wet Edge Technique

- The essence of good Wet Edge Technique is applying the replenished brush from the mid-point of the previously painted band, so that the new paint completely covers the previous wet edge, whilst extending forward to form the next wet edge.
- This simple duplication technique is the most effective way of ensuring a consistent and uniform film thickness.



# Smoothing over

- After spreading all the paint onto the surface using the Wet Edge Technique, and before replenishing the brush ready for the next section, it is important to get rid of traces of brush strokes.
- Following the same backwards and forwards horizontal strokes of the coat you have just applied, go over this section with a light stroking motion to get rid of any brush marks.
- To ensure a smooth, tapered transition, the final levelling stroke should be towards the wet edge.

# Smoothing over

- Even with the gentlest of stroking actions it will be difficult to eliminate *all* the brush strokes; remember, however, that the paint itself will flow a little during drying and so continue to level out.
- Plus: adhering to a consistent horizontal motion, both when applying the paint and when smoothing over, will ensure that any outstanding brush strokes will always be running in the same direction along the hull's length.

# Good brush strokes – further advice

- Minimise brush marks by holding brushes at 45° when 'laying off'
- Large areas are best painted by two people working as a team
- Clean or change brushes every 20 minutes
- Use lint-free cleaning cloths
- Stir the paint occasionally during the work



# Roller application

- **For best results:**
  - Use a *solvent resistant, high-density, small cell foam roller*
  - (mohair or large cell foam rollers often produce bubbles on the surface)



# Good practice with rollers

- **Roller and Brush / Pad**
  - Two people can successfully and quickly apply paint with this method
  - Work 'shoulder to shoulder'
  - One person applies paint with roller
  - The other 'lays off' with either a brush or a pad

# Tipping after rolling

- Rolling alone leaves most painted surfaces with a slight orange peel effect.
- For a smoother finish, particularly on topsides, the rolled-on paint should be “tipped” with a good quality brush immediately after application.



# Tipping after rolling

- Tipping involves grazing the surface of just-rolled paint with the tip of clean, dry brush that has not been dipped in any paint itself.
- A couple of light strokes should have the desired aesthetic effect and, with the correct technique, should not introduce any brush stroke marks to the surface.



# Pitfalls to avoid when painting your boat

- Using products that are incompatible
- Using too much or too little solvent
- Not removing contaminants before painting (wax, sanding, residue, etc.)
- Not sanding well enough before painting
- Not allowing enough dry time before overcoating
- Painting too late in the day and risking overnight dew spoiling work

# Pitfalls to avoid when painting your boat

- Not selecting the best weather conditions
- Putting on too much paint in one coat resulting in runs and sags
- Using the wrong product for the job
- Painting over moisture in the form of dew or water, wet surfaces
- Using sand paper with the wrong grit size thereby not leaving a sufficient mechanical key



# To sum up

- Choose the right finish for your boat and its use
- Make sure surface is well prepared, clean and dry
- Apply the correct amount of paint for your vessel's surface area
- Remember high wear areas
- Protect yourself with overalls, goggles, gloves and particle mask

# Project work: non-slip surfaces

# Non-slip painting

- Fibreglass decks usually have pre-moulded non-slip sections.
- These sections cannot be painted over with normal paint as this will neutralise their effectiveness.
- Either a dedicated non-slip paint should be used or a conventional paint in conjunction with non-slip additives.

# Surface preparation



*Remove all deck-mounted hardware such as railings etc. before starting – if not, the paint extends under the hardware creating edges where paint failure begins. Take this opportunity to re-bed the hardware.*

***Smooth and non-slip sections of the deck:*** Paint the smooth section first for two reasons: 1) Smooth surfaces are normally white and non-slip coloured – colour covers white better than vice versa; 2) If the final masking between the two is done on the textured surface, it will be impossible to obtain a sharp line between the two.

# Non-slip deck surfaces

Textured non-slip surfaces require a different preparation to smooth surfaces (which can be prepared in the same way as the hull).

1. Using pieces of old bath towels or terry cloth dabbed in undiluted Super Cleaner™, clean and de-wax the existing non-slip surface.



# Surface preparation

2. Abrade the surface with coarse wire wool using short, quick strokes. Then machine sand with 120 grit paper.
3. Rinse with cold water and brush surface thoroughly before allowing it to dry completely.





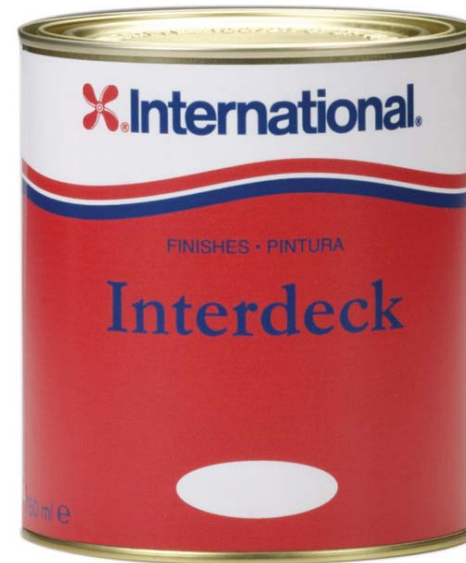
# Surface preparation

4. Mask all non-slip surfaces, applying the tape just inside the mould line.
5. If the gelcoat is porous or crazed, remember to use an epoxy primer before applying the finish paint.



# Painting non-slip surfaces with Interdeck®

1. Stir the **Interdeck®** paint well and then apply evenly. Use a roller with a deep pile to ensure the paint penetrates to the depths of the textured surface.



# Painting with Non-Slip Additive

1. Any International topside finish (including Perfection™) can be transformed into a non-slip deck finish by the addition of International Non-Slip Additive. These small, uniform plastic spheres that have a low tendency to collect dirt and excellent non-slip properties.



# Quick and easy method

- Add the Non-Slip Additive to the paint and stir thoroughly.
- Pour paint out into roller tray.
- Apply using a deep pile roller.
- Ensure that the beads do not become settled on the bottom of the tray as this will result in an uneven dispersion across the surface.



# For a superior result...

To ensure a more regular dispersion of the beads across the non-slip surface:

- After preparation, coat the non-slip area with epoxy primer.
- Whilst the epoxy is still wet, sprinkle the Non-Slip Additive over the surface to desired consistency.



## For a superior result...

- Once the epoxy sets, sweep off the excess particles and re-use them elsewhere.
- Cover with two rolled-out coats of Perfection™ or Brightside™.
- **Result: a functional and attractive non-slip surface**



# The correct paint for every situation

# The correct paint for every situation

APPLICATION	Perfection	Toplac	Brightside
Pro-quality topside finish	●●●	●●●	●●●
Best UV protection possible	●●●	●●●	●●
Topside with long-lasting gloss	●●●	●●●	●●
Easy to apply	●●	●●●	●●●
Resistance to alcohol and chemicals	●●●	●●	●●●
Able to use over one-pack finish	NO	YES	YES
Best resistance to knocks/abrasions	●●●	●●	●●●
Suitable for waterline striping	●	●●	●●● (Small pack)

**KEY:** ●●● Excellent for this purpose    ●● Good for this purpose    ● Average for this purpose



# Perfection

- Ultimate performance two-part polyurethane
  - *for a professional result from a DIY finish*
- State of the art UV protection
  - *long lasting colour and gloss retention*
- Highest gloss
  - *outstanding appearance*
- Highest abrasion resistance from a polyurethane
  - *Maximum durability and minimum maintenance, especially on decks (with non-slip additive)*



# Perfection: the polyurethane advantage

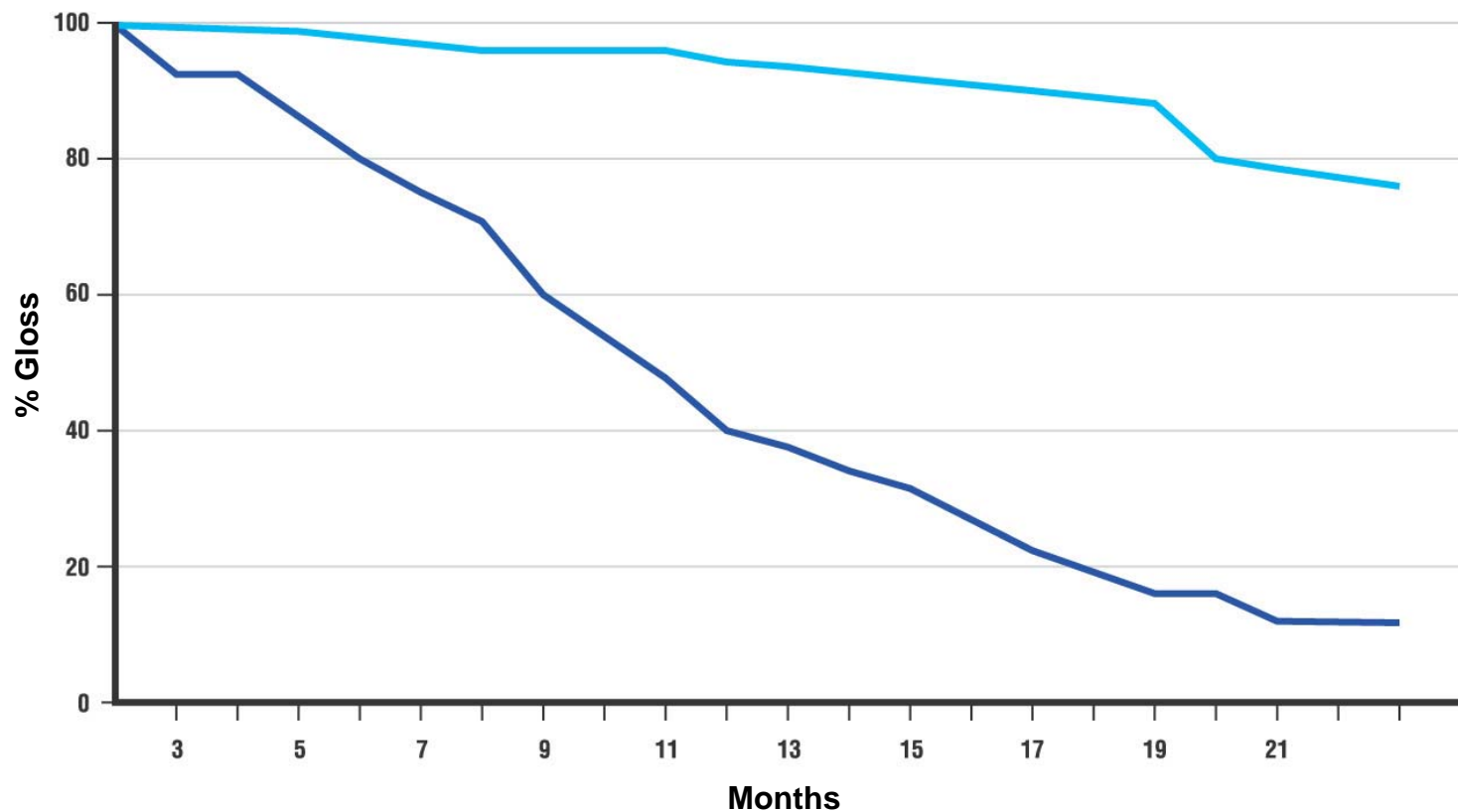
- Polyurethane, due to its different chemical structure, produces a harder and more abrasion-resistant surface than standard alkyd enamels
- This difference in chemistry also contributes to the faster drying time than some conventional alkyd enamels
- The microscopic physical profile of the polyurethane protects the paint coating from the detrimental effects of water, acid and alkali better than standard alkyd enamels

# Toplac

- Excellent UV resistance
  - *gloss and colour retention up to three times longer than conventional finishes*
- Silicone alkyd copolymer technology
  - *deep, rich, smooth, lustrous finish for outstanding visual appeal*
- Exceptional flow and levelling characteristics
  - *easy to apply*



# Toplac's gloss retention

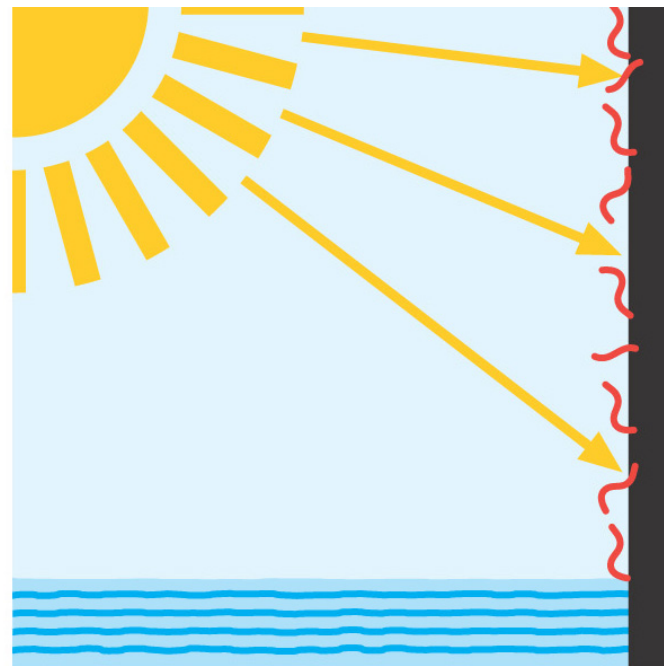
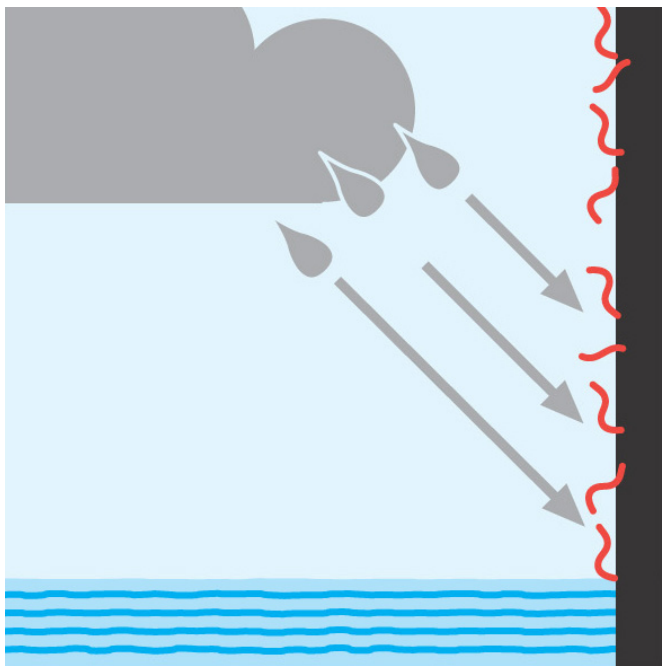


KEY: — Conventional dark blue enamel — Toplac Blue 018

# How Toplac works

## Traditional Alkyd

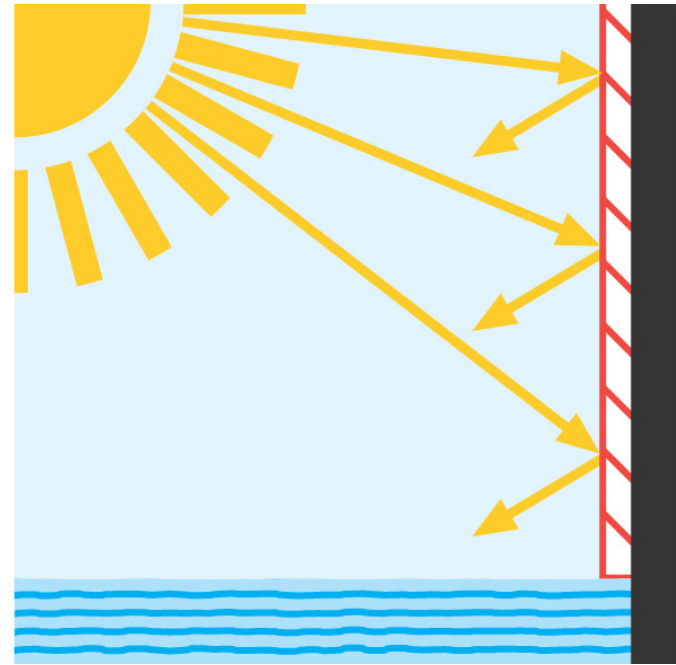
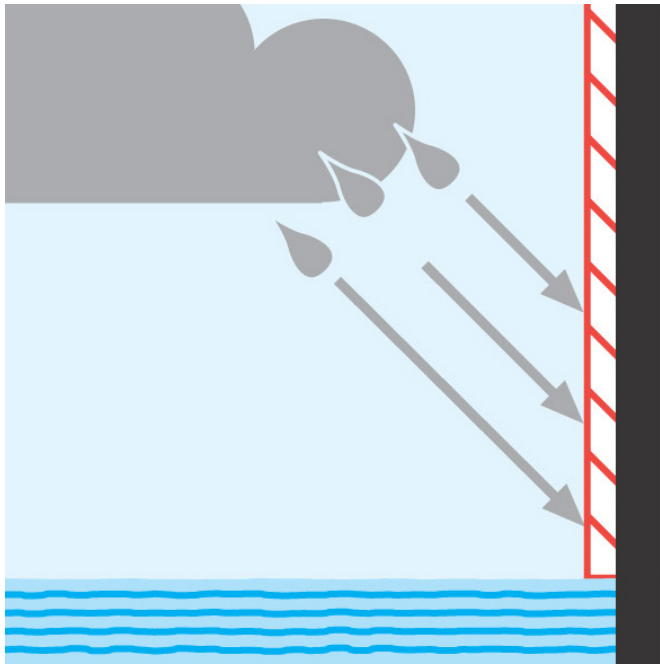
- Short side chains on the polymer surface offer limited protection to the polymer chain



# How Toplac works

## Toplac Polymer

- Long, stable chains of the Toplac polymer orient themselves along the paint surface sheathing the polymer chain



# Brightside

- Polyurethane technology
  - *hard wearing and durable finish with superior product life*
- Contains Teflon®
  - *for easy cleaning and wear resistance*
- Range of bright, crisp colours
  - *convenience and versatility*
- Chemical resistance finish
  - *enhanced stain resistance*



# Brightside's Teflon® advantage

- Teflon® has a coefficient of friction lower than ice.
- Low friction surfaces and excellent heat resistance – used extensively by NASA.
- **The benefits of Teflon®:**
  - Super smooth surface finish improves appearance
  - Improved resistance and durability
  - Easy to clean
  - Chemical resistance





# yachtpaint.com – Interactive assistance

For further information on any of the topics dealt with in this presentation or for detailed product information on International® products, please visit our website:

## yachtpaint.com



# Thank you for your attention