

The Superyacht

TRUTH • OPINION KNOWLEDGE • IDEAS AND EXPERT INDUSTRY ANALYSIS



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AFTER-PAINT TREATMENTS: Q & A

Focusing on the developments in the field of after-paint protection systems, we put to a selection of experts in the paint sector the following questions: How long should a good paint system last and how likely, in your opinion, are the new after-paint protection systems going to improve the market? If you have had any recent experience with these systems, good or bad, would you be able to comment? Here are some of their responses...



RORY MARSHALL

RORY MARSHALL

Marine coating consultant
Newmar Overseas Ltd

Scientific study on paint durability is one thing; however, the key to understanding the expected duration of the cosmetic finish of the surface coating lies with type/build of the vessel and how it will be used during its life.

A private family yacht that is used to enjoy a few weeks during summer months experiences a very different use and maintenance regime from a charter vessel that will see many months of use through the both summer in the Mediterranean, and winter season in the Caribbean. This is reflected in the fact that some vessels require recoating in three- or four-year cycles, whilst others are rarely repainted. This, however, is not to say that the cosmetic finish expected is different. In fact, quite the opposite; with very few exclusions, yachts are expected to be perfectly finished in all situations and at all times. Current coating systems attempt to accommodate the different requirements of modern yachts with a small range of alternatives from hard-wearing topcoats to softer topcoat options that allow easier and more flexible maintenance strategy. Herein lies the heart of the problem: currently, harder, more resistant coatings do not last well after polishing due to their composition, whilst the long-term performance of softer products is unaffected by polishing. However, as they are 'softer' they are less resistant to wear.

Those involved with the application of coatings and their maintenance are acutely aware of this predicament, and it is precisely for this reason that alternatives are sought from 'after application' coatings that provide a protective layer over paint.

"With very few exclusions, yachts are expected to be perfectly finished in all situations and at all times."

Development and use of these products is at an early stage today and although use is growing it tends to be considered a semi-repaint option allowing the visual appearance to be improved extending the period to the eventual repaint. With development, we should look forward to a time where the use of this type of product could become integrated with an initial paint specification, allowing the combination of improved durability of the overall system through easy reapplication of a surface 'skin'.

RUPERT SAVAGE

Managing Director
Rolling Stock SL

Today, paints are much more susceptible to damage from sun creams, acids used to brighten/clean decks, products used to polish stainless steel and remove rust streaks, exhaust damage and general wear and tear. There are important

considerations to factor in, such as where the vessel is being used, if the vessel is constantly in use, and how many miles a year the vessel travels. Based on these considerations and the expectations of the owner, a paint system can be expected to last anywhere between three and five years. Many paint protection systems have been introduced to the market in recent years – polymers, ceramics, diamonding, nanotechnology, etc.

"There is no 'miracle product' that will replace the necessity to repaint – these products, if selected and applied correctly, are simply there to extend the life of the paint."

These products can be used with newly applied paint – to protect and prolong the finish or to revive weathered paint. Both have pros and cons.

I believe there is certainly a place in the market for both applications, but it is important to consider the following:

- Choice of product – there are many products on the market that claim to be the best. Do your market research and seek references;
- Choice of application company – these products are best applied by professional applicators. However, even the best product, applied badly, can have devastating effects on the paint system;
- There is no 'miracle product' that will replace the necessity to repaint – these products, if selected and applied correctly, are simply there to extend the life of the paint.

REMY MILLOTT

CEO

Pinmar

For a vessel being used in normal conditions and coated in a non-metallic polyurethane system, the topcoat should last between three and four years. Many vessels will repaint every third year, although in the current climate we have seen this being extended to four or five years.

The development of protective polymer, ceramic and similar coatings systems has meant that topcoats can look better for longer periods. Many of the protection systems require abrasive treatment of the existing coatings to remove oxidation,

ingrained dirt and contamination, which reduce the topcoat layers. The concept is then to apply products to rejuvenate the topcoat and leave a protective layer of a few microns on the surface. The protective coatings are not generally as strong or effective as a new paint layer, so the idea is to treat the process as a short-term solution, which can be very effective depending on the type of product and the experience of the applicators. Before these modern products were developed, people used car waxes modified for the marine environment, but they are less effective and wash away easily, meaning the surfaces return quickly back to their deteriorated state, but severely damaged through the polishing process.

If treated correctly, using the right non-damaging products, the life of new paint work can be extended and tired paint work can be rejuvenated, but always with the understanding that these products are not a long-term alternative to painting a vessel, as this could lead to other more serious problems.



REMY MILLOTT

Introducing the Advance Spray gun from **DEVILBISS** for the Yacht and Super-Yacht industry

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JOOP ELLENBROEK

JOOP ELLENBROEK

Managing Director

CCS Yacht Coating Services

Freshly applied topcoats used to be sacred, not to be touched or treated. The traditional polyurethane topcoat preferred 'to be left alone', to be repainted when the paint 'got tired'. Repainting a yacht is an expensive and time-consuming matter and many owners and captains wonder why such an expensive job with expensive top quality products has to be repeated after a relatively short time (two to four years). This situation turned out to be an 'open door' for products that allegedly provided additional properties to the topcoat, like improved gloss retention and easier cleaning properties.

"A growing use of successful 'life-extension materials' is a potential threat to the paint suppliers and refit yards..."

Many products are being offered based on various old and new technologies. This creates a confusing situation for captains and owners who have questions, such as: Does the product affect the integrity of the topcoat? Are there any repercussions for the repainting process – technically or financially? How often do I have to repeat the treatment? After every three months? After every six months? A short poll under a few captains showed us that there are mixed experiences, ranging from successfully extending the performance life to a forthright rejection because of disappointing results. So far, the paint suppliers have been quite passive regarding the phenomenon of topcoat protection materials – 'it's not

their product'. However, a growing use of successful 'life-extension materials' is a potential threat to the paint suppliers and refit yards: imagine that yachts could require repainting after six years instead of four years. The recent introduction of a topcoat protection material by a repainting contractor is interesting in the light of the above.

Maybe these developments could work as a catalyst for the paint suppliers to investigate the possibility to develop topcoats where these special properties have been incorporated into the formulation? Indeed, the time may be right for a new generation of topcoats!

PHILIP DEMLER

Owner's representative

Demler Marine Projects GmbH

Of course, a paint job does not turn bad at one point, it gradually degrades and it depends on the owner and his team at what point they decide it's no longer acceptable. For a paint job to be superyacht standard, this timeframe should be around five years. Whether the new paint protection systems actually lengthen the time span of the paint, I can't say. They do, however, facilitate maintenance and make cleaning faster and easier.

We have used the Shineyachts treatment on a composite boat with a dark hull, and it has substantially reduced the amount of time and labour that is needed to keep the hull looking good. Especially after long periods of sailing; the salt is easier to wash off than before the treatment. This has to be reapplied each year, but our experience with this system is very good.



PHILIP DEMLER



CHRIS ATKINSON

CHRIS ATKINSON

Director

ACA Marine

In general, we believe a paint job done by ACA should last at least four years. The very highly exposed surfaces such as transom, forward and rear eyebrows will lose gloss faster than the inner bulwarks and casing walls.

However, quite often a few corrosion spots may start within two years in areas where stainless fixings are present. Such areas will need to be dealt with locally to maintain the overall good visual effect. I personally do not like to have a new spray job finish protected immediately after painting, as it can often cause warranty problems between applicator, paint manufacturer, paint protection companies and the captains if there is a failure during the post repaint warranty period (between one and two years). For me, the ideal time to undertake such techniques is when the paint is starting to look dull and faded. The glazes will re-boost the shine for another six to 12 months.

KAY WREDE

Managing director

Wrede Consulting

The corrosion protection of a yacht could last 10 to 20 years, in exceptional cases, even up to 30 years. This assumes that the build-up is correct, thus the substrate preparation, the individual layers and the choice of materials should have been tailored to the ship. For example, steel vessels that are a primer for corrosion protection, the filler with a two-layer epoxy sealant and the UV-stable finish, thus the paint. It is UV protection and cosmetic at the same time.

The durability of the coating depends in one part on the preparation of the coated hull and, on the other hand, on the



KAY WREDE

effects from outside factors. This could be, for example, heat and cold, or UV radiation and the operation area of the yacht. In the Caribbean, a new coating could be necessary after four years. The more the paint is protected, the better. Solvents, stains and hard brushes reduce its lifetime additionally.

After-paint protection primarily helps against abrasion due to aging. The plasticisers are lost gradually and the coating loses its elasticity. UV radiation breaks open the molecular structure of the cosmetic layer, thus the paint. Here, surface seals come into play: the best experiences we have had are with polishes containing carnauba wax. It is water and dirt repellent and protects between three and six months, depending on the operation area. In the Caribbean it can lose its protection in just weeks. When waxing, the application is a crucial point. Liquid solvent-based waxes result in a very good surface, but less protection; wax polishes have better protection, but are difficult to apply cloud-free. Especially on large areas and dark colours, this is a problem for the crew.

New coatings should not be polished before sealing, older coatings need a very fine polish. With long demurrage, it may be advisable to cover the ship.

To comment on this article, email issue131@superyachtreport.com with subject: After-paint treatments

Cut solvent emissions by 50% – Lloyds Surface Spread of Flame certified



Interior Primer gel delivers a long-lasting, high-performance anticorrosive coating in a low odour formulation, which is self-curing and has extended clean-coating intervals. It is suitable for use in all areas of a yacht's interior, including wet areas such as bilges and is a light weight alternative to polycarbonate – increasing fuel efficiency.

Interior Finish 730 contains 4 FRL, reduced chloride and provides a high gloss, high opacity finish that is tough, chemically resistant and easy to clean. Interior Finish 730 is particularly suited for use in engine rooms.

Interior Finish 770 is a high performance polyurethane with high gloss. Suitable for all areas of a yacht interior where a high gloss system may not be desirable. The Urethane finish also makes it suitable for deckboards. Available in white and white/grey. SOLAS.

AFTER-PAINT TREATMENTS: WHAT'S ON THE MARKET

Following the discussions on the previous pages, we give the manufacturers the opportunity to outline their own products.

GTECHNIQ EXO – GTECHNIQ ▶

Gtechniq EXO, Gtechniq's new paint protection coating, which is currently seeking patent approval, claims to offer double the UV absorption and dirt repellence of the company's C1 Crystal Lacquer. The new product has two key ingredients, one organic and one inorganic, both with a UV-absorption filter. The dirt is repelled by the hydrophobic ligands, which are geometric and are significantly more resistant to chemical, mechanical and UV damage. The inorganic element has a stronger chemical bond with substrates and these bonds are virtually unaffected by UV damage. These bonds are already oxidised and not affected by oxidising agents, whereas oxidisers and UV can damage the organic bonds of current generation paint-protection products.



◀ TRIBOS – HIELAMAN

Tribos is a two-stage process and can only be applied by professionally trained applicators with specialist equipment. The first stage of application prepares the surface to accept the polymer and this process enhances the appearance of the paint or gelcoat surface and ensures the surface is free from dirt and other contaminants. Once the surface is ready, the polymer can be applied using a custom-made polishing machine. The individual polymers present in Tribos cling to the surface and take between two and 24 hours to cure. As the treatment cures, the polymers adhere to each other and cross-link themselves to create a flexible, durable, yet thin, protective layer. The Tribos UV protection reflects UV light and this is achieved through a titanium oxide polymer core. This prevents UV from penetrating the barrier layer and degrading the colour and finish of the underlying surface.



SEA-SHIELD NANO COATING – SEA-SHIELD

This nano coating is made of a blend of a zinc-alumina cross-linking polymers. It contains a high concentration of UV inhibitors and the cross-linking polymers form a covalent bond producing a coating that is UV and water resistant. To make sure the same surface is protected against black streaks and exhaust residue, Sea-Shield Exhaust Guard, which contains acrylic resins, is applied to the surface after the Sea-Shield Nano Coating has cured for at least eight to 12 hours. The coating is not permanent and lasts an average of six months and, in most instances, can be reapplied when needed.



PERMANON YACHT SUPERSHINE – PERMANON

Permanon is a high-gloss protective coating that is based on the elemental metalloid Silicium, 14Si, a component of glass, making the coating highly resistant (especially UV resistant) and glossy, thus extending the gloss life of paint. It bonds to surfaces using a plus-to-minus static charge connection, resulting in the surface becoming positively charged, as is dust, therefore making the surface repel dirt. The coating is then maintained with Permanon's 2-in-1 detergent, which is also positively charged with the 14Si elements and simply fills in any negative gaps that have developed, therefore reinforcing the coating.



NAUTICARE PAINTWORK PROTECTION – NEROQQOM



ZYTEXX – PROGUARD PLUS

An engineered ceramic coating, Zytexx prevents dirt, oils, diesel soot, acid rain and pollens from sticking to or etching marine surfaces. UV damage is minimised as the coating incorporates highly effective inorganic UV filters and acts as an ozone gas barrier.

Zytexx's glossy finishes results in a surface that can be easily cleaned, reducing the amount of time it takes to clean a vessel, and even diesel exhaust staining can be removed quickly using only water. Zytexx can be applied to both paint and gelcoat surfaces and comes with a two-year warranty.



A ceramic coating made from alcohol-diluted silicium SiO₂, it produces silicium oxide crystals, which form on the surface and create a barrier that protects the paint. The coating provides a better molecular tension and the silicium oxide fills in any porous areas on the surface. These factors help the surface to repel pollution and water and also reflect UV rays, therefore protecting against UV damage. The surface needs to be pre-treated and cleaned, before the paintwork protection is applied with superlight polishing and the application of a flexible polymer protector and an epoxy protector.