

CASE STUDY

SUPER YACHTS, FLAWLESS DECKS

Princess Yachts International creates stunning teak decks for customers using PRO-SET® epoxy

PRO-SET®

Products Used

- PRO-SET ADV-170 Adhesive
- PRO-SET TLG-185/TLG-285 Low Density Fairing Compound
- PRO-SET ADV-176/276 Toughened Adhesive

Application Areas

- Bonding
- Vacuum bagging

Customer

Princess Yachts International



“We need a bonding solution we can trust and for us, that’s PRO-SET epoxy.”

Shaun Davy, Composites Engineering Manager, Princess Yachts International



Photograph courtesy of Princess Yachts International

For Princess Yachts International customers, nothing but the best will do. Which is why the company is using PRO-SET epoxy to install its stunning teak decks.

By using PRO-SET epoxy adhesive in conjunction with innovative vacuum consolidation techniques, Princess Yachts International creates decks that are visually exquisite, fair and flawless. The strength and durability of PRO-SET epoxy ensures that teak decks on yachts by Princess Yachts International are resistant to rapid changes in temperature and able to withstand the harshest marine conditions for years on end.

Challenge

Luxury yacht builders are constantly pushing the boundaries of innovation to deliver the highest levels of quality, durability and performance for their discerning customers. This is the case at Princess Yachts International.

Using next-generation materials and building techniques, Princess Yachts International has created an industry-leading product line, including a range of flybridge yachts, S Class sportbridge yachts, V Class sports yachts and M Class super yachts.

To meet customer’s extremely high quality expectations, teak decking on all yachts by Princess Yachts International must be visually exquisite, as well as resistant to rapid changes in temperature and humidity. Teak decking on hydraulic bathing platforms must also be able to withstand total immersion in water for hours at a time.



|| We test lots of products, but PRO-SET ADV-170 Adhesive works best for us, allowing us to create extremely strong, durable bonds between decks and the GRP sub-structure."

As well as delivering beautiful, robust teak decks that delight customers, Princess Yachts International also needs to maximise the efficiency of its build process and provide safe working conditions for team members.

Solution

To deliver the most exquisite, durable teak decks for customers, Princess Yachts International uses products from the PRO-SET® epoxy range.

If any fairing is required for the underlying GRP structure, Princess Yachts International uses PRO-SET TLG-185/TLG-285 Low Density Fairing Compound. PRO-SET ADV-170 Adhesive is then used to bond teak decks to the underlying GRP structure using vacuum bagging techniques, which applies uniform pressure across the deck during the bonding process.

Shaun Davy, Composites Engineering Manager at Princess Yachts International, says, "We test lots of products, but PRO-SET ADV-170 Adhesive works best for us, allowing us to create extremely strong, durable bonds between decks and the GRP sub-structure. PRO-SET products also give us a three or four hour window to work in and achieve perfect results first time, so there's no risk that expensive teak will ever be ruined."

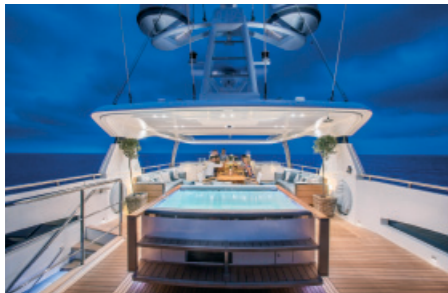
As well as using PRO-SET ADV-170 Adhesive for teak deck bonding, Princess Yachts International uses other products from the PRO-SET and WEST SYSTEM® ranges to maximise quality for customers and streamline production.

"We use WEST SYSTEM epoxy or WEST SYSTEM 105 Resin and 205 Hardener to create strong, durable bonds between bulkheads, as well as for other bonding and laminating applications," says Davy. "We also use PRO-SET ADV-176/276 Toughened Adhesive to install stabilisation devices called Seakeeper Gyros for customers as an optional extra if they so desire."



Photograph courtesy of Princess Yachts International

The strength and durability of PRO-SET epoxy ensures that teak decks on yachts by Princess Yachts International are able to withstand harsh marine conditions.



Photograph courtesy of Princess Yachts International

Princess Yachts International creates exquisite and flawless teak decks using PRO-SET epoxy adhesives.

Benefits

Robust and durable

The bonds created by PRO-SET products between teak decks and the underlying laminate are extremely robust and durable. This helps to protect Princess Yachts International's reputation for industry leading quality.

"Our yachts travel all over the world, which means hulls are subjected to an ambient temperature of anywhere between -20°C to +40°C and the surface of our teak decks can go from cold to 60°C in a single morning. We need a bonding solution we can trust, and for us, that's PRO-SET epoxy products."

A new standard for teak decking

Princess Yachts International has taken the strategic decision to use PRO-SET epoxy for all its teak decking requirements across all product lines.

"Because we can speed up deck bonding with PRO-SET products, we can minimise production times and costs for our yachts," says Davy. "What's more, we can deliver the flawless finish our customers expect, and we can be sure that decks will provide the longest possible service, even in the harshest marine conditions."

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Faster, simpler, safer deck bonding

The strength, durability and consistency of PRO-SET epoxy, combined with the even pressure applied using vacuum bagging techniques, helps Princess Yachts International achieve the most desirable finish for its teak decking. "In the past, it was necessary to screw down decks during bonding or to hold them in place using heavy weights," says Davy. "As well as being faster, simpler and safer, PRO-SET epoxy and vacuum bagging gives us more consistent results and eliminates the risk of flaws that could cause pooling or other after-sales issues."

Forgiving in a range of temperatures

Unlike some competing epoxy products, PRO-SET epoxy functions well in a range of temperatures, with minimal variations to cure times. "All our workshops are heated but it's helpful that PRO-SET products work well at a range of temperatures," says Davy. "Whether it's cold outside or there's a heatwave, we know that production won't be negatively affected, which is a major benefit of using PRO-SET products."

Convenient and easy to use

The fact that PRO-SET products are simple, easy to mix and use, helps production teams save time and speed up construction. "PRO-SET epoxy resins and hardeners come in handy containers in 'ready to mix' quantities," says Davy. "That reduces the risk of human error and ensures that we achieve optimum results every time in terms of bond strength and cure times."



Photograph courtesy of Princess Yachts International

Princess Yachts International uses PRO-SET epoxy for all its teak decking requirements across all product lines.

Challenge

- Meeting customers' high quality expectations
- Streamlining teak deck installation
- Minimising after-sales maintenance and repairs

Solution

- PRO-SET TLG-185/TLG-285 Low Density Fairing Compound
- PRO-SET ADV-170 Adhesive and 'vacuum bagging' for teak deck bonding
- PRO-SET products used to bond decks on 300 yachts per year
- PRO-SET and WEST SYSTEM products used for bulkhead bonding, Seakeeper Gyro bonding and many other applications

Benefits

- Robust, durable bonds that minimise after-sales issues
- Faster, simpler, safer deck bonding process
- Effective in a range of temperatures
- Convenient and easy for teams to use

West System International products

**WEST
SYSTEM®**



The WEST SYSTEM® range

After nearly five decades of continuous innovation, WEST SYSTEM epoxy is still recognised as one of the best general-purpose marine grade epoxies in the world. It is formulated to ensure ease of use and we also offer the best technical support to all our customers. The range, originally developed for boatbuilding, boasts superior strength and moisture resistance which makes WEST SYSTEM epoxy the number one choice for marine repair and maintenance.

PRO-SET®



The PRO-SET® range

PRO-SET products are used for building high-performance, lightweight composite structures that can withstand the harshest environments. Designed for use in wet lay-up procedures involving woven and multi-axial glass, aramid, carbon-fibre and hybrid fabrics, our PRO-SET resin-hardener combinations have been formulated specifically for laminating, infusion, tooling and assembly. The range has been recently reformulated and expanded to better meet the demands of modern composite manufacturing.



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West System International is a division of Wessex Resins and Adhesives. It has been working in close partnership with Gougeon Brothers, Inc., the formulators of WEST SYSTEM® and PRO-SET® epoxies, for more than 30 years. WEST SYSTEM and PRO-SET epoxies are manufactured under licence in the UK. WSI has an extensive international distribution network throughout Europe, Africa and the Far East.