

## CASE STUDY

# EXQUISITE DECKS THAT DELIGHT CUSTOMERS

**Sunseeker International uses PRO-SET® Adhesive and vacuum bagging to achieve a perfect finish on all its teak decking**

## PRO-SET®

### Products Used

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

### Application Areas

- Bonding
- Vacuum bagging

### Customer

Sunseeker International Limited



**Sunseeker International uses PRO-SET ADV-170 Adhesive in conjunction with vacuum bagging techniques to bond prefabricated teak decks onto its yachts.**

By taking this approach, the company has reduced workloads, with no need to screw or weigh down decks for the duration of the curing period. In addition, Sunseeker International can achieve an exquisite finish with PRO-SET epoxy and vacuum bagging, helping to delight customers and avoid after-sales issues such as deck 'pooling'.

Based on a highly successful trial implementation of vacuum bagging, Sunseeker International is now using PRO-SET adhesives and vacuum bagging for all its lines and will use the technique to produce around 200 boats a year.

## Challenge

To reduce its in-house carpentry workloads and costs, luxury yacht builder Sunseeker International uses pre-fabricated teak decking. This reduces installation times from weeks to just a few days, as well as providing the exquisite, high-quality finish customers expect.

While Sunseeker International has always used PRO-SET epoxy adhesives to bond pre-fabricated decking to the underlying structure of boats, the process was not without its challenges. Ned Popham, Composites Manager at Sunseeker International, says, "To achieve good consolidation, we used to screw decking down. However, once the deck was bonded, we had to take the screws out and dowel seal them, or back-fill holes made in caulking lines."

**WSI** has provided a range of technical support and training over the years when we've needed it and we have access to people there who have phenomenal knowledge and experience to support us."



**//** The efficiency of the vacuum bagging process has led to company-wide adoption of PRO-SET ADV-170 Adhesive and vacuum bagging techniques for teak decking. That means we'll be producing around 200 boats a year using this method."



Using PRO-SET ADV-170 Adhesive and vacuum bagging for bonding teak decking



Vacuum bagging provides 'repeatable', highly consistent results for deck bonding at Sunseeker International

Another technique used at Sunseeker International was to physically weigh down decking during the bonding process using 10kg weights. "I remember people lugging half a tonne of weights up and down the fly bridge," says Popham. "As well as being inconvenient and tiring, weighting the deck down during bonding was a health and safety issue for us."

## Solution

To optimise deck installation, Sunseeker International adopted an innovative bonding technique based on PRO-SET ADV-170 Adhesive and vacuum bagging.

"To prepare the underlying structure, we use a low density fairing compound, PRO-SET 185/285 Fairing Compound," says Popham. "In the past, we used polyester-based fillers, but they didn't work well with epoxy and cure times were far too long. With PRO-SET Fairing Compound our technicians can fair in, sand down the surface and bond down the deck – all in just a couple of days."

Once fairing has been completed and all surfaces are prepared and sanded, Sunseeker International uses PRO-SET ADV-170 Adhesive and utilises vacuum bagging techniques to install the decking by bonding the fibreglass scrim of the teak decking to the underlying polyester laminate. The vacuum bagging process uses a sealed bag to create a pressure differential, applying uniform pressure to the top of the deck during the bonding process. Vacuum bagging provides 'repeatable', highly consistent results for deck bonding at Sunseeker International, where technicians are trained to use exactly the same process and pressure differential for every job.

While PRO-SET ADV-170 Adhesive was previously used for vacuum bagging for only one line of Sunseeker International, the approach is now being implemented as a company standard. "The efficiency of the vacuum bagging process has led to company-wide adoption of PRO-SET 170 Adhesive and vacuum bagging techniques for teak decking," says Popham. "That means we'll be producing around 200 boats a year using this method."

## Benefits

### Safer, cleaner working

With PRO-SET ADV-170 Adhesive and vacuum bagging, Sunseeker International has reduced the work and risk associated with screwing teak decking into place and using weights during the installation process. "The installation of teak decking is much safer and cleaner now with PRO-SET adhesive and vacuum bagging," says Popham. "We also achieve better results with uniform pressure applied across the deck during the bonding process."

### Delighted customers

The PRO-SET ADV-170 Adhesive and vacuum bagging techniques help Sunseeker International achieve the excellent finish that customers expect. "Teak decking extends from the bridge to the bathing platform, steps and hatches, and it contributes hugely to the overall appearance of the boat," says Popham. "The combination of PRO-SET epoxy for fairing and bonding, combined with vacuum bagging, helps us ensure that there are no imperfections or dips that cause pooling when the decking is wet," he adds. "With PRO-SET epoxy and vacuum bagging, we can build beautiful, contoured decks that delight our customers."

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### Excellent results on projects of all sizes

The physical properties of PRO-SET ADV-170 Adhesive make it ideal for Sunseeker International's bonding requirements. "I see PRO-SET ADV-170 Adhesive as the industry-standard epoxy for boat building," says Popham. "On the one side, it offers cure times that are long enough for larger jobs and on the other it works well in cooler conditions, which suits our fit-out lines in winter months. Where there's a danger that polyester resins won't cure at lower temperatures, that's not an issue with PRO-SET epoxy."

### The right technical support

West System International, which manufactures PRO-SET epoxy under licence from Gougeon Brothers, Inc., has provided a range of technical support to help Sunseeker International succeed. "Implementing vacuum bagging techniques requires significant knowledge and experience and we're now self-sufficient in virtually all we do," says Popham. "However, WSI has provided a range of technical support and training over the years when we've needed it and we have access to people there who have phenomenal knowledge and experience to support us."

### Simplicity and consistency

The PRO-SET ADV-170 Adhesive is pre-thickened, reducing messy mixing and minimising training requirements. "We have technicians with a broad range of skill levels, so it's great to have a product that comes ready to use that will deliver the same excellent results time after time," says Popham.

Challenge	Solution	Benefits
<ul style="list-style-type: none"> <li>Delighting customers with exquisite teak decking</li> <li>Optimising the deck bonding process to reduce workloads and costs</li> <li>Minimising costly after-sales maintenance and repairs</li> </ul>	<ul style="list-style-type: none"> <li>PRO-SET TGL-185/285 Fairing Compound used to prepare the underlying structure</li> <li>PRO-SET ADV-170 Adhesive used to bond the teak decking to the yacht's underlying polyester laminate</li> <li>Vacuum bagging techniques apply uniform pressure to the top of the deck during the bonding process</li> <li>PRO-SET Adhesive and vacuum bagging will be used across all service lines to produce around 200 boats each year</li> </ul>	<ul style="list-style-type: none"> <li>Safer, cleaner working, with no need to screw or weigh down decking for bonding</li> <li>An exquisite finish that delights customers and minimises issues such as deck 'pooling'</li> <li>Excellent results on projects of all sizes</li> <li>Ongoing technical support and training</li> <li>Simple application and product consistency, with epoxies that are pre-mixed and ready to use</li> </ul>

## 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.

Cover photograph courtesy of Sunseeker International.