

# Rebuilding a Storm-Damaged Boathouse Deck – Portsea Beach, Victoria



The project site is a privately-owned boathouse located on Portsea Beach, along the sheltered yet often windswept waters of Port Phillip Bay in Portsea, Victoria. Known for its golden sands, tranquil views, and boating culture, the beach is also exposed to seasonal storms and salt-laden winds. The boathouse serves as both a storage space and a launch point for the owner's fishing boat, requiring a deck that can withstand frequent contact with seawater and harsh marine conditions.

## THE CHALLENGE

The original timber deck suffered severe storm damage, with rust being the most significant cause of deterioration. The corrosive marine environment — combined with direct wave impact and strong coastal winds — had compromised the structural integrity of the deck, making a complete replacement necessary.



## PROJECT INFORMATION

### Project Category

Deck Structure

### Project Name

Boathouse Deck Rebuild

### Builder

Steve Brockhoff

### Simpson Strong-Tie Products

- FREP Joist Hanger
- FREP Joist Connector
- Strong-Drive® SD9SS Connector Screw

### Project Start Date

- February 2025

### CHALLENGE

Need for a cost-effective, long-lasting deck replacement suitable for marine conditions

### SOLUTION

Use Fibre Reinforced Engineered Polymer (FREP) Joist Hangers and FREP Joist Connectors, ensuring the structure could endure the bay's harsh coastal environment.

### RESULTS

The project successfully balanced performance, longevity, and cost-effectiveness, ensuring the boathouse remains a practical and reliable part of Portsea Beach's working shoreline for years to come.



Boathouse owner Steve Brockhoff faced the challenge of designing a structure that was both strong enough to handle the physical forces of the bay and resilient enough to resist ongoing corrosion, all while keeping costs under control.

## THE SOLUTION

Steve chose to rebuild the deck using Fibre Reinforced Engineered Polymer (FREP) Joist Hangers and Joist Connectors. These corrosion-proof components are an affordable alternative to stainless steel, ideally suited for outdoor and marine applications.

- **FREP Joist Hangers** were face-mounted to accommodate 45mm wide joists and 90–190mm depths.
- **FREP Joist Connectors** were attached on the 45mm width joist to mount on the bearer.
- **Ventilation Ridges** on the seat of hangers and connectors help joists breathe, which reduces moisture buildup and protects against rot.
- **Durability:** UV-A FREP material has undergone 2000hr laboratory UV exposure testing compliant with ASTM D790, which includes maintaining a temperature of 60°C and high humidity.



The FREP hangers and connectors ensured robust load transfer and long-term durability in a high-moisture environment.

This approach provided a cost-effective solution that not only increased the deck's lifespan but also reduced the need for frequent maintenance.

## THE RESULTS

The rebuilt deck now offers:

- Improved durability in a corrosive environment.
- Greater structural strength to withstand waves and high winds.
- Save on long-term maintenance and rebuilds while getting performance similar to stainless steel alternatives.
- A clean, functional platform for safely storing and launching the owner's fishing boat.

The project successfully balanced performance, longevity, and cost-effectiveness, ensuring the boathouse remains a practical and reliable part of Portsea Beach's working shoreline for years to come.



**MORE  
INFO**

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