

# Advantages of Composite Marine Bearings

Bearings are critical components in a wide range of marine hardware. This includes bushings for propeller and rudder shafts, along with many above-water applications such as winch shafts and crane pivots. Sizes range from small applications of one-inch diameter up to 30 inches or more for large propeller shafts.

Bearings have an important part to play in the quest to minimise maintenance downtime and improve operational performance. Composite materials are replacing traditional bronze in a growing range of marine bearing applications, offering key advantages:

- Lower coefficient of friction
- Higher compressive load capacity
- Self-lubrication
- Eco-friendliness
- Easier machining of complex shapes

Here are some key examples where composite bearings are making inroads...

## Steering and propulsion

<photo of ship propellor and rudder>

The shipbuilding industry continues reaching for higher operating efficiencies and safety performance. Ship operators are also looking for alternative solutions to reduce costs and extend service availability between maintenance overhauls.

Composite propeller and rudder shaft bearings are ideal to replace rubber-lined, wood, and bronze bushings. They can also have axial grooves machined into them to enable better water flow and lubrication.

## Ship maneuvering

<photo of ship bow thruster>

Tunnel thrusters have made ship docking more controllable and safe. Traditionally, impellor shafts have greased bronze bearings, but water-lubricated composite materials can extend bearing life. They also reduce vibration and promote smooth, quiet operation.

## Stabilizer systems

<photo of ship fin stabilizers>

Because of lubricant discharges from fin stabilizers, marine operators are looking for alternative solutions to grease and oil systems. Although environmentally acceptable lubricants are tolerated, the better option is to replace grease and oil bearings with water-lubricated composite alternatives.

## Deck equipment

<photo of ship winch>

Composites have successfully replaced bronze in a variety of deck equipment applications with no need for grease lubrication.

They can offer maintenance-free solutions that isolate dissimilar metals to prevent galvanic corrosion. They also provide electrical isolation of deck components.

Applications include fairlead rollers, winches, capstans, stern rollers, A-frames, davits, cranes, skidding pads, and hatch covers.

## Leverage the advantages

SealTech offers high-quality solutions for composite bearings optimized for a range of marine applications.

## [CTA]

[Contact us](#) to find out how you can get better performance and longevity from your marine bearings to improve operational efficiency.

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