

**Thordon Oil Free
Propeller Shaft
Bearings and Grease
Free Rudder Bearings
For Workboats**



THORDON BEARINGS FOR WORKBOATS - KEEP YOUR VESSEL OPERATING LONGER AND SAVE MONEY!

With over 20 years experience selling bearings on the Mississippi River system, Thordon Bearings and your local Thordon Distributor specialists know how to save you money! It doesn't matter whether you're interested in long wearing Thordon Composite EF water lubricated propeller shaft bearings, or grease-free SXL rudder bearings and ThorPlas® steering linkage bearings, Thordon delivers. Don't just take our word for it - go ask a Thordon user.

THORDON COMPOSITE EF PROPELLER SHAFT BEARINGS

CONSIDER THESE LIFE CYCLE COST AND PERFORMANCE BENEFITS

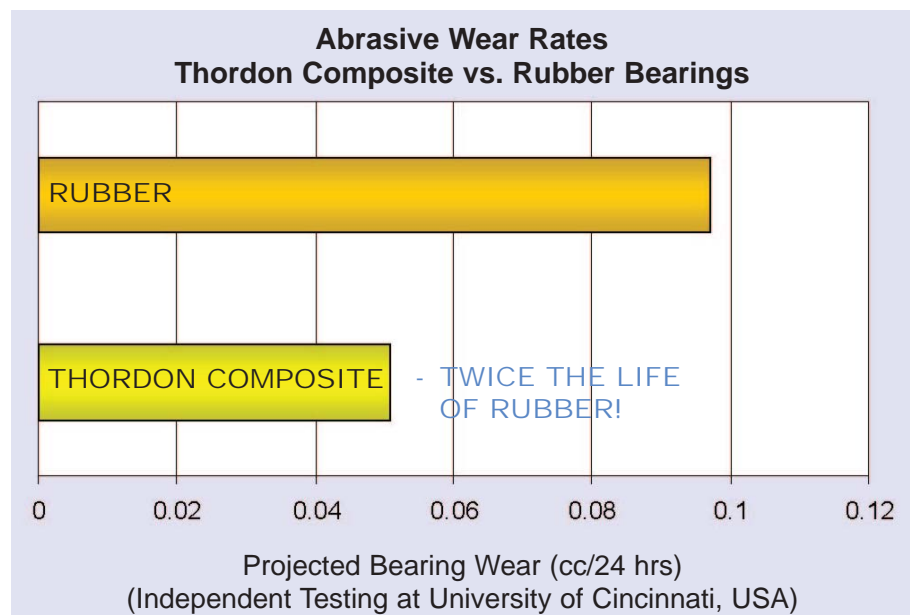
- Documented data from Mississippi workboat operators showing typical Thordon bearing wear rates of 0.003" to 0.004" (0.075 mm to 0.100 mm) in 6000 to 7000 hours of annual use
- Wear rates operating in these very muddy waters are typically half that of rubber bearings - or often even less
- Increased stiffness and resilience compared to rubber bearings allow aft bearing installation at 3:1 vs. 4.1 L/D ratio resulting in easier alignment and less edge loading
- Lubricants in the Composite EF polymer formulation reduce start-up (i.e. nearly dry) friction levels significantly eliminating stick-slip and vibration when operating at lower shaft speeds
- Easy Installation



Thordon Composite EF



Easy Installation of Thordon Composite EF Bearing



Mating Surface:

Run in combination with hard-coated nickel-chrome-boron (NiCrB) shaft sleeves, Thordon Composite EF offers outstanding wear life in abrasive water lubricated applications such as propeller shaft or cutterhead dredge bearings. The up-front cost is quickly offset by longer wear life and reduced maintenance down time over the life of the vessel.

Installation:

Thordon Composite EF bearings can be installed using an interference freeze fit or bonded in place using Thordon's TG-75 or alternate Thordon-approved adhesive. Interference fit is often recommended for new build installations where the housing bore is consistent and concentric. Bonding is often the best option for repair installations where the housing bore may not be ideal.



Thordon Composite EF bearings can be bonded or interference fit

Water Flow:

Recommended water flow is 1 GPM/inch of shaft diameter (0.15 litres/minute/mm of shaft diameter) to provide lubrication and bearing cooling.

CHECK OUT WHAT OUR CUSTOMERS HAVE TO SAY...

"We converted six vessels to Thordon Composite in the early 1990's. All I can say on the bearing is that they are doing excellent. I can't say enough good things about Thordon Composite in tail shaft applications."

Steve Phillips, Manager of Vessel Engineering
Ingram Barge Co., Kentucky, USA



"Thordon Composite Bearings have shown excellent performance in all our vessels where they have been installed. We are continuing to upgrade the rubber bearings in all of our existing fleet to Thordon Composite"

Mitch Jones, Maintenance Manager of Towboats and New Construction
Blessey Marine Services, Inc., Louisiana, USA

"Thordon Composite (non-metallic) main propulsion shaft bearings were installed on several Landing Craft Units (LCU's), in accordance with technical instructions prepared by Carderock Division Det Norfolk, Combatant Craft Department (CCD), Code 23. In addition to the bearings, the shafting was upgraded using a non-corrosive nickel chrome boron coating. After years of operation at sea and with beach landings in an environment of mixed water and sand, bearing wear is minimal. Another four years of trouble-free bearing life is expected with the upgraded systems. The Combatant Craft Dept. upgrades developed resulted in significantly longer component service life and significant cost savings."

G. Preedy
US Naval Sea Systems Command - Carderock Division, Virginia, USA



NEVER GREASE YOUR RUDDER SYSTEM AGAIN

WITH THORDON SXL RUDDER AND THORPLAS® TILLER ARM BEARINGS

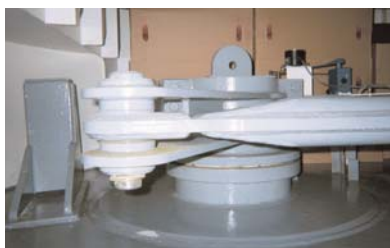
With over 30,000 vessel years of experience over the past 30 years, Thordon knows rudder bearings. Thordon SXL is recommended in the lower and upper bearing positions and pintles, as well as the thrust washer position. ThorPlas®, a new, engineered, thermoplastic polymer, is recommended for the more highly loaded bushings in the tiller arm and "jockey-bar" linkages. Both products operate grease free saving you time, money and the risk of pollution.



Installing SXL rudder bearing

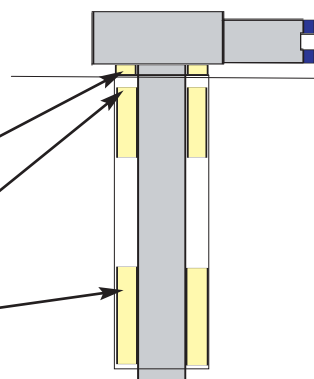
Thordon SXL and ThorPlas® Will Deliver Superior Performance in all Bearing Locations

- Greasing is eliminated including the labor, cost and potential pollution source
- SXL's elastomeric nature resists abrasive wear and will not pound out of shape
- Internal lubricants formulated into the SXL and ThorPlas® polymers reduce friction, resulting in smooth operation without lubrication
- Operates above and below the water line
- Both SXL and ThorPlas® machine easily, and dust-free, to suit required dimensions
- Installation is quick and easy using freeze fit techniques
- Improved safety for crew not having to grease rudder system



SXL for Thrust Washers

SXL for Both Upper and Lower Bearing Positions as well as Pintles



ThorPlas® for Tiller Arms and Jockey Bars



THORDON

THORDON BEARINGS INC.

ZERO POLLUTION | HIGH PERFORMANCE | BEARING SYSTEMS

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