Pump Bearing Solutions

Thordon ThorPlas-Blue *vs.* Vesconite

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Thordon Bearings Inc. designs and manufactures the industry's most complete line of oil and grease-free water lubricated vertical pump bearings. There are many benefits to using Thordon pump bearing solutions, particularly when compared to other leading brands. Direct comparisons of competitors materials to Thordon's ThorPlas-Blue showcase the benefits that Thordon provides both in the material properties of ThorPlas-Blue and the service and support that Thordon and its network of distributors affords to customers.

Why Choose ThorPlas-Blue for your Pump Applications?

ThorPlas-Blue offers comparable advantages to Vesconite in its physical properties for application like vertical turbine, condensate, mining, potable water, and waster water pumps and other pump applications at higher temperatures and in chemical solutions unsuitable for Thordon elastomers. The significant advantages of the product lie are in the benefits gained by choosing Thordon as your supplier. Thordon's customer-centric approach ensures you get the best customer service, engineering support, distribution, and proven reliability in real references. With high-quality products, quick supply and dependable support, plus Thordon's new sizing program available on-line, launching in January of 2026, the best solution you can choose for your pumps is Thordon.

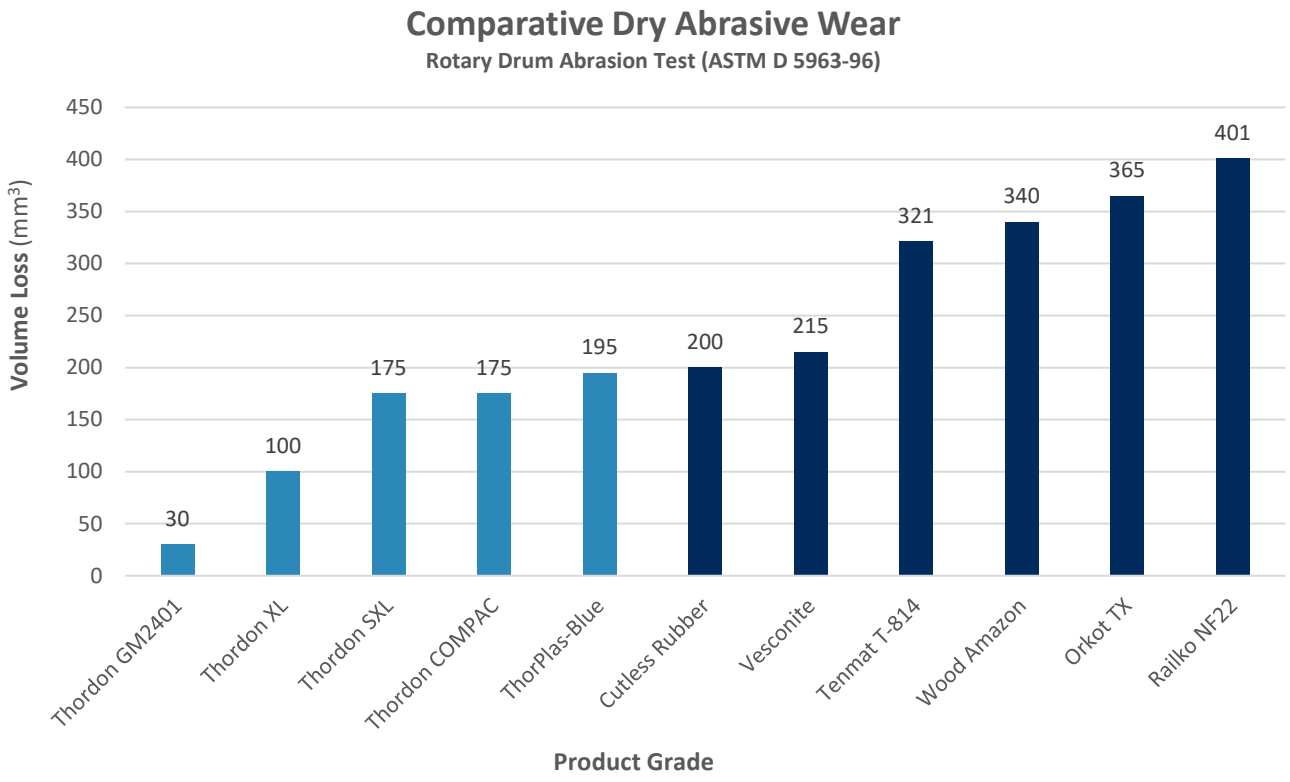

Figure 1: *COMPARATIVE DRY ABRASIVE WEAR – this chart shows the comparative volume loss of Thordon Materials to Vesconite (standard).*

Physical Properties & Technical Features

		
Feature	**Thordon Bearings' ThorPlas-Blue**	**Vesconite Standard & Vesconite Hilube**
Composition	A proprietary polymer (engineered thermoplastic) with a low coefficient of friction.	The base component of Vesconite is PET, (polyethylene terephthalate) with molybdenum disulphide added to reduce the coefficient of friction.
Dry Abrasive Wear (Volume Loss)	198 mm^3	215 mm^3
Design Pressures	45 MPa (6527 psi)	Unknown
Module of Elasticity	3,280 MPa (475,723 psi)	2,290 MPa (332,136 psi)
Primary Feature	Dry start capable to 2 minutes and provides very good abrasion resistance.	Vesconite Standard is a PFAS-free, internally lubricated polymer, not recommended for dry starts. Hilube is an advanced grade with Vesconite's lowest friction and longest wear life.
Operating Condition	Can operate in wet, dry or dirty conditions, is dry start capable, and has very good abrasion resistance.	Vesconite Standard can operate in wet, dry, or dirty conditions. Vesconite Hilube is suited for unlubricated/ water-lubricated conditions and dry running.
Dynamic Friction (unlubricated on steel)	0.10 – 0.17 wet.	0.12 – 0.2 (Standard) and can be approx. 0.08 in some cases (Hilube).
Max Operating Temp (Dry)	Up to 110°C (230°F)	100°C – 120°C (212°F – 248°F)
Max Operating Temp (Wet)	Up to 80°C (176°F) in water or chemicals.	60°C – 70°C (140°F – 160°F).
Dimensional Stability	Excellent. Water absorption percentage of less than 0.15.	Considered to be excellent as it does not 'swell' in water.
Color	Blue	Often Green (Standard) or White (Hilube)

Overall Advantages of Thordon Bearings as Your Supplier

Products

Thordon Bearings Inc (Thordon) manufactures a range of high performance, polymer bearing and seal solutions. For the pump market, Thordon manufactures both elastomeric polymer alloys (SXL, Composite & COMPAC) as well as engineered thermoplastics (ThorPlas-Blue and ThorPlas-White). ThorPlas-Blue has a higher abrasion resistance than most pump bearings plus dry start capabilities, which makes it an ideal choice for pump applications. Developed as a maintenance- free alternative to replace greased bronze bearings, this proprietary engineered thermoplastic is easy to machine and install and is readily available in either finished bearings or tube stock.

Vesconite is a thermoplastic polyester manufactured in South Africa by VESCO Plastics. Vesconite offers four materials, Vesconite Standard (PFAS-free), Vesconite Hilube, Vesconite Superlube and Vesconite Hitemp 150/160, but Hilube is the grade most used in pump applications.

Distribution

Thordon is represented globally by 72 distributors worldwide. This allows for regional stock, faster distribution and local expertise and support for sizing, ordering, installation, and ongoing technical support.

Using a different approach, Vesconite sells through distributors in 12 countries, but mostly sells directly to customers, which provides cost advantages for customers, but service disadvantages in local markets.

Global Support

In addition to local distributors, Thordon has worldwide technical and global service support available 24/7. Plus, with major repair shops and shipyards in Asia and around the world experienced with Thordon's bearings, installation availability is easier than ever.

Vesconite also has a few stocking locations but largely manages support remotely or through third parties.

Pricing *vs.* Size

Thordon provides a wide variety of sizes and material options. Lower volumes of smaller diameter bearings provide a price disadvantage for Thordon, but larger diameter bearings are competitive in pricing.

Vesconite's main pricing advantage is in small diameters and high volumes. They are priced competitively with Thordon on larger diameter bearings.

Pump Bearing References

Thordon has over 85 pump OEMs using Thordon's bearings and can provide customers with a verified reference list, which includes numerous MRO references as well. Thordon provides pump customers with multiple bearing materials for a variety of applications, proven through decades of experience.

Vesconite may have references, but do not offer any OEM references on their website. When it comes to pump applications, Vesconite bearings are usually used on small diameter shafts in clean water.

Overall Advantages of Thordon Bearings as Your Supplier (Continued)

Proven Performance

Thordon has documented pump bearing wear data in plants showing typical bearing wear life of 15 – 20 years. Thordon's main advantage is abrasion resistance. With more applications seeing abrasive water, it's highly beneficial to the longevity of the pump to use abrasion resistant materials. Reference Thordon's Pump Manual for several case studies.

Vesconite has few documented cases for bearing wear life.

Single Source of Supply

In addition to engineered thermoplastics, Thordon offers a complete line of elastomeric pump bearing materials (XL, SXL, and GM2401 COMPOSITE), which have much better abrasion resistance than Vesconite, and are also great for pump applications. Thordon can supply tube stock or complete engineered pump bearings (with or without carriers). Typically, if the housing is straight with no reliefs, a carrier is not required.

Vesconite only provides thermoplastic stock shapes and bearings. They do not offer elastomeric bearings to compete with Thordon's elastomeric materials. Vesconite offers three materials: Vesconite Standard (PFAS-free), Vesconite Hilube and Vesconite Superlube. Hilube is their grade most commonly used in pump applications.

Sizing Tools

Thordon has an easy-to-use (online or downloadable) sizing program that takes the guesswork out of sizing bearings. Thordon's program produces accurate sizing for Thordon's bearings and produces a drawing with final dimensions.

Vesconite also has a sizing program that will also produce a drawing.

Local Expertise & Customer Service

Thordon has a global network of stocking distributors with technical expertise in addition to its team of in-house engineers and product specialists.

Vesconite has some regional distribution centers and several distributors.

Easily Fitted

Thordon pump bearings are easy to fit using dry ice. Thordon SXL, XL, and Composite bearings can be bonded in place and be installed using liquid nitrogen meaning bearings are ready to install in minutes.

Reports state that freezing of Vesconite in liquid nitrogen is not recommended as it may result in thermal stresses that can cause the bearing to crack. Typical installation is a freeze fit using dry ice.

THORDON

THORDON BEARINGS INC.

A Thomson-Gordon Group Company - Innovating since 1911

3225 Mainway, Burlington, Ontario
L7M 1A6 Canada
+1.905.335.1440
info@ThordonBearings.com
www.ThordonBearings.com

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