

THORPLAS-WHITE BEARINGS FOR FOOD EQUIPMENT & DRINKING WATER APPLICATIONS

PRODUCT OVERVIEW

ThorPlas-White is an engineered thermoplastic alloy specifically developed to operate as a drinking water system component used in the treatment and distribution of potable water, and as a material used in the construction of food equipment.



THORPLAS-WHITE CERTIFICATIONS

- NSF/ANSI 51 for Food Equipment Applications
- NSF/ANSI 61 for Drinking and Potable Water Applications
- WRAS (Water Regulations Advisory Scheme) material approval

BENEFITS OF THORPLAS-WHITE

- Low friction operation
- Long bearing wear life
- Good dry run capability due to built-in lubricants
- Easy to machine – no nuisance dust
- Easy to install
- High resistance to heat, corrosion and abrasion



TYPICAL APPLICATIONS

- Replacement for bronze and roller bearings
- Water treatment plants
- Food processing plants that require water
- Mixer/ agitator bearings
- Pumps: well and river, submersible, water intake
- Bottle filling equipment and valve bearings
- Water wheels and irrigation systems
- Conveyor bearings, hanger bearings
- Milling equipment, labeling equipment
- Scrapers



Thordon Bearings Inc. designs and manufactures a complete range of polymer bearing and shaftline products for the marine, clean power generation, pump, offshore and industrial markets. Thordon's strong and recognizable global brand is known for its high quality and superior performance in eliminating oil and grease from bearing applications in ships, hydro-turbines, vertical pumps and many other industrial applications.



ZERO POLLUTION | HIGH PERFORMANCE | BEARING & SEAL SYSTEMS

THORDON
THORDON BEARINGS INC.

3225 Mainway, Burlington, Ontario L7M 1A6 Canada Tel: +1.905.335.1440 Fax: +1.905.335.4033



Property ⁽¹⁾		Unit of Measure	ThorPlas-White
Colour		—	Natural white
Specific Gravity		—	1.41
Hardness ASTM D2240		Shore-D	83
Ultimate Tensile Strength ASTM D638		MPa (psi)	70 (10100)
Elongation at Break		%	~5
Tensile Modulus of Elasticity ASTM D638		MPa (psi)	2770 (402000)
Poisson Ratio		—	~0.40
Compressive Strength ASTM D695		MPa (psi)	>350 (50763)
Compressive Stress at Yield (2% offset) ASTM D695		MPa (psi)	93 (13500)
Compressive Modulus of Elasticity ASTM D695		MPa (psi)	3300 (478000)
Notched Impact Resistance ASTM D256		J/m (ft.lb/in.)	40 (0.75)
Coefficient of Friction (0.27MPa or 40psi) ASTM D3702		—	0.15-0.3
Wear Rate (vs. mild steel Ra ~10 µin) ASTM D3702		mm ³ /hr (in. ³ /hr)	8x10 ⁻³ (5x10 ⁻⁷)
Abrasive Wear (Rotary Drum Dry Abrasion) ASTM D5963		mm ³ (in. ³)	200 (0.012)
Thermal Conductivity		W/m-k (Btu/hr-ft.F)	~0.25 (~0.14)
Coefficient of Thermal Expansion ASTM D696 (modified)		cm/cm/°C (-20°C to 100°C) (in/in/°F) (-4°F to 212°F)	5.4x10 ⁻⁵ (3.0x10 ⁻⁵)
Absorption % in Water (22°C), ASTM D570	24-hr	Vol % / Wt%	< 0.05 / <0.1
	Long-term	Vol%	< 0.3
Melting Temperature		°C (°F)	> 250 (> 480)
Operating Temperatures – Min/ / Max.	Dry	°C (°F)	-50 (-58) / 110 (230)
	In water ²	°C (°F)	-10 (14) / 80 (176)

Notes:

- 1) Appearance of ‘~’ is indicative of interpolated values from in-house testing or estimate for the class of polymer.
- 2) ThorPlas-White is certified for use in drinking-water systems without heating elements or devices.

The company reserves the right to change or amend the information and the related Technical Specification without notice.

NSF International

789 N. Dixboro Road, Ann Arbor, MI 48105 USA

RECOGNIZES

Thordon Bearings Inc.

Burlington, Ontario, Canada

AS COMPLYING WITH NSF/ANSI 51 AND ALL APPLICABLE REQUIREMENTS.
PRODUCTS APPEARING IN THE NSF OFFICIAL LISTING ARE
AUTHORIZED TO BEAR THE NSF MARK.



ANSI Accredited Program
PRODUCT CERTIFICATION
#0216
Certification Program
Accredited by the
American National
Standards Institute



Certification Program
Accredited by the
Standards Council
of Canada

This certificate is the property of NSF International and must be returned upon request. For the most current and complete information, please access NSF's website (www.nsf.org).

A handwritten signature in black ink, appearing to read "S Krol", written over a horizontal line.

October 27, 2014
Certificate# C0207448 - 01

Sarah Krol
Global Managing Director, Food Safety Product Certification



OFFICIAL LISTING

NSF International Certifies that the products appearing on this Listing conform to the requirements of
NSF/ANSI Standard 51 - Food Equipment Materials

This is the Official Listing recorded on October 27, 2014.

Thordon Bearings Inc.
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Facility: Burlington, Ontario, Canada

Trade Designation	Color	Type of food	Maximum Temperature of Use in °F
Thermoplastic Polyester for Food Zone ThorPlas-White	White	All food contact types	212°

Note: Additions shall not be made to this document without prior evaluation and acceptance by NSF International.

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April 26, 2018

RE: ThorPlas-White Complies with FDA Regulations – NSF/ANSI 51

To whom it may concern,

ThorPlas-White is an engineered thermoplastic alloy that was specifically developed to operate as a component used in the processing, production, or packaging of food products.

On October 27th, 2014 ThorPlas-White was approved by the NSF International Certification for NSF/ANSI Standard 51 – Food Equipment Materials for all food contact types up to temperatures of 80°C (176°F).

NSF International Standard/American National Standard for Food Equipment, designated as an ANSI standard dated October 5, 2014 published by NSF International, states that '**21 C.F.R. §§170-199, Food and Drug**' document constitutes provisions of the NSF/ANSI 51 Standard.

Based on the above certification and standard, ThorPlas-White complies with FDA regulations.

Thank you.

Sincerely,



Craig Carter
Director of Marketing & Customer Service