

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Stern Tube Bearing Material

with type designation(s)

Thordon SXL and Thordon COMPAC

Issued to

Thordon Bearings Inc.

Burlington ON, Canada

is found to comply with

Det Norske Veritas' Rules for Classification of Ships/High Speed and Light Craft

Application :

The bearing material is approved for use as water lubricated non-metallic stern tube bearing with a minimum L/D ratio of 2:1.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2017-12-31**.

Issued at **Høvik** on **2015-07-29**

DNV GL local station: **Montreal**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

Martin Strande
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.



Job Id: **262.1-020001-1**
Certificate No: **TAM000001G**

The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

Thordon SXL; Water lubricated non-metallic bush bearings, with axial grooves, in stave and sleeve bush (cylindrical) form in single and multiple segments.

Thordon COMPAC; Water lubricated non-metallic bush bearings, with axial grooves in the top half of the bearing, in stave in sleeve bush (cylindrical) form in single and multiple segments.

Manufactured by

Thordon Bearings Inc., 3225 Mainway, Burlington, Ontario L7M 1A6, Canada

DNV GL local office: Montreal

T-G DNALOP Sp. zo.o., Address: ul. Przemyslowa 11, 76-200 Redzikowo k., Slupsk, Poland

DNV GL local office: Gdansk

Responsibility

The Company (stated on the front page of this Certificate) takes the responsibility that both design and production are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

Application/Limitation

The bearing material is approved for use as water lubricated stern tube bearing with a minimum L/D ratio of 2:1.

Maximum nominal bearing pressure of 0.55 N/mm² and unlimited diametrical size.

Bearings to be fitted in accordance with the Manufacturer's recommendations in compliance with all applicable DNV GL Rules.

Type Approval documentation

Tests carried out

Type Testing carried out in accordance with **Type Approval documentation**.

Marking of product

The product to be marked with *manufacturer's name or trademark, place of production and type designation*.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV GL Type Approval Certificate.

Periodical assessment

The scope of the Periodical Assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

Periodical Assessment to be performed after two (2) years (Certificate Retention) and at renewal after four (4) years (Certificate Renewal).

The main elements of the Periodical Assessment are to:

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- Ensure that **Type Approval documentation** is available.
- Review design, materials, production process, and performance with respect to possible changes, in order to ensure compliance with **Type Approval documentation** and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV GLType Approval Certificate.

END OF CERTIFICATE