



Certificate No:
TAM00001AB

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Propeller Shaft Bearing Material

with type designation(s)
Tufcot T100 Marine

Issued to

Tufcot Engineering Ltd.
Sheffield, United Kingdom

is found to comply with

DNV class programme DNV-CP-0081 – Type approval – Synthetic bearing bushing materials

Application :

Synthetic propeller shaft bearing material.

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

Issued at **Høvik** on **2023-01-19**

for **DNV**

This Certificate is valid until **2028-01-18**.

DNV local unit: **UK & Ireland CMC & VMC**

Approval Engineer: **Gisle Hersvik**

Gustav Heiberg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Tufcot T100 Marine: Polyester resin based bushing material, incl. Molybdenum Disulphide powder and PTFE powder.

Application/Limitation

Fields of Application: - Stern tube bearings
- Propeller shaft bracket bearing

Lubricants: - Water

Nominal surface pressure: - 0,6 MPa, for the aft most propeller shaft bearing with a minimum length to diameter ratio of 2:1

Max. service temperature: - 70°C, maximum

Installation: - Press fit
- Freeze fit
- Bonding
- Mechanical retention

Dimensions: According to manufacturer's recommendations, ref. '*Tufcot T100 - Marine Engineering Manual*'.

The Type Approval is valid only when the installation/application of the product is according to the specified DNV Rules and the Manufacturer's recommendations, ref. '*Tufcot T100 - Marine Engineering Manual*'.

Any significant changes in design and/or quality of the material will render the approval invalid.

Type Approval documentation

1. Type Approval Assessment Report from DNV UK of 2022-11-03, incl. attachments.
2. Tufcot's TR0060 REPORT of November 2022 (testing for 'water lubricated bearing material approval').
3. Work Instruction: 'Tufcot T100 Marine Bearing Material – Evaluation Against 316 Stainless Steel Shaft'.
4. Material Safety Data Sheet – T100 Marine.
5. 'MATERIAL SPECIFICATION FOR T100 MARINE'.
6. R-TECH MATERIALS Laboratory Test Report Number: C20043-2 of 2021-02-17.
7. Documentation provided for the type approval certificate No. TAS0000329.
8. Application for Type Approval of 2022-05-05.

Tests carried out

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

Marking of product

Product shall be marked with *manufacturer's name* 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 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 assessments (for Certificate Retention / Certificate Renewal) shall be performed according to DNV-CP-0338.

This certificate is only valid if required Periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

END OF CERTIFICATE