



TYPE APPROVAL CERTIFICATE
No. MAC135615XG/002

This is to certify that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	Sterntube bearings
<i>Type</i>	TXM Marine bearings A) TXM MARINE STERNTUBE BEARINGS B) TXM MARINE RUDDER BEARINGS
<i>Applicant</i>	TRELLEBORG SEALING SOLUTIONS ROTHERHAM BRADMARSH BUSINESS PARK S60 1BX ROTHERHAM UNITED KINGDOM
<i>Manufacturer</i>	TRELLEBORG SEALING SOLUTIONS ROTHERHAM
<i>Place of manufacture</i>	BRADMARSH BUSINESS PARK S60 1BX ROTHERHAM UNITED KINGDOM
<i>Reference standards</i>	Part C, Chapter 1 Section 7 of RINA Rules

Issued in **Hamburg** on **September 10, 2015**. *This Certificate is valid until* **September 9, 2020**

RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure



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Enclosure - Page 1 of 1

TXM Marine bearings

Description of the products

a) Orkot TXM Marine sterntube bearings

Water lubricated synthetic sleeve bush bearings up to 1500 mm O.D.

b) Orkot TXM Marine rudder bearings

Water lubricated synthetic sleeve bush bearings up to 1500 mm O.D. for upper, middle and lower rudder stock and pintle bearings.

Reference documents

- Orkot Marine Bearings Engineering Manual V 4.1
- Test report named:
Orkot TLM Marine and TXM Marine - Friction and wear
Dry running Stop-Start 20 N/m² 1m/min

Fields of application

- a) **Orkot TXM Marine stern tube bearings.**
Length/diameter ratio not less than 2, for aft sterntube bearing.
Nominal bearing pressure up to 0,55 N/mm².
- b) **Orkot TXM Marine rudder bearings**
Nominal bearing pressure up to 10 N/mm².

Acceptance conditions

- For each application the relevant constructional drawings are to be sent to RINA Germany Plan approval.
- For sterntube bearings, forced water circulation with flow indicators is to be provided.
- The installation on board is to be made in accordance with the manufacturer's recommendations in compliance with all applicable RINA Rules.
- This type approval is valid on the assumption that the manufacturer of the aforementioned bearings assures, under his own responsibility, that the product characteristics are in accordance with the ones specified on the documentation submitted.
- The acceptance of the a.m. products on board ship and other units classed with RINA is subject to the satisfactory outcome of testing as per the RINA rules.
- The approval may be withdrawn by RINA in the case of changes in the design not brought to the knowledge of RINA or in the case of changes in the RINA rules.
- This Certificate is issued for uses allowed by the laws and acts of Government in force.

Remarks

This certificate annuls and replaces the previous MAC108010XG/002 issued on August 24, 2010.

Hamburg September 10, 2015

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