



中國驗船中心
CR Classification Society

Certificate No. 874-16-003

Date April 15, 2016

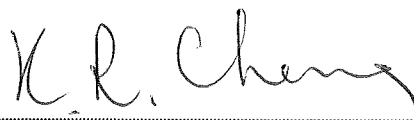
型式認可證書
TYPE APPROVAL CERTIFICATE
of
Marine Reinforced Resin Bearing

This is to certify that the **Products** manufactured by the works hereunder mentioned has been approved by this Society in accordance with the requirements given in **Part IV of Rules for the Construction and Classification of Steel Ships 2013** as an approved type for use in ships classed or intended to be classed with the Society.

Manufacturer : **Trelleborg Sealing Solutions Rotherham
Bradmarsh Business Park
Rotherham S60 1BX, United Kingdom**

Approved Products : **ORKOT "TLM Marine"
ORKOT "TXM Marine"**
- Synthetic Rudder Bearing Bushing and
Water Lubricated Stern Tube Bearing Materials

This approval is valid until May 30, 2021


K UEN-RONG CHENG 中國驗船中心總驗船師
Chief Surveyor
CR Classification Society

Product description:

ORKOT "TLM Marine" and "TXM Marine" : A synthetic fiber reinforced thermosetting resin composition.

Application / Limitation:

The approval is valid for rudder bearing bushing and water lubricated stern tube bearing materials.

Rudder bearing bushing:

Max. bearing pressure:

- 10 N/mm² for the synthetic bearing against steel, water or oil lubricated.
- 5.5 N/mm² for the synthetic bearing against steel, non-lubricated(dry running).

Area of application will be evaluated during approval of classified objects if the surface pressure of bearing bushing exceeds 5.5 N/mm².

Water lubricated stern tube bearing:

- Length / diameter ratio for stern tube bearing is not less than 2 : 1.

Documentation and data:

- CCS Works Approval Certificate No.: LD14W00002 valid until April 09, 2018.
- ABS Design Assessment Certificate No.: 02-LD328525-3-PDA and 02-LD328525A-2-PDA valid until Nov. 06, 2016.
- BV Type Approval Certificate No.: 04050/F0 BV and 09445/D0 BV valid until Aug. 06, 2019.
- DNV Type Approval Certificate No.: M-12017, S-7227 and S-7228 valid until Dec. 31, 2016.
- ORKOT "TLM Marine" and "TXM Marine" test report by Trelleborg Sealing Solutions Rotherham on July 2006 and September 2010 respectively.

Product Survey Requirement:

The ORKOT "TLM Marine" and "TXM Marine" Chocking are to be manufactured, examined and tested by Trelleborg Sealing Solutions Rotherham in accordance with the type described in this certificate and CR Rules for the Classification of Steel Ships.

Marking of Product:

The product are to be marked and labeled with:

- Manufacturer name and Product trade mark.
- Date of Manufacture and expiration.
- Storage condition and serial number.