DNV·GL

Certificate No:
TAM00000ZZ

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Stern Tube Bearing Material

with type designation(s)
ACM L2 Marine

Issued to
ACM Bearings Ltd
ROTHERHAM, United Kingdom

is found to comply with
DNV GL class programme DNVGL-CP-0081 – Type approval – Synthetic bearing bushing materials
DNV GL rules for classification – Ships
DNV GL rules for classification – High speed and light craft

Application :

Synthetic water lubricated propeller shaft bearing material. The Type Approval is valid only when the installation/application of the product is according to the DNV GL Rules and the Manufacturer's recommendations. Maximum nominal bearing pressure: 0.6 MPa.

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

Issued at **Høvik** on **2018-11-22**
This Certificate is valid until **2023-11-21**.
DNV GL local station: **Manchester**

Approval Engineer: **Gisle Hersvik**

for **DNV GL**

Rikard Törnqvist
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.

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Job Id: **262.1-017024-2**
Certificate No: **TAM00000ZZ**

Product description

ACM L2 Marine: A polyester resin bonded, polyester fibre reinforced Rudder Bearing Bushing Material with added friction modifiers (Molybdenum Disulphide and PTFE).

Application/Limitation

Fields of Application:
- Stern Tube/Propeller Shaft Bearings
- Propeller Shaft Bracket Bearings

Lubricants;
- Water

Surface Pressure;
- 0.6 MPa, maximum, for minimum length to diameter (L/D) ratio of 2:1 for the bearing next to propeller. For all the other positions, L/D ratio as per Manufacturer's recommendations.

Installation;
- Press fit
- Freeze fit
- Adhesive bonded
- Mechanical retention

Dimensions;
- As per DNV GL Rules and Manufacturer's recommendations.
- Min – max diameters (OD): 20 – 1800 mm
- Min – max thicknesses (WT): 8 – 120 mm
- Recommended/optimum wall thickness, ref. "ACM L2 Marine Engineering Manual Rev. 3.96" pg. 27 (Section 6.2.4 Wall Thickness).

Remarks;
- Stave type bearing is to be provided with longitudinal supporting ring or similar.

The Type Approval is valid only when the installation/application of the product is according to the specified DNV GL Rules and the Manufacturer's recommendations.

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

Type Approval documentation

Type Testing

Type Testing has been carrried out in accordance with **Type Approval documentation**.

Marking of product

Product/package shall be marked with *manufacturer's name*; **ACM Bearings Ltd., UK** and *type designation*: ***ACM L2 Marine***.

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 2 and 3.5 years (Certificate Retention) and at renewal after 5 years (Certificate Renewal).

The main elements of the Periodical Assessment are to:

- 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 GL Type Approval Certificate.

END OF CERTIFICATE