DNV·GL

Certificate No:
TAM00000G0

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Stern Tube Seal

with type designation(s)
Enviroguard WFS10-F-M & WFS10-P-M (Formerly known as ManeSeal MA & MD)

Issued to
Wartsila UK Ltd.
Havant HAMPSHIRE, United Kingdom

is found to comply with
DNV GL rules for classification – High speed and light craft
DNV GL rules for classification – Ships

Application :

Shaft sealing boxes are approved for shafting arrangement with water lubricated sterntube bearings. Survey interval for the propeller shaft: See page 2 of the certificate.

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

Issued at **Høvik** on **2017-03-08**
This Certificate is valid until **2021-12-31**.
DNV GL local station: **London**

for **DNV GL**

Approval Engineer: **Nadine Grace Mosteiro Halvorsen**

Oddvar Deinboll
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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Product description

Seal for water lubricated stern tube bearings

Application/Limitation

The seal is approved for shaft diameter 161-1040 mm.

Survey interval for the propeller shaft to be according to the Rules Pt.7, Ch.1, Sec.1 [1.6.6].

Type Approval documentation

Marking of product

The product to be marked with manufacturer's name or trademark and type number identification.

Periodical assessment

For retention of the Type Approval, a DNV GL surveyor shall perform an assessment after 2 years and after 3.5 years to verify that the conditions of the type approval are complied with. A renewal assessment will be performed at renewal of the certificate.

The objective of the Periodical Assessment is to verify that the conditions for the Type Approval are not altered since the Type Approval Certificate was issued. The main scope of the Periodical Assessment will normally include:

· Verification of the Type Approval applicant's production and quality system w.r.t. ensuring continued consistent production of the Type Approved products at the Type Approval applicant's own premises and at other companies that are given the responsibility for manufacturing of the products.
· Review of the Type Approval documentation and that this is still used as basis for the production
· Review of possible changes to the design, the material and the performance of the product
· Verification of the product marking.

END OF CERTIFICATE