DNV·GL

Certificate No:
TAM00000DF

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Stern Tube Seal

with type designation(s)
"KEMEL Compact Seal" CX and DX

Issued to
Eagle Industry Co., Ltd.- KEMEL Company
Takasago-shi, Japan

is found to comply with
DNV GL rules for classification – Ships

Application :

The sterntube seals are approved for oil lubricated shafts. The aft seal satisfy the requirements to seal for class notation TMON (Tailshaft Monitoring).

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

This Certificate is valid until **2021-12-31**.

Issued at **Høvik** on **2016-12-19**

for **DNV GL**

DNV GL local station: **Kobe**

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.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Job Id:
Certificate No: **TAM00000DF**

Product description

Sterntube seal for oil lubricated propeller shaft

Type CX - shaft diameter 125 mm - 1180 mm
Type DX - shaft diameter 140 mm - 1180 mm

Type	Specification
CX	Standard construction with 3 sealing rings in AFT seal and 2 sealing rings in FWD seal.
DX	Double security construction with 4 sealing rings in AFT and 2 sealing rings in FWD seal.

Application/Limitation

The aft sterntube seal satisfy the requirements to seal for class notation TMON (Tailshaft Monitoring).

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