



TYPE APPROVAL CERTIFICATE

Certificate No:
TAM00000DF
Revision No:
3

This is to certify:

That the Stern Tube Seal

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

Issued to
EAGLE INDUSTRY CO., LTD. Marine Division
Takasago, Hyogo Pref., Japan

is found to comply with
DNV rules for classification – Ships Pt.4 Ch.4 Rotating machinery – power transmission

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.

Issued at **Høvik** on **2022-01-25**

for **DNV**

This Certificate is valid until **2026-12-31**.

DNV local station: **Kobe**

Approval Engineer: **Geir Olav Moen**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Stern tube seal for oil lubricated propeller shaft

Type CX - shaft diameter 125 mm - 1180 mm

Type DX - shaft diameter 140 mm - 1180 mm

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

Application/Limitation

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

Type Approval documentation

Approved drawings:

Type	Drawing no.	Type	Drawing no.
KEMEL CX	CX-0301	KEMEL DX	DX-0301

and other documentation received with e-mail from DNV Kobe dated 2008-08-25..

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 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