

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Stern Tube Seal**

with type designation(s)

GS IS (Front seal), GS OS (Aft seal), Fully split GS OS (Aft seal), GS IS Polar seal (Front seal)

Issued to

**Maprom Engineering B.V.
Dordrecht, Netherlands**

is found to comply with

DNV GL rules for classification – Ships**DNV GL rules for classification – High speed and light craft**

Application :**The sterntube seals are approved for shafting arrangements 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.**This Certificate is valid until **2022-01-24**.Issued at **Høvik** on **2017-01-25****DNV GL local station: Rotterdam, Product
Certification /Verification**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.

Product description

Stern tube seal for shafting arrangements with water lubricated stern tube bearings.

Application/Limitation

GS IS: 85 mm – 1050 mm, 3 ¼"-42" propeller shaft diameter
GS OS: 85 mm – 1050 mm, 3 ¼"-41 ½" propeller shaft diameter
Fully split GS OS: 85 mm – 1050 mm, 3 ¼"-41 ½" propeller shaft diameter
GS IS Polar seal: 85 mm – 1050 mm, 3 ¼"-42" propeller shaft diameter

Survey interval for the propeller shaft to be according to DNV GL rules Pt.7 Ch.1 – 1.6.6

Type Approval documentation

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.