Certificate No: **2605070808301247**
TL Project No: **26-0612**

TYPE APPROVAL CERTIFICATE

This is to certify that the

Class A Bulkhead

Manufacturer	:	**ProfiSeal GmbH**
Address	:	**Schornsheim, Rheinland-Pfalz, Germany**
Product Type	:	**Dynamic Shaft Penetration ProfiSeal Series 500 fire resistant A-60 Bulkhead Seal**
Reference Rule	:	**TL Rules, Part E, Chapter 103 - Metallic Materials, Special Materials for Naval Ships, 01.01.2022** **TL Rules, Part E, Chapter 107 - Naval Ship Technology, Ship Operation Installations and Auxiliary System, 01.01.2022** **TL Rules, Part A, Chapter 2, Material, 01.07.2024** **TL Rules, Part B, Chapter 4 - Machinery, 01.01.2026**

Subject to the conditions referred to in the following pages, this certificate is valid until **07.05.2031**

Surveyor: **Sezer Mahir TUĞCU**

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Issued at **İSTANBUL** on **08.05.2026**

This document is electronically signed and does not require a manual signature

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Emrah SÖĞÜTÇÜ
New Building Division Manager
TÜRK LOYDU

Expire Date of Previous Certificate: -

For Information Only

This certificate is subject to terms and conditions described below:
Any significant change in design or construction may render this Certificate invalid. Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. This certificate is not valid for products without marking above mentioned. The manufacturer should notify TÜRK LOYDU of any modifications or changes to equipment in order to obtain valid certificate. This certificate shows that tested specimens as representative of the product complies of the TÜRK LOYDU rules, and relevant international instruments that apply to it.

Product	**: Class A Bulkhead**
Type of Product	**: Dynamic Shaft Penetration ProfiSeal Series 500 fire resistant A-60 Bulkhead Seal**
Product Description	**: "Dynamic Shaft Penetration ProfiSeal Series 500 fire resistant A-60 Bulkhead Seal" is a sealing ring assembly consisting of two stainless steel split housings with grooves in which split carbon sealing rings are fitted. The sealing ring assembly is fitted around the shaft, bolted to the class A-60 bulkhead and covered from both sides of the bulkhead with fire insulated split linings.** **On the side of the bulkhead exposed to the fire hazard the bulkhead seal is fully covered with a fire insulated split lining. This lining consists of Firemaster Marine Plus Insulation covered with a perforated steel sheet of 1.5 mm in thickness.** **From the opposite side of the bulkhead (unexposed to the fire hazard) a fire insulated split lining is mounted to the other side of the sealing ring housing through the cut out in the bulkhead.** **Insulation material used for fire insulated split lining:** **"Firemaster Marine Plus Blanket 38/50" made by Morgan Thermal Ceramics with a density of 128 kg/m³:** **- The nominal thickness is 38 mm for shaft penetrations up to Ø400 mm. For total insulation thickness and other details see assessment 20140917.1.** **- For shaft penetrations range of larger than Ø400 mm and up to Ø560 mm, thicker thermal insulation (used nominal thicknesses are 38 mm and 50 mm) combined with minimum 40 mm thick mounting flange on the bulkhead to be used. For total insulation thickness and other details see assessment No. 20170057 and assessment P000503200.**
Approval No / Date	**: - PAE-EPAS/024439/26-0612/OAK, 06.04.2026**
Test Pressure	**: 1 Bar**
Performed Tests	**: -Quality Management System Audit** **-Visual Inspections** **-Dimensional control acc. to approval drawings** **-Watertightness Test** **-Review of mechanical and environmental test reports** **-Relevant tests according to IMO 2010 FTP Code Part 3.** **were found satisfactory.** **- Type Approval documentation:** ***Test report No. 20140917 dated 3 June 2015 from MPA Dresden, Freiberg, Germany.** ***Assessment report No. 20140917.1 dated 17 March 2025 from KIWA MPA Dresden, Freiberg, Germany.** ***Assessment report No. 20170057 dated 17 March 2025 from KIWA MPA Dresden, Freiberg, Germany.** ***Assessment report No. P000503200 dated 1 April 2025 KIWA MPA Dresden, Freiberg, Germany.** *** Test report No. N14062F2 dated 9th of February 2015 and Ref. A0420238/262.1-024963-2 dated 22nd of August 2017**
Test Place	**: ProfiSeal GmbH, Schornsheim, Rheinland-Pfalz, Germany.**
Last Inspection Date	**: 07.05.2026**
Application/Limitation	**: - Approved for installation in a Class A-60 bulkhead for a shaft diameter from 50 mm up to 600 mm. Other applications are subject to case-by-case approval.** **- General application: fire against either side.** **- The sealing has been successfully tested according to water tightness for shaft penetrations up to Ø465 mm with leakage rate 56 ltr/hr (tested pressure 1 bar).**
Others	**: 1. Technical data, operating limits:** **- Shaft diameter 50 to 600 mm** **- Pressure max: 3 bar** **- Temperature: -5 to +70°C** **- Gliding speed max: 40 m/s**

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- Radial movement: +/- 5 mm

2. Material:
- Casing:
Up to max. 200°C Aluminium
Up to max. 500°C Stainless Steel
- Sealing ring
Up to max. 200°C Carbon Compound
Up to max. 500°C Artificale Carbon

Approval Conditions **: -**

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