

CERTIFICATE NUMBER22-2236614-PDAEFFECTIVE DATE25-APR-2022EXPIRATION DATE24-APR-2027ABS TECHNICAL OFFICEYokohama Engineering Services

CERTIFICATE OF

Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

EAGLE INDUSTRY CO., LTD. MARINE DIVISION

located at

TAKASAGO CITY

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product Seals, Shaft Seal

Model EVK

This Product Design Assessment (PDA) Certificate remains valid until 24 APR 2027 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau of Shipping

Takahiro Shibuya, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

Electronically published by ABS Yokohama. Reference T2236614, dated 25-APR-2022. EAGLE INDUSTRY CO., LTD. MARINE DIVISION 2-13-23, SHINHAMA, ARAI-CHO TAKASAGO HYOGO Japan 676-0008 Telephone: +81-79-442-8304 Fax: +81-79-442-3020 Email: dl-tsg-qa@kemel.com Web: www.kemel.com

Tier: 2 - PDA Issued

Product:Seals, Shaft SealsModel:EVKEndorsements:

Intended Service:

Water lubricated stern tube seal

Description:

EVK Size #50 - #690, Water lubricated stern tube seal with one seal ring to be lubricated by seawater or flesh water. EVK2RT Size #110 - #690 Water lubricated stern tube seal has two seal rings. Normally #1 seal rings to be lubricated by seawater or flesh water, #2 seal rings to be lubricated by flesh water.

Rating:

Shaft diameter: EVK 41mm to 700mm for #50 to #690, EVK2RT 101mm to 700mm for #110 to #690

Service Restriction:

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

- 2. Seals are to be installed in accordance with the manufacturer's recommendations.
- 3. Seals destined for facilities with an Ice Class Notation will be evaluated on a case by case basis.

Notes/Drawing/Documentation:

Drawing Number, Title 1. EVK-008_R04/Drawing EVK-008_R04 2. EVK2RT-001_R02/Drawing EVK2RT-001_R02

Terms of Validity:

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Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:

2022 Rules for Conditions of Classification, Part1: 1-1-4/9.7, 1-1-A3, 1-1-A4, which covers the following; 2022 Rules for Building and Classing Marine Vessel Rules: 4-3-2/1.5.1, 4-3-2/5.13.1

2022 Rules for Conditions of Classification - High-Speed Craft, Part 1-1-4/11.9, 1-1-A2, which covers the following; 2022 Rules for Building and Classing High Speed Craft: 4-3-1/23.1

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Tier: 2 - PDA Issued

National: NA

International: NA

Government: NA

EUMED: NA

OTHERS: NA