



CERTIFICATE NUMBER 23-2474010-PDA
EFFECTIVE DATE 24-November-2023
EXPIRATION DATE 23-November-2028
ABS TECHNICAL OFFICE Yokohama Engineering Services

CERTIFICATE OF Product Design Assessment

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

MIKASA CORPORATION

located at

HIROSHIMA 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 Bearing, Water Lubricated Stern Tube Bearings

Model Type-F(Full-mold Type), Type-F-CR(Full-mold Type, Crescent Design), Type-S(Segmental Type), Type-T(Barrel Type), Type-T-CR(Barrel Type, Crescent Design)

Endorsement: Other

This Product Design Assessment (PDA) Certificate remains valid until 23 November 2028 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

MIKASA CORPORATION

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Tier: 2 - PDA Issued

Product: Bearing, Water Lubricated Stern Tube Bearings
Model: Type-F(Full-mold Type), Type-F-CR(Full-mold Type, Crescent Design), Type-S(Segmental Type), Type-T(Barrel Type), Type-T-CR(Barrel Type, Crescent Design)

Endorsements:

Intended Service:

Water lubricated bearings for inland vessels, ocean going vessels, high-speed boats.

Description:

Friction free Bearing (F.F.B) Three layer structure: Special compound elastic rubber is sandwiched between Poly-tetra Fluoro Ethylene and outer metal shell.

Rating:

Type-F and Type-F-CR Shaft Diameter: 40mm - 450mm,
Type-S, Type-T and Type-T-CR Shaft Diameter: 200mm - 1000mm,
Bearing Length: $L \geq 2X$ (X: actual shaft dia.),
Average load on bearing: $\leq 6 \text{ kgf/cm}^2$,
Local load on bearing: $\leq 20 \text{ kgf/cm}^2$

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:

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

Notes/Drawing/Documentation:

Drawing No. --, Stern Tube Bearing Friction Free Bearing (FFB) Standard Measurements
Drawing No. -----, Submission of mill sheet for synthetic materials
Drawing No. -----, products Material Safety Data Sheet, Revision

Terms of Validity:

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STANDARDS

ABS Rules:

2023 Rules for Conditions of Classification, Part 1: 1-1-4/9.7, 1-1-A3, 1-1-A4, which covers the following:
2023 Rules for Building and Classing Marine Vessel Rules: 4-3-2/5.15.1

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Tier: 2 - PDA Issued

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA