



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

24-2522933-PDA
05-Apr-2024
04-Apr-2029
Houston ESD - Ship Equipment

CERTIFICATE OF Product Design Assessment

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

DURAMAX MARINE LLC

located at

17990 Great Lakes Parkway, , Hiram, OH, United States, 44234

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 Bearings
Model: Brass Sleeve Type, Non-Metallic Sleeve Type and Brass Flanged Type Rubber Bearings, Water Lubricated
Endorsements:
Tier: 3 - Type Approved, unit certification not required

This Product Design Assessment (PDA) Certificate remains valid until 04/Apr/2029 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

Mohamed C Boukamcha

Mohamed C Boukamcha, 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)

DURAMAX MARINE LLC

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Product: Bearing, Water Lubricated Bearings
Model: Brass Sleeve Type, Non-Metallic Sleeve Type and Brass Flanged Type Rubber Bearings, Water Lubricated

Endorsements:

Intended Service:

Marine Applications - Support of Propeller and Propeller Shaft, to be fitted in Vessel's Strut and Stern Tube (Johnson Cutless water lubricated bearings).

Description:

Water Lubricated Bearings based on Military Specification MIL-DTL-17901C (SH).

Class II, Cylindrical Bearings, with cylindrical shaped metal backing and internally molded rubber - Fully Molded Type.

Rubber-lined Naval Brass Sleeve/Non-Metallic Sleeve/ Naval Brass Flanged. Bearing Components, Bonded Synthetic Rubber.

Rating:

Brass Sleeve Type, Shaft sizes ¾" to 16";

Solid Brass Flanged Type for Strut or Aft Stern Tube, Shaft sizes 2" to 25";

Split Brass Flanged Type for Strut or Aft Stern Tube, Shaft sizes 2" to 25";

Solid Brass Flanged Type for Forward Stern Tube, Shaft sizes 2" to 25";

Split Brass Flanged Type for Forward Stern Tube, Shaft sizes 2" to 25";

Non-Metallic Sleeve Type for Shaft sizes ¾" to 16";

Metric Brass Sleeve Type for Shaft sizes 19 mm to 406 mm;

Metric Non-Metallic Type for Shaft sizes 19 mm to 406 mm.

Service Restriction:

Unit Certification is not required for this product.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. 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.
3. For Bearing's dimensions, material, quality inspection, tolerances, installation procedure, bearing and journal wear see Sleeve and Flanged Bearing Dimensional Catalog.
4. The length of bearing, next to and supporting the propeller, is to be not less than four times the required tail-shaft diameter as per 4-3-2/5.15.1 of the Marine Vessels Rules.

Notes/Drawing/Documentation:

Drawing No. 08162016, 2016 Class II Re-Qualification TR, Revision: -, Pages: 1

Drawing No. Duramax Marine-05S-2016-410-QT-2016-367, Corres. from US Navy, Revision: -, Pages: 1

Drawing No. Johnson Cutless Water lubricated bearings document, Johnson Cutless Water lubricated bearings document, Revision: -, Pages: 1

Drawing No. SK050117, Sleeve Bearing Details for ¾ in Shaft, Revision: -, Pages: 1

Drawing No. SK050217, Sleeve Bearing Details for ¾ in Shaft, Revision: -, Pages: 1

Drawing No. SK050317, Flange Bearing Details for 25 in Shaft, Revision: -, Pages: 1

Drawing No. SK050417, Flange Bearing Details for 2 in Shaft, Revision: -, Pages: 1

Drawing No. SK050517, Sleeve Bearing Details for 16 in Shaft, Revision: -, Pages: 1

Drawing No. SK050617, Sleeve Bearing Details for 16 in Shaft, Revision: -, Pages: 1

Terms of Validity:

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Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

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STANDARDS

ABS Rules:

The Rules for Conditions of Classification, Part 1 2024, 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following: 2024 Rules for Marine Vessels 4-3-2/5.15.1

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

MIL-DTL-17901C(SH)