



## Confirmation of Product Type Approval

**Company Name:** COLUMBIA INDUSTRIAL PRODUCTS

**Address:** 29538 AIRPORT ROAD UNIT A OR 97408 United States

**Product:** Bearing, Rudder

**Model(s):** CIP Marine

**Endorsements:**

<b>Certificate Type</b>	<b>Certificate Number</b>	<b>Issue Date</b>	<b>Expiry Date</b>
Product Design Assessment (PDA)	20-HS1953514-PDA	18-MAR-2020	17-MAR-2025
Manufacturing Assessment (MA)	20-4314547	09-JUN-2020	08-JUN-2025
Product Quality Assurance (PQA)	NA	NA	NA

### **Tier**

3 - Type Approved, unit certification not required

### **Intended Service**

Support of Rudder, Rudder Stock, Pintles, Steering Gear, and Fin Stabilizers

### **Description**

Rudder Bearings, Washers, and Wear Pads. Water, grease, or dry self-lubricated fiber reinforced composite bearings installed in stem casting or stern frame structure.

### **Ratings**

CIP Marine Cylindrical Bearings are supplied for Rudder Stock/Liner diameter sizes 1" (25 mm) to 65" (1650 mm).

Thrust Washers and Wear Pad Thickness: 1/8" to 3".

The Maximum Length to Diameter of the Bearing Surface is 1.2.

Maximum Nominal Bearing Pressure: 1450 psi (10 N/mm<sup>2</sup>) (See Comment 4).

### **Service Restrictions**

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

- 1) The clearance of non-metallic bearings is to be specially determined considering the material's swelling and thermal expansion properties. See 3-2-14/15.1.2(ii) of the Marine Vessel Rules.
- 2) The manufacturer's recommended minimum wall thickness for new bearing designs is 0.04 inches x the rudder stock/liner diameter plus 0.08 inches.
- 3) For bearing dimensions, clearance, machining, operating temperature, machining temperature, calculations, and installation procedure, see manufacturer marine engineering manual.
- 4) Allowable surface pressure for advanced synthetic compositions incorporating solid lubricant is indicated in 3-2-14/Table 6 of the Marine Vessel Rules.

### **Notes, Drawings and Documentation**

Document No. 50002, CIP Marine Material Spec Sheet, Revision: 00, Pages: 1

### **Term of Validity**

This Product Design Assessment (PDA) Certificate remains valid until 17/Mar/2025 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.

### **ABS Rules**

Rules for Conditions of Classification, Part 1 - 2020, 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2020 Marine Vessel Rules: 3-2-14/15.1;

2020 Yacht Rules: 4-1-1/3.3, 3-2-9/15.1;

Rules for Conditions of Classification - High-Speed Craft, Part 1 - 2020, 1-1-4/11.9, 1-1-A2, 1-1-A3, which cover the following:

2020 High-Speed Craft Rules: 3-2-8/15.1

### **International Standards**

NA

### **EU-MED Standards**

NA

### **National Standards**

NA

### **Government Standards**

NA

### **Other Standards**

Manufacturer standard



A handwritten signature in blue ink, appearing to read "Joseph W. White".

Corporate ABS Programs  
American Bureau of Shipping  
Print Date and Time: 30-Nov-2021 3:32

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

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 prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.