



Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	Tides Marine
Address	3251 - A SW 13th Drive, Deerfield Beach, FL, 33442, United States
Place of Production	Tides Marine 3251 - A SW 13th Drive, Deerfield Beach, FL, 33442, United States
Type	Rudder Stock Bearings
Description	Rudder Bearings
Trade Name	Rudder Bearings URB-STD/LP/TS, RPB - A to H, RPB-I
Type	Shaft Seals
Description	Propeller Shaft Seal
Trade Name	FSK Sure Seal
Application	Shaft Seals for Propeller Shafts Rudder Bearings
Specified Standard	Lloyd's Register Rules and Regulations for the Classification of Special Service Craft, July 2022

Praveen Dwarakanath
Specialist-Engineering Systems to Lloyd's Register Canada Limited
A member of the Lloyd's Register group



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Lloyd's Register Rules and Regulations for the Classification of Ships, July 2022

Ratings

1. Propeller Shaft Seals:

Model FSK -Sure Seal:

- Size - 3/4 inch to 8 inch
- Maximum Speed 10,000 rpm
- Water temperature range 32 to 90 degrees Fahrenheit

2. Rudder Bearings:

2.1. Model URB - STD/LP/TS

- Description- Upper Rudder Bearings
- Stock size range 1 inch to 8 inch

2.2. Model RPB - A to H:

- Description - Rudder Port Bearings & Seals
- Stock size range 1inch to 8 inch

2.3. Model RPB-I:

- Description - Rudder Seal with hose
- Size- 3/4 inch to 3.5 inch

Other Conditions

1. The product is to be installed in accordance with the Manufacturers recommendations.
2. All work is to be carried out to the attending surveyors satisfaction.
3. Rudder bearing materials are provisionally approved for 5.5 N/mm². Approvals up to 10N/mm² will be considered on a case by case basis where satisfactory service on a Lloyd's Register classed vessel can be demonstrated.
4. All flexible hose assemblies are to be satisfactorily burst tested to withstand a pressure of not less than four times the design pressure without indication of failure or leakage.
5. The propeller shaft seals are not to be used as the primary water seal.



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This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Canada Limited of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: 09/60016(E2)

The Design Appraisal Document LR22498848TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

