![Lloyd's Register logo]

# Type Approval Certificate Extension

*This is to certify* that Certificate No. 09/60016 for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

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| **PRODUCER** | Tides Marine |
| **PLACE OF PRODUCTION** | 3251A S.W. 13th Drive,<br>Deerfield Beach,<br>Florida 33442<br>USA |
| **DESCRIPTION** | Sure Seal Drive Shaft Seal and Rudder Bearings |
| **TYPES** | Propeller Shaft Seals – FSK<br>Rudder Bearings URB-STD/LP/TS, RPB – A to H, RPB-1 |
| **APPLICATION** | Shaft Seals for Propeller Shafts<br>Rudder Bearings |
| **SPECIFIED STANDARDS** | Lloyd's Register's Rules and Regulations for the Classification of Ships;<br>Lloyd's Register's Rules and Regulations for the Classification of Special Service Craft |
| **RATINGS** | **Propeller Shaft Seals**<br>    **Model FSK – Sure Seal**<br>        Size – ¾ to 8'' (20mm – 205mm)<br>        Maximum Speed 10,000 rpm<br>        Water temperature range $32^{o}$ to $90^{o}$ F<br>**Rudder Bearings**<br>    **Model URIB – STD/LP/TS**<br>        Description - Upper Rudder Bearings<br>        Stock size range 1'' to 8'' (25mm – 205mm) |
| **Certificate No.** | 09/60016 (E2) |
| **Issue Date** | 16 August 2017 |
| **Expiry Date** | 15 August 2022 |
| **Sheet** | 1 of 2 |

Ben Hipwell
Southampton Office
**Lloyd's Register EMEA**
LR031.1.2016.06

![Lloyd's Register stamp]

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Southampton Technical Support Office
Marine & Offshore Lloyd's Register

*Lloyd's Register EMEA*
*71 Fenchurch Street, London EC3M 4BS*

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| **RATINGS CONT.** | | **Model RPB A to H**<br>Description -  Rudder port bearing & seals,<br>Stock size range 1'' to 8'' (25mm – 205mm)<br>**Model RPB-1**<br>Description – Rubber seal with hose<br>Size – ¾'' to 3½'' (20mm – 90mm) |
| **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 $5.5\,N/mm^2$. Approvals up to $10N/mm^2$ will be considered on a case by case basis where satisfactory service on a Lloyds Register classed vessel can be demonstrated, |
| | 4. | The propeller shaft seals are not to be used as the primary sea water seal. |

*"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 EMEA of any modification or changes to the equipment in order to obtain a valid certificate."*

*The attached Design Appraisal Document No. 09/60016 (E2) and its supplementary Type Approval Terms and Conditions form part of this Certificate.*

All other details remain as the previous Certificate No. 09/ 600161(E1) to which this extension should be attached.

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| **Certificate No.** | 09/ 60016 (E2) |
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