

Case Study:

Retractable fin stabiliser using Bi-O-Lion® Solosele® (KB Hydro)

Problem

The customer was experiencing excessive leakage and failure caused by the split seal design and poor compatibility with Environmentally Acceptable Lubricants (EALs). The high frequency of failure was resulting in costly repairs and risk of fines through leakage of lubricant.

Leaks causing costly repairs

Application

Sealing system for the crux pivot element of a retractable fin stabiliser, designed for use on large vessels such as cruise liners, ferries and naval vessels.

- Media: EAL Lubricant (Bio-Oil) one side, sea water the other
- Speed: slow rotary, with long periods static
- Temperature: seasonal/regional water temperature
- Required service life: 5 years

Existing solution

Split v-type packing set

James Walker solution

Custom designed Solosele® KB Hydro seals, manufactured in Bi-O-Lion® material, designed to operate with (EAL) and with on-site joining (OSJ-D) capability. The Solosele KB Hydro OSJ-D design provides the leak-free performance of an endless seal with the ease of fitting and major time savings associated with a split seal. In addition the Bi-O-Lion material combination enables the seal to perform for the planned service interval life in an aggressive EAL/sea water sealing interface environment.



Results and benefits

The Bi-O-Lion® Solosele® KB Hydro OSJ-D solution was fitted to a retractable fin stabiliser unit by expert James Walker fitting personnel and extensive leakage tests conducted in a workshop environment. The result being trouble-free operation with no leakage. Subsequently a large number of retractable fin stabiliser units have been fitted with this solution for seagoing vessels. James Walker personnel usually carry-out the installation because the costs of seal failure or leakage are so prohibitive and the damage to the customer's reputation if there's leakage is so severe.

'Peace of mind' for the customer's engineers



Reduction in maintenance requirements



Zero leakage eliminates risk of environmental fines



Leak-free operation with guaranteed 5 year operational life



Potential dry-dock maintenance cost savings of up to £100k per day

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