

## ENVIRONMENTALLY FRIENDLY BEARING SOLUTIONS

# WORRY-FREE TRAVEL FOR SEABOURN ELITE



*Seabourn Odyssey installed with COMPAC seawater lubricated propeller shaft bearings*

Vacationers on luxury cruises don't necessarily understand – or even care about – the propeller shaft bearings that help propel them to exotic destinations. Nor are they impressed when you cancel their cruise because of a bearing failure.

It was after this happened not once, but twice, that Carnival Corporation began

the shift to Thordon COMPAC propeller shaft bearings. Chris Joly, Carnival's Principal Manager of Marine Engineering, was so impressed with the new bearings' performance that word quickly spread within the corporation.

"Water lubricated bearings are the present for many of our ships," wrote Joly in a testimonial to Thordon Bearings Inc. "I would like to see them for all of our future ships."

By the time this article goes to print, Carnival will have Thordon COMPAC propeller shaft bearings on 10 of its Princess Class cruise ships.

"Once Carnival had installed COMPAC bearings on the first ships," says Stefano Resaz

of Pedrotec, Thordon distributor in Italy, "they were so happy that all sister ships have been designed with the same bearings."

When Carnival introduced its upcoming line of extreme luxury vessels, Thordon Bearings was the obvious choice. Two Seabourn Cruise ships, which Resaz describes as "superluxury megayachts," are set to install COMPAC propeller shaft bearings. The first of these is *Seabourn Odyssey*, which travels at a cruising speed of 19 knots, has a crew size of 335, guest capacity of 450, and gross tonnage of 32,000. The ship is targeted for delivery in June 2009 in Genoa, Italy.

In the COMPAC propeller shaft bearing system, clean seawater is

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Finnish Navy contact Jukka-Pekka Majanen.

After 2000 hrs. running time, a visual inspection was made; both bearings appeared to be in good condition on the surface, with slightly more wear and minor dents on the rubber bearing. The shaft, however, had “clearly more wear on the rubber bearing side,” wrote Majanen. “Clearances (dry) were 0.6mm (0.0236”) with the Thordon GM2401 bearing, and 1.2mm (0.047”) with the rubber bearing.”

Based on the test results, Majanen recommended that the Navy switch to Thordon GM2401 bearings in these applications, or at least widen the testing.

Based on a direct field comparison with similar working conditions, and after 2000 hrs of running time, the measured wear on the GM2401 bearing was significantly lower (by a factor of 2) in relation to that of the rubber bearing. Even when water absorption effects were discounted, the wear on the GM2401 bearing was negligible. Although the condition of the rubber bearing surface appeared acceptable, the fact that the clearances had increased from 0.3mm (0.0118”) to 1.2mm (0.047”) after the first period deemed the bearing unusable for the tight tolerances required for this propulsion system. **Nw**

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pumped to the “A” bracket and the aft stern boss bearings as the lubricating medium and flows through the bearings to the sea. No aft oil seal and no oil in the stern tube saves on shaft line servicing costs of the shaft line and eliminates the risk of stern tube oil pollution. Carnival Corporation have switched to Thordon Bearings for these reasons and more.

An open system makes it possible to inspect or change a bearing without removing the shaft. “The added advantage is that the COMPAC tapered key system allows inspection of the bearing and shaft journal without pulling the shaft,” said Joly. “To date, our experience is that COMPAC bearings with Inconel journals will mean worry free shaft lines for the life of the vessel.”

Seabourn’s intimate, yacht-like cruisers promise highly personalized service, all-suite accommodations, superb cuisine and exceptional delivery of the most desirable destinations worldwide.

Travellers pay top dollar for the privilege of cruising with Seabourn. And they also benefit from durable, pollution-free bearings – whether they see them or not – that meet Seabourn’s rigorous standards for top quality, *crème de la crème*, best of the best. **Nw**

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