

Cold corrosion fears ended by a move to Mobilgard™ 5100

The use of Mobilgard 5100, a 100BN cylinder oil, combated cold corrosion at a feed rate up to 31 per cent less than an industry standard 70BN cylinder oil alternative.

Product: Mobilgard 5100

Engine: MAN 6S80ME – C9.2

Date: June 2015

Benefits summary

A newly launched 48,000 gross tonnage container vessel, powered by a MAN 6S80ME – C9.2 main engine, underwent sea trials organised jointly by MAN Diesel & Turbo and ExxonMobil to monitor the performance of Mobilgard™ 5100. The aim was to measure the ability of the 100BN cylinder oil to mitigate the effects of cold corrosion. On board and laboratory tests proved that the oil not only achieved this objective, it also enhanced engine cleanliness.

Situation

Prior to the vessel's launch MAN made its owners aware that the engine could be prone to cold corrosion when slow steaming. It was therefore agreed to conduct a trial of a 100 BN cylinder oil to see if it would offer better protection than a standard 70 BN alternative. During the tests the vessel ran at a slow-steaming pattern of between 20 to 30 per cent load.

Solution

Throughout the trials cylinders one, two and three were lubricated with Mobilgard 5100 while cylinders four, five and six were used as reference units and lubricated with Mobilgard 570™ a 70BN oil.

Analysis of cylinder oil scrape down samples enabled engineers to gauge wear levels and the results



The liner wave cut marks were still clearly visible on all units

showed that Mobilgard 5100 not only prevented the effects of cold corrosion, it also produced visibly cleaner pistons and liners.

The sweep test results for Mobilgard 5100 clearly showed its ability to protect against cold corrosion at low feed rates

The results confirmed that the cylinder oil offered this performance at feed rates as low as 0.75g/kWh. The data indicated no perceptible difference in performance between the industry standard 70BN oil at 1.1g/kWh and Mobilgard 5100 at 0.75g/kWh, findings conformed by an independent third party laboratory.

An inspection at the end of test showed that the engine was in very good condition with the liner

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honing marks clearly visible on all units, with only light deposits on the top ring-lands.

Impact

The trials clearly demonstrated Mobilgard 5100's ability to prevent cold corrosion. The cylinder oil's high BN also enabled feed rates to be reduced by up to 31 per cent compared with an industry standard 70BN alternative, which minimised lubrication costs while also ensuring liner and piston cleanliness.

For more information about Mobilgard 5100, please contact your ExxonMobil Marine Fuels & Lubricants representative or visit www.exxonmobil.com/marine