

Open gear lubrication

Spanish shipyard optimises lubrication of winches with Klüberplex AG 11-462

Core benefits:

- **Excellent protection against extreme environmental conditions such as salty air, tropical temperatures, wave impact, etc.**
 - **Reliable operation of winches and longer gear and bearing life**
 - **Significant reduction in lubricant consumption and maintenance costs**
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Business issue and objective

One of the leading shipbuilding groups in Europe also operates its own ships, i.e. tug boats with towing winches, was engaged to ascertain the expectations of the most demanding ship owners and to offer added-value in their products as part of the continuous process of optimisation of components operating conditions within the group. Consequently, the group was getting involved in speciality lubricants in order to offer the performance they intend to provide for their customers and their own tug boats.

Application

HATLAPA towing winch:

Open gear with a tooth width of 115 mm and a pinion diameter of 850 mm. The open gear is continuously in contact with aggressive atmosphere and even directly with sea water. The machinery may be subjected to very low as well as high temperatures depending on the climate zone of operation. The whole system works under extremely high loads including shock loads. Absolute reliable operation of the tug boat winches is crucial; the lubrication of open gears plays a critical role in this respect. The company noted that standard lubricants

might not guarantee optimum wear protection and lubrication of tooth flanks. Possible consequences could be corrosion, increased wear of the gear teeth and in the worst case gear failures.



Solution

Having thoroughly investigated the application and operating conditions, Klüber Lubrication

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Ibérica proposed the use of Klüberplex AG11-462 adhesive gear grease. All aspects of a change from a standard lubricant to Klüberplex AG 11-462 were discussed with the persons in charge of the departments concerned in the shipbuilding group's headquarters.

The result was a recommendation for a first test with the adhesive lubricant Klüberplex AG 11-462 on one winch.

The technical management as well as the maintenance department and the Superintendent / Inspector of the Tug Boat where the test was done were involved in the decision to start working with Klüberplex AG 11-462.

During the testing period, two main aspects attracted the attention of the shipyard's team:

- the good performance of Klüberplex AG 11-462, especially the excellent adhesion properties, the stability and the capability to work under high load conditions

- the competent service and technical support provided by the Klüber Lubrication technician in charge

The test was finalised with very positive results. As a consequence, the shipbuilding group decided to cooperate with Klüber Lubrication in further lubrication matters and in a first step to switch over to Klüberplex AG 11-462 for the lubrication of winches on all their 15 tug boats. The changeover was carried out during regular maintenance including re-lubrication.

Benefit

Due to the excellent adhesion properties of Klüberplex AG 11-462, no lubricant dripped off and the consumption of lubricant was reduced, resulting in cost savings. Re-lubrication intervals are prolonged thanks to the good adhesion as well as the long-life properties of the speciality lubricant.

Even after prolonged periods of standstill Klüberplex AG 11-462 maintained its good lubrication properties and corrosion protection.

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Further savings in maintenance costs were achieved as much less cleaning activity was necessary.

Klüberplex AG 11-462 is a high-performance speciality lubricant suitable for further applications on a ship, e.g. for lubrication of slow turning and high loaded rolling and plain bearings or lubrication of steel wire ropes and spooling devices on winches or liners for towing pins and for davits, the number of lubricants needed on deck could be reduced. This resulted in less storage cost and less danger of lubricant mix-up.

Up till now, all open gears lubricated with Klüberplex AG 11-462 on the tug boats work reliably without a single failure – which means an increase in operating safety.

Additional information

The shipbuilding group's declared goal is to offer the best possible products to their customers. By their partnership with Klüber Lubrication they experienced that the lubricants recommended by the OEMs sometimes offer potential for optimization. The headquarters now intends to share their experience with their suppliers by demonstrating that there might be better lubricants with better performance in the market than those traditionally purchased.