Reduce wear and costs – with lube oil additive

A LUBRICANT additive that creates a highly durable film between moving metal parts greatly reduces friction, cuts costs and wear, vibration, noise and operating temperatures.

Belesta works by a technology that bonds the lubricant to the metal through a process similar to magnetism. This makes it cling to the surface much more strongly and for much longer than an ordinary lubricant, says the manufacturer.

It also has powerful penetrating and anti-corrosion properties and is designed for use in gearboxes, hydraulics, transmission, turbines, compressors and all metal rotating equipment.

The friction reducing lubricant is added to the existing lubricant at a ratio of 5% by volume. It does not harm the main lubricant and is environmentally 'clean'.

Belesta is marketed by a division of Belzona Polymerics Ltd of Harrogate, a name well known in the fishing industry for its materials for making on the spot repairs to piping aboard vessels and many other uses.

Belesta LC is the gearbox lubricant additive form of the product, Belesta XPG is a high pressure grease, and Belesta PL is a penetrating lubricant.

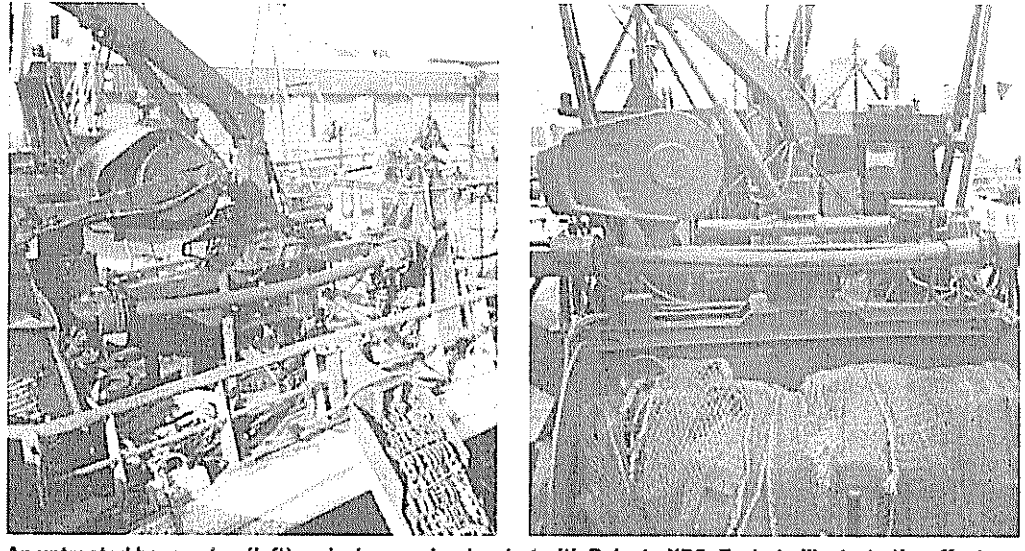
An impressive 'Timken' test carried out at Belzona's factory in Harrogate showed clearly Belesta's ability to reduce wear and friction.

A small standard roller bearing was brought into contact with an electrically driven rotating bearing race, using a torque wrench.

The bearing race rotated in an oil bath filled with a standard ISO quality oil and pressure was increased by bearing down on the torque wrench.

Without the additive, friction between the two surfaces became apparent at about 40ft/lbs pressure, with the gauge that indicated the pressure about half way up the scale. As further pressure was applied the metal began to 'squeal', indicating metal to metal contact, and the machine began to run more slowly.

The roller bearing was then replaced and the test repeated using an added 5% Belesta. The difference was striking.



An untreated banana bar (left) and a banana bar treated with Belesta XPG. Tests to illustrate the effects of using Belesta show a dramatic reduction in friction when it is added to the basic lubricant.

When the pressure indicator was at 40ft/lbs, the same level at which the pressure had begun to take effect without the additive, there was no effect. Pressure was increasingly applied to the limit of the torque wrench, around 150ft/lbs, but even with this level of pressure, the effects were minimal.

Also, on examining the bearing race after each test, it was clear that much more lubricant was adhering to it when Belesta was used than without it.

Examination of the roller bearing also showed a much deeper groove as a result of the friction between the two metal surfaces without the additive than was the case when Belesta was used.

Laboratory tests to determine the amount of material scored out of the roller bearing with and without Belesta consistently show an improvement of a factor of 100 to 130 using Belesta, or even 150 depending on the basic lubricant used, says Belzona's Andrew Parker.

Belzona also reports than when Belesta is used aboard fishing vessels, there is a noticeable reduction in noise and vibration of machinery.

The grease version of Belesta, the XPG, also brings big advantages when used aboard fishing boats, because of its superior adhesive properties.

The skipper of one vessel reported that he had been able to reduce the greasing interval on his guiding on gear from three days to two or three weeks, with no ill effects.

Another skipper of a boat with its winches well forward said Belesta was the only grease he had found that would withstand being continually being swept by the seas without being washed away

A test Belzona carried out on a gearbox in a sewage plant ashore showed a power saving of £1,134 a year from reduced friction, including the £101 cost of the Belesta additive.