July 10, 2014

Case Study: NanoLub® GH-X EP Grease Additive with HJ 208 Type Bearings

Main Finding: A 48.5% increase in service life of bearing type HJ 208.

Client

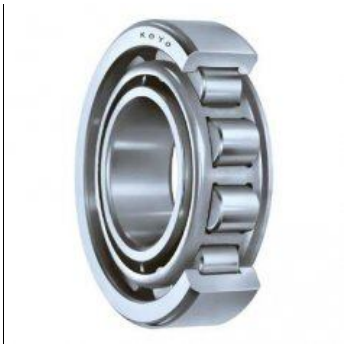
Leading European Bearing Manufacturer

The test purpose was to measure the impact of Nanolub® GH-X EP Grease Additive on durability of Bearing type HJ 208.

The tests were conducted on bearing type HJ 208, lubricated with Liton EP2 neat grease vs. same Liton EP 2 grease formulated with Nanolub® GH-X EP Grease Additive (4% treat rate). Both tests were conducted on 20 samples of HJ 208 bearings for each test and under the same test conditions.

The tests were run at testing station RAH-2D. The tests were carried out until 5 bearings dropped out during the process from each bearing set.

Bearing HJ 208



Test conditions:

Test equipment used: RAH - 2D	
Radial load:	9990 N
Axial load:	0 N
Method of testing:	Until the first bearing dropped out from each tested group
Test frequency limit:	7300 /min
Type of used lubricating grease 1st test	Liton EP2

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2nd test	Liton EP2 +NanoLub GH-X (4% Treat Rate)

Test results:

	Liton EP2	Liton EP2 +NanoLub
L 10 million revolutions	**41.44**	**61.52**

The calculation of the durability results was performed according to ISO 281, PN 5 0209 standard. Test result was calculated using Weibull method according to methodological guideline of Manufacturer's mathematical-statistical evaluation of tests performed according to PN 5 0209.

Conclusions:

Nanolub® GH-X EP Grease Additive was shown to have a positive impact on bearing durability as its usage in Liton EP 2 grease, led to an increase of the service life of the bearings by 48.5%