RBI BEARING

Bearings + Technology + Solutions

ARMOR

BEARING TECHNOLOGY & PROTECTION

REDUCE DOWNTIME & OPERATION COSTS WITH ARMOR BEARING TECHNOLOGY & PROTECTION FOR PRIMARY METALS.

BY RBI BEARING // 1-800-708-2128

www.rbibearing.com

Reduce bearing failures with ARMOR BEARING TECHNOLOGY & PROTECTION.

Bearing failure accounts for a large majority of industrial mechanical failures.

RBI Bearing now offers new technologies & protection to reduce bearing failure and extend the bearing life, which means less downtime and reduced repair costs.

ARMOR Nano Technology - Bearing Treatment

ARMOR Permanent Lubrication - Bearing Treatment

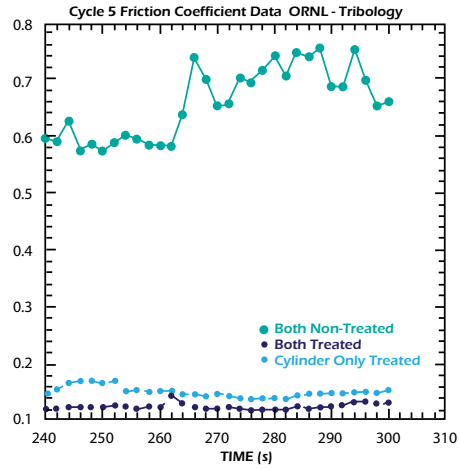
ARMOR Nano Technology

This unique treatment is proven to reduce friction by 99% and greatly extend bearing life.

Unlike other friction reducing products, *this is not a coating*. It is a procedure that fuses calcium molecules into the molecular fabric of the metal. Challenging environments involving heat, pressure, or friction activate the calcium causing the particles to elongate and form a protective barrier that reduces friction and lubrication requirements while substantially increasing the lifespan of the bearing - *reducing downtime and operating costs*. This isotropic nanotechnology treatment was shown by Oak Ridge National Laboratories to reduce friction by 99% when both pieces of metal are treated.

BENEFITS:

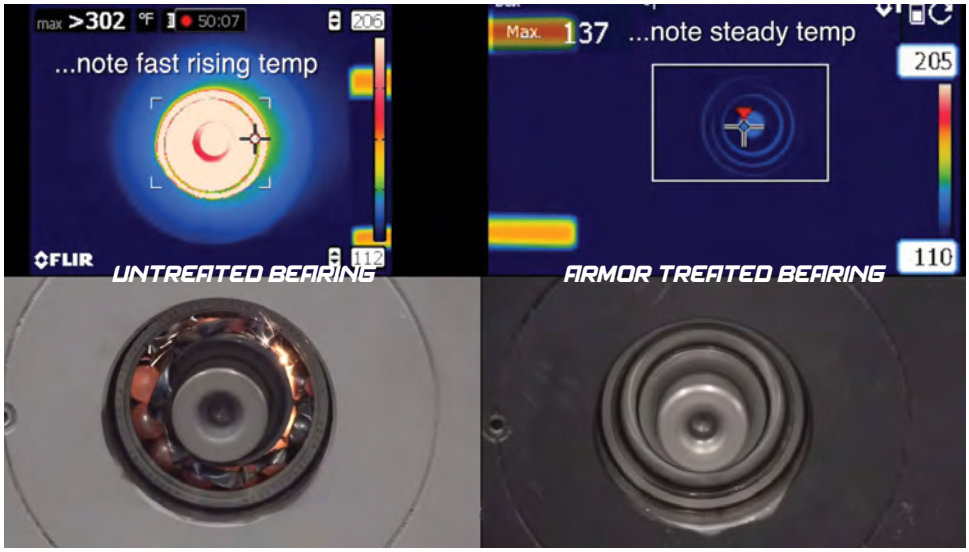
- Reduces metal to metal friction by 99% when both piece of the metal are treated
- ARMOR is a permanent treatment in the metal
- Fuses calcium molecules into the molecular fabric of the metal
- Heat & pressure cause the nanoparticles to elongate forming a protective shield
- Operates in temperatures up to 900°
- Significantly extend the bearing's life
- Does not alter the dimensional tolerances of the bearing
- Increases efficiency & production
- Saves time and operation costs



Comparison of friction vs time behavior of three conditions under the last cycle of a variable load friction test. (DOE Proposal No. NFE-12-04150, 2012)

ARMOR NANO TECHNOLOGY TEST:

- Two identical bearings stripped of all lube, one treated with ARMOR technology
- Both ran under 400 lb. loads
- Both ran at a constant 3,600 RPM
- More than 100 hours of testing
- Untreated bearing failed at the 49 minute mark & estimated temperature of >900°
- ARMOR treated bearing was like new & the highest recorded temperature was 140°



ARMOR NANO TECHNOLOGY APPLICATIONS:

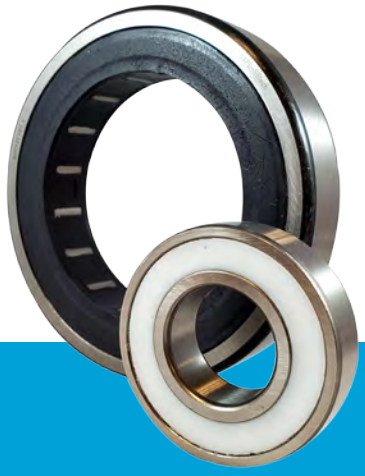
- Conveying
- Roll Stands
- Ladles
- Straighteners
- Coils
- Pickling Lines
- Most High Temperature Applications

ARMOR Permanent Lubrication

Helps block debris, reduce foreign contamination and significantly extending bearing life.

This solid lubricant with an oil-filled porous structure fills the space between the rolling elements and races in a bearing, providing constant and consistent lubrication. There is no need for additional lubrication during the life of an ARMOR filled bearing.

Because it is a solid, ARMOR Permanent Lubrication can help block debris and reduce foreign contamination of the bearing. Reducing the incursion of debris into the bearing can significantly extend the bearing's life. The solid structure of ARMOR also improves equipment maintenance, as it will not drip out of the bearing and contaminate the environment. Filling bearings with ARMOR solid lubricants does not alter the dimensional tolerances of the bearing. ARMOR solid lubricant simply fills the spaces between the rolling elements and the cage.



BENEFITS:

- Polymer solid lubricant
- Provides constant & consistent lubrication
- Helps block debris & reduce foreign contamination
- Armor Permanent lubrication can be used in any application below 350° F where proper lubrication may be a problem
- Significantly extend the bearing's life
- Reduces equipment maintenance costs
- Does not drip out of the bearing & contaminate the environment
- Does not alter the dimensional tolerances of the bearing
- Saves time & operation costs
- Environmentally friendly

Call 1-800-708-2128 to arrange a test with ARMOR BEARING TECHNOLOGY & PROTECTION.

Don't let bearing failure cause you expensive downtime.

RBI BEARING
Bearings + Technology + Solutions

The University of Akron – College of Engineering

TESTING OF NANO TECHNOLOGY TREATED AND UN-TREATED AISI 52100 STEEL BEARINGS

"The nano technology treated bearings outperformed the untreated bearings significantly in the micro-pitting, and nano technology treated bearings were able to achieve more than 34% more cycles to failure than untreated bearings in the scuffing tests. In my opinion, nano technology could provide a significant benefit to the performance of rolling element bearings in many applications. Based upon our test results, it looks like you have something of value to rolling element bearings in nano technology. Congratulations."

Gary L. Doll PH.D., F-ASM, F-STLE
Timken Professor of Surface Engineering

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