



**The Challenge is to
reduce the coefficient of
friction as much as
possible.....**

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Product ART-Additive for Industrial Segment: Industrial Lubricant Additives



- ✓ **Save Energy**
- ✓ **Reduce Noise & Vibration**
- ✓ **Save Environment**
- ✓ **Enhance Efficiency**
- ✓ **Improve Performance**



What is ART ?

The revolutionary ART(**A**utomatic **R**econditioning **T**echnology also known as Self Restoration Technique) Nano-Additive ceramic coating technology by Kings Art, Inc, may provide a significant restoration of your engine without disassembly. ART Nano-Additive can be used in **Diesel, Gasoline, CNG/LNG/Ethanol Engines**, and other **rotating/ reciprocating assemblies** (gears, bearings, Industrial Equipment etc.) where metal-to-metal contact produces wear. With the use of ART additive in your lubricating fluid, reduction of friction is very significant. This product has been tested extensively and is being used around the globe - in China, India, the USA and Thailand, and has been patented both in the United States as well as in Europe.

ART Nano- Additive has wide spread use in a number of industries, and the results have been extremely positive, with a significant decline in engine emission levels, energy savings up to 20% or more, an increase in time between scheduled maintenance, and an increase in engine performance. Some users have reported an engine life extension by almost two-fold. More details are available on the company website at www.kingsartka.com or www.kingsart.net.

Even with quality motor oils, when you drive your car friction gradually causes wear between critical-fit parts (piston and cylinder, for example), resulting in microscopic abrasion between the piston rings and cylinder walls. In high-mileage engines this abrasion is the reason for loss of compression and results in excessive blow-by. By the time an engine reaches 60,000+ miles or so, most cylinders will have lost 10% to 25% of original compression. Since no two cylinders are identical, uneven compression levels across the cylinders might show a variation of 20-60 PSI between cylinders in the same engine. Compression loss results in lower horsepower output, increased oil consumption, and sludge formation due to combustion blow-by. Historically, an expensive tear-down and rebuilding of your car or truck engine would be necessary to restore your engine's performance.

ART Nano-Additive - (USA Patent) is the only product proven to repair worn cylinders and restore compression back to near original levels. That means your car will have more horsepower, consume less oil, get better mileage and perform smoother at a fraction of the cost of a traditional rebuild. All this, without ANY loss of the use of your vehicle.

ART Nano-Additive is the only lubricant additive to provide extraordinary protection beyond the range of ordinary motor oils, protecting your engine from excessive wear and tear under normal *and* severe operating conditions. It also works to quiet valve



train noise such as lifter 'ticking'. ART Nano-Additive won't seal up engine oil leaks as it only works internally.

Introduction of Industrial Uses :

Industrial gearboxes are expected to perform under conditions of high heat and heavy loads; and in environments often contaminated with dirt, process debris and water. Without adequate protection, gears will wear prematurely. You'll have to replace parts more frequently, change oil more frequently, and worst of all, you'll experience equipment downtime.

To combat difficult conditions, and to overcome these problems, King's ART offers only one category of lubricants specially formulated for enclosed industrial gearbox applications.

There are 6 reasons why should get King's ART Industrial Nano-Metal-ceramic reconditioner material:

1. Increased Gear's Life
2. Enhanced Lubricating Oil Life
3. Reduced Noise of the Gear Box, Motors
4. Reduced Vibration
5. Reduced Frictional Loss , saves Energy
6. Increased Bearing's Life

A brief description of different industrial establishments and the affected parts there follows:

#1 : Steel Plant (Mini Steel Plants, Large Steel Plant, Rolling Mills, Machine Tools

In hot and demanding steel manufacturing environments, gear oils need to provide protection under shock loading conditions and also survive excessive water contamination.

#2 : Large/Medium/Small manufacturing Plant: General Industrial Gear Boxes : Textile /Jute Machinery & equipment, Mining Equipment, Earth Moving Equipment, Hydraulic Equipment, Municipality Equipment)

shovels, loaders, haul trucks, Wire rope, Mining gear Boxes etc.



#3: Power Generation Industries:

Hydro-power generation, conventional steam and gas turbines , modern wind turbine generators .

#4 : Agriculture Industry:

If you work in agriculture, you know how important your equipment is to productivity. Whether you are using **tractors, bailers, trucks, air compressors, vacuum pumps** or other agricultural machinery, keeping equipment running during critical periods is imperative. That can be difficult because of the harsh environmental and operating conditions – such as cold, heat, dirt and water – that can be detrimental to a lubricant's performance in your equipment.

#5: Water & Wastewater Treatment Industry:

Motors, pumps, U-joints, shafts, countershafts, exhaust fan bearings and other parts of water purification Plant, Exhaust fans, Bearings, Gear Boxes, Open Gears, wastewater treatment plant.

#6: Food machinery and Beverage production Plant:

Production line equipment including oven chains, air compressors, oil circulating systems, enclosed gears, industrial turbines, hydraulics and oiled bearings.

#7 : Oil and Gas Exploration Industry:

Diesel engines / diesel generators - Supply power generation

Mud pumps - Circulate the mud that serves as the drilling fluid

Torque converters & transmissions - Run the drawworks, mud pumps and rotary table

Hydraulic systems, gearboxes, top drive units - Turn drill stem, elevate mast (derrick), operate tongs and other hydraulic equipment

Rotary table - Turns drill stem and supports drilling assembly

Wire ropes on draw works - Lower or raise the drill stem and catline

Swivels and winches (rotary tools that permit free rotation of the drill stem)

Grease points on crown sheaves and block bearings, and the U-joints on power drive Assemblies.

Pumping station, compression unit and gathering field applications

Stationary diesel engines - Supply power to the pumps and compressors

Transportation applications

Diesel trucks - Transport product to processing facilities

Vacuum trucks - Haul mud and water



#8 : Construction Equipment:

Heavy-duty equipment used in the construction of streets, highways, bridges and buildings
From bulldozers, dump trucks and draglines to scrapers and shovels

9: Cement & Concrete Manufacturing industry :

Wide range of equipment, including ball mills, kilns, crushers, vertical mills, bucket elevators, conveyor systems and mobile plants.

The critical equipment in these plants generally has to work 365 days a year.

#10 : Chemical manufacturing and processing equipment plant

Rotary compressors, centrifugal compressors, ammonia chillers, hydraulic systems, pumps, electric motors and other equipment.

#11 : Mining Industry:

longwall machines, roofbolters, shuttle cars, scoops, draglines, shovels, loaders, haul trucks.
Wire rope, Mining gear Boxes , open gears of ball mills, rod mills or breaker mills.

#12: Rubber & Plastics Industry

Rubber mills and plastic manufacturing plants, gearbox, compressor or pump.

#13: Paper & Pulp Manufacturing

Washers & Beaters (Open Gears & Enclose Gears)

Grinders & Fourdriniers

Calendar with Open Gears

#14:Refuse & Waste Management System:

Heavy Trucks, loaders, haul trucks etc.

#15: Lumber & Wood Industry.

Heavy Equipment, SawMill , Traction Engine etc.

#16:Other Miscellaneous Industries like Sand & Gravel ,Limestone :

Digging, dredging, hauling and pumping equipment.

GEAR BOX OIL & GREASES FOR INDUSTRIAL APPLICATIONS

To fight the constant battle against wear and tear as well as against deteriorating performance standard, proper use of gear oil is essential.

Gear oil is made up of two critical components: base oil and additives.

Additives impart desirable properties and suppress undesirable ones. The additive package is the backbone of the lubricant's performance, and a strong backbone will provide the performance and protection you need. King's ART is the best effective additive.



When selecting gear oil, there are three essential attributes to consider:

One - The gear oil must remain thermally stable and not oxidize at high temperatures, thus avoiding the creation of sludge or varnish. Keeping the oil from oxidizing will lengthen the draining and replacement intervals. As a general rule of thumb, for every 18 degrees F (10 degrees C) increase in fluid temperature above 140°F (60°C), oxidation will reduce the service life of a lubricant by half.

Two – If you have an enclosed gearbox application that is heavily loaded or subject to shock loading, you need gear oil with extreme pressure properties. Gear oil with an EP additive will protect the gear surfaces against extreme pressures.

Three – Gear oil must fight contamination that enters the system, especially water. The oil must be able to demulsify, which allows for easy removal of the water from the gearbox.

The proper gear oil for each gearbox is prescribed by the manufacturer and should be used as prescribed.

King's ART Additive: This additive, when mixed in prescribed quantity in accordance with the prescribed procedure is guaranteed to improve the performance as well as the life of the gearboxes.

The prospective users are advised to be in touch with our field operatives (or headquarter staff) to get advice on the type, quantity and procedure for any application. They should fill-in Forms A & B attached herewith. Our staff would be too glad to help fill-up these forms.

Steps for the Gear Box Lube Oil Change for the Optimum Result:

Say the Size of Lube Oil for Gear Box is 100 LIT .

The ART Industrial Grade need to Mix 6 L.

- First DAY need to Charge : 100 L (Gear Lube Oil) + 2L (ART Industrial Grade)
- Second Time after 1 Day or 24 Hrs of run : another 1L or 2 L (ART Industrial Grade)
- Third Time After 1 more Day or 24 Hrs of run : Another 1L or 2L (ART Industrial Grade)

The Buyer can also dismantle the Gear box and Take the X-ray after 2 to 4 weeks to check the Ceramic Metal coatings on the Gear teeth.

GENERAL BENEFITS OF ADDING KING'S ART INDUSTRIAL GRADE ADDITIVE INTO LUBRICATION OILS



All gearboxes (as all moving parts) operating under high temperature and pressure conditions benefit from proper use of prescribed appropriate gear oil mixed with King's ART additive.

Below is a short list of benefits to be realized:

- ✓ Extended gear teeth and bearing life
- ✓ Excellent resistance to oil degradation at elevated temperatures
- ✓ Smooth operation in both high and low temperature environments
- ✓ Excellent resistance to corrosion and good demulsibility for trouble-free operation in systems prone to water contamination
- ✓ Reduced filter plugging resulting in fewer filter changes
- ✓ Lower in-service leakage through improved compatibility with elastomeric and liquid sealant materials.
- ✓ Reduce Noise and Vibration Level.
- ✓ Saves Energy
- ✓ Excellent demulsibility
- ✓ Superior foam protection
- ✓ Excellent rust protection
- ✓ Low copper activity
- ✓ Good oxidation stability
- ✓ Superior wet and dry filterability
- ✓ Outstanding hydrolytic stability
- ✓ Excellent modified rotary bomb performance
- ✓ Very good EP/antiwear performance
- ✓ Good seal compatibility
- ✓ Saves Energy
- ✓ Eliminates the wear of the friction surfaces
- ✓ Automatic repairs the worn out metal surface without disassembly the equipment.
- ✓ Improves the finish of the friction surface
- ✓ Improves accuracy level
- ✓ Reduces friction coefficient
- ✓ Optimizes the gaps
- ✓ **Extends the equipment service life.**
- ✓ Reduces noise and vibration
- ✓ Repairs the worn surface and restores the original geometry
- ✓ **Reduces Energy consumption**
- ✓ Eliminates scratches and nap traces of machine working surfaces
- ✓ Reduces the working temperature of the lubricating oil
- ✓ **Reduces noise and vibration**
- ✓ Reduce the frequency of **Overhauls**
- ✓ Improves abrasion resistance
- ✓ Improves the working condition of the equipment
- ✓ Reduces equipment working temperature
- ✓ **Extends the maintenance and overhaul period**

KING's ART Nano Material used for Industrial Gear Box Applications:



Type of Gear Boxes

- Bevel gearbox
- Helical gearbox
- Offset gearbox
- Worm reduction gearbox
- Worm gearbox
- Planetary gearbox
- Shaft mounted gearbox
- Crane duty gearbox

Gear Type as graded to the transmission

1) Manual transmission

- i. Sliding mesh (or) Crash mesh gear box
- ii. Constant mesh gear box
- iii. Synchromesh gear box

2) Planetary (or) Epicyclic gear box

3) Automatic transmission

- i. Hydromatic gear box
- ii. Torque convertor gear box

King's ART Blended Grease is applied for Restoring & repairing the Bearings:

Type Of Bearings :

- Roller Bearings
- Slider Bearings
- Ball Bearings
- Ball Thrust Bearings
- Giant Roller Bearings
- Tapered Roller Bearings
- Roller thrust Bearings

******Return Of the Investment on ART-Industrial Grade Materials******

How to Calculate the Energy Saving Per Year:

The application Engineer / Sales Engineer also should take the Energy Readings before and after so that they can calculate the savings .

Step 1: Please measure the rated Voltage and Rated Amp on the Nameplate of the Motor.



Step 2: Please measure the current Amp flowing currently (before adding the ART-Additive in the gearbox oil).

Step 3: Please measure the current Amp flowing after 15 days(After adding the ART-Additive in the gearbox oil).

The following is used to calculate the estimated yearly savings:

Volts /1000 X Amps Saved X 1.73 (3-phase conversion factor) = kW Saved

kW X Hours of Operation = kWh Saved

kWh X Electrical Energy Cost = Dollars saved

.415 X 10a X 1.73 = 7.18 kW

7.18 kW X 1,300 hr = 9,333 kWh

9,333 x \$0.178/kWh = \$1661

Yearly electrical savings are estimated to be \$1661 (approx.)

Calculate for 5 Years Savings : \$8000

*****This is a sample case study only. Actual ROI may be more than this value ,which may consider the replacement cost, Lube Oil Change cost, Restocking cost etc.*****

The Vibration & Noise reduction:

Another important benefit of using King's ART additives is to reduce vibration and noise generating from these moving parts.

It will be very easy to prove our product's advantages to show the result before & after within 1 week/100 Hrs of continuously runs .

How to Measure the Noise & Vibration Reduction:

Step 1: You will need the Vibration Meter and Sound meter:

Industrial grade **Vibration Meter** Should be the following Spcn:

Low frequency range (overall measurement) 10 Hz to 1,000 Hz

High frequency range (CF+ measurement) 4,000 Hz to 20,000 Hz

Accuracy At 100 Hz ± 5% of measured value.

Sound Level meter

Measurement Range

20 to 140 dB RMS in a Single Range.

Step 2: Please measure the vibration & Sound/Noise before adding the ART-Additive in the gearbox oil.

Step 3: Please measure the vibration & Sound after 15 days(After adding the ART-Additive in the gearbox oil).





FORM-A
Technical Data for Industrial Grade Application

Client Name :

City :

In charge Person Name :

Sales Engineer Name:

GEAR Application :

Name plate/ Rating of gear Box :

Lubricant Quantity :

Currently using Gear Lubricant Grade like API-GL 1,2,3,4,5,6 or equivalent Indian Standard.

Gear Teeth Type:

Mountings:

Input Power:

Input Speed:

Rated Torque :

Gear ratio :

Operation /Duty Cycle :Continuous ,Intermittent , % of operation in a day.

Environment Temp Range:

Operation Temp Range:

Housing type:

Gear Box Manufacturer :

Gear Box Model:

Year of Installation/Date of Manufacturing :

To be filled by King's ART Application Engineer :

ART Industrial Grade Additive Qty.	XX Liter
Usage	1 time or 3 Times after XX Hours



FORM-B

Technical Data for Industrial Grade High capacity Diesel Engine / LNG-CNG fueled Engine
(Marine, Locomotive, Power Generations):

Client Name :

City :

In charge Person Name :

Sales Engineer Name:

Brand:

Model:

Nameplate Ratings:

Lubricating Oil Quantity :

Frequency of Lube Oil Change :

RPM:

Application:

Operation/Duty Cycle:

Year of Installation/Date of Manufacturing :

To be filled by King's ART Application Engineer :

ART Industrial Grade Additive Qty.	XX Liter
Usage	1 time or 3 Times after XX Hours

Note: if possible please take the Photo of the equipment installation & mountings.