

Meeting today's lubrication needs and tomorrow's demands

LUPROMAX[®]

Using revolutionary LUPROMAX's HAT (Heat Activated Technology) technology

THE NEXT GENERATION LUBRICANT TECHNOLOGY

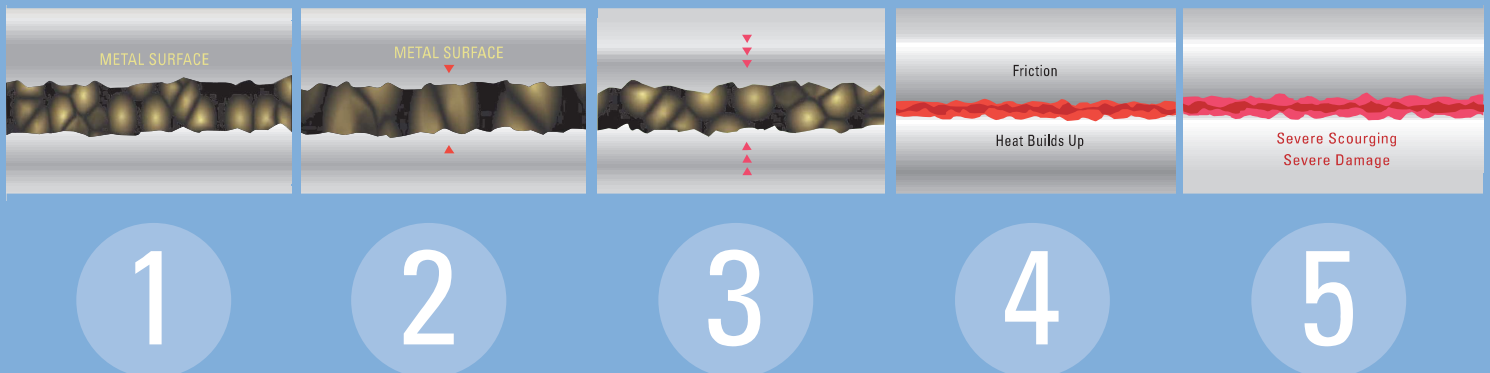


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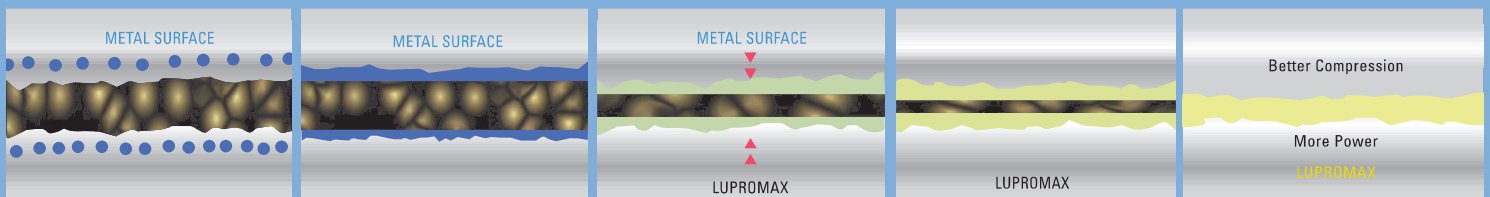
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REVOLUTIONARY LUPROMAX'S HEAT ACTIVATED TECHNOLOGY

WITHOUT LUPROMAX



WITH LUPROMAX HAT TECHNOLOGY



BY PLATING THE SOLID SURFACES

IT INCREASES THE TOTAL AREA OF CONTACT BETWEEN TWO SURFACES

IT REDUCES COEFFICIENT OF FRICTION

IT ENHANCES LOAD CARRYING CAPACITY AND LONGER WEAR.

BENEFITS

- ✓ REDUCES ENGINE WEAR UP TO 50%
- ✓ REDUCES FUEL CONSUMPTION (6-10%)
- ✓ REDUCES ELECTRIC AMPERAGE ON DRIVE MOTORS
- ✓ MAXIMIZES ENGINE POWER
- ✓ REDUCES CARBON EMISSION
- ✓ EXTENDS ENGINE LIFE
- ✓ REPAIRS BY PLATING INTO MINOR SCRATCHES AND SURFACE IMPERFECTIONS
- ✓ RESTORES COMPRESSION
- ✓ STABILIZES COMPRESSION
- ✓ NON-PARTICULATE METAL CONDITIONER
- ✓ EXTEND OIL DRAIN INTERVALS (20,000 Km)
- ✓ REDUCES NOISE LEVEL OF ENGINE
- ✓ FORTIFIES WITH ACID NEUTRALIZER

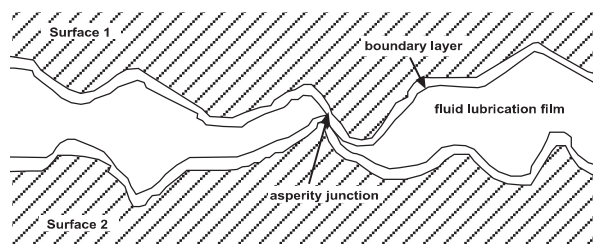
ADVANCED LUBRICATION

Extensive R&D research on high performance biodegradable lubrication technology



Overview

The success of conventional lubricating oils is predicated upon maintaining a high film strength oil barrier between two surfaces moving relative to each other. Resistance to the movement of these surfaces is defined as friction, which can be either sliding or rolling, or which can be caused by the shearing action of a lubricant attempting to separate the two surfaces. Hydrodynamic, hydrostatic, and boundary lubrication typically occur in some combination in virtually all mechanisms which require lubrication, and most commercial lubricants are reasonably capable of doing the job for which they are intended. Lupromax is a proprietary lubricant which takes normal lubrication a step further, in that it not only has a superior film strength but also appears to impregnate the steel itself, metallurgically, at the friction surfaces.

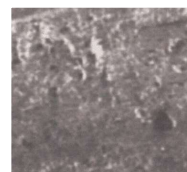


Several products are available with solid particle additives (graphite, moly, Teflon) in an effort to add extreme pressure capability to the lubricant. Lupromax lubricants contain only pure petroleum and petroleum additives, and perform without the negatives associated with solid particle additives. Lupromax blends easily with other lubricants.

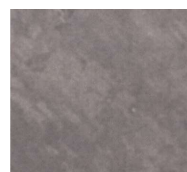
Types of Lubricant

The majority of lubricants are either mineral (paraffin, naphthene, asphalt), synthetic (esters, polymers), solids (graphite, molybdenum disulfide, Teflon), or greases (oils with various organic or inorganic thickeners). Several additives are available for these products which serve as corrosion inhibitors, rust inhibitors, etc. Modern engine oils, for example, usually contain 8 – 10 different additives, accounting for 10 – 20% of the volume in a container of oil, the balance being refined petroleum or synthetic oil.

ENGINE CYLINDER WALL MAGNIFIED 1500X

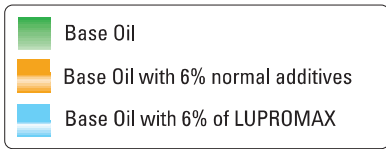
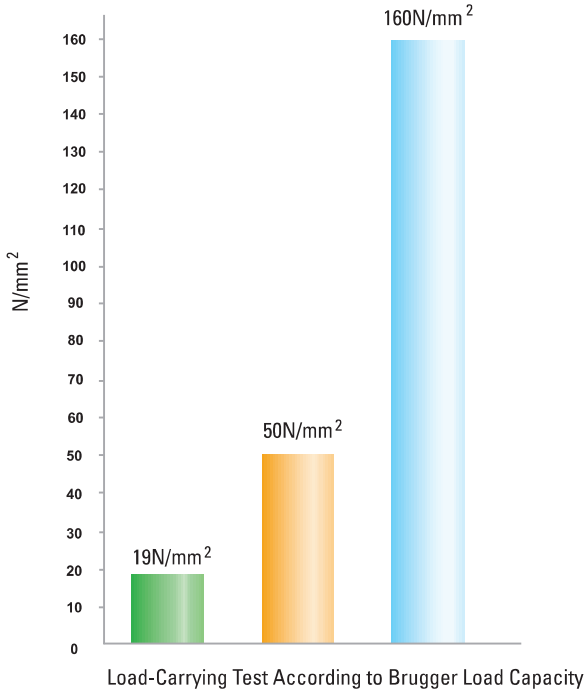


UNTREATED WALL

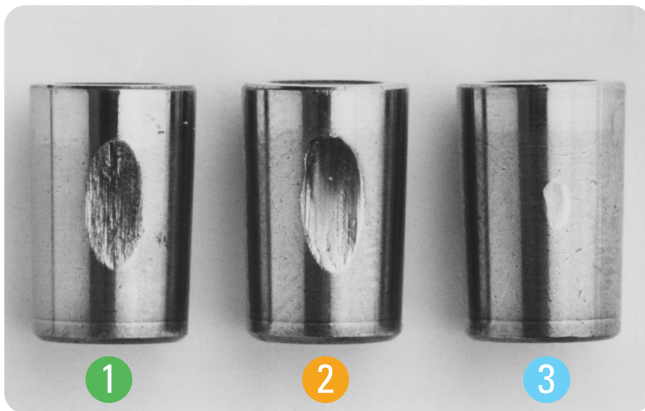
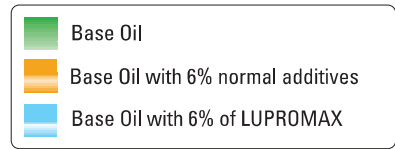
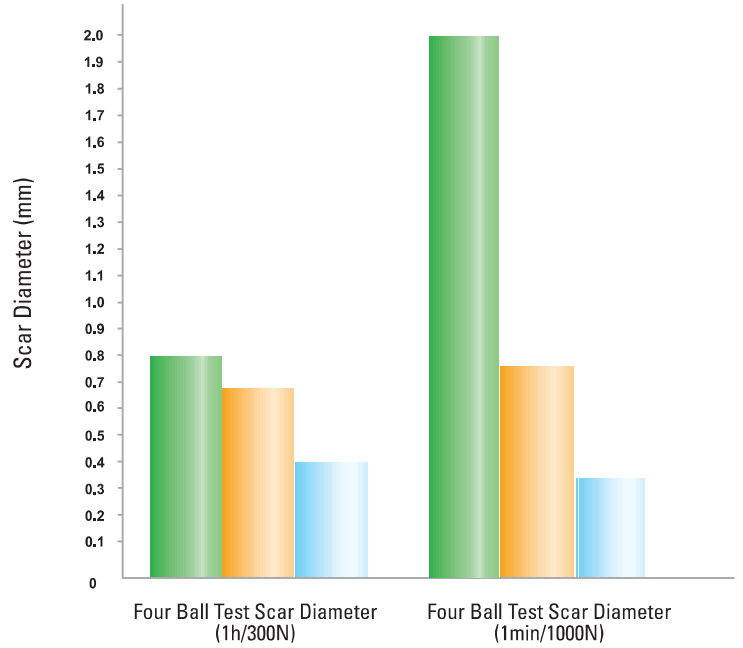


TREATED WITH LUPROMAX

Load Carrying Test

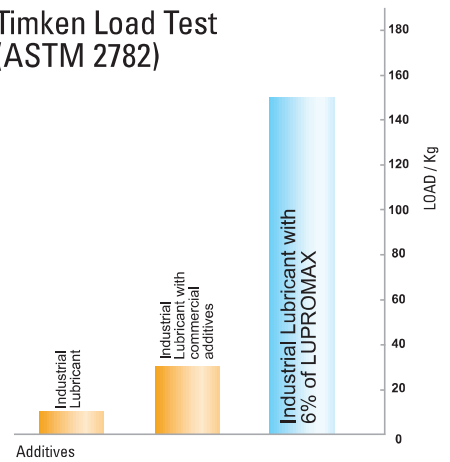


Four Ball Test Scar Diameter



1 Base Oil 2 Base Oil with 6% normal additives 3 Base Oil with 6% of LUPROMAX

Timken Load Test (ASTM 2782)



LUPROMAX-EA

PREMIUM QUALITY ENGINE OIL WITH METAL CONDITIONER ADDITIVE

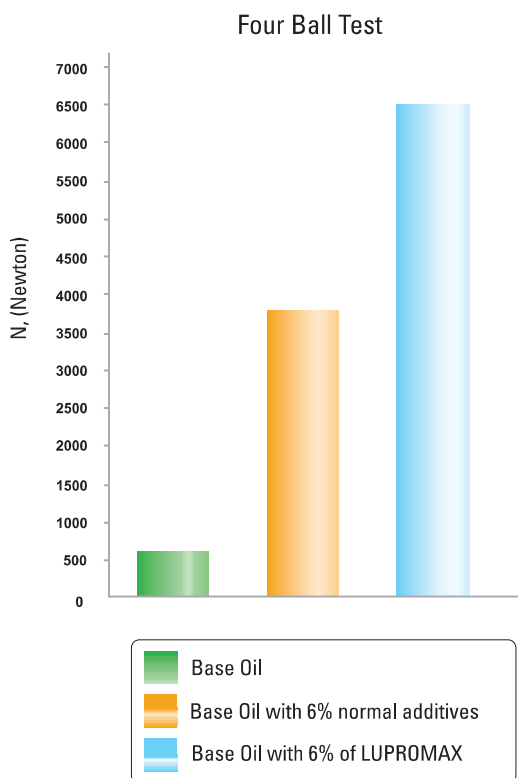
LUPROMAX[®]-EA is a proprietary metal and engine oil conditioner. It was originally designed for use in gear boxes and crank cases.

However LUPROMAX[®]-EA concentrate demigrates numerous properties when mixed with lubrication fluids, making it a very versatile additive for numerous lubrication applications. It is a non-particulate, non-harmful environmentally friendly metal conditioner, thus, eliminating the fear of clogging your oil-filter.

SPECIFICATIONS

PHYSICAL PROPERTIES

Appearance	Amber
Colour ASTM D-1500	Type 1.5
Flash Point ASTM D-92	176°C
Viscosity @ 40°C ASTM D-445	39.45 cSt
Specific Gravity ASTM D-4052	1.019
Copper Corrosion ASTM D-130 (6% weight of LUPROMAX-EA in a white oil, 3hr/100°C)	1a Class




APPLICATIONS

LUPROMAX[®]-EA can be used in high compression performance cars, trucks, tractors, excavators, compressors, buses, gear boxes, crank cases and other industrial applications.

Free of metallic content

	Unit	Method	Results
Arsenic(As)	ppm	ICP	Not detected
Lead(Pb)	ppm	ICP	Not detected
Mercury(Ag)	ppm	ICP	Not detected



TEST REPORT

LAB NO. : (6607)303-0071
DATE : November 2, 2007
PAGE : 1 OF 4

APPLICANT : Magna International Pte Ltd
Blk 9005 Tampines Street 93, #02-242 Tampines Industrial Park A, Singapore 528839.

CONTACT PERSON : Nelson Cheng

DATE OF SUBMISSION : October 30, 2007

TEST PERIOD : October 30, 2007 to November 2, 2007

NO. OF WORKING DAY(S) : 4


SAMPLE DESCRIPTION : Lupromax EA (amber)
Country of Origin: Singapore
Country of Destination: Singapore
Manufacturer name: Magna International Pte Ltd

SUMMARY OF TEST RESULTS			
TEST REQUESTED	PASS	FAIL	REMARK
Restriction of Hazardous Substances Directive (RoHS), 2002/95/EC	X		


REMARK
If there are questions or concerns on this report, please contact the following persons:
General enquiry and invoicing: Ms. Vivian Gu
(021) 64893130*2042 / (021) 64898790
Vivian.gu@cn.bureauveritas.com

Technical enquiry: Mr. Matthias Chan
(021) 24081918
Matthias.chan@cn.bureauveritas.com

BUREAU VERITAS
CONSUMER PRODUCTS SERVICES DIVISION (SHANGHAI)

PREPARED BY: Nancy 
Matthias Chan
CHEMICAL MANAGER (CHEMICAL DIVISION)

RW/2007



OIL, GAS & CHEMICALS

Lab Order No: JMC10005351/04
Product: Lupromax-EA
Company: Magna International Pte Ltd
Blk 9005 Tampines Street 93
#02-242 Tampines Industrial Park A
Singapore 528839

Sample Recd. Date : 25-08-04
Date Tested : 25-08-04
Date Reported : 31-08-04


ANALYSIS REPORT

Product: Lupromax-EA

On testing, the following results were obtained:

Test	Unit	Method	Results
Arsenic (As)	ppm	ICP	Not Detected
Lead (Pb)	ppm	ICP	Not Detected
Mercury (Hg)	ppm	ICP	Not Detected

Remarks : Detection Limit 0.1ppm.


Zainal Abidin
Assistant Manager


SGS Testing & Control Services Singapore Pte Ltd

1) Tests performed in accordance with the latest issue of relevant test method unless otherwise indicated.
2) Unless specified, above results relate only to the items tested.
3) Precision parameters apply in the determination of the above results. Also refer to latest ASTM D2244-IP 367 & Appendix E of IP Standard Methods for analysis & testing, for utilization of test data to determine conformance with specifications.
4) This report shall not be reproduced except in full, without the written approval of the laboratory.

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All business is carried out and reported in accordance with our General Conditions of Business (see overleaf) unless otherwise agreed in a written contract.



ANALYSIS RESULT

PRODUCT : LUPROMAX EA


TEST : EXTREME PRESSURE AND LUBRICITY TEST

METHOD : SGS-SP-112


EQUIPMENT USED : FALEX / TIMKEN TEST MACHINE

COMPARISON DATA

PRODUCT	Temp	BATH	LOAD	TIME	SCAR SIZE (length)
Normal Engine oil	Ambient	Full	210 kg (463 lb)	Immediate Failure	5.26 mm
Normal engine oil with 8% Lupromax EA additive	Ambient	Full	210 kg (463 lb)	1 minute	Tiny polish mark
Normal engine oil with 8% Lupromax EA additive	Ambient	Full	456 kg (1005 lb)	1 minute	2.48 mm
Normal engine oil with 8% Lupromax EA additive with water and sand added	Ambient	Full	456 kg (1005 lb)	1 minute	2.48 mm
Normal engine oil with 8% Lupromax EA additive with water and sand added	With heat apply by means a Gas burner 500°C	Full	456 kg (1005 lb)	10 seconds	4.77 mm
Normal engine oil with 8% Lupromax EA additive with water and sand added	With heat apply by means a Gas burner 500°C	Empty	456 kg (1005 lb)	10 seconds	4.77 mm



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TO TEST THE EFFECT OF LUPROMAX EA ON ENGINE OIL

OBSERVATION : On testing, the following observations were noted.


The normal engine lube oil under a load weight of 210 kg (using Compound Leverage Principle) will cause the rotating bearing to seize. A scar mark was observed on the Timken bearing. The length of the scar mark was **5.26 mm**.

Lupromax EA was added to the same engine oil, which was then subjected to the same load weight. It was observed that the bearing proceeded with rotation and did not seize, a tiny polished marked was observed on the Timken bearing. Rotation continued even with a full load of 456 kg. The scar mark was found to be **2.48 mm**.

When water and sand was added to the engine oil containing Lupromax EA, with the application of heat by means of the burner on the bearing for 30 seconds, no seizure was observed. The scar mark was found to be **4.77 mm**.

Subsequently the bath was removed from the Falex machine and the bearings were subjected to loads of 456 kg for 30 seconds. No seizure was observed. A scar mark of 4.77 mm was recorded.

REMARK: The said test shows that Lupromax EA enhances the lubricity and extreme pressure of common lubricating oil using fusion / heat activated lubrication technology.



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