



**SERVING THE GLOBAL
AUTOMOTIVE MARKET**



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NANO G-LAY

ENGINE OIL ADDITIVE

TECHNICAL
REPORTS & CERTIFICATIONS



GIVE YOUR ENGINE NEW LIFE

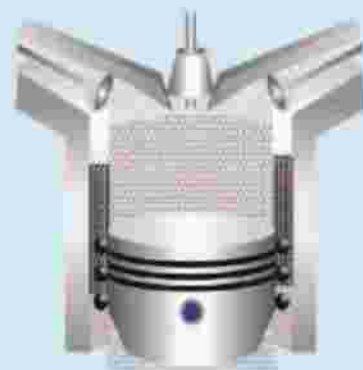


EXCELLENT & EFFICIENT

G-LAY



World Unique Car Care Nano Graphene Layer Coating



Make your Engine New

Easy, Simple, Lower Cost

Power ↑

Noise ↓

Emission ↓

Fuel ↓



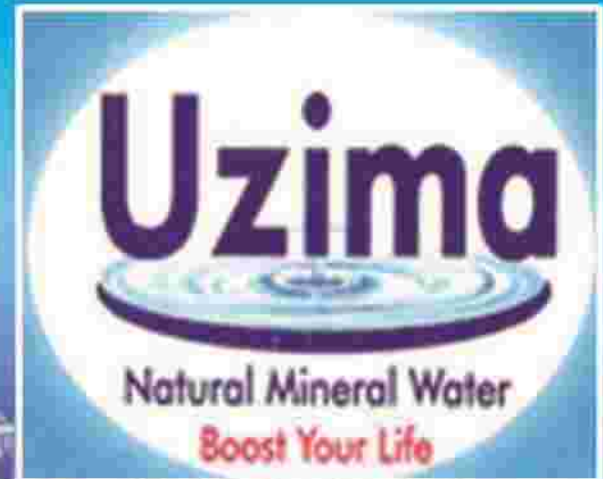
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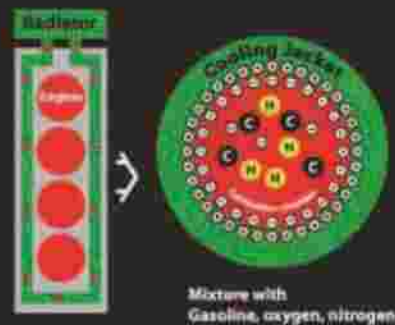
Email: necuzimaltd@gmail.com



Far Infrared & nanoTechnology

NANO MAXX

Cooling Radiator Additive



Emission reduced 30% - 95% ↓

Fuel Saving 8% - 30% ↑

Power Improve 10% - 30% ↑

Noisy Reduced 10% - 25% ↓

Far Infrared & nanoTechnology

NANO MAXX

Environmental Friendly

NANO G-LAY ENGINE OIL ADDITIVE

INTRODUCTION

Nano g-lay is nano graphene layer engine oil additive that provides coating engine surfaces and increases lubrication in the engine. It consists of mineral oil and nano graphene as the base material. It restores worn surfaces inside the engine by making a strong coating and thus repairs the engines without disassembling.

CORE ADVANTAGES OF USING NANO G-LAY IN ENGINES

- Application of nano g-lay in engines results into reduction of carbon monoxide and hydrocarbons emissions up to 78%. This comes as a result of repaired friction surfaces, strong coating, increased lubrication thereby making the engine run smoothly. This allows all the fuel that enters the engine chambers to burn completely thus making the vehicle environmentally friendly
- There is fuel efficiency improvement of 5 -17%
- There is reduction in engine noise & vibrations
- There is extended life span of the engine due to the strong anti-wear properties of graphene making the vehicle to last longer
- There is extended life span of the engine oil thereby driving the vehicle without worries about the maintenance due date.



WHAT IS GRAPHENE LAYER?

It is a reduced Graphene oxide developed by Nanotec International in South Korea. It has the final size 0.25nm thickness & 50nm diameter. This size is unique in that the optimized particle acts to improve and maximize lubrication ability. The worry on oil filter clogging is removed due to the small particle size.

It is used as engine oil additive in all engine types, that is petrol and diesel engines. It can also be used in any machinery that used oil as a lubricant.

Car Gadgets



Best
Oil Additives

Nano G-lay extends the life span of engine oils upto 30,000km run due to excellent effect of thermal conductivity, dispensability, abrasion resistance & oxidation resistance. Whereas the life time of the conventional oil needs to change every 5,000-9,000km run. A technical laboratory evaluation was conducted to ascertain the above core advantages by the manufacturer using different motor vehicle models and different materials laboratories. The results obtained were very impressive as shown on the next pages. We also have certifications for different automobile manufacturers that you may feel comfortable to see.

This product is in use in several countries and in Uganda it is exclusively distributed by Adinorth Enterprises limited, a company duly registered in Uganda in 2016.

In conclusion, nano g-lay is a product of unique characteristics made using nano technology to fight auto emissions, save on fuel consumption, enable worry-free driving and above all, enhance human health.



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YOUR ENGINE NEEDS



G-LAY:grapheneLayer(gL):

Premium quality Graphene based lubricant oil additive

Graphene layer coating technology

Enhance properties of conventional & synthetic oil :

Improve lubricity by reducing friction between moving parts

Excellent increasing wear resistance of engine components

Boost fuel efficiency

For easy & self engine restoration without disassembling

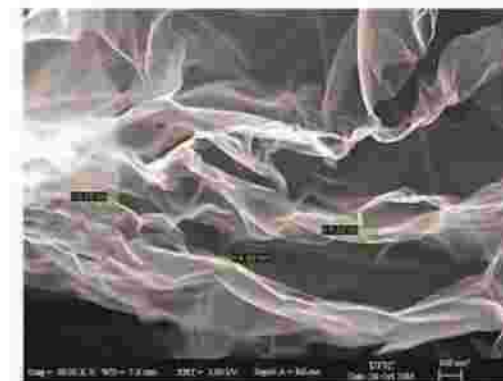
Great reduction of friction & wear

Graphene called **wonder material of dream** is substance that is treated as a innovative material of next generation: strongest material in the world: strength of 200 times stronger than steel, thinnest, lightest most conductive and excellent stretch ability with many extraordinary characteristics.

We manufacture premium quality rGO(reduced graphene oxide) by our manufacturing system of chemical exfoliation in our own laboratory.

The final size of rGO as key ingredient of G-LAY:grapheneLayer(GL) is 0.25nm thickness & diameter 50nm.

Above size is world uniquely developed by our proprietary nano technology so that best optimized particle acts improvement of maximizing lubrication ability without clogging oil filter.



Miracle effective with G-LAY



For all types of engine

Restore friction surface of engine & protect by graphene Laying

Stable & strong coating of wear crevices

max 42% engine power improvement

max 80% reduction of friction coefficient

5% - 17% increase fuel efficiency

5 times lower noise and vibration levels

Max 78% emission reduction in CO and CH

Long life time of engine by outstanding ability of anti-wear

Much smoother, quieter, powerful driving

Extend Life time of engine oil, till 30,000km run due to excellent effect of thermal conductivity, dispensability,, abrasion resistance, heat resistance & oxidation resistance. Life time of conventional oil needs to change every 5,000 - 9,000km run.

For small Engine & all metallic mechanism

Restoration & protection of worn-out metallic surface

Outstanding extension of life time for Chain, Bearing, Pivot, etc

Great reduction of friction and abrasion, Mechanical failure at Lubrication system & noisy on operating part.

reduction of Mechanical failure at Lubrication system &

reduction of noisy on operating part, temperature on friction part

More suitable for high speed bearing and machine

Enhance properties of conventional & synthetic oil :

Improve lubricity by reducing friction between moving parts

Extend life time of lubricant oil max 3 times



Union Chemical Institute

1378 Saakyeokdong, Boksjo, Daejeon, Korea UCI Laboratory Space Based
High-Tech Development Complex Tel: 853 956 5112 Fax: 853 958 5107

Testing Result:

After injection and run just 50km, found Great change:
reduction of noisy(average 52%) and smoke(average 73%), Increase power(22%), Reduction of Fuel consumption(average 4.5%)

After injection and run just 70km & 100km run each
The tested data is almost same as that of 50km run test.

Conclusion: It is concluded that Graphel has great & rapid effect for motorbike engine restoration and engine performance as below:
grapheneLayer coating is proceeded within 10km run from grapheneLayer smaller injection, so very positive restoration is completed within 50km run.

January 27, 2019

Hae-dong Jung/ PhD
Material Engineering



Union Chemical Institute

1378 Saekyackdong, Bukgu, Daegu, Korea UCI Laboratory Science based
High-Tech Development Complex Tel:852 950 5117 Fax: 852 950 5117

re:Testing Report of grapheneLayer Smaller for 2 & 4 Stroke MotorBike

these testing was requested by NanoTec International

Application sample: 10 pouches samples(grapheneLayer Smaller) to be injected to each motorbike.

Testing Period of each Motorbike: running till 50km, 70km, 100km

Testing Motorbikes: 2 Stroke & 4 Stroke 10 Motorbikes Each which are actively operated by Short Delivery Transportation Service Company.

Testing Motorbikes Condition:

		Total Running Record	
5 2-stroke motorbikes:	2 Honda	228,432 km	62,587km
	2. Hyosung	384,006	89,578
	1. Daerim	14,543	75,109
5 4-stroke motorbikes:	2. Honda	329,665	12,945
	1. Suzuki	78,403	
	1. Yamaha	76,009	
	1. Daerim	145,665	

The condition of each Motorbike: all of old bikes which are in running record over 50,000km are in bad condition with heavier emission & noise, serious power problem.

Testing Method:

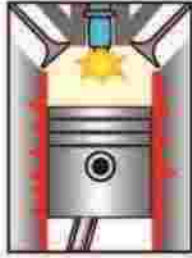
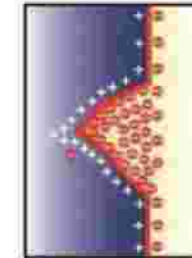
Before injection of grapheneLayer, tested by dynamometer to monitor Power, fuel consumption, noisy and smoke.
Each Motorbikes are approx estimated average daily run 50 ~ 200km.
After injecting grapheneLayer, monitor engine condition in 50km, 70km & 100km run.

Miracle Graphene layer Coating Technology on metallic surface

nano graphene mixed with engine oil
Self-restoring coating & graphene Layer process
on metallic surface
cracked parts have high electric potential,
charged graphene is moved selectively
on metallic surface, and cohesion is conducted
by heat and pressure.



After restoring abrasion parties and
coating on surface with graphene,
enhance lubricant properties,
improve engine performance
with wear resistance, fuel efficiency,
engine power, extend engine life time,
reduce emission and reduce friction.



Before

After



before & after
graphene coating & Laying treatment

After inject grapheneLayer, graphene layer coating will be proceeded from 30km run, and feel big differences of effect: more smoother, quieter, powerful driving

Upon graphene layer coating on metallic surface completed after 1,000km run, you could change motor oil, and the effect of G-LAY will be continued till 25,000km ~ 30,000km run.





grapheneLayer AIO(all-in-one) type
 any type of engine: petrol, diesel & CNG available
 Inject one 30ml pouches AIO into oil tank for 4 - 10 liter oil capacity

Inject two 30ml pouches AIO into oil tank for any type of big engine upon 25 liter oil capacity

Restore friction surface of engine & protect by graphene Laying
 max 67% engine power improvement
 max 80% reduction of friction coefficient
 8% - 12% increase fuel efficiency
 5 times lower noise and vibration levels
 3 -5 times emission reduction in CO and CH
 Long life time of engine by outstanding ability of anti-wear
 More smoother, quieter, powerful driving



grapheneLayer Smaller(Universal Restorer)
 Smaller engine: Less than any types of 600CC engine
 Motorcycle, 3 wheeler
 Any types of metallic mechanism
 Compressor, bearing, gear box,
 transmission case, differential, power steering
 various kinds of machine tool
 convey belt, etc

Restoration & protection of worn-out metallic surface
 Outstanding extension of life time for Chain, Bearing, Pivot, etc
 Great reduction of friction and abrasion
 Great reduction of Mechanical failure at Lubrication system
 Great reduction of noisy on operating part
 Temperature down on friction part
 More suitable for high speed bearing and machine

Inject 30ml pouches smaller



Subject: Friction Testing Report of grapheneLayer(gL) Smaller On Friction Machine SMC-2

Test of grapheneLayer was proceeded on Friction Machine SMC-2 with method of comparison of normal engine oil and grapahenelayer.

Detailed Test condition:

disk material steel 46
 Tempered to hardness 60-62 HRC
 Loading P = 650 N
 Operating mode n = 380 rpm

Friction was measured before and after by weighting on electronic weight instrument in 0.0003 tolerance.

Testing Results: During period of testing, oil temperature of normal oil from 116 - 124 'C.

Sample wearing when gL was applied was decreased to 46% - 51%, compared with injected normal oil.

Composition of gL shows high efficiency of friction decrease to maximum 51% in experimental result of Friction Machine SMC-2, and real friction testing in actual condition of machinery mechanism is also recommended.

It is certified that above report was carried on Testing of Friction Machine SMC-2 with method of comparison of normal engine oil and grapheneLayer and based in fact.

Oh Hyung
 Jae Hyung Oh
 Researcher KIMM

Subject:
Testing Report of GrapheneLayer (Universal Restorer)
for Gear Box, Generator, Transmission & Bearing

Testing Purpose: The effect of graphene based lubricant oil additive on metallic surface & evaluate restoration condition of worn out surface.

Submitted Samples: (collected from Junk Shops)
Gear Box,
Bearings
Transmission case

Before injection of grapheneLayer(gL), the surface of abrasive metallic parties was inspected by microscope. High resolution microscope indicates that most of equipments were in seriously crevasse and estimated out of normal operation condition due to serious vibration, excessive noisy and etc.

grapheneLayer(gL) was applied to each submitted old samples:
Upon operation of each equipments 1 day - 10 days continuously, we evaluated abrasive surface & restoration of surface upon macrograph & noisy test.

Graphene layer coating which were applied on above mentioned equipments was tested with injecting grapheneLayer(gL).

Testing Report:
Upon macrograph & noisy test, coating was not proceeded within half hour.
On 1 hour operation, graphene coating was proceeded, upon macrograph abrasive surface was repaired with graphene and realize reduction of noisy and vibration, and after 1 hour operation, general condition was much improved and after 2hours operation, condition was same as initial testing 1 hour. We estimate Graphene coating was proceeded on abrasive metallic parties on 1 hour operation and coating will be long last.

It is proven that proprietary Graphene layer coating which is applied by NanoTec is stable & strong coating material especially for abrasive metallic surface, their material character is high heat resisting property, high abrasion resistance by our testing lab.

It is certified that above report is proceeded upon macrograph & noisy test and based in fact.



Sang Hoo Yoon

G-LAY(graphene Layer):

King of luboil

Incomparable & essential additive to maximize the effectiveness of all luboils

Incomparable characteristic of G-LAY against used material of all additives:
MoS2(very harmful to environmental), Teflon, many different types of ceramic & carbon: silica & boron, graphite, metalizing particle: Nickel alloy, WS2, titanium etc.

Improve lubricating ability of G-LAY:

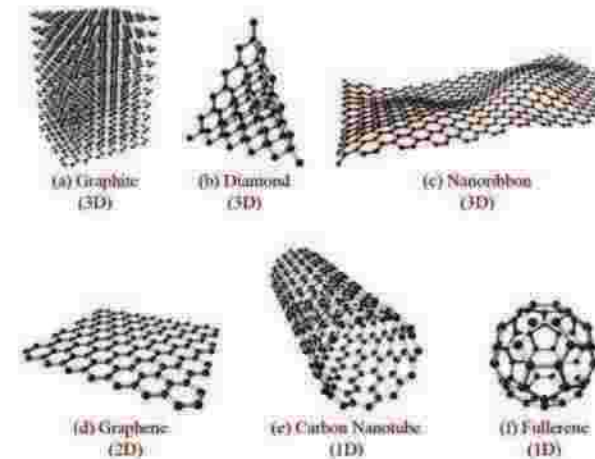
nano based graphene oil additive restore worn out metallic surface and laying lubrication membrane on friction party and maximize lubrication ability

strong oil adhesion to metallic surface

minimize friction

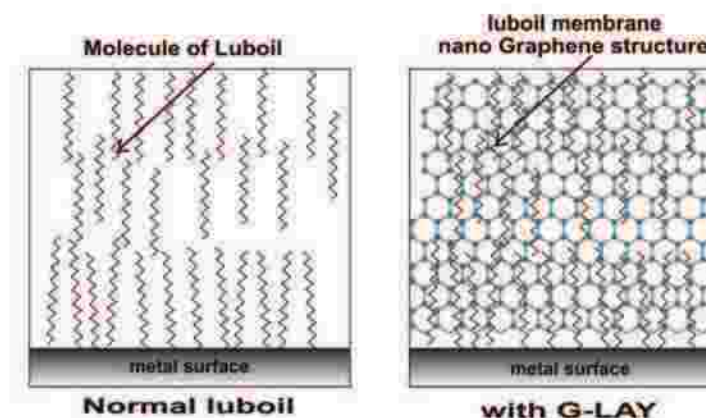
improve cooling ability

high heat conduction(2,500W/mk): excellent characteristic of nano graphene.
Rapid transferring high temperature by friction and explosion to reduce temperature of lubricant oil and engine



Strong reinforce of luboil membrane on metallic surface

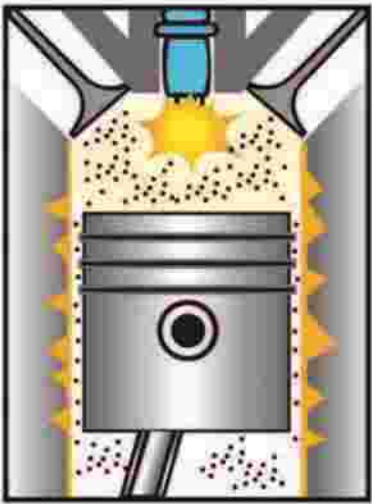
forming coat and laying graphene membrane: nano graphene constructs honeycomb structure to each lubrication molecule to make strong lube membrane.



Sealing function in engine chamber

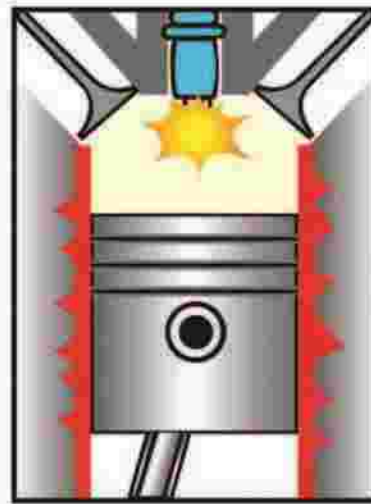
(solve leakage problem of non combusted emission)

through worn out metallic surface occurred by reciprocation motion of piston



Emission leakage

Normal oil



block leakage
increased pressure
adding G-LAY

Emission max 83% reduced

Output Max 20% and fuel efficiency max 14% improved

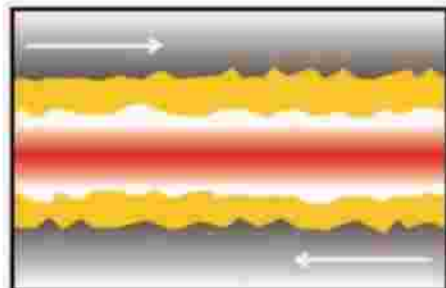
Extend life time of engine oil to 2 – 3 times

Reduce noise and vibration

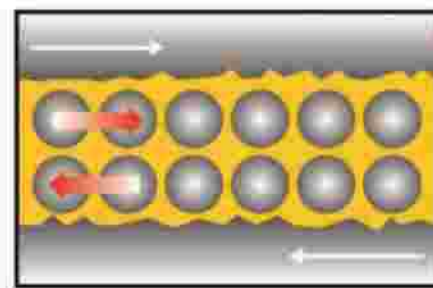
Power increased

Excellent abrasion resistance, high heat conduction

nano graphene particle acts to ball bearing function on friction between metallic parties, minimize friction space(space friction > dot friction), dramatically increase lubricating ability and reduce abrasion loss to average 65%.



Normal oil



with G-LAY



nanoTec International
Automobile Field Test Report

Testing date : Match 1st week - April 2nd week, 2019
Dynamo Testing: grapheneLayer testing by KATech
Engineer: J.O. Jung, Chief Manager/KATech

April 21, 2019

Model	SORENTO (2199 CC, 2009)	Total mileage	167,432 km
Manufacturer	KIA Motors	Normal Mileage	13.8 km/l
Company	KNTech	Phone	053-936-7176
Parameters	Prior to treatment	50Km after treatment	200km after treatment
Noise of engine (IDLE state)	92.4 dB	82 dB	58 dB
Noise of inside (IDLE state)	65.8 dB	57 dB	38 dB
Temperature of engine (IDLE state)	82 °C	80 °C	67 °C
Testing distance	50 km	50 km	201.0 km
Noise of inside (under driving)	81-82 dB	73-77 dB	53-54 dB
Mileage (fuel coefficient)	15.20 km/l	17.30 km/l	17.40 km/l

The testing of grapheneLayer showed that fuel coefficient improved by 17% and noise reduced 47%

NANOTEC INTERNATIONAL
Jaxon Park
JAXON PARK
MANAGING DIRECTOR



nanoTec International

Emission Testing Report

March 20, 2019

Test Date: March 11 – March 20, 2019
Emission testing: grapheneLayer
by DongYang Car Maintenance Service, Daegu Korea

Year	Name of Vehicle	Running Record(KM)	Emission before inject gL(%)	Emission after inject gL(%)	Emission reduction rate(%)	Remark: Running Km after injection
2013	Carnival	204,290	57	21	64	625km
2014	Sorento	240,673	69	16	77	370km
2014	Sonata	158,442	64	14	78	762km
2016	Musso	142,074	48	19	61	430km
2017	Tusan	125,976	42	23	46	302km

Tested by DongYang Car Maintenance Service
Before Inject grapheneLayer to above t vehicles, emission tested and.
After Inject grapheneLayer to above vehicles and
Emission tested after one week run around 300km – 800km run.

Engine Emission Tester indicates positive from 46% - to 78%.

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JAXON PARK
MANAGING DIRECTOR



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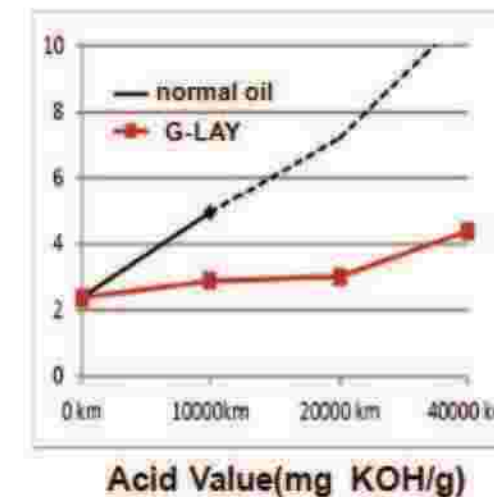


Testing of total Acid Value numerical value of Acidity contained in lubricant oil

Dated Jan 5 - May 23, 2019
Vehicle; Hyundai Delivery truck. Running record 359,391km
Tested by Korean Institute of machinery & materials(KIMM)
Testing before and after G-LAY injection

Testing of total Acid Value:
numerical value of Acidity contained in lubricant oil
Oxidation of lubricant oil occurred according to long time exposure of oxygen and high temperature of long distance running.

G-LAY has wonder character:
excellent effect of thermal conductivity, dispensability,, abrasion resistance, oxidation resistance.



Compared with normal oil, Acid value of G-LAY reduce to max 88%

Therefore, G-LAY extends life time of conventional engine oils till 30,000km run. Life time of conventional oil needs to change every 5,000 – 9,000km run.

G-LAY extend life time of industrial oil 2 time & maximum 3 times longer.



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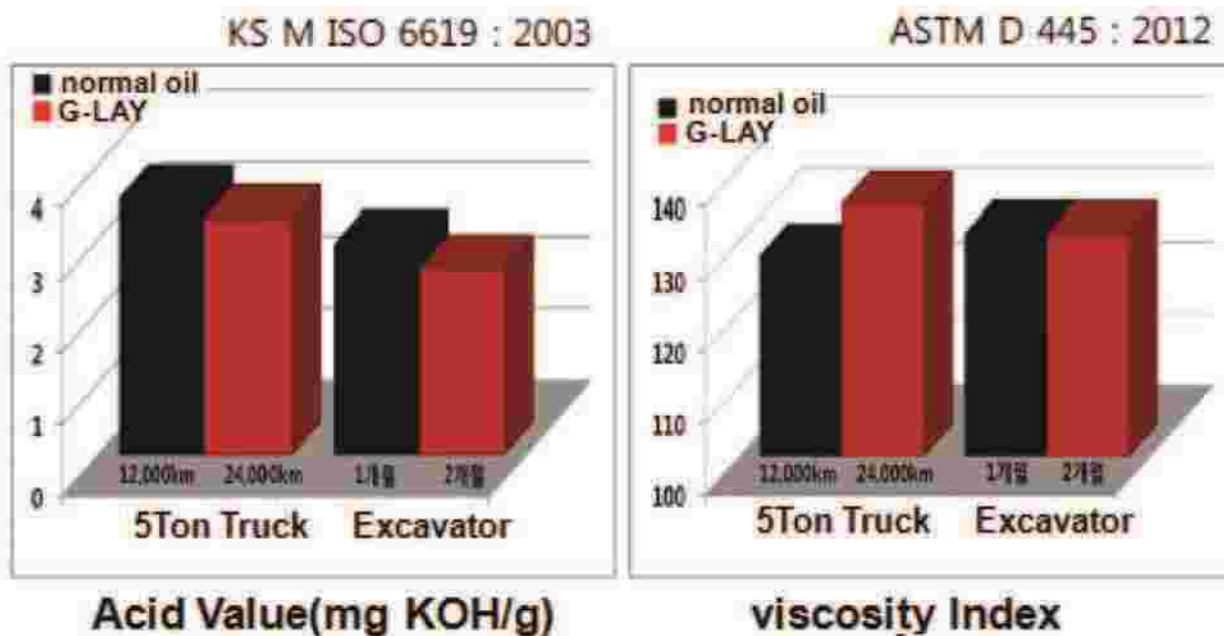
Testing of Engine Oil Life Time
total Acid Value & viscosity
numerical value of Acidity contained in lubricant oil



Dated Jan 5 - May 23, 2019
Tested by Korean Institute of machinery & materials(KIMM)
Testing before and after G-LAY injection

Testing of total Acid Value:
numerical value of Acidity contained in lubricant oil
Oxidation of lubricant oil occurred according to long time exposure of oxygen
and high temperature of long distance running.

G-LAY has wonder character:
excellent effect of thermal conductivity, dispensability,, abrasion resistance,
oxidation resistance.



After injection G-LAY, Acid Value decreased & viscosity index increased
Therefore, Life time of engine oil extended to 2 - 3 times



nanoTec International

PISTON COMPRESSOR TEST REPORT

March 18, 2019

On measuring the parameters of piston compressor M110Y Ser. 2003122
treated by grapheneLayer

Parameter	Prior to treatment	After treatment	Remark
Current consumption [A]	30.06	24.20	24.0% reduced
Temperature at outside [°C]	38.50	29.91	29.0% reduced
Pumping time [sec]	72	46	From 1 to 5.9atm 35.2% reduced
Noise level [dB]	83.2	61.3	35% reduced

After treatment, power consumption was reduced by 24.0%
and vibration and noise levels were improved.
Compressor capacity increased positively in part of energy coefficient.

J. N. Song
Chief Manager
KATech

Date: May 26, 2019

Test Report

Test Sample: grapheneLayer Submitted
by NanoTec International

Test Cell: Automobile Test Lab

Engine Type: RV 1.6 Gasoline, 4 Cylinder, 1500cc

Test Machine: Engine Dynamometer Tester

Engineer: JK Jang Ph.D.

Before Injection of grapheneLayer

speed	power	Torque	FCR	BSFC	Exhausted Gas	
rpm	ps	Kgfm	g/s	g/psh	P(mmHg)	
3521	59.4	12.19	5.20	321.2	121.0	
2507	43.3	12.98	3.48	285.8	66.8	
1521	22.9	10.86	1.92	292.8	30.21	

After running 50Km with injected grapheneLayer

speed	power	Torque	FCR	BSFC	Exhausted Gas	
rpm	ps	Kgfm	g/s	g/psh	P(mmHg)	
3526	67.6	15.10	4.22	230.7	94.6	
2510	52.7	17.20	2.67	214.8	43.2	
1523	31.30	14.20	1.39	191.45	20.23	

After running 200Km with injected grapheneLayer

speed	power	Torque	FCR	BSFC	Exhausted Gas	
rpm	ps	Kgfm	g/s	g/psh	P(mmHg)	
3491	73.2	16.20	4.17	198.80	86.43	
2493	56.20	19.10	2.08	192.50	41.90	
1517	32.10	14.91	1.25	181.49	18.56	



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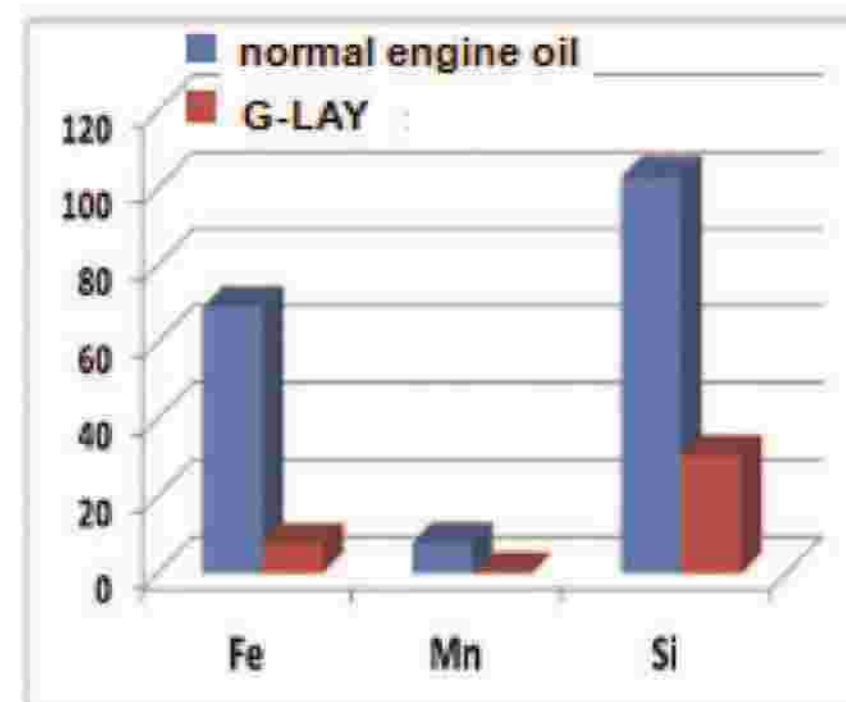
Testing of Abrasion Loss on metallic surface of engine
metallic particle: Fe, Si, Mn etc testing occurred by abrasion in
engine oil

Dated Jan 5 - May 23, 2019

Tested by Korean Institute of machinery & materials(KIMM)

Vehicle; Hyundai Delivery truck. Running record 359,391km

Testing before and after G-LAY injection



metal particle mg/kg
Detectable Amount of measured value

Compared with normal engine oil, G-LAY added oil
dramatically shows reduction of Abrasive Loss



nanoTec International

Testing for Temperature of engine oil By Increased Lubricant membrane & effect of thermal conduction

Dated: April 18, 2019

Tested by Korean Institute of machinery & materials(KIMM)

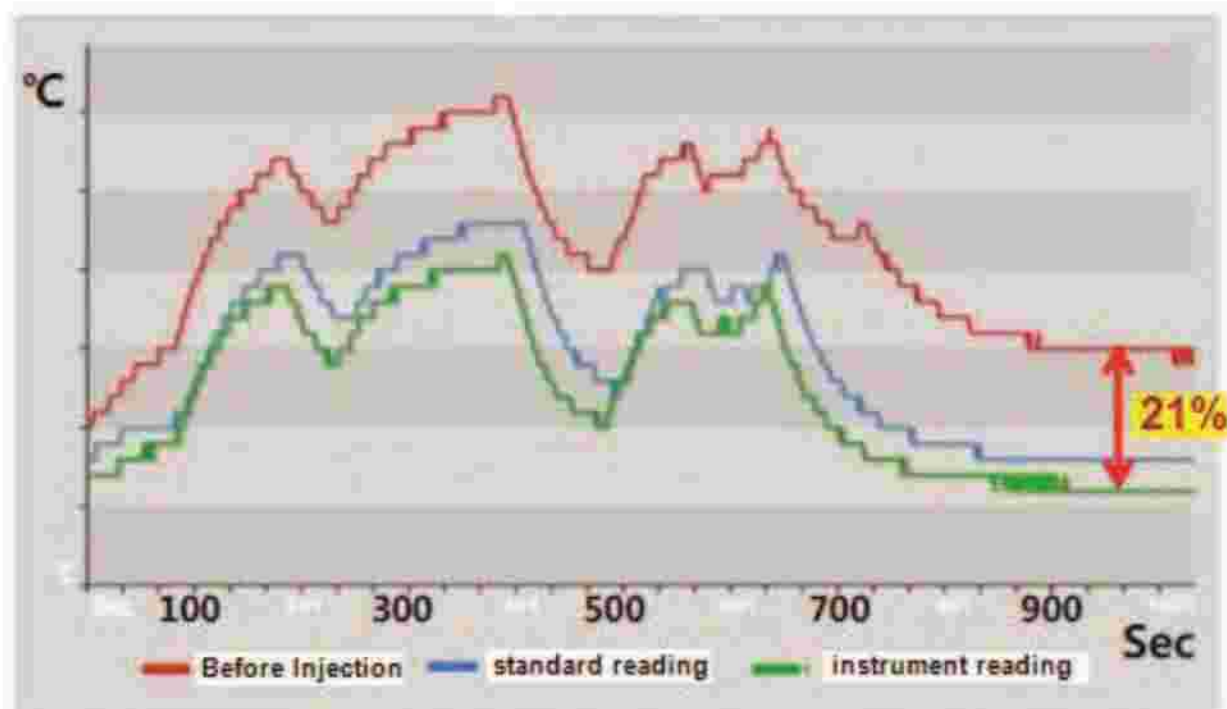
Vehicle: Kia Delivery Ban

Diesel engine

year 1995

Running record 440,355km

Testing Method: After injection G-LAY, test changed temperature of engine every second



nanoTec International

117-3 Chimsan Daegu, Korea Tel.: 82 53 354 5502, Fax: 82 53 354 5503 www.nanozi.com

Quality Certificate

Item : grapheneLayer - graphene based oil additive for engine & all metallic mechanism

March 24, 2019

Name of Article	grapheneLayer	Remarks
Appearance	Black Color	Solution type
Flash Point(°C)	245	ASTM D92
Density	0.01g/cm3	
Thickness (nm)	0.25nm ± 0.07 nano meter	Final treated size
Diameter (nm)	50nm ± 12 nano meter	Final treated size
Water Content(%)	None	Final treated size

Issued by P. J. Lee

Chief Production Engineer

NANOTEC INTERNATIONAL

JAXON PARK
 MANAGING DIRECTOR



nanoTec International

117-3 Chimsan Daegu, Korea Tel: 82 53 354 5502 www.nanozr.com nanotec7777@naver.com

TECHNICAL DATA SHEET

General Characteristics : Chemically Synthesized grapheneLayer

PRAMETER

VISUAL:
COLOR:
SPECIFIC SURFACE AREA:
Electrical Conductivity:
CARBON BY WT%:
OXYGEN BY WT%:
SULFUR BY WT%:
ASH BY WT%:

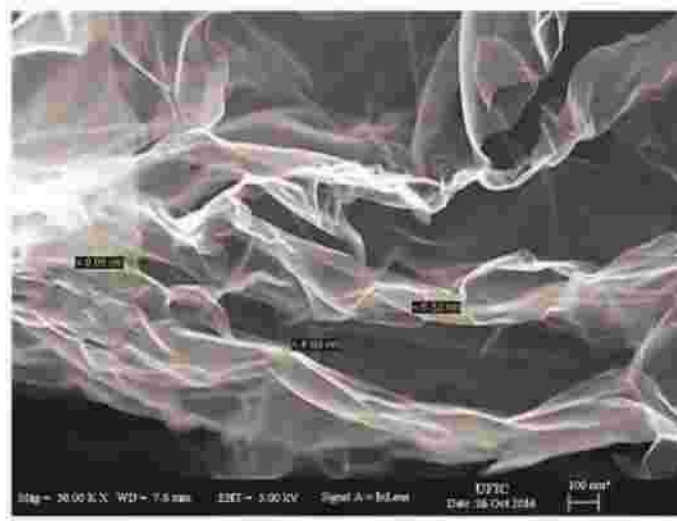
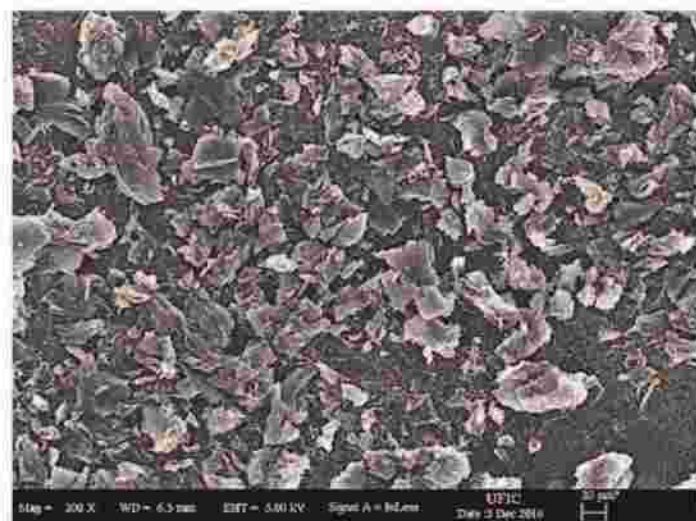
SPECIFICATIONS

Light Powder in oil
Match Standard, Black
500 m²/g ~ 700 m²/g
Ave. 5 S/cm (as powder resistance)
78% ~ 82%
10% ~ 15%
< 0~0.5%
≤ 4.0%

PHYSICAL SIZES:

AVERAGE LATERAL DIMENSION (x & y) ≥ 50nm
AVERAGE THROUGH-PLANE DIMENSION (z) ~ 0.18 ~ 0.30 nm (as estimated by BET)

SEM Images



nanoTec International



Emission Testing Report

The Effectiveness of emission reduction

Dated Feb, 2019

Tested by Korea Automotive Technical institute

Testing Method: Normal engine oil and after inject grapheneLayer(G-LAY)

Test with Emission Tester in each condition, 30minutes engine idling



Before inject



After inject

Vehicle name	Year of production	Running record(Km)	Passed Standard(%)	Before Injection (%)	After Injection(%)	Reduction rate(%)
Tusan	2018	187,443	20	64	18	71.9

Reduction of Emission 71.9%



nanoTec International



**KING OF LUBOIL
GRAPHENE LAYER**

Test for noise reduction

Dated: March 21, 2019

Tested by Dong Yang Car Maintenance Service Center

Vehicle name: Eccus year 2010

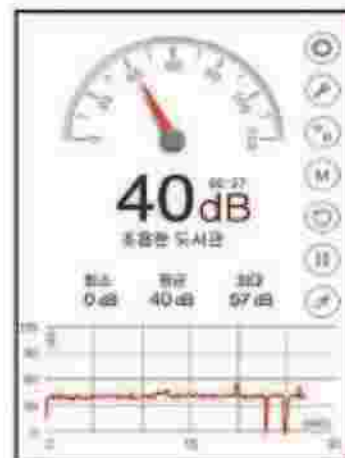
Running Record: 223,971km

Testing Method: Normal engine oil and after inject grapheneLayer(G-LAY)

Test with dB Tester in each condition, 60 minutes engine idling



Before Inject G-LAY



After Inject G-LAY

oil: automotive & industrial oil; MoS₂, many different types of ceramic: silica & boron, synthetic chemical, metalizing particle: Nickel alloy, WS₂, titanium etc.

Researchers at the US Department of Energy's Argonne National Laboratory have published a new study that effectively exploits graphene as a new abrasion resistant material that can be used extensively in a variety of exposure situations.

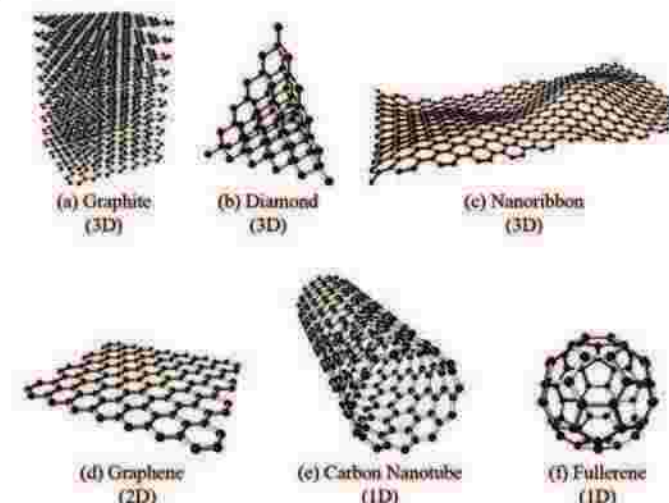
The single layer of graphene was found to withstand 6,500 wear cycles. These values are dramatically improved compared to conventional graphite or molybdenum disulfide, all of metallic and ceramic materials.

Conventional lubricants required about 1,000 membranes to withstand 1,000 wear cycles. This shows that graphene lubricants can greatly improve wear resistance of mechanical systems and reduce their costs.

Graphene has been reported to be an excellent lubricant additive that reduces friction and wear when coated on the surface of various materials or when dispersed in lubricants as an atomic thin material with the low surface energy.

The synthesized graphene oxide (GO) were dispersed at 0.02 wt% in PAO-0W40 oil and its tribological characteristics were investigated using a high frequency friction/wear tester. The friction coefficient and the wear track width of poly alpha olefin (PAO) oil added with graphene oxide (GO) were tested by a ball-on-disk method, and the measured results were reduced by ~5.88 and ~3.8%, respectively compared with those of the conventional PAO oil.

Thus, it was found that the wear resistance of PAO oil was improved. In this study, we demonstrated the successful functionalization of GO as well as the improvement of dispersion stability and tribological characteristics of GO.



India.

The final size is 0.25nm thickness & diameter 50nm.
Above size is world uniquely developed by our proprietary nano technology so that best optimized particle acts improvement of maximizing lubrication ability.



Graphene:

Graphene called new material of dream is substance that is treated as a Miracle material of next generation especially in lubricant oil industry.

Graphene's flat honeycomb pattern: two-dimensional structure in which carbon molecules are bonded by SP² is world thinnest material and many extraordinary characteristics.

Scientists are constantly looking for new ways to overcome friction problems, wear resistance, maximizing efficiency without side effect against all conventional lubricant and their additives: , MoS₂, many different types of ceramic, synthetic chemical, metalizing particle: Nickel alloy, WS₂, titanium etc.

Graphene has physical and chemical stability as high as nanometer and world strongest material in the world: strength of 200 times stronger than steel, lightest & most conductive and excellent stretch ability, so it is directly attached to the surface of a mechanical part or steel ball.

This surface adhesion is very excellent and when it is coated on the inner wall of the cylinder, the friction of piston is dramatically reduced, and the abrasion resistance of the automobile engine can be remarkably improved.

Graphene based engine oil nanofluids of frictional characteristics (FC), anti-wear (AW), and extreme pressure (EP) properties have been highly evaluated. The improvement in FC, AW, and EP properties of nanofluids is respectively by 80, 33, and 40% compared with conventional types of base oil,

Comparison between grapheneLayer and all oil additive & lube oil

Miracle & outstanding effectiveness of grapheneLayer(GL) on vehicle engine and metallic mechanism is scientifically proven, compared with existing lubricant oil additives and all conventional types of lubricant



nanoTec International

Test of fuel efficiency

Dated March 25, 2019

Tested by Korean Automobile Technical institute

Vehicle name: Eccus year 2010 2,999cc

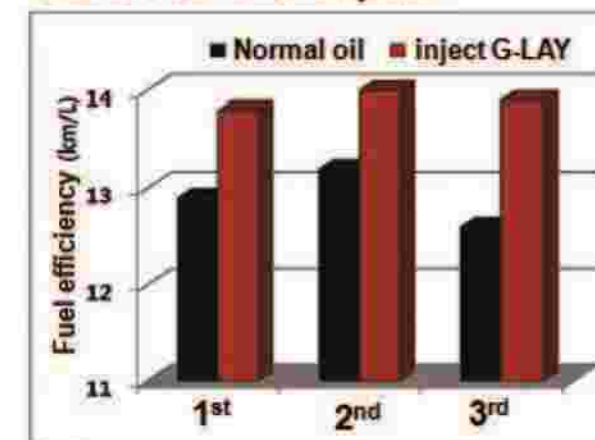
Running Record: 224,992km

Testing Method: Normal engine oil and after inject grapheneLayer(G-LAY)

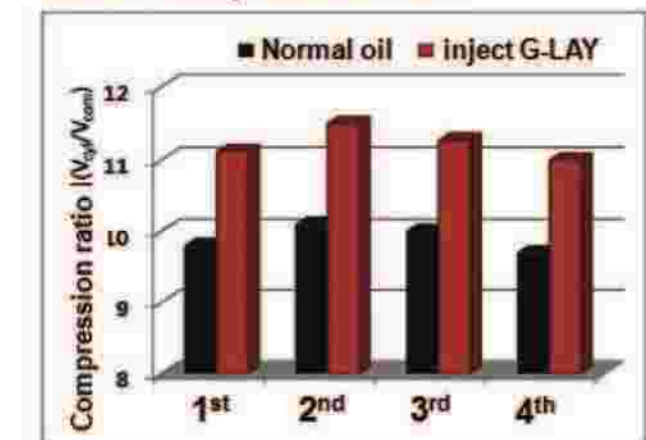
Average testing speed: 80km/h run



Test of Fuel consumption



Test of Compression ratio



Output and fuel efficiency

Compression ratio approx 17% increased

Output approx 8 – 9% increased



nanoTec International

Test of engine output

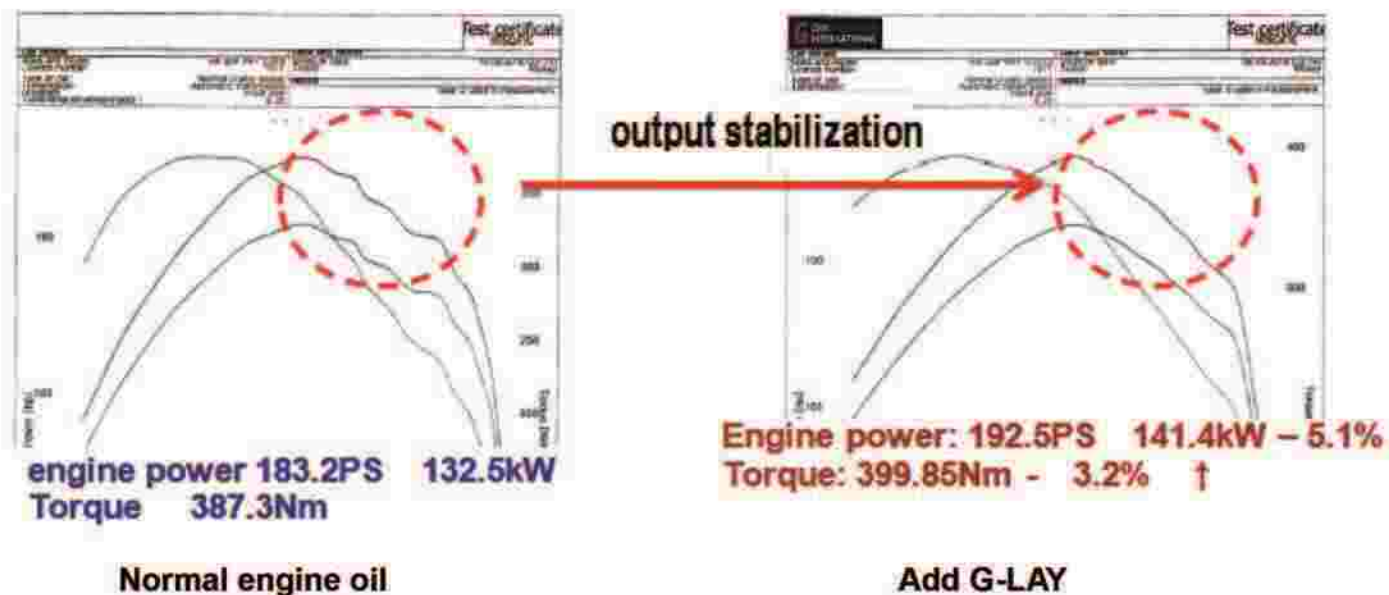
Dated March 12, 2019

Tested by Korean Automobile Technical Institute

Vehicle name: Hundai Tucson year 2011

Running Record: 165,996km

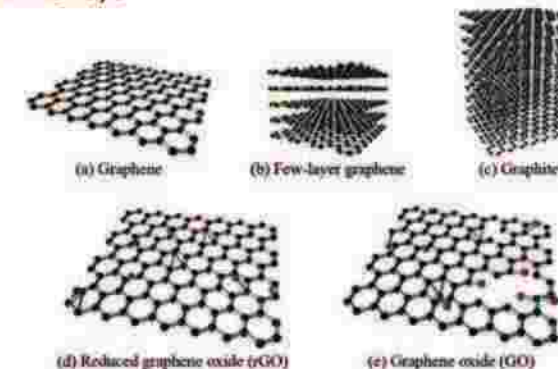
Testing Method: 300km run with Normal engine oil
and 300km run after inject grapheneLayer(G-LAY)



Our manufacturing of reduced Graphene Oxide (rGO)

Today's graphene is normally produced using mechanical or thermal exfoliation, chemical exfoliation, chemical vapour deposition (CVD), and epitaxial growth.

Graphene is a material made of carbon atoms that are bonded together in a repeating pattern of hexagons. Graphene is so thin that it is considered two dimensional. Graphene's flat honeycomb pattern gives it many extraordinary characteristics, such as being the strongest material in the world, as well as one of the lightest, most conductive and transparent. Graphene has endless potential applications, in almost every industry (like electronics, medicine, aviation and much more).



The single layers of carbon atoms provide the basis for many other materials. Graphite, like the substance found in pencil lead, is formed by stacked graphene. Carbon nanotubes are made of rolled graphene and are used in many emerging applications from sports gear to biomedicine.

Graphene may be promising for a next generation channel material that is useful for LSI (large-scale integration). In addition, the physical strength of graphene is 100 times greater than that of iron. The current density tolerance is much better than that of copper, thus it is expected to be an electrical wire transporting large currents.

Graphene oxide is an oxidized form of graphene, laced with oxygen-containing groups.

Graphene oxide (GO), the functionalized graphene recently attracted much interest thanks to its outstanding properties such as large surface area, lubricant field to reduce friction on metal surfaces, mechanical stability, tunable electrical and optical properties.

We manufacture premium quality rGO(reduced graphene oxide) by our manufacturing system of chemical exfoliation in our own laboratory.

Graphene produced by all of graphene manufacturers in China & India could not be used for lubricant oil additive due to micron sized diameter: lateral length which could clog filters of oil system.

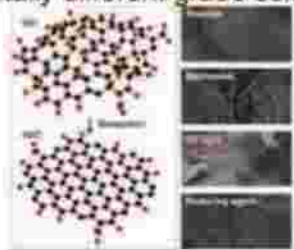
Our produced rGO in our laboratory in quality and size is totally different compared with lower grade of GO manufactured in China, Taiwan and

Scientifically proven nano graphene technology
World unique incomparable & Real Engine restoring within 30 minutes running



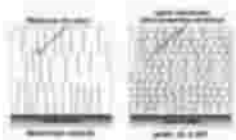
Self-Engine restore & protect by world unique wonder graphene technology

When conventional type of all lubricant oil is simply mixed with nano graphene technology, improve great engine performance immediately: **achieve more powerful, more smooth, silent and comfortable driving, noise and emission drop down dramatically, achieve fuel saving maximum 10%.**
Real and incomparable Effectiveness to restore engine immediately
Totally different grade self-engine restorer compared with existing all lubricant oil additives.



The advantage of our nano graphene material

Our own proprietary nano graphene material has great advantages with fast thermal conductivity, anti friction, anti corrosion, world strongest(200 times stronger than metal), thinnest and lightest material.



Sealing function in engine chamber, solve leakage problem through worn out metallic surface occurred by reciprocation motion of piston



Emission leakage Normal oil



block leakage, increased pressure adding G-LAY

Emission max 83% reduced
Output Max 20% and fuel max 14% improved
Extend life time of engine oil to 2 – 3 times
Reduce noise and vibration
Power increased

The differences between other additives and our gLay

Most of oil additives which are already selling into the market uses very cheap chemical based coating materials or metallic and ceramic particles. These kinds of ingredients are not so stable in high temperature of engine chamber and actually no effective to restore engine or very temporary small differences before and after. **Don't waste your money with wrong oil additives.**
gLay is world unique aftermarket solution by nano graphene technology.



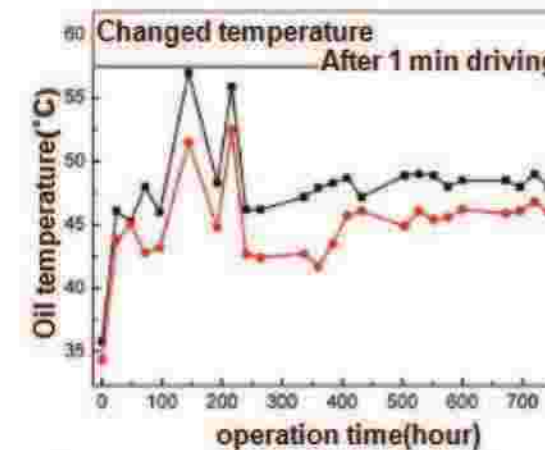
nanoTec International



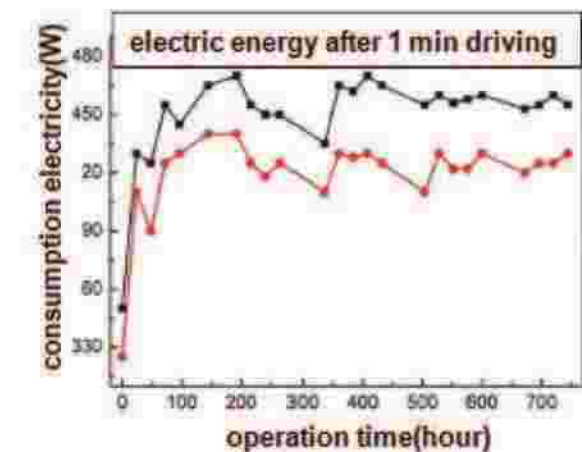
Compressor Test

Dated March 14, 2019
Tested by Korean Institute of machinery & materials(KIMM)
Compressor Cylinder 5hp
Testing before and after G-LAY injection
Testing Period: 0hr – 200hr

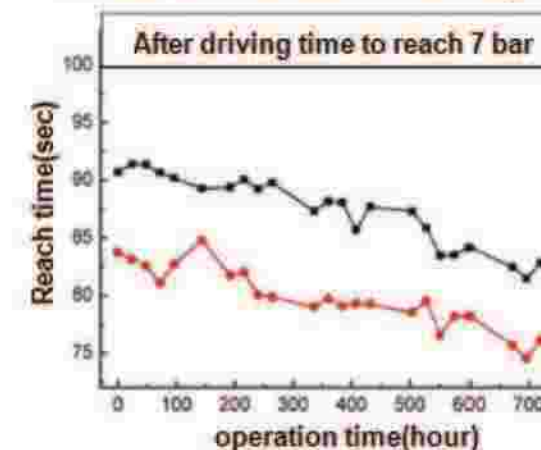
Engine heat value reduce(7 – 11%)



driving energy reduce(9 – 13%)



Pressure increased time(6 – 8%)



—■— Normal oil
—●— G-LAY adding

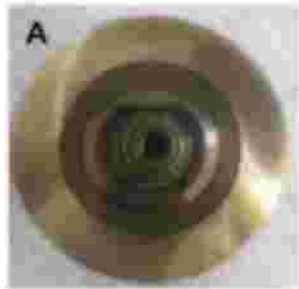
Abrasion Testing Report

Dated Feb 23, 2019

Tested by Korean Institute of machinery & materials(KIMM)

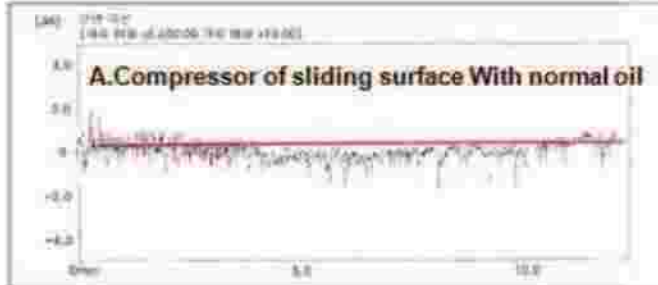
Durability of Abrasion for Car air-conditioned Compressor Cylinder 5hp

Testing before and after G-LAY injection



Evaluation of anti-wear(Avg 1kg/cm2)

Result:
normal oil: anti-wear 1μm
with G-LAY: no anti wear



The advantage of G-LAY
against above mentioned oil additives :

King of all lubricant oil

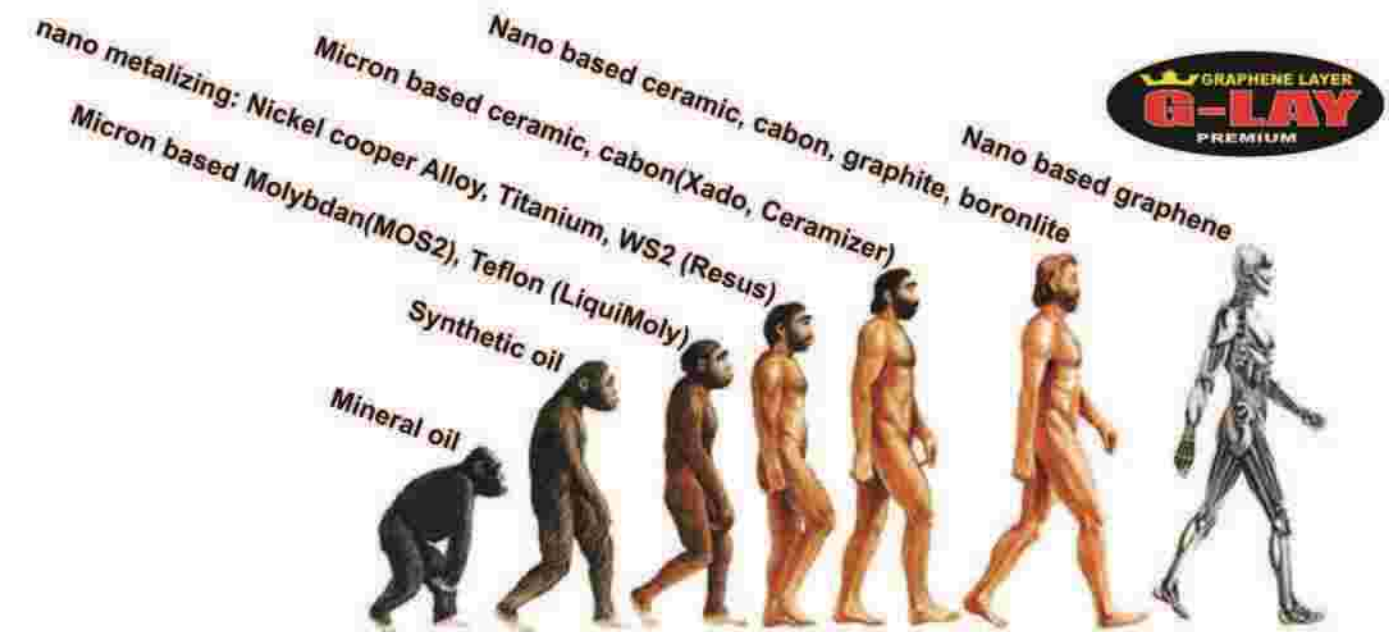
Incomperable & essential additives

to maximize effect for all conventional type of lub oils

Using nano graphene: wonder material of dream for next generation.
Incomperable effectiveness against all existing additives in market.

Environmental friendly, No side effect

Graphene is power to change the world and dream of future generation.
Graphene is the strongest known material, harder than diamond yet more elastic than rubber; tougher than steel yet lighter than aluminium, heat 2x better than diamond, electrical conductivity is 13x better than copper with amazing characteristics.





nanoTec International

Emission Testing Report

Dated Feb, 2019

Tested by Korea Automotive Technical institute

Testing Method: Normal engine oil and after inject grapheneLayer(G-LAY)

Test with Emission Tester in each condition, 30minutes engine idling



Testing Date: Feb 1st week, 2019

Vehicle name	Year of production	Running record(Km)	Passed Standard(%)	Before Injection (%)	After Injection(%)	Reduction rate(%)	Remark
Sorento	2003	205,338	20	49	15	69.4	
Santafe	2005	187,237	20	52	16	69.3	
Carnival	2011	143,095	20	43	12	72.9	

Testing Date: Feb 3rd week, 2019

Vehicle name	Year of production	Running record(Km)	Passed Standard(%)	Before Injection (%)	After Injection(%)	Reduction rate(%)	Remark
Trasse	2009	212,499	20	67	16	76.2	
Rivero	2007	307,350	20	48	11	77.9	
Tusan	2014	122,549	20	41	13	68.3	

Average reducing rate of emission after inject grapheneLayer(G-LAY): **72%**



Hansung Motor Co Ltd/Official Dealer of Mercedes Benz
Hansung Motor Tower, 935-41 Bangbaedong Seocho, Seoul, Korea Tel: 02-533-3420

The Certificate for grapheneLayer Engine Oil additive

Supplier: **nanoTec International**

117-3 Chimsan, Bukgu, Daegu, Korea
Tel: 053-354-5502 Fax: 053-354-5503

Dear sirs,
grapheneLayer All-In-One Type was tested strictly on the base of international standard Testing procedure & regulation of Mercedes Benz specification, and Testing was focused on standard operating of engine oil in Mercedes Benz vehicles, side effect of nano graphene particles on metallic surface of cylinder and effect of power & noisy on running in our laboratory & testing department.

We are pleased to inform you that using of grapheneLayer All-In-One Type has been approved, and the engine performance & positive restoring effect of of grapheneLayer All-In-One Type was testified by Official Authorized Mercedes Benz Maintenance Center

Sincerely yours,

Feb 23, 2019

K.G. Lee

K.G. Lee
Engineering Manager
Hansung Motor Co Ltd
Official Dealer of Mercedes Benz



HONDA KOREA LIMITED

DAECHI TOWER 6TH FLOOR 891 DAECHIDONG KANGNAM SEOUL, KOREA TEL 02-3416-3338 FAX 02-3416-3449

Feb 12, 2019

Ref: HD-KR-2019-325433UG

Subject: Quality Certificate & Approval

Supplier: NanoTec International
Hwasung Bldg 117-3 Chimsandong
Daegu
Korea

Quality Certificate of grapheneLayer(gL)

Upon international standard testing results of grapheneLayer all-in-one type by our Laboratory of HONDA Korea,

grapheneLayer(gL) all-in-one type based on graphene(rGO) complies with HONDA standard specification of engine oil: gasoline & diesel, and is approved to be used for HONDA vehicles.

Yours Sincerely,

Jae Moon Kim
General Manager



nanoTec International

Testing for Temperature of engine oil By Increased Lubricant membrane & effect of thermal conduction

Dated: April 14, 2019

Tested by Korean Institute of machinery & materials(KIMM)

Vehicle: Hundai Grandeur:

gasoline engine

year 1998

Running record 329,012km

Testing Method: Before 7 after injection of grapheneLayer(G-Lay)
After 2 hours engine idling, test temperature on oil fan party
Using thermal image camera

	G-LAY Q'ty	Temperature of Engine Oil (°C)			
		Before Injection	After Injection	Temperature Differences	Temperature(%) Reduction Rate
G-Lay AIO	1 pouch	94.3	84.2	10.1	13.4

Atmospheric Temperature: 29°C

Normal Temperature of Engine idling: 85°C - 90°C

Dated: April 15, 2019

Tested by Korean Institute of machinery & materials(KIMM)

Vehicle: Kia Sorento:

Diesel engine

year 2001

Running record 270,355km

Testing Method: Before 7 after injection of grapheneLayer(G-Lay)
After 2 hours engine running on road, test temperature on oil
fan party

Average running speed 80km/hr

Using thermal image camera

	G-LAY Q'ty	Temperature of Engine Oil (°C)			
		Before Injection	After Injection	Temperature Differences	Temperature(%) Reduction Rate
G-Lay AIO	1 pouch	130.3	109.5	20.8	16.0

Atmospheric Temperature: 25°C

Normal Temperature of Engine on 30km run: 105°C - 130°C



Meister Motors limited
Volkswagen Official Dealer, Korea

CERTIFICATE OF APPROVED SUPPLIER

Name of Supplier : nanoTech International
117-3 Chimsan, Daegu, Korea

Supplied Product: grapheneLayer AIO(All-In-One Type)
(Automotive Oil Additive for improving engine performance)

Herewith, it is certified that grapheneLayer manufactured by NanoTec International is approved as Automotive Oil Additives to Volkswagen Auto Maintenance Network in Korea, and Meister Motors Ltd allows Volkswagen vehicles to use grapheneLayer motor oil additive at Volkswagen Maintenance shops.

March 25, 2019

Jun Sung Sohn
Jun Sung Sohn

Engineering Manager



HYUNDAI MOTOR GROUP



Supplier: nanoTech International
117-3 Chimsan, Daegu, Korea

Re: The Certificate of official Supplier

Product: grapheneLayer(gL) All-In-One Type
Engine Oil Additive

It is certified that Hyundai Kia Motor Group approves grapheneLayer Engine Oil Additives to be used at Hyundai-Kia Maintenance Service Network, and Graphel Engine Oil Additives is nano based graphene layer coating additive for all Hyundai & Kia vehicles which need to improve engine performance.

April 22, 2019

Nam sang jin
Nam sang jin

CEO/Vice President
Manufacturing Management Div
Hyundai-Kia Motor Group



TOYOTA Korea Limited
Official Service Center
Kongduck 232-2 Seoul
Tel: 02)3420-4221/9
Telefax: 0203420-4231/2

To:
nanoTec International
117-3 Chimsan, Bukgu
Daegu, Korea

Dated: March 15, 2019
Our Doc ref: EMJ SEV 19-00392

Title: The restorative effect of POWER STEERING SYSTEM
related with grapheneLayer Smaller(Universal Restorer)

grapheneLayer Smaller(Universal Restorer) was injected into power steering fluid, as several old Toyota vehicles including gasoline & diesel engines are in noisy and heavier wheel handling problem which need replace whole power steering system.

Most of vehicles which were injected with grapheneLayer Smaller(Universal Restorer) had positive effect to achieve smooth steering wheel handling and perfect reduction of noisy in very short term average within 30 minutes running.

In this connection, grapheneLayer Smaller(Universal Restorer) is positively recommended to use for restore the condition of power steering system for all series of Toyota vehicles.

Truly yours,

Park Youn Ki
Senior Engineering manager
Toyota Korea Limited



TOYOTA Korea Limited
Official Service Center
Kongduck 232-2 Seoul
Tel: 02)3420-4221/9
Telefax: 0203420-4231/2

To:
nanoTec International
117-3 Chimsan, Bukgu
Daegu, Korea

Dated: March 15, 2019
Our Doc ref: EMJ SEV 19-00391

Title: The Certificate of Quality Approval

Item number: grapheneLayer Oil Additives for engine restoration
grapheneLayer All-in-one Type

Dear nanoTec International,
grapheneLayer All-in-one Type accords with standard requirement of Toyoda to be used for Toyoda internal combustion engines

Therefore, grapheneLayer All-in-one Type is approved for using in all series of Toyota vehicles and their assemblies.

Truly yours,

Park Youn Ki
Senior Engineering manager
Toyota Korea Limited