

Nanoⁿ Lubricants ECO Synergy

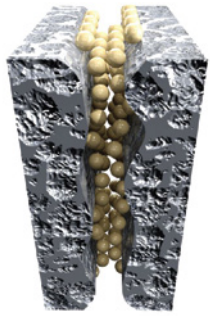
Breakthrough in Engine Oil Industry, Long Life and Superior Performance

Formulated for Excellent Performance and Durability. Double ester and PAO with high quality base stock with synthetic blend, with organic anti-wear technology results excellent cost performance protection with fuel economy improvements. Lower drag and friction behaviour translates to more power and performance, with the benefit of less heat, fuel saving, longer engine life. Total new experience of engine efficiency.



Superior Anti-Wear Formulation

Racing and high-performance engines are typically modified to deliver maximum horsepower and speed. Their powerful designs create shearing forces that can cause lesser oils to lose viscosity, leaving bearings, pistons and other components vulnerable to wear and failure. Nanoⁿ Lubricants use a special synthetic organic anti-wear technology resists of operating high temperature up to 250°C. This long lasting nano particle is proven long lasting until engine oil end of service life.

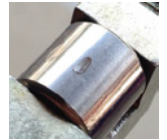


Very small organic particles forms roller film protective layer between rough surfaces, filling up games and cracks on worn surfaces



Left 10 minutes of non stop Timken experiment high load 200°C high temperature results of Nanoⁿ Lubricants

Right Timken test result of traditional MoS₂ and ZDDP based technology under light load testing



Right Same Timken experiment is performed on metal piece after engine oil after six-month and 15,000km of service. (2010 Honda Civic 1.8, Extreme 0W-30 is being tested)

Super Low Friction

Organic anti friction and anti-wear components, Nanoⁿ Lubricants reduces friction, provides cooler engine temperatures, long lasting, maximum stability in high temperature working condition. Less friction translate into higher engine torque output.

Stable Power Delivery

Nanoⁿ Lubricants out performs normal engine oil durability and viscosity stability control. High strength oil film, stable viscosity ensure cylinder compressions for power delivery.

Superior Cold Start Wear Protection

Excellent cold temperature anti-wear performance, extreme low pour point with extra high HTHS (High-Temperature/High-Shear) viscosity at elevated operating temperatures maintains superior film strength.

Superior Engine Cleanliness

Synthetic esters provides excellent oxidation stability, heat resistance and detergency properties. Designed to prevent sludge and varnish forming, keeps engine clean

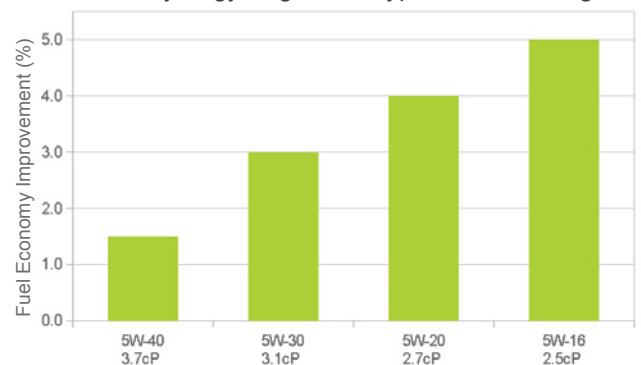
Extended Oil Drain

Both superior low temperature and high temperature performance enables Nanoⁿ Lubricants ECO Synergy series performs with better protection than other oil. Its superior synthetic chemistry allows high performance operations with extended oil drain. Low evaporation loss catered for high temperature operated engines to minimize oil loss.

Extended Performance Lifetime

With ProPioneer's proprietary high performance viscosity modifier, in combination with genuine synthetic base blends with quality base stock, ECO Synergy series oil performs exceptionally stable in high temperature high shear conditions with long life anti-oxidation capabilities. Synthetic esters extends oil seal life time and keep engine clean, sludge free, free flow oil channels, ensure engine hydraulic components works reliably under engine life time. Oil performs like new even after thousands of kilometers of severe service operations. This feature enables engine output and efficiency to maximum from start to end of oil service life time.

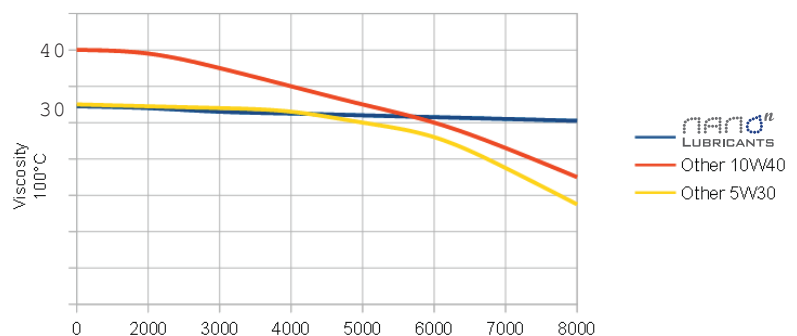
ECO Synergy Engine Oil Typical Fuel Savings



150° High Temperature High Shear (HTHS)

Chart base on M111E engine versus 15W-40 RL191 environment, actual fuel economy is affected by engine conditions, driving behavior, fuel quality, and other environmental issues

Viscosity vs Mileage



After Using KM/Mileage

Above information refer to typical scenario. In reality, the actual degrade of viscosity depends on fuel quality, engine conditions, driving behaviour and whether conditions.

Typical Technical Properties

	5W16	5W20	5W30	5W40	10W20	10W30	10W40
Kinematic Viscosity @ 40°C , cSt(ASTM D445)	44.1	48.4	61.8	82.0	52	65	88
Kinematic Viscosity @ 100°C , cSt(ASTM D445)	7.65	8.31	10.3	13.3	8.3	10.3	13.2
Viscosity Index (ASTM D2270)	142	147	156	165	133	145	152
CCS, mPa.s (°C) (ASTM D5293)	4700(-30)	4800(-30)	4800(-30)	5500(-30)	4000(-25)	4200(-25)	4500(-25)
Flash Point °C (ASTM D92)	>230	>230	>230	>230	>230	>225	>225
Pour Point °C (ASTM D97)	-45	-45	-45	-45	-45	-45	-45
Noack Volatility, %weight loss (ASTM D5800)	6.5	6.7	7.4	8.2	8.5	8.7	9.5
Total Base Number (ASTM D2896)	7.5	7.5	7.7	10.2	7.5	7.7	10.6
High Temperature/High-Shear Viscosity (ASTM D5481)	>2.5	>2.7	>3.1	>3.7	>2.7	>3.1	>3.7
Sulfated Ash, %weight (ASTM D874)	<0.85	<0.85	<0.85	<1.2	<0.85	<0.85	<1.2

Meets or Exceeds following requirements

Due to difference viscosities of oil meets different requirements and standards, not all oil meets the same API/ACEA/Manufacturer requirements.

5W16

API SN/CF
ACEA A1/B1
Honda Earth Dreams

5W20

API SN/CF
ACEA A1/B1, Low SAPs compatible
GM Dexos1, Ford WSS-M2C945-A/WSS-M2C930-A
Honda Earth Dreams

5W30

API SN/CF
ACEA A5/B5, Low-SAPs compatible
GM Dexos1, GM6094M, Ford WSS-M2C946-A/WSS-M2C929-A
Honda HTO-06

5W40

API SN/CF
ACEA A3/B4
MB229.3/229.5, VW502/505,, BMW LL01

10W20

API SN/CF
ACEA A1/B1, Low-SAPs compatible
GM Dexos1, Ford WSS-M2C945-A/WSS-M2C930-A

10W30

API SN/CF
ACEA A1/B1, A5/B5, Low-SAPs compatible

10W40

API SN/CF
ACEA A3/B4
MB229.3/229.5, VW502/505, BMW LL01

Compatibility

Nano[®] Lubricants is compatible with conventional and synthetic engine oils. However, mixing with other engine oil will shorten the oil's expected life time and reduce in performance benefits. ProPioneer Engineering does not guarantee performance viscosity properties where mixing with other oil.

Aftermarket additives are not recommended for use with Nano[®] Lubricants

Applications

Designed for newer vehicles or well maintained and serviced engines. Works on naturally aspirated engines and turbo-charged engines, gasoline, 4 stroke motorcycles with dry clutch systems, LPG or diesel, hybrid vehicles. Consult your engine builder and service manual for recommended oil weights and types.

Service Life

Normal Service - 25,000KM, 800 hours of operation or one year
Severe Service - 10,000KM, 400 hours of operation or six months

Suggested service life is subjected to local gasoline quality, engine conditions and whether conditions, these numbers are for reference only and is not strict rule for service.

Warranty

All users of PPE Nano[®] Lubricants subject to be covered by limited product warranty. Please see <http://www.propioneer.co/engine-oil-warranty> for detail terms and conditions