

## CERACOAT COATING FOR ENGINE:

HIGH QUALITY NANOTECHNOLOGY CERAMIC COATING FOR ENGINES (4-stroke, 2-stroke, fuel, gasoline), GEAR BOX, DIFFERENTIALS, CHAINS, BEARINGS, SHOCK ABSORBERS, HYDRAULIC SYSTEMS.

### CERACOAT CERAMIC COATING FOR ENGINES:



Is a coating by solid ceramic particles, to be added to greases, hydraulic-oils, gear- oils, engine-oils, etc. in order to reduce friction and wear in a spectacular way.

The ceramic solid particles do not build any agglomerates, and do not block filters. The solid polar particles have a disc structure and therefore an extremely good adhesion to the metal surface, building a film-like ceramic layer on the piston rings and the cylinder walls, reducing friction + wear in the engine. No more friction between metal at cold start (no lubrication yet) because of the protectant ceramic film.

### ENGINE CARE



### Examples of use:

- ✓ Engines (cars, trucks, tractors, machines, airplanes, bikes, boats)
- ✓ Gears (also for windmills)
- ✓ Shock absorbers
- ✓ Bearings, hydraulic systems
- ✓ Everywhere where you have oil and/or grease for lubrication



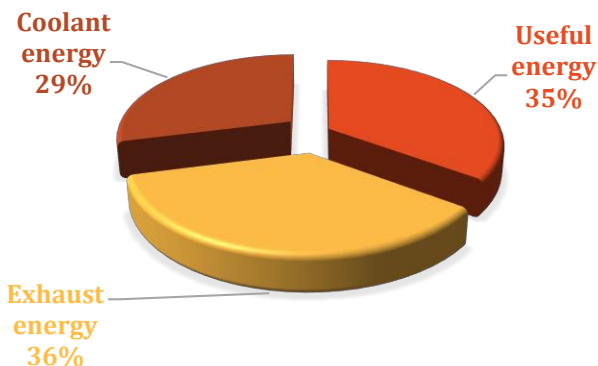
## Product characteristics:

- ✓ Ceramic concentrate based on nanotechnology, foodstuff neutral (inert)
- ✓ Ceramic natural material builds a film on the metal parts of the engine
- ✓ Ceramic reduces friction, wear, temperature, fuel & oil consumption
- ✓ No oil change needed to add it - film remains after oil changes

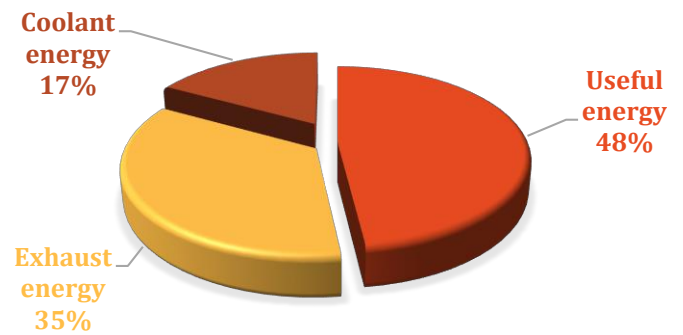
## OTHER PROPERTIES:

- ✓ Much better friction coefficient than PTFE, any other material or the oil
- ✓ Much higher heat transfer coefficient than PTFE, any other material or the oil
- ✓ Works until an operating temperature of 1800 °C (PTFE only 260 °C)
- ✓ Reduction of friction means: less wear, consumption, exhaust emission, noise, temperature, vibrations, elimination of the cold start problem of missing lubrication
- ✓ Reduction of friction means: more efficiency (more power/torque), longer service intervals, increases engine lifetime - protection during cold starts + lubrication fails

### CONVENTIONAL ENGINE



### CERAMIC COATED ENGINE



## APPLICATION:



Simple do-it-yourself application makes it suitable for end-customers as well:  
Just add it to the warm engine oil and immediately drive the car for about 15 minutes  
This CERAMIC-coating does quickly adhere to the metal parts of the engine

## STORAGE STABILITY:

Unopened original containers can be stored for at least 10 years. Shake the bottle when the product was stored a long time before use

## CONSUMPTION:

1 bottle for up to 6 liters of engine oil - 1 bottle for about 50 000 km or once a year

## ADVANTAGES COMPARED TO COMPETITIVE PRODUCTS:



### ✓ **Permanence and longevity:**

The ceramic engine coating is active for about 50 000 km and since it is a coating and not an oil additive, it is still active after oil changes.

- Many competitive products have to be added after each oil change and do not adhere to the metal parts because they are just oil additives

### ✓ **Abrasion resistant, temperature resistant**

A solid connection from the ceramic material to the metal parts of the engine builds a permanent ceramic film on the metal parts. Abrasion/friction will not affect the ceramic film for about 50 000 km and ceramic is temperature resistant until 1800 °C

- Many competitive products are quickly destroyed by friction and temperature (So, the working range of PTFE for example is only about 260°C)

### ✓ **No chemical product**

Ceramic is a natural product that people are using all day long in many other fields

- Many competitive products are chemicals, and PTFE is transformed in CFC (poison) by heat

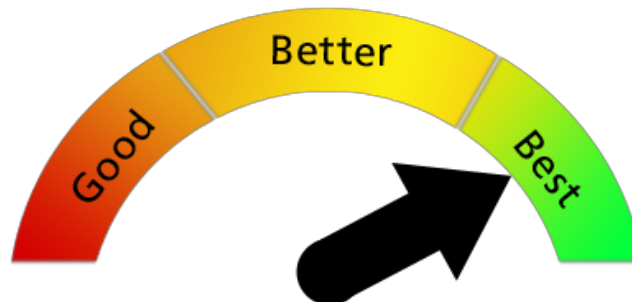
## IMPORTANT NOTICE:

Our explanations correspond to our current knowledge and experience. The right to make alterations within the framework of technical advances and operational development is reserved. The customer is not released from careful product application. We guarantee the quality of our products in accordance with our general sales conditions as a matter of course. The products are ready-to-use.



## ALL FIGURES FOR CERACOAT CERAMIC

<b>IMPROVES CONSIDERABLY</b>	<b>UP TO</b>
Engine life	100 %
Engine power	15 %
Engine elasticity	
Cold start	
<b>REDUCES CONSIDERABLY</b>	<b>UP TO</b>
Friction	35 %
Engine wear	84 %
Oil temperature + consumption	20 %
Fuel consumption	10 %
Exhaust gas emissions	85 %
Noise	5dB
Stick-Slip	100 %
<b>STOPS OILLEAK</b>	<b>100 %</b>



Measurement of ENGINE POWER by the University of Arnhem  
 and measurement of CONSUMPTION by the University of  
 Eindhoven, The Netherlands, due to CERACOAT Ceramic  
 Physical properties and comparison  
 of CERAMIC and PTFE (Teflon\*)



Power WITHOUT CERACOAT Ceramic	Power WITH CERACOAT Ceramic	Starting power WITHOUT CERACOAT Ceramic	Starting power WITH CERACOAT Ceramic
101,8 kW	<b>106,0 kW</b>	240 Amp	<b>225 Amp</b>
105,6 kW	<b>111,3 kW</b>	330 Amp	<b>285 Amp</b>
214,6 kW	<b>221,5 kW</b>		
320,9 kW	<b>334,8 kW</b>		

<b>Fuel economy with CERACOAT Ceramic</b>	Over 1812 mls	Over 3556 mls	Over 4528 mls
	<b>-4,2 %</b>	<b>-4,6 %</b>	<b>-4,9 %</b>
<b>Fuel economy with CERACOAT Ceramic</b>	Normal roads	Hill roads	Highway
	<b>-10%</b>	<b>-6,5 %</b>	<b>-5,8 %</b>

COMPARISON	CERAMIC	TEFLON (registered trade mark from DuPont company)
Friction coefficient	<b>0,01-0,1</b>	0,04-0,5
Heat transfer coefficient	<b>40-70 W/K.m</b>	0,24 W/K.m
Hazardous combustion products	<b>None</b>	dangerous CFC
Bonding to metal	<b>Excellent</b>	none
Polarity	<b>Polar</b>	non polar
Transition	<b>Over 1100 C</b>	decomposed after 260 C
Max operating temperature	<b>~ 1800 C</b>	260 C

Density of ceramic	ca. 0,9 Kg/L - liquid
Odor + color of ceramic	Light + white/yellow
Ceramic particles volume	0,1 - 0,5 Micron
Flash point of ceramic	over 230 C
Auto-ignition point of ceramic	over 260 C
Water solubility of ceramic	Insoluble
Viscosity of ceramic	Thick liquid
Temperature of action by ceramic	~ 20 to ~ 1800 C

## TESTING RESULTS OF CERACOAT CERAMIC SPEED ENGINE CLEANER

CLIENT	First results of C1-C2	First results of CERACOAT Ceramic	Reduction of exhaust emission with CERACOAT Ceramic Speed Engine Cleaner
Renault	4,51	2,05	55%
Bosch	3,51	1,55	56%
Technic Service	2,96	0,94	68%
Dekra	3,28	0,52	84%
Opel	4,67	2,10	55%
Opel	4,39	1,32	70%
Renault	3,27	0,76	77%
VAG	3,97	0,71	82%
Bosch	1,40	0,20	86%
Norauto	2,80	1,10	61%
Pansler Brand	8,49	1,95	77%
Ferrari	0,80	0,31	63%
Citroen	4,90	1,00	80%

