

TECHNICAL DATA SHEET (TDS)

Boron & Ceramic Hybrid Engine Oil Protector

1. Product Description

Kross Boron & Ceramic Engine Oil Protector is an advanced engine oil additive developed to minimize internal engine friction. Its hybrid structure combines Nano-Ceramic (Hexagonal Boron Nitride - hBN) particles with chemical boron compounds in a single formula, forming a smooth, glass-hard and extreme-temperature-resistant microscopic coating on all metal surfaces exposed to wear inside the engine (pistons, piston rings, bearings, camshaft, etc.).

This armored coating completely prevents metal-to-metal contact under extreme conditions where the engine oil film breaks down or becomes thinner (cold start, excessive load, high RPM), providing exceptional protection and extending engine life.

2. Key Features and Benefits

- **Hybrid Protection Technology (Boron + Ceramic):** Provides dual-layer wear protection by combining chemical lubrication (Boron) with physical coating (Nano-Ceramic).
- **Zero Cold-Start Wear:** Even after the oil drains into the crankcase, ceramic particles remain attached to metal surfaces and prevent dry friction during the first moments of engine start-up.
- **Performance and Power Increase:** Dramatically reduces the coefficient of friction (up to 70%), allowing the engine to rev more freely while improving pulling power and torque.
- **Noise and Vibration Reduction:** Fills microscopic clearances between metal components, enabling quieter and smoother engine operation with reduced vibration.
- **Heat Control:** Prevents excessive heat caused by friction and delays viscosity breakdown even under demanding conditions thanks to the ceramic material's high-temperature resistance.

3. Typical Physical and Chemical Properties

Appearance	Opaque, Dark Yellow / Brownish Suspension (Contains Ceramic Particles)
Density (@ 20°C)	0.880 - 0.920 g/cm ³ (ASTM D4052)
Flash Point	> 190 °C (ASTM D92)
Kinematic Viscosity (@ 100°C)	8.5 - 12.5 mm ² /s (ASTM D445)
Filter Compatibility	Sub-micron (<0.5 µm) ceramic particles capable of passing through all standard engine oil filters

* The values above are typical values and may show minor variations depending on the production batch. They do not constitute binding product specifications.

4. Applications and Dosage

- Application: 100% compatible with all synthetic, semi-synthetic and mineral engine oils. Safe for use in all gasoline, diesel and LPG engines, including turbocharged, naturally aspirated, DPF-equipped and catalytic-converter-equipped vehicles. (Note: Not recommended for motorcycles with oil-bath wet clutches, as it may cause clutch slippage.)
- Dosage: One bottle (300 ml) is sufficient for engines with an oil capacity of 4 to 6 liters.
- Durability: The ceramic coating formed after application is not affected by routine oil changes and maintains its effect for up to 50,000 km.

5. Directions for Use

1. Important: Shake the bottle vigorously for at least 30 seconds before application to ensure homogeneous distribution of the ceramic particles.
2. Run the vehicle for 5-10 minutes to bring the engine oil to operating temperature, then switch off the engine.
3. Add the entire contents of the bottle through the engine oil filler cap.
4. Run the engine at idle for 15 minutes or drive at a normal pace to allow the product to reach and coat all internal engine surfaces.

Important Safety Warnings:

For maximum effectiveness, application is recommended after replacing the engine oil with fresh oil and installing a new oil filter. Keep out of reach of children. Avoid contact with eyes and skin. Shelf life is 3 years when stored sealed in a cool, dry place. For detailed occupational health and safety information, refer to the Material Safety Data Sheet (MSDS).

The information contained in this technical document is based on our current laboratory tests and experience. The manufacturer cannot be held responsible for any consequences resulting from improper use of the product.

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