



PRODUCT INFORMATION & DATA SHEET

PRINCE® FS1 SAE 5W-40 EUROPEAN MAKERS FORMULA

The P-9 Ester Fully Synthetic Motor Oil for immensely demanding requirements.

FS1 SAE 5W-40 EUROPEAN MAKERS FORMULA is an exclusively designed all-season motor oil with reduced blend of SAPS (sulphated ash, phosphorus, sulfur) and ultra-advanced additive technology, strengthened with P-9 Ester to provide unsurpassed engine protection at extremely high and low working temperatures, without compromising the functionality and reliability of the exhaust emission systems in the newest diesel and gasoline European vehicles, including Audi, Porsche, Skoda, Volkswagen and Fiat.

Our EUROPEAN MAKERS FORMULA fully synthetic motor oil is comply with all performance requirements of the ACEA C3, as well as dependable for extended oil drain intervals recommended by leading European car manufacturers. This unique ester-based motor oil is capable to prolong the service life of DPF (Diesel particulate filter), GPF (Gasoline particulate filter) and TWC (three-way catalysts). It is fortify with excellent detergent and dispersant agents to prevent deposits build-up in all kinds of direct injection systems (e.g.: FSI, TFSI, TDI, common rail, etc.).

This motor oil meets or even exceeds the following list of OEM's approvals and standards:

ACEA C3, API SP, BMW LL-04, Daimler MB 226.5/ MB 229.51/ MB 229.52, Fiat 9.55535-S2/ 9.55535-T2, GM dexos2, Porsche C40, Renault RN0700/ RN0710, VW 511.00

Some of the benefits of using this motor oil:

- Contains specially formulated anti-friction and anti-wear additive technology to minimize wear formation and deliver excellent drivability.
- Designed with optimal antioxidant and thermal resistant properties to resists high-temperature deposits and sludge to maintain the cleanliness of all engine parts.
- Excellent shear and oxidation stability, minimizes oil degradation and allow viscosity "stay-in-grade" even using for a longer drain interval.
- High and stable viscosity index (VI) of P-9 Ester base offers very strong and dense lubrication film over a wider operating temperature range.
- Naturally low volatility properties of ester base oils facilitate lower evaporation loss, thence reduce oil consumption and lessen pollution.
- Low pour point protects turbocharger against oil starvation in subzero temperatures and offers a quick return to appropriate oil pressure level after starting up.
- Optimum lubrication flowability in winter ambient, promotes easier cold-start and exceptional pumpability which allowed rapid engine protection.
- Outstanding protection on timing chain of the camshafts and crankshaft allowing precise operation timing of engine valves during each cylinder firing.
- Tested safe on all exhaust after-treatment systems in diesel and gasoline engines and sealing materials at large bandwidth of temperatures.
- Suitable for extended oil drain intervals that are often prescribed by European automotive manufacturers in recent years.

Areas of application

Initially for application in the latest natural aspirated/ turbocharged diesel and gasoline engines (FSI, TFSI, TDI, common rail) of European car makers compliance to EURO 5 and 6 emission standards with exhaust after-treatment systems.

Suitable for all passenger cars, SUVs and light-duty trucks where the manufacturer's requiring an ACEA C3 reduced SAPS motor oil. The API SP is fully backward compatible with previous API specifications.

The VW 511.00 oil specification is backward compatible and serviceable with previous VAG specifications.

Typical properties

<u>SAE Viscosity</u>		5W-40
Viscosity Index (VI)	ASTM D2270	177
Viscosity at 100 °C; mm ² /s	ASTM D445	13.9
Viscosity at 40 °C; mm ² /s	ASTM D445	86.2
Density at 20 °C; kg/m ³	ASTM D4052	847.0
HTHS Viscosity at 150 °C; cP	ASTM D4683	3.7
Flash Point; °C	ASTM D92	243
Pour Point; °C	ASTM D97	-42
Total Base Number	ASTM D2896	9.5

Service recommendations

Follow the oil drain interval required by the respective manufacturers. Observe the owner's manual booklet. Recommend to flush before add in new oil. Change oil filter at time of oil change.

Commercially available product compatibility

Our fully synthetic motor oil is compatible with other fully synthetic, synthetic and/or conventional motor oils. Peak performance is guaranteed only upon using alone without mixing with other motor oils. Our motor oil products are designed and developed with appropriate additive package. Hence, aftermarket oil additive products are not recommended for used alongside.

Product availability

This product may not be available locally. Contact your local distributor.

The information show herein is subject to change without noticed. The product indicated here have been developed by PRINCE LUBRICANTS for use in the areas of applications shown. We reserve all right to alter the characteristics and product properties to align with continually technical development.