

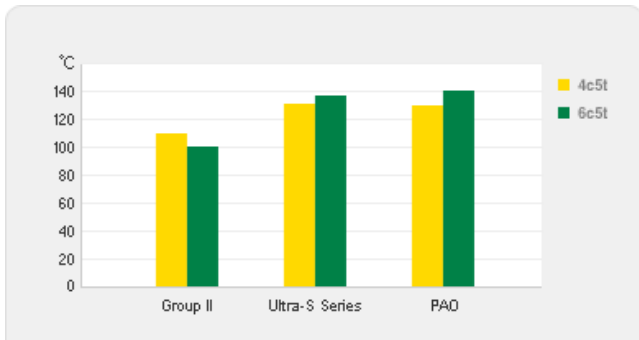
Lube base
Oil products

Process



Ultra-S
Applications

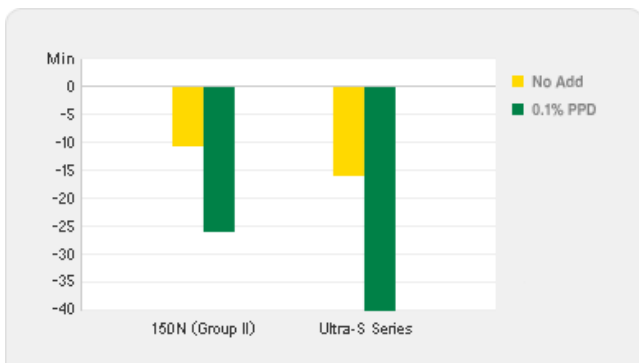
Viscosity Index



S-OIL's Ultra-S series has very high viscosity index ranging from 120 to 130 while VIs of conventional Group I or Group II base oils range from 95 to 105.

The high viscosity index of S-OIL's Ultra-S series guarantees adequate engine lubrication under wide temperature range and saves your VI improver treatments for multi-viscosity applications with improved fuel efficiency.

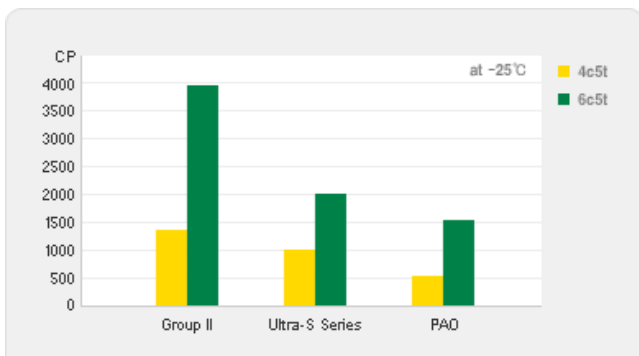
Pour Point



Pour point is said to be one of the properties where other's GroupIII products fall short of PAO

But as shown in the figure above, S-OIL's Ultra-S series responds to pour point depressants so effectively that the actual difference in pour points of finished lubricant products is similar to PAO (~-40 °C)

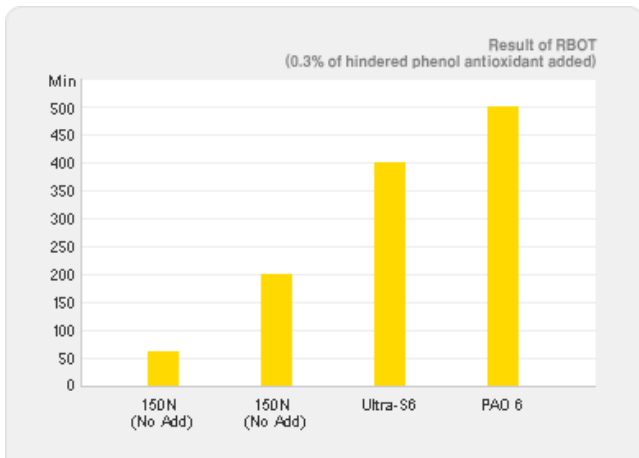
Lowtemperature Performance(CCS)



Due to very high viscosity index, the CCS(cold cranking simulator) viscosity of S-OIL's Ultra-S series exhibits a result comparable to that of PAOs of similar viscosity grades.

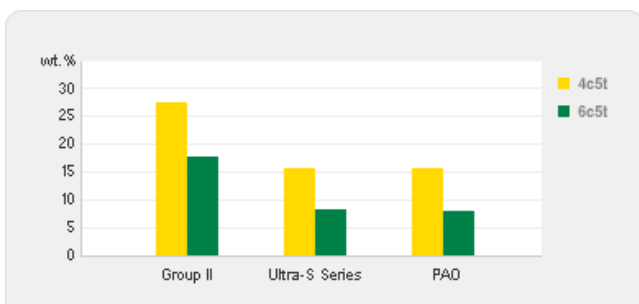
This feature makes S-OIL's Ultra-S series a very effective & economical substitute for PAOs for fuel efficient multi-grade crankcase engine oils.

Oxidative and Thermal Stability



Due to the wax hydroisomerization process turning wax molecules into highly stable isoparaffinic structures and hydrofinishing process almost completely eliminating unstable components and impurities, S-OIL's Ultra-S series shows excellent oxidative and thermal stability comparable to that of PAOs, which guarantees extended life of finished products.

Noack Volatility



For fear of oil consumption and poisoning of catalytic converters, low volatility has become a very important factor required from the base oil side. Most recent engine oil specifications like ILSAC GF-5/API SN and ACEA A3/B3/C1/2B, require very stringent volatility from the finished products.

S-OIL's Ultra-S series shows the result amounting to that of PAOs, which make it a perfect platform for engine oils satisfying the newest specifications.

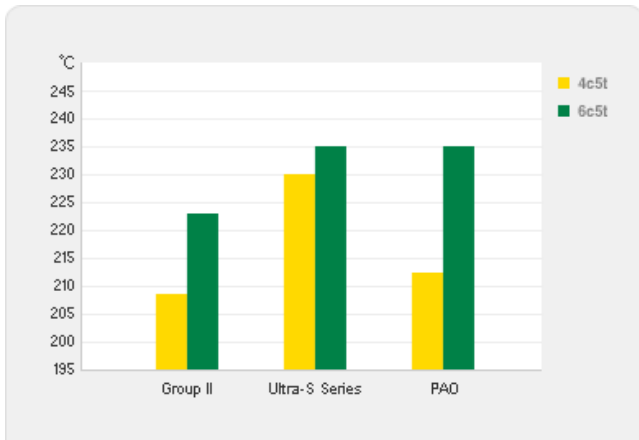
Performance Comparison with PAO



For fear of oil consumption and poisoning of catalytic converters, low volatility has become a very important factor required from the base oil side. Most recent engine oil specifications like ILSAC GF-5/API SN and ACEA A3/B3/C1/2B, require very stringent volatility from the finished products.

S-OIL's Ultra-S series shows the result amounting to that of PAOs, which make it a perfect platform for engine oils satisfying the newest specifications.

Other Technical Merits



• Flash Point / Fume

S-OIL's Ultra-S series has higher flash point than the conventional Group I or Group II oils due to narrower distillation width.

This feature, by reducing the possible fume and hazard of fire, contributes to making the workplace safer and cleaner for industrial applications.

• Saturates & Purity

The all-hydroprocessing routes at S-OIL's Onsan Ultra-S base oil plant ensure almost complete removal of aromatics and impurities present in the final product while leaving most desired components like isoparaffins and 1-ring naphthenes.

The all-hydroprocessing routes at S-OIL's Onsan Ultra-S base oil plant ensure almost complete removal of aromatics and impurities present in the final product while leaving most desired components like isoparaffins and 1-ring naphthenes.

Furthermore, only a traceable amount of aromatics in the base oil ensures superior stability as white mineral oils as well.