



Syntinel ESL SERIES

Champion Syntinel ESL series synthetic, high-performance hydraulic oils are our top-tier hydraulic and industrial oils designed for the most demanding operating conditions. Syntinel oils protect your hydraulic equipment even under the harshest conditions *and shows exceptional performance as steel mill and paper machine oil*

Higher Viscosity Indices provides better flow at startup temperatures and less frictional loss. Resistance to heat-related oil thinning allows for better film strength and thickness at high operating temperatures and less internal friction – resulting in reduced operating temperatures, improved energy efficiency, and improved fluid power response.

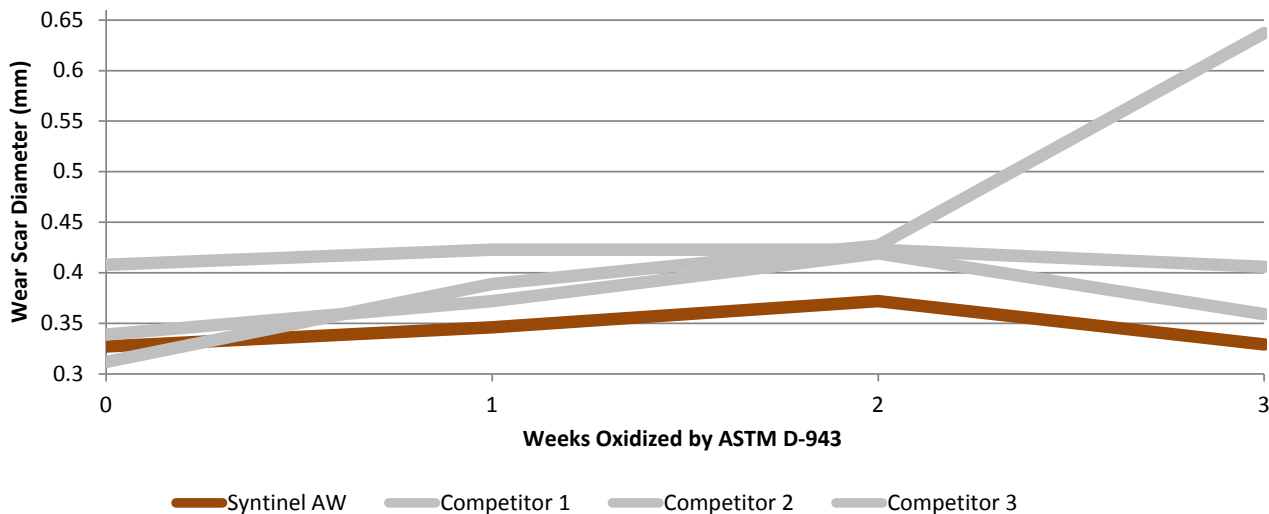
Exceptional filterability and sludge control keeps oil flowing reliably through circuits, reduces stopped-flow cavitation, and keeps silt and debris away from pumps and solenoids. Syntinel ESL oils also show outstanding demulsibility and foam control to keep harmful air and water out of expensive and critical equipment.



Top Tier Protection is provided by our higher additive treat rates delivering a larger dose of active anti-wear chemistry. Our additive technology has been shown to provide a 55% reduction in wear loss in the 35VQ25 vane pump test over industry-standard anti-wear oils.

Anti-wear additives are also terrific anti-oxidants. As oil oxidizes, inferior oils will provide less anti-wear protection than Syntinel synthetic oils. After three weeks of oxidation (ASTM D-943), wear scars were up to 48% smaller than those of competing oils.

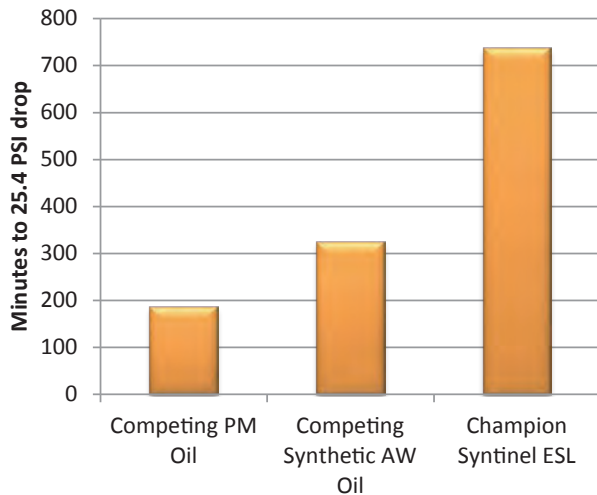
4-Ball Wear Test on D-943 Oxidized Oils





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RPVOT (ASTM D2272)



Outstanding oxidative stability ensures long fluid life and reduced service intervals, resulting in lower maintenance labor costs and higher productivity. High oxidation resistance also reduces the buildup of sludge and varnish on components.

Syntinel oils have demonstrated oxidation stability far above that of competing oils, showing a 130% increase in RPVOT (ASTM D2272) life over competing synthetic anti-wear hydraulic oils and a 300% increase in RPVOT life over competing paper machine circulating oils.

Syntinel ESL hydraulic oils are available in ISO 15, 22, 32, 46, 68, 100, and 150 viscosity grades

Champion Syntinel ESL hydraulic oils meet the following specifications:

- Parker-Hannifin HF-0, HF-1, HF-2 (formerly Denison)
- Eaton M-2950-S, I-286-S3
- ISO 20763
- DIN 51524-3, 51524-2
- Cincinnati Machine P-68, P-69, P-70
- ISO 11158 HR, HM, HL, HH
- Bosch Rexroth 90220
- JCMAS P041 HK Hydraulic Specification
- AGMA 9005-E02-RO
- GM LS-2
- AIST 126, 127
- SEB 1811222
- Top-Tier OEM specifications

ISO VG	15	22	32	46	68	100	150
Product	4328	4332	4331	4333	4335	4336	4337
KV@40°C, cSt	13.2	22.9	33.4	46.6	63.8	98.9	153.1
KV@100°C, cSt	3.26	4.84	6.28	7.83	9.77	12.96	17.43
KV@104°F, SUS	71	110	156	215	292	451	697
KV@212°F, SUS	37.5	42	46.4	51.4	58.1	69.7	87.0
Viscosity Index	116	137	141	138	136	128	125
RPVOT (ASTM D2272)*	740	740	740	740	740	740	740

*ASTM D-2272 RPVOT results based on test results for ISO 32 grade

Champion Syntinel ESL Hydraulic Oils have a typical fluid life over 10,000 hours.

EFFECTIVE 05/12