

HI-PUMP

Zinc-FREE INDUSTRIAL HYDRAULIC FLUID for WIDE TEMPERATURE RANGE

Product Description

HI-PUMP is high performance hydraulic fluid under both severe mechanical stress and across a wide range of temperature conditions. It formulated from S-OIL's ULTRA-S* base stocks and exclusive Ash-less technology additive system designed for providing outstanding protection and performance in most mobile applications. It's excellent thermal and oxidation resistance delivers good performance and extended oil drain intervals. HI-PUMP also provides effective low and high ambient temperature performance due to high viscosity index and shear stability. * The trade-mark of S-OIL's Group-III base oils

Applications

- Mobile/exterior hydraulic application: Suitable for a wide range of hydraulic power applications under wide temperature range
- Any hydraulic system where risk of contamination of the environment and water exist
- Any application where an anti-wear, high VI, high-performance oil is necessary
- Low toxicity towards the environment

Features and potential benefits

- Outstanding wear protection: Advanced Zinc-free additives ensure protection of machine parts.
- Long fluid life: Reducing maintenance costs
- Maintaining system efficiency: Superior cleanliness, excellent filterability
- Environmentally friendly formulation: Prevent formation of deposit
- Extended temperature range capability

Performance level

- ISO 11158 (HV)
- ASTM D6158 (HV)
- SAE MS 1004 (HV)
- DIN 51524 PART I(HL)/II(HLP)/III(HV)
- Five Cincinnati P68, P69, P70
- GM LS-2
- Eaton Vickers I-286-S, M-2950-S
- Bosch Rexroth RE 90220
- AFNOR NFE 48603
- US steel 127, 136
- Denison HF-0, HF-1, HF-2

Typical Properties

Test Items	Method	Unit	15	22	32	46	68	100
Specific gravity	ASTM D1298	-	0.8369	0.8364	0.8459	0.8475	0.8639	0.8730
Color	ASTM D1500	-	L0.5	L0.5	L0.5	L0.5	L0.5	L0.5
Viscosity	ASTM D445	40°C	15.55	22.25	32.63	46.24	67.96	98.87
		100°C	3.97	4.93	6.39	8.20	10.86	14.50
Viscosity index	ASTM D2270	-	161	153	151	153	150	152
Flash point	ASTM D92	°C	206	230	244	250	252	256
Pour point	ASTM D97	°C	-50	L-40	-45	-40	-40	-37.5
Total Acid Number	ASTM D664	mgKOH/g	0.19	0.21	0.20	0.20	0.19	0.20
Water Seperability	ASTM D1401	Min	10	10	10	10	10	10
Cu Corrosion (100°C, 3hrs)	ASTM D130		1b	1b	1b	1a	1b	1b
Foam Tendency								
- Sequence I	ASTM D892	ml / ml	10 / 0	10 / 0	10 / 0	10 / 0	10 / 0	10 / 0
- Sequence II		ml / ml	10 / 0	10 / 0	10 / 0	10 / 0	10 / 0	10 / 0
- Sequence III		ml / ml	10 / 0	10 / 0	10 / 0	10 / 0	10 / 0	10 / 0
Rust Prevention (60°C, 24hrs)	ASTM D665B		Pass	Pass	Pass	Pass	Pass	Pass
TOST Life	ASTM D943	hrs			> 8,000	> 8,000	> 8,000	