



The First in Synthetics®

Industrial Synthetic Lubricants

PRODUCT DESCRIPTION

AMSOIL Synthetic AW Series Antiwear Hydraulic Oils are shear-stable, long-life lubricants based on high-quality synthetic oil technology. These oils are formulated with a premium additive system that inhibits oxidation (preventing acid and viscosity increase), inhibits rust, and inhibits foam (preventing spongy hydraulics). AMSOIL AW Oils also contain a very effective zinc-based antiwear/antioxidant additive which prevents wear in high-speed, high-pressure vane and gear pumps while meeting the lubrication requirements of axial piston pumps having bronze-on-steel metallurgy. AMSOIL AW Oils are designed for long life and typically reduce maintenance costs by extending drain intervals and reducing labor associated with repairs, downtime, and changeouts.

AMSOIL Synthetic Base Oil Technology

AMSOIL's synthetic base oils resist thermal and oxidative breakdown, preventing carbon or varnish deposits. The very high viscosity indices, low pour points, and lack of paraffins (wax) make these good all-season lubricants well suited for temperature extremes. At high temperatures and pressures, these oils will provide a good lubricating film and protect components against wear. During cold-temperature operation, equipment will start easier and the need for preheating with sump heaters is reduced. The AW Series base oils also readily separate from water. This prevents unwanted oil/water emulsions that inhibit an oil's ability to lubricate, allows for longer lubricant life, and means water can easily be drained from the sump.

PERFORMANCE FEATURES

- Antiwear protection for high-pressure systems
- Recommended for gear, vane and piston pumps
- Rust, oxidation and foam inhibited
- Designed for extreme temperature operations
- Hydrolytically stable and readily separates from water

SYNTHETIC AW SERIES ANTIWEAR HYDRAULIC OILS

APPLICATIONS OR REQUIREMENTS

- Denison HF-0, HF-1 and HF-2
- Vickers M-2950-S and I-286-S
- Cincinnati Milacron P-68, P-69 and P-70
 - U.S. Steel 127 and 136
- Racine, variable volume vane pumps
 - DIN 51524, Part 2
 - AFNOR E 48-603
 - Ford M-6C32
- GM LH-04-1, LH-06-1 and LH-15-1
 - Lee Norse 100-1
 - Jeffrey No. 87
 - BF Goodrich 0152
- Commercial Hydraulics *

* Except for PM-500 series silver-containing pumps which require R&O additive systems.

APPLICATION RECOMMENDATION

The correct viscosity grades of AMSOIL Synthetic AW Series Antiwear Hydraulic Oils are recommended for high- and low-pressure gear, vane and piston stationary and mobile hydraulic systems. They meet the performance requirements of all major hydraulic manufacturers and are excellent for general purpose use where extended drain intervals are desired and in severe duty operations where temperature extremes are encountered. Even though recommended for all-season use, AWF and AWG are the preferred choice for temperatures less than -20°F because these oils are light-bodied and have very good cold-temperature properties.

Some applications include machine tools and presses, mobile construction equipment, farming equipment, logging trucks, boom trucks and plastic injection molding machines. The appropriate viscosity grades of AW Oils are also suitable for use in pneumatic tools, speed reducers, spindles and R & O gear applications.

The ability of the AW Series to extend drain intervals is subject to operating conditions and maintenance practices. Monitoring by oil analysis is recommended.

TYPICAL TECHNICAL PROPERTIES

Synthetic AW Series	AWF	AWG	AWH	AWI	AWJ
Antiwear Hydraulic Oils	ISO 15	ISO 22	ISO 32	ISO 46	ISO 68
ISO VG — ASTM D-2422	15	22	32	46	68
VK 100°C — ASTM D-445	4.5	5.8	6.7	9.1	11.7
VK 40°C — ASTM D-445	15.2	20.9	32.5	47.5	67.0
Viscosity Index — ASTM D-2270	244	250	172	177	172
SPGR — ASTM D-1298	0.8294	0.8363	0.8576	0.8591	0.8670
Density — ASTM D-1298	6.906	6.964	7.141	7.153	7.219
Flash Point °C (°F) — ASTM D-92	172 (341)	174 (345)	244 (471)	238 (460)	242 (467)
Fire Point °C (°F) — ASTM D-92	184 (363)	188 (370)	262 (503)	258 (496)	262 (503)
Pour Point °C (°F) — ASTM D-97	-67 (-89)	-65 (-85)	-57 (-70)	-51 (-60)	-48 (-54)
Four-Ball Wear Test — ASTM D-4172					
(40 kg, 1200 rpm, 75°C, 60 min.)	0.48	0.45	0.44	0.40	0.40
Copper Strip Corrosion Test — ASTM D-130	1A	1A	1A	1A	1A
Foam — ASTM D892 Sequence I, II, III					
Test End	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0
Dielectric Strength — ASTM D877					
Voltage, kV AC	>40	>40	>40	>40	>40
Viscosity — ASTM D445 @ 0°F .....	.72	105	792	1232	2638
@ -20°F .....	.250	357	2228	3480	10155
@ -40°F .....	.1906	2020	7881	12690	*
Demulsibility — ASTM D1401					
Oil / Water / Cuff (min)	40/40/0 (15)	40/40/0 (15)	40/40/0 (15)	40/40/0 (15)	40/40/0 (20)
Rust Test — ASTM D665 A & B					
Fresh Water and Synthetic Sea Water	Pass	Pass	Pass	Pass	Pass

*Generally not recommended for hydraulic system use at this temperature

AMSOIL AW Series Oils are compatible with hydraulic system seals, petroleum hydraulic oils, and most synthetic hydraulic oils¹. For optimum performance, it is recommended that the system be thoroughly drained and, if warranted, cleaned prior to installation.

AMSOIL PRODUCT WARRANTY

AMSOIL Industrial Lubricants are formulated to meet or exceed accepted industry specifications. AMSOIL warrants that the use of its lubricants will not cause mechanical damage to any mechanically sound equipment when AMSOIL products are used in full compliance with the company's recommendations. However, the purchaser of these lubricants is responsible for determining if these specifications are adequate and proper for the intended application. The AMSOIL warranty is limited to lubricant performance consistent with indicated specifications. No additional warranty, expressed or implied, can be made.

¹ Not compatible with phosphate ester or silicone fluids.

For applications and recommendations, contact your local AMSOIL industrial sales representative or AMSOIL INC.

AMSOIL PRODUCT AVAILABILITY

AMSOIL products are available in 5-gallon pails, 30-gallon drums (AWH only), 55-gallon drums, 275-gallon totes and bulk quantities. For 275-gallon totes, please allow two to four weeks for delivery.

AMSOIL Industrial Lubricants are stocked in Superior, Wisconsin and in select regional distribution centers throughout the United States and Canada. AMSOIL will stock additional quantities of lubricants or special order products based on customer requests and regional demands.

