



SG Series Synthetic Extreme-Pressure Gear Oil

Industrial-Grade Performance & Protection

AMSOIL SG Series Synthetic Gear Oil's advanced synthetic formulation is fortified with extreme-pressure (EP) additives to provide industrial-grade performance and protection. It is designed to exceed the increased protection needs of gears and bearings operating under severe-service and shock-loading conditions. SG Series Gear Oil delivers complete gearbox protection, with an emphasis on extreme-pressure gear protection, heat resistance and cold-temperature operability.

Anti-Wear Formulation

SG Series Gear Oil is engineered to prevent metal-to-metal contact and inhibit corrosion. Its shear-stable, high-viscosity-index formulation features excellent anti-foam and air-release properties. SG Series Gear Oil maintains a thick lubricating film and is fortified with a heavy treatment of specialized sulfur/phosphorus EP and anti-corrosion additives. Under extreme pressures that may breach the lubricant film, an iron-sulfide barrier protects gear surfaces and inhibits wear, pitting and scuffing. SG Series Gear Oil demonstrates exceptional extreme-pressure performance in the industry-standard Timken OK Load, FZG Scuffing Load and micropitting tests.

High-Temperature Durability

SG Series Gear Oil is formulated with durable base oils that are naturally resistant to oxidation. It also contains oxidation inhibitors and thermally stable additives for increased resistance to sludge formation, deposits, acid buildup and thermal degradation. AMSOIL SG Series Gear Oil is designed to deliver clean gears and housings throughout a long service life.

Excellent Cold-Temperature Fluidity

SG Series Gear Oil's wax-free, high-viscosity-index base oils demonstrate excellent cold-flow properties and extremely low pour points. It helps improve cold-temperature efficiency, reducing the need for sump heaters and seasonal oil changes, while providing easier start-up for equipment.



- **Excellent** extreme-pressure protection
- **Promotes** long fluid and component life
- **Increases** cold-temperature efficiency and protection
- **Excellent** film strength and foam suppression inhibit wear

TYPICAL TECHNICAL PROPERTIES

AMSOIL SG Series Extreme-Pressure Gear Oil

	ISO 150 (SGL)	ISO 220 (SGM)	ISO 320 (SGN)	ISO 460 (SGO)
ISO Viscosity Grade (ASTM D2422)	150	220	320	460
AGMA EP Gear	4 EP	5 EP	6 EP	7 EP
Kinematic Viscosity @ 100°C, cSt (ASTM D445)	19.6	27.0	36.1	49.6
Kinematic Viscosity @ 40°C, cSt (ASTM D445)	147.5	220.3	322.7	454.0
Viscosity Index (ASTM D2270)	152	157	158	170
Specific Gravity (ASTM D1298)	0.8607	0.8654	0.8676	0.8686
Density (ASTM D1298)	7.167	7.207	7.224	7.223
Flash Point °C (°F) (ASTM D92)	238 (460)	240 (464)	244 (471)	246 (475)
Fire Point °C (°F) (ASTM D92)	286 (547)	282 (540)	288 (550)	286 (547)
Pour Point °C (°F) (ASTM D97)	-45 (-49)	-42 (-44)	-40 (-40)	-35 (-31)
Copper Strip Corrosion Test, 121°C, 3 hrs. (ASTM D130)	1B	1B	1B	1B
Foam (ASTM D892, Sequence I, II & III)	0/10/0	0/10/0	0/10/0	0/10/0
Micropitting @ 90°C Load Stage	>10	>10	>10	>10
GFT Classification (FVA54)	GFT = High	GFT = High	GFT = High	GFT = High
Four-Ball Weld Point, kgf (ASTM D2783)	250	250	250	250
Four-Ball Load Wear Index, kgf (ASTM D2783)	55	56	59	54
Falex Procedure B (ASTM D3233) (failure load, lbf)	3250	3250	3250	3750
Timken OK Load, lbf (ASTM D2782)	>90	>90	>90	>90
FAG FE-8 Bearing Test [DIN 51819-3]	Pass	Pass	Pass	Pass
FZG Failure Stage (A/8.3/90)	>12	>12	>12	>12
FZG Failure Stage (A/16.6/90)	>12	>12	>12	>12
Air Release @ 50°C, min. (ASTM D3427)	28.1	–	–	–
Air Release @ 90°C, min. (ASTM D3427)	–	8.7	9.5	11.4

APPLICATIONS & SPECIFICATIONS

The appropriate viscosity grade of AMSOIL SG Series Synthetic EP Gear Oil is recommended for applications requiring any of the following specifications:

- AGMA 9005-E02
- US Steel* 224
- Cincinnati Machine*
- ISO 12925-1 (CKD)
- David Brown* S1.53.101 (Type E)

APPLICATION RECOMMENDATION

AMSOIL SG Series Synthetic EP Gear Oil is recommended for industrial applications operating under heavy loads and shock-loading conditions and specifying an extreme-pressure lubricant. This includes, but is not limited to, enclosed industrial spur, bevel, herringbone and helical gears, chain drives and sprockets requiring extreme-pressure additives. It is excellent for use in severe operating conditions and its synthetic properties make it a good all-season lubricant.

NOTE: AMSOIL SG Series Synthetic EP Gear Oil is not recommended for automotive hypoid gears. It is not recommended for use with yellow metals (copper, brass, bronze) above 100°C (212°F) without further testing in the application. AMSOIL SG Series Synthetic EP Gear Oil is not compatible with polyglycol (PAG)-type gear oils. Thorough flushing prior to changeover is required.

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