SYNTHETIC POWER TRANSMISSION EP GEAR LUBRICANTS

ISO 220, ISO 320, ISO 390, ISO 460

Product Profile

DEVOTED TO PROTECTION®

AMSOIL PT Series Synthetic Power Transmission EP Gear Lubricants are premium synthetic polyalphaolefin-type (PAO) gear oils engineered to provide maximum performance and protection in wind turbine and other industrial gearboxes operating under severe conditions. They are formulated with extreme-pressure (EP) additives for outstanding resistance to scuffing wear and micropitting fatigue on gear surfaces operating under extreme pressures and shock loads. AMSOIL Synthetic Power Transmission EP Gear Lubes provide exceptional thermal stability and oxidation resistance to fulfill the long oil life requirements of gearbox manufacturers, making them ideal for hard-to-reach places where gear oil changes are infrequent. AMSOIL PT Series lubricants are recommended for heavy-duty industrial gear drives, such as steel-on-steel helical, bevel and spur gears with surface-hardened tooth metallurgies.

AMSOIL PT Series Gear Lubes are fortified with next-generation additive technology to deliver outstanding overall performance in areas critical to industrial applications, including water resistance, filterability, long-term foam control, rapid air release, rust and corrosion inhibition and paint and seal compatibility.

MAXIMUM WEAR PROTECTION

AMSOIL PT Series Synthetic Gear Lubes are highly resistant to viscosity shear, even under extreme stress. They exceed the performance requirements for gear and bearing protection, while providing excellent film strength over a broad temperature range. Their excellent foam-resistance and air-release properties ensure strong fluid film thickness and reduced gear and bearing wear.

EXCELLENT FILTERABILITY

AMSOIL Synthetic Power Transmission EP Gear Lubes do not contain solids, allowing for filtration down to 5 microns using full-flow media, and 3 microns using bypass filtration for maximum filter life and oil cleanliness.

PRODUCT FEATURES	USER BENEFITS
Solids-free additive technology	Excellent protection against micropitting and scuffing wear. Can be subjected to ultra-fine filtration for maximum contaminant removal. Extended filter life for reduced costs.
Seal and elastomer compatible	Helps prevent leaks and extend seal, hose and gasket life.
PAO synthetic base oils	Improved oxidation resistance and extreme-temperature performance.
Water resistant	Resists water absorption in wet and humid environments. Improves filterability and filter life. Inhibits rust and corrosion.
Shear stable	Enhances viscosity retention and film thickness for dependable wear and EP protection.
Thermally stable	Inhibits sludge, carbon and varnish deposits for clean, efficient operation.
Internal coating compatibility	Can be used in multiple manufacturer-branded gearboxes.

TYPICAL TECHNICAL PROPERTIES

AMSOIL Synthetic Power Transmission EP Gear Lubricants (PTM, PTN, PTENX, PTO)

	ISO 220 (PTM)	ISO 320 (PTN)	ISO 390 (PTENX)	ISO 460 (PTO)
Kinematic Viscosity @ 100°C, cSt (ASTM D445)	26.0	34.8	40.1	47.9
Kinematic Viscosity @ 40°C, cSt (ASTM D445)	223.3	326.7	391.2	473.7
Viscosity Index (ASTM D2270)	148	151	153	160
Specific Gravity	0.8607	0.8618	0.8607	0.8649
API Gravity	32.9	32.7	32.9	32.1
Density (lb/gal)	7.167	7.176	7.167	7.202
Color	L1.5	L1.5	L1.5	L1.5
Clarity	Clear	Clear	Clear	Clear
Four-Ball Wear Test (ASTM D4172) *(75°C, 1200 rpm, 40 kg, 1hr)* *(150°C, 1800 rpm, 40 kg, 1hr)* *(54°C, 1800 rpm, 20 kg, 1hr)*	 0.33 0.37 0.24	 0.33 0.37 0.24	 0.33 0.37 0.24	 0.33 0.37 0.24
Moisture (ppm) (ASTM D6304C)	< 100	< 100	< 100	< 100
Falex B (Failure), LbF (ASTM D3233)	2250	2250	2250	2250
TAN (ASTM D664)	0.48	0.48	0.48	0.48
Foam Tendency (ASTM D892)	0/0/0	0/0/0	0/0/0	0/0/0
Copper Corrosion 121°C, 3 hr (ASTM D130)	1B	1B	1B	1B
Copper Corrosion 100°C, 3 hr (ASTM D130)	1A	1A	1A	1A
FZG Micropitting Test [FVA 54]	10	>10	>10	>10
(GFT Class)	High	High	High	High
FZG Scuffing Load Test [A/8, 3/90] (Pass)	14+	14+	14+	14+
FZG Scuffing Load Test [A/16, 6/90] (Pass)	14+	14+	14+	14+
FAG FE-8 Bearing Test [DIN 51819-3] (7.5 speed, 80kN load, 80 hr) *Roller Wear (Mw50), mg*	 3	 –	 –	 –
FAG FE-8 High Load Bearing Wear Test (7.5 speed, 100kN load, 80 hr) *Roller Wear (Mw50), mg*	 –	 <1	 –	 –
Flash Point °C (°F) (COC) (ASTM D92)	242 (468)	245 (473)	246 (475)	250 (482)
Fire Point °C (°F) (COC) (ASTM D92)	274 (525)	276 (529)	280 (536)	280 (536)
Pour Point °C (°F) (ASTM D97)	-40 (-40)	-38 (-36)	-36 (-33)	-35 (-31)

APPLICATIONS

AMSOIL PT Series Synthetic Power Transmission EP Gear Lubes are designed to provide outstanding protection for wind turbine and other industrial gearboxes that require EP protection, such as those found in the textile, paper, steel, cement, plastic and lumber industries. AMSOIL PT Series Gear Lubes are formulated to meet the listed standards and requirements.

HEALTH & SAFETY INFORMATION

For recommendations on safe handling and use of these products, please refer to the Safety Data Sheet (SDS), which is available upon request through the AMSOIL Wind Group at windsalesgroup@amsoil.com or (715) 399-6305.

LIST OF APPROVALS	PTM	PTN	PTENX	PTO
ISO VG	220	320	390	460
GE Renewable Energy	–	X	–	–
SIEMENS Gamesa Renewable Energy	–	X	–	–
Winergy	–	X	–	–
Flender	X	X	–	X
NGC Gear	–	X	–	–
ZF Wind Power	–	X	–	–
Bosch Rexroth	–	X	–	–
Moventas	–	X	–	–
Envision	–	X	–	–
Ming Yang	–	X	–	–
Hangzhou Advance Gear	–	X	–	–
Gearbox Express - Revolution	–	X	–	–
Eickhoff	–	X	–	–
GE Transportation (GETS)	–	X	–	–
Brevini	–	X	–	–
WIKOV	–	X	–	–
ANSI/AGMA 9005-F16 (EP)	X	X	X	X
ISO 12925-1 Type CKD	X	X	X	X
DIN 51517 Part 3	X	X	X	X
David Brown S1.53.101 Type E	X	X	X	X
SEB 181226	X	X	X	X
US Steel/AIST 224	X	X	X	X

AMSOIL Wind • 1101 Susquehanna Ave. • Superior, WI 54880 • (715) 399-6305
windsalesgroup@amsoil.com • AMSOILWIND.COM