



SYNERGY

HIGH-PERFORMANCE EP GEAR OIL

Synergy is an ultra-tough, long life, EP industrial gear oil proven to make gears run smoother, quieter, cooler and longer without overhauls. Synergy gains its performance advantage over competing mineral and synthetic oils through its superior blend of synthetic base oils plus Synslide additive technology, Royal Purple's unique, proprietary, noncorrosive, EP technology.

Synslide additive technology, Royal Purple's tough, EP lubricating film, provides maximum protection under boundary lubrication conditions typically caused by heavily loaded, slow speed and / or shock load conditions. This tenacious, slippery film significantly improves lubrication and reduces wear by increasing the oil film thickness and toughness, which helps to prevent metal-

to-metal contact in gears and bearings. Synslide additive technology is noncorrosive to gears and bearings, including case-hardened gears that are easily pitted by conventional sulfur-phosphorus EP oils. Synslide additive technology displaces water from metal surfaces and excels in protecting equipment in wet environments. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

Synergy protects gears in severe service applications where other EP oils fail. Synergy is recommended for users looking for longer oil life and significantly improved gear box reliability and performance. For more information, please request Royal Purple's *Gear Lubrication Manual*.

PERFORMANCE ADVANTAGES

HIGH FILM STRENGTH - Synerlec® additive technology dramatically reduces metal-to-metal contact, friction, and wear

SHOCK LOAD PROTECTION - Helps cushion and protect against fatigue failure in gears subjected to sudden shock loads

EXCEPTIONAL CORROSION & RUST PROTECTION - Prevents internal damage to equipment from chemical attack

SUPERIOR OXIDATION & THERMAL STABILITY - Resists oil degradation and varnish formation for longer oil life

OUTSTANDING SYSTEM PERFORMANCE - Provides a wide operating temperature range and excellent shear stability

EXCELLENT DEMULSIBILITY - Rapidly separates from water, allowing free water to be drained from the system

OUTSTANDING ELASTOMER COMPATIBILITY - Will not harm seals designed for use with lubricating oils

SPECIFICATIONS AND APPROVALS

- ANSI/AGMA 9005-F16; 9005-E02; 9005-D94
- DIN 52127 - Part 3
- ISO 12925-1 CKC, CKD, CKSMP
- U.S. Steel 224



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TECHNICAL DATA

Property	Test Method	100	150	220	320	460	680
SAE Grade	SAE J306	80W-85	80W-90	85W-110	85W-140	190	250
ISO Grade	ISO 3448	100	150	220	320	460	680
AGMA Grade	--	3EP	4EP	5EP	6EP	7EP	8EP
Viscosity @ 40°C, cSt	ASTM D445	100	150	220	320	460	680
Viscosity @ 100°C, cSt	ASTM D445	11.7	15.7	21.4	26.1	33.5	47.5
Viscosity Index	ASTM D2270	102	112	115	105	108	117
Specific Gravity	ASTM D4052	0.888	0.884	0.884	0.895	0.896	0.892
Flash Point, °C (°F)	ASTM D92	238 (460)	207 (405)	204 (400)	224 (435)	213 (415)	227 (440)
Pour Point, °C (°F)	ASTM D97	-36 (-33)	-34 (-30)	-36 (-33)	-34 (-30)	-31 (-24)	-31 (-24)
Cu Corrosion, 3hr @ 100°C	ASTM D130	1A	1A	1A	1A	1A	1A
Rust Preventing, Fresh Water	ASTM D665A	PASS	PASS	PASS	PASS	PASS	PASS
Rust Preventing, Salt Water	ASTM D665B	PASS	PASS	PASS	PASS	PASS	PASS
Demulsibility, @180°F	ASTM D1401	43/36/1 (10)	40/39/1 (10)	42/37/1 (10)	40/40/0 (10)	42/37/1 (10)	43/36/1 (10)
Foam Test, Seq. II	ASTM D892	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0
4-Ball EP, Load Wear Index	ASTM D2783	56	56	56	56	56	56
4-Ball EP, Weld Load, kg	ASTM D2783	315	315	315	315	315	315
Timken OK Load	ASTM D2782	>90	>90	>90	>90	>90	>90
FZG Scuffing Load, A/8 3/90	DIN 51354	>13	>13	>13	>13	>13	>13

5/21/2021