



LUBRICANTS

Product Bulletin



GULF INDUSTRIAL EP GEAR OILS

Gulf Industrial EP Gear Oils are premium, extreme pressure (EP) industrial gear oils, designed to deliver performance beyond today's standard gear oils. They are designed to surpass the performance delivered by most current industrial gear oils. These AGMA EP oils are fortified with advanced, extreme-pressure additives, designed to provide superior performance in enclosed gear sets operating under severe service conditions.

FEATURES AND BENEFITS:

Gulf Industrial EP Gear Oils have a high viscosity index from highly refined base oils that impart a high flash point, low volatility, and superior oxidation stability. They provide outstanding protection in industrial gear sets operating under severe conditions such as intermittent shock loads, high peak loads, and heavy tooth loads. Additionally, they offer the following benefits:

- Light colored gear oil
- Superior bearing protection
- Excellent anti-foam protection
- Outstanding demulsibility characteristics
- Excellent rust and corrosion protection
- Resistance to oxidative sludge and varnish formation
- Protection from galling, scuffing and welding of gear teeth
- Non-corrosive to bronze, brass, copper and other copper alloy parts

APPLICATIONS:

Gulf Industrial EP Gear Oils are categorized by the American Gear Manufacturers Association (AGMA) for use in a wide variety of industrial gear sets. They are ideal for enclosed industrial gear sets where extreme pressure is critical for component protection. Typical gear applications include spur, bevel, helical, worm, and industrial hypoid gear cases. Typical bearing applications include plain, ball, roller, and sleeve bearings. They are recommended for the lubrication of slides, ways, sprockets, chain drives, winches, hoists, and machine tools. Additionally, these industrial gear oils meet the following performance requirements (for the appropriate viscosity grades):

- AGMA 250.04, 251.02
- AGMA 9005-E02 EP
- DIN 51517, Part 3
- US Steel 224
- David Brown S1.53.101
- Cincinnati Machine
- ISO 12925-1 Type CKD

SELECTION:

See other side for ISO viscosity grades 68-460. See separate bulletin for extra heavy grades 680-1500. Follow equipment manufacturer recommendations for appropriate viscosity grade.

AVAILABILITY:

Gulf Industrial EP Gear Oils are available throughout Gulf's marketing area. Your Gulf representative can provide specific information. Need additional information? Call Gulf @ 1-800-566-GULF (4853) or visit Nu-tierbrands.com.

Typical Properties*

ISO Viscosity Grade	Test Method	68	100	150	220	320	460
AGMA Grade		2EP	3EP	4EP	5EP	6EP	7EP
Product Code		343816	343818	343817	343819	343821	343823
Viscosity, cSt @ 40°C	ASTM D-445	68	100	150	220	320	460
Viscosity, cSt @ 100°C	ASTM D-445	8.6	11.0	14.4	18.7	23.8	30.0
Viscosity, SUS @ 100°F	ASTM D-2161	353	523	789	1,164	1,706	2,469
Viscosity, SUS @ 210°F	ASTM D-2161	55.2	63.9	77.3	95.5	119	147
Viscosity Index	ASTM D-2270	97	96	95	95	95	95
Color**	ASTM D-1500	2.0	3.0	3.5	4.0	4.5	4.5
Pour Point, °F (°C)	ASTM D-5949	5 (-15)	5 (-15)	10 (-12)	10 (-12)	10 (-12)	15 (-9)
Flash Point, COC, °F (°C)	ASTM D-92	430 (221)	440 (226)	460 (236)	460 (236)	500 (260)	550 (286)
FZG Scuffing Test, stages	ASTM D-5182	12	12	12	12	12	12
Timken OK Load, lbs	ASTM D-2782	60	60	60	65	65	75
Four-Ball Wear Test, mm	ASTM D-2266	0.27	0.26	0.26	0.27	0.26	0.23
Four-Ball EP Test Load-Wear Index (LWI), kgf Weld Point, kgf	ASTM D -2783	47 250	47 250	47 250	54 250	65 250	66 250
API Gravity, 60°F	ASTM D-1298A	29.6	29.0	28.2	28.0	27.3	27.0
Density, lbs/gal (g/L)	Calculated	7.30 (875)	7.33 (878)	7.37 (883)	7.40 (887)	7.44 (891)	7.45 (893)
Cincinnati Machine		P-63	P-76	P-77	P-74	P-59	P-35

* Typical test data are average values only. Minor variations are to be expected in normal manufacturing.

**During normal operations color, (ASTM D1500), could have an acceptable range of ± 1 color unit from typical value.