



Product Bulletin

GULF EP LUBRICANTS HD

Gulf EP Lubricants HD are industrial gear oils formulated with a high-quality paraffinic base oil and a premium additive system. They are fortified with highly effective, extreme-pressure additives, designed to provide superior performance in enclosed gear sets operating under severe service conditions.

FEATURES AND BENEFITS:

Gulf EP Lubricants HD have a high viscosity index from a consistent paraffinic base oil that imparts 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:

- 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 EP Lubricants HD 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
- DIN51517, Part 3
- US Steel 224
- David Brown S1.53.101
- Cincinnati Machine

SELECTION:

Gulf EP Lubricants HD are available in seven ISO viscosity grades (ISO VG) – **68, 100, 150, 220, 320, 460, and 680** to comply with virtually all industrial applications. Follow equipment manufacturer recommendations for appropriate viscosity grade.



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AVAILABILITY:

Gulf EP Lubricants HD are available throughout Gulf's marketing area. Your Gulf representative or Gulf jobber can provide specific information. Need additional information? Call Gulf @ 1-800-566-GULF (4853).

Gulf EP Lubricants HD - Typical Properties

ISO Viscosity Grade		68	100	150	220	320	460	680
AGMA Grade		2 EP	3 EP	4 EP	5 EP	6 EP	7 EP	8 EP
Product Code	Test Method	343816	343818	343817	343819	343821	343823	343838
Viscosity, cSt @ 40°C	ASTM D-445	68	100	150	220	320	460	680
Viscosity, cSt @ 100°C	ASTM D-445	8.6	11.0	14.4	18.7	23.8	30.0	40.0
Viscosity, SUS @ 100°F	ASTM D-2161	353	523	789	1,164	1,706	2,469	3,666
Viscosity, SUS @ 210°F	ASTM D-2161	55.2	63.9	77.3	95.5	119	147	195
Viscosity Index	ASTM D-2270	97	96	95	95	95	95	98
Color	ASTM D-1500	5.5	6.0	6.5	7.5	L8.0	L8.0	8.0
Pour Point, °F (°C)	ASTM D-5949	5 (-15)	5 (-15)	10 (-12)	10 (-12)	10 (-12)	15 (-9)	25 (-3)
Flash Point, COC, °F (°C)	ASTM D-92	430 (221)	440 (226)	460 (236)	460 (236)	500 (260)	550 (286)	580 (304)
FZG Scuffing Test, stages	ASTM D-5182	12	12	12	12	12	12	12
Timken OK Load, lbs	ASTM D-2782	60	60	60	65	65	75	75
Four-Ball Wear Test, mm	ASTM D-2266	0.27	0.26	0.26	0.27	0.26	0.23	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	66 250
API Gravity, 60°F	ASTM D-1298A	29.6	29.0	28.2	28.0	27.3	27.0	26.0
Density, lbs/gal (g/L)	Calculated	7.30 (875)	7.33 (878)	7.37 (883)	7.40 (887)	7.44 (891)	7.45 (893)	7.50 (898)
Cincinnati Machine		P-63	P-76	P-77	P-74	P-59	P-35	---