



## Gulf EP Lubricant HD

### Heavy-duty industrial gear oil

#### Product Description

**Gulf EP Lubricant HD** series are high performance extreme pressure gear oils developed for lubrication of heavy duty industrial gears working under severe operating conditions. These are blended from high quality base stocks and sulphur-phosphorous type extreme pressure additive system that gives excellent load carrying capability to provide protection against shock loading and wear. The high thermo-oxidative stability of the oil helps resist high temperature deposit formation and oil thickening. In addition, these oils also possess excellent water separation characteristics and offer resistance to foaming. These oils exceed the performance requirements of various industry specifications viz. DIN 51517 Part 3, ISO 12925-1 Type CKD, AGMA 9005 E-02, David Brown S1.53 101(E) and US Steel 224.

#### Features & Benefits

- Excellent load carrying capability protects gears against scuffing and wear and offers long equipment life and reduced maintenance costs
- High thermo-oxidative stability helps resist deposit formation, provides enhanced system cleanliness and enables longer service intervals
- Provides effective rust and corrosion protection to all gearbox components
- Excellent demulsibility property enables trouble-free operation in conditions encountering water/ moisture

#### Applications

- Wide range of industrial spur, helical, bevel and steel-on-steel worm gears
- Heavy-duty industrial enclosed gears operating under heavy or shock loading conditions and requiring extreme pressure performance
- Journal and roller contact industrial bearings operating at low speeds and high loads
- Suitable for splash, mist and circulating systems
- Marine gear applications

#### Specifications, Approvals & Typical Properties

ISO Viscosity Grade		32	46	68	100	150	220	320	460	680	1000
<b>Meets the following Specifications</b>											
DIN 51517 Part 3, ISO 12925-1 Type CKD, AGMA 9005 E-02,		X	X	X	X	X	X	X	X	X	X
David Brown S1.53 101(E)		X	X	X	X	X	X	X	X	X	X
US Steel 224				X	X	X	X	X	X	X	
<b>Typical Properties</b>											
Test Parameters	ASTM Method	Typical values									
Viscosity @ 40 °C, cSt	D 445	32.1	46.3	68.2	100.2	148.7	218.8	315.7	461.3	682.4	990.0
Viscosity Index	D 2270	102	98	98	97	97	96	95	95	91	90
Flash Point, °C	D 92	208	210	224	230	240	242	246	252	256	260
Pour Point, °C	D 97	-18	-15	-15	-15	-12	-12	-12	-9	-6	-3
Density @ 15°C, Kg/l	D 1298	0.873	0.878	0.884	0.889	0.893	0.897	0.901	0.905	0.909	0.925
FZG, fail load stage	DIN 51354 Part II	>12	>12	>12	>12	>12	>12	>12	>12	>12	>12
Rust Test	D 665A/B	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Copper Corrosion	D 130	1a	1a	1a	1a	1a	1a	1a	1a	1a	1a
Emulsion test 30minute max	@ 54 °C	D 1401	Pass	Pass	Pass	-	-	-	-	-	-
	@ 82 °C		-	-	-	Pass	Pass	Pass	Pass	Pass	Pass

October 2016

Properties mentioned above are typical only and minor variations, which do not affect the product performances, are to be expected in normal manufacturing. The above information is based on past history of the grade only and must not be construed as a guarantee of performance. Follow equipment manufacturer's recommendations for performance level and viscosity grade. The Material Safety Data Sheet for this product is available from your nearest Gulf Distributor.

**Gulf Oil International**

The information contained herein is believed to be correct at time of publication. No warranty expressed or implied is given concerning the accuracy of the information or the suitability of the products. Gulf Oil International reserves the right to modify and change its products and specifications without prior notice.

[www.gulfoilltd.com](http://www.gulfoilltd.com)