



## **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

Properties mentioned above are typical only and minor variation, which do not affect the product performance, are to be expected in normal manufacturing. The above information is based on 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 our nearest Gulf KSA Distributor.

Gulf Oil KSA

## Specifications, Approvals & Typical Properties

| ISO Viscosity Grade                                     |                   | 68             | 100         | 150         | 220         | 320         | 460         | 680         |
|---|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <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           |
| David Brown S1.53 101(E)                                |                   | 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             | 68.5           | 98.8        | 150         | 222.1       | 336.3       | 458         | 669         |
| Viscosity Index   | D 2270            | 102            | 99          | 97          | 98          | 96          | 98          | 100         |
| Flash Point, °C   | D 92              | 246            | 252         | 252         | 254         | 256         | 258         | 262         |
| Pour Point, °C  | D 97              | -15            | -15         | -15         | -12         | -9          | -9          | -9          |
| Density @ 15°C, Kg/l                                    | D 1298            | 0.886          | 0.891       | 0.896       | 0.901       | 0.903       | 0.908       | 0.913       |
| FZG, fail load stage                                    | DIN 51354 Part II | >12            | >12         | >12         | >12         | >12         | >12         | >12         |
| Rust Test   | D 665A/B          | Pass           | Pass        | Pass        | Pass        | Pass        | Pass        | Pass        |
| Copper Corrosion  | D 130             | 1a             | 1a          | 1a          | 1a          | 1a          | 1a          | 1a          |
| Emulsion test<br>30minute<br>max                        | @ 54 °C           | D 1401         | Pass        | -           | -           | -           | -           | -           |
|   | @ 82 °C           |                | -           | Pass        | Pass        | Pass        | Pass        | Pass        |
| <b>Product Code</b>                                     | -                 | <b>5328</b>    | <b>5338</b> | <b>5348</b> | <b>5358</b> | <b>5368</b> | <b>5378</b> | <b>5388</b> |

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