



ENDURATEX™ Synthetic EP PREMIUM SYNTHETIC HEAVY DUTY INDUSTRIAL GEAR LUBRICANTS

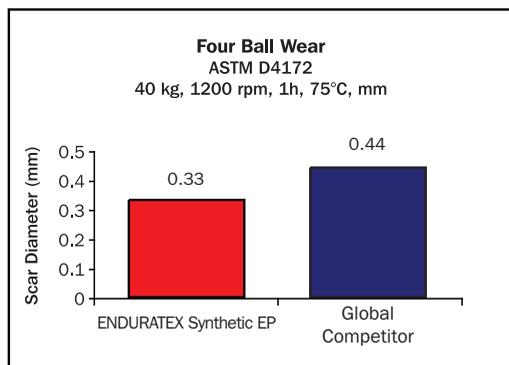
Petro-Canada ENDURATEX Synthetic EP gear oils are premium performance, extreme pressure lubricants designed for enclosed industrial gears and bearings operating under severe load conditions and in extreme temperatures.

ENDURATEX Synthetic EP is formulated using synthetic PAO base oils and specially selected additive technologies to deliver excellent wear properties and outstanding extreme temperature performance for extended component and fluid life.

ENDURATEX Synthetic EP enhances gear box efficiency over a wide temperature range and can reduce power consumption.

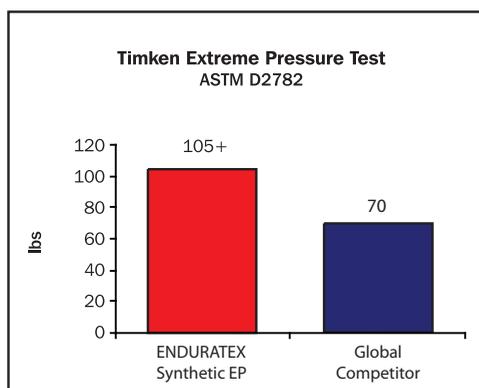
Features and Benefits

- **Outstanding anti-wear protection**
 - Extends equipment life
 - Designed to protect equipment being operated under tough high load conditions
 - Improves operating reliability over a wide range of gearbox loads



ENDURATEX Synthetic EP has excellent wear protection compared to its global competitor

- **Better film strength and extreme pressure properties than a global competitor**
 - Extends gear and bearing life
 - Reduces likelihood of seizure, scuffing or spalling of gear teeth and bearings under high load conditions



ENDURATEX Synthetic EP provides high Timken EP load protection for the most demanding applications.

- **Synthetic formulation reduces friction**
 - Energy efficient over a wide temperature range
- **Excellent extreme temperature performance**
 - ENDURATEX Synthetic EP Oils protect your equipment in the most extreme temperature conditions
- **Wider range of service temperatures**
 - Inherent high Viscosity Index (VI) over a wide temperature range
- **Protects against water damage**
 - Provides excellent resistance to rust and copper corrosion

What is the HT difference?

Petro-Canada starts with the HT purity process to produce water-white, 99.9% pure base oils. The result is a range of lubricants, specialty fluids and greases that deliver maximum performance for our customers.



Applications

Petro-Canada's ENDURATEX Synthetic EP premium performance lubricants are recommended for enclosed industrial gear drives and bearings particularly where they are operated under heavy duty conditions such as heavy loading, slow speed, shock loads and in wide extremes of temperature.

The tough oil film and low coefficient of friction save energy in gearboxes. The high viscosity index of ENDURATEX Synthetic EP oils mean they retain their viscosity at high operating temperatures. This often allows the use of a lower ISO grade than with conventional gear oil, resulting in even greater energy savings.

The ENDURATEX Synthetic EP line is designed to combat high temperature conditions and will run cooler while maintaining exceptional lubricant film strength. For gearboxes that operate outdoors, selected ISO grades of ENDURATEX Synthetic EP oils are capable of operating at temperatures as low as -30°C (-22°F) or below.

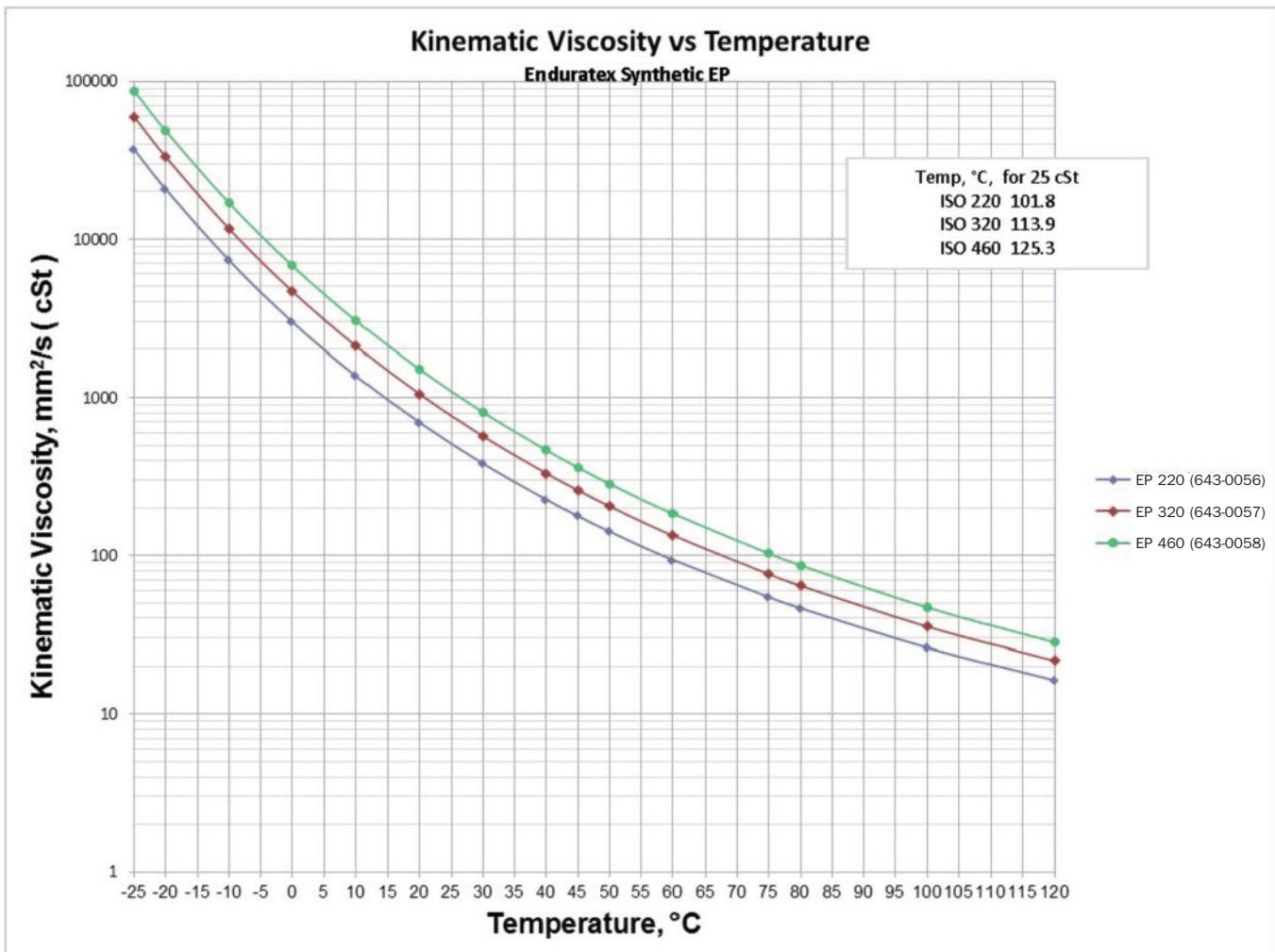
When converting a gearbox to ENDURATEX Synthetic EP it is recommended it be cleaned and flushed first to gain the full benefit of the product. ENDURATEX Synthetic EP oils are compatible with mineral oils, polyalphaolefin lubricants and most seal materials except natural rubber.

The ENDURATEX Synthetic EP oils operate over the temperature range from -30°C (-22°F) to 121°C (250°F).

ENDURATEX Synthetic EP oils are designed to meet the following OEM standards:

- DIN 51517-3-August 2011
- Siemens Industrial Gear Revision 13
- Eickhoff Gear
- Jahnel Kestermann
- AIST 224 (formerly US Steel 224)
- AGMA 9005-E02 (EP)
- David Brown S1.53.101 Type E
- MAG IAS (formerly known as Cincinnati Machine)

ENDURATEX Synthetic EP 220, 320, 460 oils are listed on Flender Gear Units and Geared Motors T7300 Approved Lubricants List and are suitable for use in GE 787/788 drive systems.



Typical Performance Data

| PROPERTY | TEST METHOD | ENDURATEX SYNTHETIC EP | | | |
|---|-------------|------------------------|-----------|-----------|-----------|
| | | 150 | 220 | 320 | 460 |
| AGMA Grade | | 4 EP | 5 EP | 6 EP | 7 EP |
| Density, kg/L at 15°C | D4052 | 0.856 | 0.860 | 0.862 | 0.864 |
| Colour | D1500 | 1.0 | 1.0 | 1.0 | 1.0 |
| Viscosity, cSt at 40°C | D445 | 150 | 226 | 331 | 466 |
| cSt at 100°C | | 19.5 | 26.2 | 35.5 | 46.3 |
| SUS @ 100°F | | 772 | 1050 | 1534 | 2160 |
| SUS @ 210°F | | 98 | 126 | 168 | 217 |
| Viscosity Index | D2270 | 148 | 148 | 153 | 155 |
| Pour Point, °C / °F | D5950 | -54 / -65 | -48 / -54 | -42 / -44 | -39 / -38 |
| Temperature required for 150,000 cP, °C / °F | D2983 | -41 / -42 | -36 / -33 | -32 / -26 | -24 / -11 |
| Flash Point, COC, °C / °F | D92 | 232 / 450 | 235 / 455 | 237 / 459 | 237 / 459 |
| Rust, Procedure A & B, 24 h | D665 | Pass | Pass | Pass | Pass |
| Copper Corrosion, 3h @ 100°C | D130 | 1b | 1b | 1b | 1b |
| Timken OK Load, kg / lb | D2782 | 48 / 106 | 48 / 106 | 48 / 106 | 48 / 106 |
| Four Ball EP weld, kg / lb | D2783 | 250 / 550 | 250 / 550 | 250 / 550 | 250 / 550 |
| FZG Failure Load Stage | DIN 51354 | >12 | >12 | >12 | >12 |

The values quoted above are typical of normal production. They do not constitute a specification.

Health and Safety

To obtain Material Safety Data Sheet (MSDS), contact one of Petro-Canada's TechData Info Lines.

TechData Info Lines

To place an order, please call a Customer Order Management Representative at :

Canada (English) Phone 1-800-268-5850
(French) Phone 1-800-576-1686
United States Phone 1-877-730-2369
Latin America Phone +1-416-730-2369
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Asia Phone +1-416-730-2372
China Phone +86 (21) 6362-0066

You can also e-mail us at lubecsr@suncor.com



To learn more about how Petro-Canada lubricants, specialty fluids, oils and greases can help maximize your equipment performance, savings and productivity, please contact us at :

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