



Renewable Lubricants, Inc.

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Bio-E.P.™ Gear Oils



"Biobased Lubricants that Perform Like Synthetics"

Bio-E.P.™ Gear Oils are designed to meet and exceeds the U.S. Steel 224, AGMA 9005/250.04, DIN 51517, Part 3, David Brown DB S1.53.101, and Cincinnati Machine E.P. performance requirements. Bio-E.P. Gear™ Oils are recommended for lubricating spur, helical, bevel, and worm gear configurations which are subject to heavy loading or shock loading and are designed for heavy-duty applications. The formulas have combined energy conserving Stabilized HOBS technology with synthetic base stocks and mild E.P./antiwear additives. The result is an ultimately biodegradable¹ product which has the long life heat stability but which additionally offers the protection advantages of increased gear life through extremely high film strength during operating temperatures. Bio-E.P.™ Gear Oils are ENVIRONMENTALLY RESPONSIBLE lubricants that are formulated from renewable agricultural plant resources. We believe Earth's environmental future rests in the use of renewable material.

Typical Specifications

Industrial Grade Replacement		Light	Medium-Light	Medium	Heavy Medium	Heavy	Extra-Heavy
ISO grade Replacement	46	68	100	150	220	320	460
AGMA Replacement	E.P. 1	E.P. 2	E.P. 3	E.P. 4	E.P. 5	E.P. 6	E.P. 7
API Gravity @ 60°F. (D-287)	28.90	27.50	25.2	25.7	25.2	25.3	24.3
Pounds/Gallon @ 60°F.	7.35	7.42	7.53	7.55	7.53	7.52	7.56
Specific Gravity @60°F. (D-287)	0.882	0.890	0.903	0.90	0.903	0.90	0.908
VISCOSITIES:							
@100°C., cSt. (D-445)	8.26	11.84	14.5	20	24.1	34	49
@40°C., cSt. (D-445)	41.73	65.37	86.3	131	166	252	382
Viscosity Index (D-2270)	178	179	175	175	177	182	194
Flash Point, COC, °C (D-92)	260	272	288	288	280	280	280
Pour Point, °C (D-97)	-34	-30	-25	-22	-20	-18	-12
Copper Corrosion 3hr @ 100°C (D-130)	1A	1A	1A	1A	1A	1A	1A
4-Ball Wear (US Steel 5-205)	.30	.30	.30	.30	.30	.30	.30
4-Ball EP Weld Point (kg)	250	250	250	250	250	250	250
4-Ball EP Load Wear Index	47.86	47.86	47.86	47.86	47.86	47.86	47.86
FZG Test (DIN 51517)	12	12	12	12	12	12	12
Demulsibility (D-2711)	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Foam Sequence I, II, III (D-892)	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Rust Prevention (D-665 A&B)	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Timken Load, OK Load (lbs) (D-2782)	70	70	70	70	70	70	70
Biodegradation classification	Ultimate	Ultimate	Ultimate	Ultimate	Ultimate	Inherent	Inherent
RLI Product Item #	82200	82210	82220	82230	82240	82250	82260

Features

- (1) Energy Conserving Formulas (Because of the super high viscosity index (VI) of the Stabilized HOBS these products are lighter therefore more energy efficient at room temperatures up to 40 C but provide a more protective heavier viscosity than mineral based formulas at operating temperatures of 60 C and above)
- (2) Super high viscosity index provides wider temperature performance
- (3) Fortified with additives to resist wear, oxidation, rust and foam
- (4) More fire resistant and improved heat dissipation

STABILIZED by Renewable Lubricants* is RLI's trademark on their proprietary and patented anti-oxidant, anti-wear, and cold flow technology. High Oleic Base Stock (HOBS) are agricultural vegetable oils. This Stabilized technology allows the HOBS to perform as a high performance formula in high and low temperature applications, reducing oil thickening and deposits.

¹ Ultimate Biodegradation (Pw1) within 28 days in ASTM D-5864 Aerobic Aquatic Biodegradation of Lubricants Patented Product: US Patent 6,383,992, US Patent 6,534,454 with additional Pending and Foreign Patents

Availability **F.O.B. :Hartville, Ohio, USA**

5 Gallon Pails

Drums

Bulk