

ELM Drill Rod Grease NLGI Grade 1, 2 & 3
Part Number: G-100, G-110, G-120
Biodegradable Drilling Lubricant



Environmental Lubricants Manufacturing, Inc.

DESCRIPTION

ELM Drill Rod Grease is a premium quality biodegradable, Biotechbased™ Drilling Lubricant formulated from USA-grown vegetable oils and a aluminum complex based thickener.

**BIOBASED-
 BIODEGRADABLE-
 NON-BIOACCUMULATIVE**

Based on evaluation of the base oils and the finished products, the ELM biobased products are designed to be biodegradable, aquatically non-toxic, not-bioaccumulative, and with no impact on plants as determined by known test methods. Nevertheless, the use of all of ELM products are subject to the local ordinances and ultimate responsibility for impact remains with the users.

APPLICATIONS

- Designed for applications with high temperature requirements
- Recommended for heavy load applications
- Recommended for environmentally sensitive areas near waterways

BENEFITS

- Contains advanced extreme pressure additives
- Reduces friction and wear
- Formulated to be applied on wet surfaces
- Better coefficient of friction than most petroleum-based grease
- Improves efficiency and superior lubricity
- Higher flash point than major petroleum greases for increased safety
- Biodegradable formula reduces damage to the environment
- Meets EPA's Environmental Preferable Purchasing (EPP) criteria
- Meets USDA's proposed Biobased product definition for EO 13101
- Manufactured from renewable USA-grown crop-based oils

TYPICAL PROPERTIES

	<u>Grade 1</u>	<u>Grade 2</u>	<u>Grade 3</u>
Appearance	Amber	Amber	Amber
Cone Penetration, Unworked	310-340	265-295	220-250
Four Ball Wear Scar (mm)	>0.55	>0.5	>0.45
Four Ball Weld Load (kg)	>400	>500	>500
Dropping Point °C (°F)	>240°C	>240°C	>240°C
Oil Separation	<7%	<5%	<5%
Base Oil Viscosity at 40°C (cSt)	180	220	460
Base Oil Viscosity at 100°C (cSt)	22	36	58
Base Oil Viscosity Index	198	214	196
Base Oil Flash Point, °C (°F)	326 (619)	326 (619)	326 (619)
Base Oil Biodegradability – OECD 301	Pass	Pass	Pass
Base Oil Aquatic Toxicity – OECD 202	Non-toxic	Non-toxic	Non-toxic
Base Oil Plant Toxicity – OECD 208	Non-toxic	Non-toxic	Non-toxic

PACKAGING

35 lb. Pails
 400 lb. Drums
 2100 lb Totes

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