460 & 680 Almasol®

Worm Gear Lubricant

Superior performing worm gear lubricant based on 100% Paraffinic base oil and Almasol®, wear reducing additive

LE's Almasol® Worm Gear Lubricants are formulated with 100% mid-continent Paraffinic base oils blended with stable lubricity additives and Almasol® to provide protection in a wide temperature range. They protect bronze bull gears from excessive wear in enclosed worm gearboxes. Superior oxidation resistance in high temperature applications where extreme pressure (EP) gear lubricants cannot be used. Provide reduced friction in the high sliding worm gear applications due to formulation with stable compounding and lubricity additives.

USER BENEFITS:

- **Superior wear protection** in heavily loaded worm gears.
- **Reduced wear** is realized due to the microscopic layer of Almasol® that creates a protective film on metal surfaces thus preventing metal-to-metal contact.
- **Longer oil life** due to the natural high oxidation resistance of selected Paraffinic base oil.
- **Rust resistance** provided to iron surfaces due to excellent clingability of base oils.
- **Wide temperature range protection** provided by two grades most commonly recommended.
- **Reduced residue formation** due to the formulation with stable lubricity additives.
- **Separates from water** due to excellent demulsibility.
- **Available grades**

460	ISO 460	AGMA 7C
680	ISO 680	AGMA 8C

TYPICAL APPLICATIONS:

- Heavily loaded enclosed worm gearboxes
- Conveyor gearboxes
- Chemical mixing gearboxes
- Pump drive gearboxes
- Auger conveyor gearboxes
- Comminutor drives
- Mining & rock crushing
- Paving equipment
- Boston gearboxes
- Cone drive gearboxes
- Winsmith gearboxes
- Ohio worm gearboxes
- Cleveland worm gears

WHAT IS ALMASOL®?

Almasol® is LE's exclusive wear-reducing additive which has an affinity for metal similar to polar attraction. It attaches itself to working surfaces in a single microscopic layer, yet it will not build on itself or affect clearances. This microscopic layer possesses tremendous load-carrying capacity, is impervious to acid attack and minimizes metal-to-metal contact and the resulting friction and wear. When added to LE lubricants, it gives an extra dimension of protection available in no other lubricant.

LUBRICATION ENGINEERS, Inc.®
LEADERS IN LUBRICANTS
300 BAILEY AVE. ● FORT WORTH, TEXAS 76107 ● 817-916-3200 ● 800-537-7683 ● FAX 817-820-1512 ● www.LElubricants.com

LE operates under an ISO 9001 Certified Quality System.

TECHNICAL DATA BULLETIN

460 & 680 Almasol® Worm Gear Lubricant

LEADERS IN LUBRICANTS

DESCRIPTION:

Compounded gear lubricants designed to protect worm gears and bronze parts. Formulated with paraffinic base stocks and then carefully blended with Almasol and other fine high quality additives to give excellent lubricity and film strength along with high load carrying ability.

PHYSICAL CHARACTERISTICS—TYPICAL:

ISO Grade	460	680
AGMA Grade	7C	8C
Gravity, ºAPI	26.5	24.4
Viscosity		
SUS @ 100ºF	2495	3484
SUS @ 210ºF	184.4	232.6
cSt @ 40ºC	473.8	659
cSt @ 100ºC	38.2	48.3
Viscosity Index	115	115
Pour Point ºF (ºC)	-6 (-21)	-6 (-21)
Flash Point ºF (ºC)	545 (285)	558 (292)
Color	Purple	Purple

TYPICAL TEST RESULTS:

Four Ball Wear, mm, ASTM D4172		
15 kg	0.39	0.48
40 kg	0.45	0.53
Copper Corrosion		
@ 100ºC, ASTM D130	1b	1b
Rust Test, 24 hours, ASTM D665B	Pass	Pass
Demulsibility, ASTM D2711		
ml water; ml emulsion	70; 0.2	70; 0.2

APPLICATION:

Use in all worm gearboxes that require a compounded worm gear lubricant.

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BENEFICIAL QUALITIES:

Meets AGMA 9005-094 requirements for R&O and compounded oils.

Made with highly refined paraffinic base stock instead of lower quality cylinder stock.

Contains cleanliness additives to keep the gearbox free of deposits.

Exhibits superior wear protection.

Superior oxidation resistance to commercial grade worm gear oils.

Passes demulsibility test where commercial worm gear oils fail.

Meets the criteria of USDA H2 lubricants.

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