



## Open Gear Lube

Phillips 66® Open Gear Lube is an adhesive, residual compounded, extreme pressure (EP) gear lubricant with a low viscosity sacrificial diluent for ease of application. It is recommended primarily for the lubrication and cushioning of open and semi-enclosed gears on mining shovels, draglines and excavation equipment used in underground or surface mines and in rock quarries. It also may be used for the lubrication of some cable-actuated equipment.

Open Gear Lube is specially formulated to provide high load-carrying capacity to protect heavily loaded gears from scoring and galling. In operation the diluent is released to form a heavy, tenacious film while controlling excessive diluent runoff. The remaining lubricant film adheres well to metal surfaces and will not harden or flake off at low temperatures. This film provides good resistance to water washout and protects gears against rust and corrosion.

Open Gear Lube is available in three grades for use over a wide range of operating temperatures.

## Applications

- Open and semi-enclosed gears found on mining shovels, draglines and excavation equipment
- Guides and sliding surfaces with large clearances, where asphaltic-type lubricants are specified
- Cables on draglines, clamshells, hoists and other cable-operated equipment where cable clamp safety devices are not used

Open Gear Lube meets the requirements of the following industry specification:

- ANSI/AGMA Standard 9005-E02

## Features/Benefits

- Excellent adhesion to metal surfaces
- Forms a heavy, tenacious film to lubricate and cushion gear teeth
- Good extreme-pressure properties for protection under heavy or shock loads
- Good resistance to water washout
- Protects against rust and corrosion
- Will not flake off at low temperatures
- Does not contain any chlorine, lead or carcinogens
- Easy application, by spraying, brushing or dripping
- Suitable for use with automatic lubrication equipment

## Residual Compounded Gear Lubricant for Shovels, Draglines and other Mobile Equipment





## Open Gear Lube

Typical Properties				
Grade		585 W	585 NC	595 NC
Specific Gravity @ 60°F		0.98	0.99	0.99
Density, lbs/gal @ 60°F		8.16	8.24	8.24
Color, Visual	Visual	Black	Black	Black
Appearance	Visual	Viscous	Viscous	Viscous
Consistency	Visual	Semi-fluid	Semi-fluid	Semi-fluid
Flash Point, °C (°F)	ASTM D92	>150 (>302)	>150 (>302)	>160 (>320)
Diluent Content, wt %		26	12	8
Viscosity (without diluent)	ASTM D445			
cSt @ 40°C		50,000	50,000	50,000
Copper Corrosion	ASTM D130	4a	4a	4a
Four-Ball EP	ASTM D2596			
Weld Load, kgf		400	400	400
Load-Wear Index, kgf		53	65	65
Four-Ball Wear, Scar Diameter, mm	ASTM D2266	0.40	0.50	0.50
Rust Test	ASTM D1743	Pass	Pass	Pass
Timken OK Load, lb	ASTM D2782	45	45	45
Recommended Application Temperature	Lincoln Ventmeter			
°C		-40 to 0	-18 to 10	0 to 49
°F		-40 to 32	0 to 50	32 to 120

## Health & Safety Information

For recommendations on safe handling and use of this product, please refer to the Safety Data Sheet via <http://www.phillips66.com/SDS>.