Gear Shield®

Chlorine-Free, Solvent-Cutback Open Gear Lubricant For Mills & Kilns

Gear Shield is a viscous, adhesive, petroleum resin/asphaltic-based gear lubricant cut back with a volatile, non-chlorinated solvent for ease of application. It is recommended primarily for the lubrication and cushioning of open and semi-enclosed gears found on stationary equipment, such as ball and rod mills, kilns and paper mills. It also may be used for the lubrication of some cable-actuated equipment, such as marine winches.

Gear Shield is specially formulated to provide high load-carrying capacity to protect heavily loaded gears from scoring and galling. It forms a heavy, tenacious film (after solvent evaporation) that adheres well to metal surfaces and will not harden or flake off at low temperatures. This film has good resistance to water washout and protects the gears against rust and corrosion.

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

Applications

- Open and semi-enclosed gears, such as those found on mining ball and rod mills, cement mills, drying kilns, and papermaking machinery and presses
- Mills used to process minerals such as gold, copper, iron, taconite and phosphate
- Guides and sliding surfaces with large clearances, where asphaltic-type lubricants are specified
- Cables on draglines, clamshells, shovels, hoists and other cable-operated equipment where cable clamp safety devices are not used

Gear Shield 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
- Drains freely from gear guards

CONTACT INFORMATION

Phillips66 Lubricants.com

U.S. Customer Service:
1-800-368-7128

Technical Hotline:
1-877-445-9198

International Customer Service:
1-832-765-2500

E-mail address:
lubricants@p66.com

- Does not contain any chlorine, lead or carcinogens
- Easy application, by spraying, brushing or dripping[1]
- Suitable for use with automatic lubrication equipment

[1] ***Caution***: *This product contains solvent. Proper ventilation and fire safety precautions must be taken during application.*

Gear Shield®

Typical Properties

Grade	NCW	P	NC
Specific Gravity @ 60°F	0.960	0.920	0.960
Density, lbs/gal @ 60°F	8.00	7.66	8.00
Color, Visual	Black	Black	Black
Appearance	Viscous	Viscous	Viscous
Consistency	Semifluid	Semifluid	Semifluid
Flash Point (COC), with solvent, °C (°F)	>93 (>199)	>121 (>250)	>121 (>250)
Flash Point (COC), without solvent, °C (°F)	>260 (>500)	>260 (>500)	>260 (>500)
Solvent Content, wt %	23	12	16
Viscosity, with solvent:			
cSt @ 40°C	900-1,600	5,400-8,700	4,000-6,000
SUS @ 100°F	5,000-8,000	25,000-40,000	20,000-30,000
Viscosity, without solvent:			
cSt @ 100°C	1,000-2,200	1,070-1,700	1,000-2,200
SUS @ 210°F	5,000-10,000	5,000-8,000	5,000-10,000
Copper Corrosion, ASTM D130	4b	2b	4b
Four-Ball EP, ASTM D2596,			
Weld Load, kgf	400	400	400
Load-Wear Index, kgf	67	70	77
Four-Ball Wear, ASTM D2266, Scar Diameter, mm	0.42	0.60	0.49
FZG Scuffing Test, ASTM D5182, Failure Load Stage	>12	>12	>12
Rust Test, ASTM D665 A&B	Pass	Pass	Pass
Timken OK Load, ASTM D2509, lb	45	45	45
Usable Temperature Range,			
°C	-18 to 49	-9 to 49	0 to 49
°F	0 to 120	15 to 120	32 to 120

Health and Safety Information

For recommendations on safe handling and use of this product, please refer to the Material Safety Data Sheet via *http://w3apps.phillips66.com/NetMSDS*.

Note: Gear Shield® is a registered trademark of Petron® Corporation.