



Gear Shield® Synthetic

Phillips 66® Gear Shield Synthetic is a viscous, adhesive, transparent synthetic-based 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 found on stationary equipment, such as ball and rod mills, kilns and paper mills.

Gear Shield Synthetic is specially formulated to provide high load-carrying capacity to protect heavily loaded gears from scoring and galling. It forms a heavy, tenacious film 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.

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
- Cables on draglines, clamshells, shovels, hoists and other cable-operated equipment where cable clamp safety devices are **not** used

Gear Shield Synthetic 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
- Does not contain any chlorine, lead or carcinogens
- Easy application, by spraying, brushing or dripping⁽¹⁾
- Suitable for use with automatic lubrication equipment

Synthetic Open Gear Lubricant for Mills & Kilns





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Typical Properties	
Grade	Synthetic
Specific Gravity @ 60°F	0.913
Density, lbs/gal @ 60°F	7.60
Color, Visual	Amber
Color, ASTM D1500	2.0
Appearance	Viscous
Consistency	Semi-fluid
Flash Point (COC), with diluent, °C (°F)	>150 (>302)
Viscosity (with diluent)	
cSt @ 40°C	7,200
SUS @ 100°F	33,350
Viscosity (without diluent)	
cSt @ 40°C	55,100
SUS @ 100°F	255,225
Four-Ball EP, ASTM D2596	
Weld Load, kgf, without diluent	620
Load-Wear Index, kgf, without diluent	128
Rust Test, ASTM D665 A&B	Pass
Usable Temperature Range	
°C	-18 to 49
°F	0 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>.