



Premium Greases Guide

A versatile lineup of high-quality greases for all major industry segments.



2-MINUTE LUBE SCHOOL

The right grease for every application.

Introducing our premier line of greases. Each product has been carefully selected to provide high-quality greases for all major industry segments.

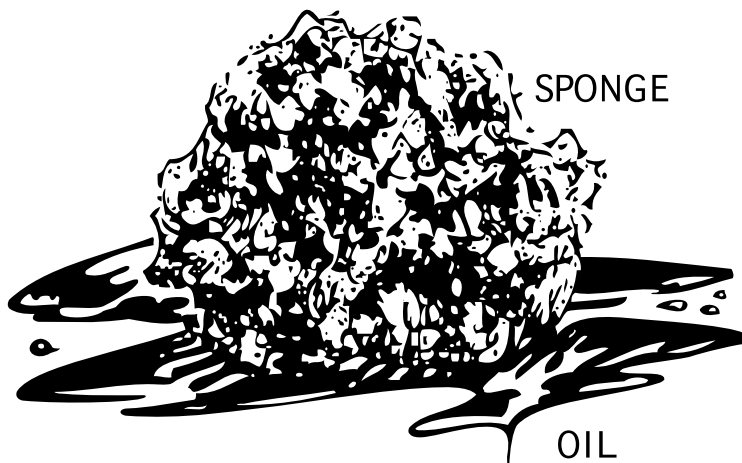
Before you explore our line of premium greases on the following pages, review this 2-Minute Lube School now to freshen up on grease basics.

Why use grease?

Grease is typically used to lubricate bearings and gears (enclosed and open), provide a protective coating, or as a parting agent and drawing compound in casting. It is used instead of oil where retention is important, where less frequent application is required, to seal out dirt and contaminants, and to protect from corrosion. Grease film clings to bearing surfaces better than oil and in general stays put, while oil tends to leak away.

What is grease?

Grease consists of a lubricating base oil and a thickening agent, plus additives that impart special properties. The fiber structure of the thickener holds the base oil like a sponge.



Base oils: Make up 50–98 percent of a typical grease. Can be mineral or synthetic. Base oil viscosity is the most important factor in correct grease application. For help choosing the ideal base oil viscosity, call our technical hotline at 1.877.445.9198.

Thickeners: Make up 2–50 percent of a grease. They hold the oil in place and affect grease properties, such as dropping point, shear stability and pumpability. There are three primary types of thickeners—simple soaps (lithium-12 hydroxystearate), complex soaps (lithium complex, aluminum complex and calcium-sulfonate), and non-soap thickeners (clay and polyurea).

Additives: Make up 0–10 percent of grease and are used to improve its properties, such as extreme pressure wear protection, tackiness, rust & oxidation resistance, anti-wear attributes, etc.

Main properties of grease

A quick breakdown of the primary properties of grease:

Pumpability: Ability of grease to flow under pressure through the lines, nozzles, and fittings of the grease dispensing system. Important for cold temperature applications and centralized grease systems.

Dropping point: The temperature at which the grease releases a drop of liquid under standard test conditions, indicating the maximum usable temperature.

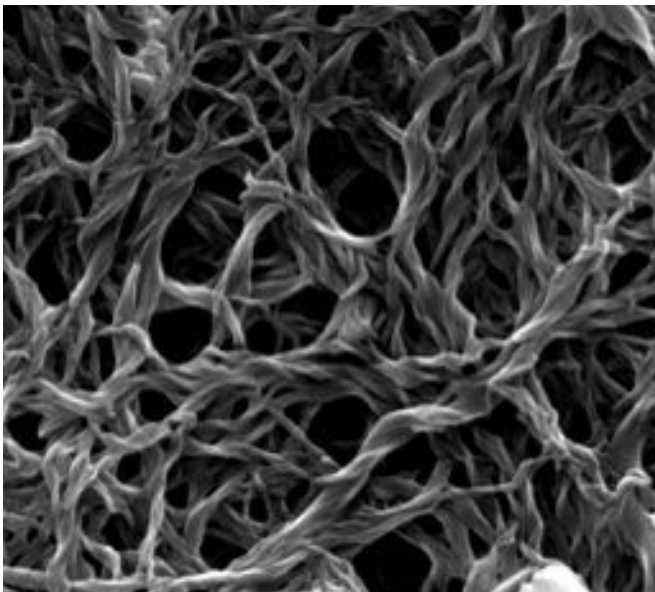
Shear (mechanical) stability: The ability to resist changes in consistency after prolonged working of the grease. Determined by the type and amount of thickener.

Water resistance: The ability to withstand the addition of water without adverse effects on the grease structure. Measured by “water wash-off” and “water spray-off” tests.

Texture: The appearance and feel of a grease, which affects its adhesiveness and ease of handling. Texture depends on base oil viscosity, type and amount of thickener, additives and manufacturing process.

Oil separation tendency: This refers to the separation of the oil component from a grease during storage. Most pronounced in soft greases with a low viscosity base oil.

Compatibility: This refers to the behavior of a mixture of greases with different thickeners and/or other additive components. Incompatible grease mixtures result in grease softening, leakage past the seals and poor service performance.



Above: Multiplex Red #2 at 25,000X magnification.

How thickeners work: This enlarged view of grease shows how the fiber structure of the thickener works like a sponge to keep base oils from leaking away and inhibiting lubrication. Thickeners are used to affect grease properties, such as texture, dropping point, shear stability, water resistance and pumpability.

Premium greases



We make it simple to find the ideal grease for every need. All grease tubes are color-coded for easy recognition (see Product Color Code Key). Go to the broad category of listings to search for the right grease for your application, or refer to the Grease Performance Characteristics matrix for comparative data. The actual color of each grease is indicated at the end of its product description.

Current technical data sheets on all greases are available at phillips66lubricants.com

NLGI Grades for Greases		
NLGI Grade No.	Worked Penetration*	Description and Typical Use
000	445 - 475**	Semifluid; Centralized Systems
00	400 - 430**	Semifluid; Centralized Systems
0	355 - 385	Semifluid; Centralized Systems
1	310 - 340	Very Soft; Grease Guns or Centralized Systems
2	265 - 295	Soft; Grease Guns or Centralized Systems
3	220 - 250	Light; Grease Guns
4	175 - 205	Medium; Pressure Guns
5	130 - 160	Heavy; Grease Cups
6	85 - 115	Block, Open Grease Cellars
* Worked Penetration at 25°C (77°F), 60 stokes, ASTM D217		
** Measured with modified cone		



SPECIALTY GREASES

Bentone

High-Temperature, Heavy-Duty Industrial Grease
Clay-based EP grease for kilns, drier ovens, cement plants, steel mills and heavy-duty industrial machinery operating at very high temperatures. Water-resistant. Very adhesive. (Golden)

Cable Lube

Heavy-Duty, Multipurpose Wire, Rope and Cable Lubricant
Excellent resistance to rust, corrosion, water washout, and throw-off during high-speed operation. Preserves and conditions hemp cores while reducing friction and wear. Low-viscosity allows for effective penetration. (Black)

Cotton Picker

Premium Semi-Fluid Lithium Grease for Cotton Picker Spindles
Completely conforms to John Deere requirements, providing complete lubrication and ease of starting during the fall harvest season. (Dark Green)

Coupling Grease

High-Performance Industrial Coupling Grease
Lithium grease for use in grease-lubricated flexible couplings commonly found in mining equipment, power plants, manufacturing plants and chemical plants. Exceptional resistance to oil separation when subjected to centrifugal forces normally encountered with medium and high-speed gear, metallic grid and chain couplings. Meets ANSI/AGMA Standard 9001-B-97, CG-1 and CG-2 specifications. (Dark Amber)

Food Machinery Grease

Premium Quality Food Grade, NSF-H1 Registered, Aluminum Complex Grease
Food Machinery Grease is a premium quality aluminum complex grease developed for use as a lubricant in applications where there is incidental food contact. It is recommended for use in food plants, bottling and packaging equipment and other industrial applications requiring a non-staining, white grease. (White)

Polytac®

Premium Long Life, High-Temperature Non-EP Grease
Multipurpose, water-resistant grease for automotive and industrial equipment; electric motor, water pump and alternator bearings; and plain and rolling element bearings. (Red)

Product Color Code Key

White: Specialty greases • **Gold:** Industrial/multipurpose greases
Red: Automotive/commercial trucking greases • **Blue:** Off road/heavy equipment greases



INDUSTRIAL/MULTIPURPOSE GREASES

Dynalife® L-EP

Multipurpose EP Lithium Grease

Year-round application for chassis and wheel bearing lubrication in automotive and industrial equipment. Broad range of operating conditions and uses. (Amber)

Milube® WR

Premium Adhesive, Extreme-Pressure Lithium Complex Grease

Milube WR is specially developed for use in demanding industrial applications such as steel rolling mills where high loads, high temperatures and/or wet conditions exist. Does not contain heavy metals or other environmentally undesirable components. (Green)

Moly Low Temp

Low-Temperature Aluminum Complex Grease with 5% Moly

A multipurpose, extreme-pressure aluminum complex soap grease for use in automotive and industrial equipment operating at low ambient temperatures down to -400F. Suitable for winter and summer use in arctic climates. (Black)

Omniguard®

Premium Quality, High-Temperature Corrosion Preventive Grease

A multipurpose extreme-pressure grease for industrial and automotive equipment operating under high humidity or temperature. (Tan)

Paper Machine Grease 460

Premium Synthetic, Extreme-Pressure Lithium Complex Grease

Provides outstanding bearing protection at high temperatures and in the presence of water for use in both the dry and wet ends of paper machines. This multi-use grease can also be used in mining, marine, logging, quarrying, plastic and steel applications. (Off-White)

RedTac®

Adhesive, Multipurpose EP Lithium Grease

Developed for a wide variety of automotive and industrial applications, RedTac contains a tackiness additive that provides improved retention, reduced leakage and outstanding resistance to water washout. (Red)

Super-STA®; Super-STA M

Tacky, Multipurpose EP Lithium Greases

Developed for a wide variety of automotive and industrial applications, these greases contain a tackiness additive for improved retention, reduced leakage and enhanced resistance to water washout. Super-STA M is fortified with 1% molybdenum disulfide for extra protection under heavy or shock loading. (Super-STA: Amber) (Super-STA M: Gray-Black)

Triton® 220, 460

Premium EP Synthetic PAO Lithium Complex Greases

For light and heavy-duty automotive and industrial equipment and moving parts. Superior wear protection, and resistant to rust and corrosion. (Purple)

Triton Low Temp

Premium Synthetic Low-Temperature EP Grease

Developed for chassis and bearing lubrication, automotive sliding mechanisms and industrial equipment operating in cold weather. Exceptional low-temperature fluidity. (Light Amber)

Unoba® EP

Multipurpose EP Lithium Grease

Developed for a wide variety of industrial and automotive applications, Unoba is a versatile, general-purpose grease for use in applications where operating temperatures and loads are moderate. Excellent for centralized lube systems. (Green)

Grease

	Thickener	Texture	Color	NLGI #	Base Oil VIS @40°C, cST	Dropping Point °F
Bentone	Bentonite clay	Smooth	Golden	2	450	550+
Cable Lube	N/A	Tacky	Black	N/A	15 (with solvent)	N/A
Cotton Picker	Lithium	Semi-Fluid	Dark Green	00	22.5	N/A
Coupling Grease	Lithium	Tacky	Dark Amber	0.5/1	142 (@100°C)	419
Food Machinery Grease	Aluminum Complex	Smooth	White	2	220	500
Polytac®	Polyurea	Smooth	Red	2	110	500
Dynalife® L-EP	Lithium	Semi-Fluid/Smooth	Amber	000, 00, 0, 1, 2, 3	175	350 (0-3)
Milube® WR	Lithium Complex	Smooth/Tacky	Green	1, 2	410	500+
Moly Low Temp	Aluminum Complex	Smooth	Gray-Black	1	25	500
Omniguard®	Calcium Sulfonate	Smooth	Tan	1, 2	219	550+
Paper Machine Grease 460¹	Lithium Complex	Smooth	Off-White	1.5	460	500+
RedTac®	Lithium	Tacky	Red	0, 1, 2	420	370+
Super-STA®	Lithium	Tacky	Amber	1, 2	190	390+
Super-STA M	Lithium w/1% Moly	Tacky	Gray-Black	0, 1, 2	190	390+
Triton® 220¹	Lithium Complex	Smooth	Purple	2	220	500+
Triton 460¹	Lithium Complex	Smooth	Purple	1.5	460	500+
Triton Low Temp¹	Lithium	Smooth	Light Amber	1	26.2	383
Unoba® EP	Lithium	Semi-Fluid/Smooth	Green	00, 0, 1, 2	175, 142, 142, 142	N/A, 342, 342, 342
Calcium S	Calcium Stearate	Smooth	Amber	2	15	284
Dynalife HT	Lithium Complex	Tacky	Red	1, 2	600+	500+
Multiplex® Red	Lithium Complex	Tacky	Dark Red	0, 1, 2	170, 170, 220	480-520
Polytac® EP	Polyurea	Smooth	Green	2	129	500
Triton ELL¹	Lithium Complex	Semi-Fluid	Emerald Green	00	420	N/A
Megaplex® XD3	Lithium Complex w/3% Moly	Tacky	Gray-Black	1, 2	460	500+
Megaplex XD5	Lithium Complex w/5% Moly	Tacky	Gray-Black	0, 1W, 1, 2	180, 140, 245, 470	500+
Omniguard XD5	Calcium Sulfonate w/ 5% Moly	Smooth	Gray-Black	1	150	550+
Tacna® HD	Lithium Complex	Smooth/Tacky	Red	1, 2	400	500
Triton XD5¹	Calcium Sulfonate w/5% Moly	Tacky	Platinum	0, 1, 2	35	350 (0), 550+ (1,2)

¹ Triton greases and Paper Machine Grease are manufactured with PAO synthetic base oil

² Note: For centralized lube systems, always check the operating condition and the OEM recommendation before selecting a grease.



AUTOMOTIVE/COMMERCIAL TRUCKING GREASES

Calcium S

EP Calcium Grease for Automotive Hardware

A high-quality calcium stearate grease for use by automobile manufacturers and parts suppliers to the auto industry. Recommended for lubrication of window regulators, door hinges and similar automotive hardware. Excellent oxidation resistance. (Amber)

Dynalife® HT

Premium Quality, Heavy Base Oil, NLGI GC-LB Certified, Lithium Complex Grease

Dynalife HT is a high-quality, multi-purpose lithium complex grease formulated to satisfy severe lubrication requirements of plain and rolling element bearings operating at moderate to high temperatures. (Red)

Multiplex® Red

Multipurpose EP Lithium Complex Grease

Long-life chassis and wheel bearing lubrication for high-performance, luxury, on-road, off-road and race vehicles, as well as vehicles with disc brakes. NLGI GC-LB Certified. (Dark Red)

Polytac® EP

Premium Long-Life, High-Temperature EP Grease

Versatile and tacky water-resistant grease for automotive and industrial equipment, CV joints, U-joints and bearings. Excellent mobility at low temperatures. (Green)

Triton® ELL

Premium EP Synthetic PAO Lithium Complex Grease

Protection and corrosion resistance for sliding and moving parts operating at extreme temperatures, such as tractor-trailer bearings. (Emerald Green)

Performance Characteristics

NLGI GC-LB	EP	Low-Temp Pumpability	High-Temp Application	Load Carrying Ability	Water Washout Resistance	Corrosion Protection	Centralized Grease Systems ²
No	Yes	Poor	Excellent	Very Good	Good	Good	N/R
No	N/A	Excellent	Fair	Fair	Excellent	Excellent	N/R
No	No	Excellent	Poor	Good	Good	Good	N/R
No	Yes	Good	Excellent	Excellent	Excellent	Very Good	N/R
No	Yes	Good	Very Good	Excellent	Very Good	Very Good	Yes
No	No	Very Good	Excellent	Excellent	Excellent	Excellent	N/R
No	Yes	Good	Good	Excellent	Very Good	Very Good	Yes
No	Yes	Good	Excellent	Excellent	Very Good	Very Good	N/R
No	Yes	Excellent	Very Good	Excellent	Very Good	Very Good	Yes
Yes (2)	Yes	Fair	Excellent	Very Good	Very Good	Excellent	N/R
No	Yes	Good	Excellent	Excellent	Very Good	Very Good	N/R
No	Yes	Poor	Good	Very Good	Good	Good	N/R
No	Yes	Good	Good	Very Good	Good	Very Good	Yes
No	Yes	Good	Good	Very Good	Good	Very Good	Yes
Yes	Yes	Very Good	Very Good	Excellent	Very Good	Very Good	N/R
No	Yes	Good	Excellent	Excellent	Very Good	Very Good	N/R
No	Yes	Excellent	Fair	Fair	Good	Very Good	Yes
No	Yes	Very Good	Good	Very Good	Very Good	Good	Yes
No	Yes	Excellent	Fair	Very Good	Good	Good	Yes
Yes	Yes	Fair	Excellent	Excellent	Excellent	Very Good	N/R
Yes (1,2)	Yes	Excellent (0)	Excellent	Excellent	Excellent	Excellent	Yes
Yes	Yes	Good	Excellent	Excellent	Excellent	Very Good	N/R
No	Yes	Excellent	Very Good	Excellent	Good	Very Good	Yes
Yes (1)	Yes	Good	Very Good	Excellent	Very Good	Good	N/R
No	Yes	Good	Very Good	Excellent	Very Good	Good	Yes
No	Yes	Good	Very Good	Excellent	Excellent	Very Good	Yes
No	Yes	Fair	Excellent	Excellent	Excellent	Very Good	N/R
No	Yes	Excellent	Very Good	Excellent	Excellent	Excellent	Yes

* "N/R" - Not Recommended



OFF-ROAD/HEAVY EQUIPMENT GREASES

Megaplex® XD3

Premium EP Grease for Heavy Equipment (3% Moly)
A multipurpose and tacky water-resistant grease for agricultural, logging and off-highway equipment. Meets Caterpillar MPMG Requirements. (Gray-Black)

Megaplex XD5

Premium EP Grease for Heavy Equipment (5% Moly)
A multipurpose and tacky water-resistant grease for construction and mining equipment. Meets Caterpillar and LeTourneau requirements. (Gray-Black)

Omniguard® XD5

Extreme-Pressure Calcium Sulfonate with 5% Moly for Mining & Off-Road Equipment
Developed to satisfy the severe lubrication requirements of mining and off-road equipment such as electric-drive haul trucks, cranes, scrapers, shovels and drag lines operating under wet conditions and/or moderate to high temperatures and under heavy loading. Meets Caterpillar MPMG requirements. (Gray-Black)

Tacna® HD

Adhesive, Heavy Base Oil, EP Lithium Complex Grease
Developed for industrial use in heavily loaded, slow- to medium-speed bearings, it also is recommended as a chassis grease for heavy equipment. Formulated to provide long service life in severe service applications. (Red)

Triton® XD5

Premium Synthetic EP Calcium Sulfonate Grease with 5% Moly
General-purpose grease to protect against wear, rust and corrosion. Excellent resistance to water washout and low-temperature properties. (Platinum)

Grease Mixture Compatibility	Aluminum Complex	Anhydrous Calcium	Barium	Bentonite clay	Calcium Stearate	Calcium Complex	Calcium Sulfonate	Lithium	Lithium Complex	Polyurea	Polyurea EP	Silica Gel	Sodium
Aluminum Complex	✓												
Anhydrous Calcium		✓			✓		✓						
Barium			✓										
Bentonite Clay				✓									
Calcium Stearate		✓			✓		✓						
Calcium Complex						✓	✓			✓			
Calcium Sulfonate		✓			✓	✓	✓	✓	✓	✓			
Lithium							✓	✓	✓				
Lithium Complex							✓	✓	✓				
Polyurea						✓	✓			✓	✓		
Polyurea EP										✓	✓		
Silica Gel												✓	
Sodium													✓

The compatibility matrix is a general industry chart. Differences may exist for particular greases. Call the Technical Hotline to confirm grease compatibility for specific greases.

✓ - greases compatible for mixing

For more information about our premium greases, call **1.877.445.9198**
or visit **phillips66lubricants.com**