



Monocal™ GP Grease (1499)

**Versatile Grease with Calcium Sulfonate Complex Thickener
Protects Equipment from Heat, Moisture & Heavy Loads**

Lubrication Engineers, Inc. formulated Monocal™ GP Grease for use in severe conditions such as high temperatures, heavy loads and water. Its high-performance formula features high-viscosity base fluid, calcium sulfonate complex thickener and Monolec®, LE's proprietary wear-reducing additive. This premium combination imparts a very high dropping point, exceptional inherent extreme pressure (EP) characteristics, superior mechanical stability, low oil bleed, and water resistance – everything you need to protect and extend the life of your equipment.



A versatile general purpose lubricant, Monocal GP Grease is the right solution for industrial and mobile equipment used in a wide variety of industries. It is especially effective when used on bearings operating in a warm, moist environment or in operations where a lot of water is needed to keep equipment cool. Without effective, reliable lubrication, these conditions can lead to costly downtime and repairs.

Beneficial Qualities

High-performance formula

- Performs effectively in severe conditions such as heat, water and heavy loads
- Provides long-lasting reliable protection
- Ensures very low oil separation
- Features high-viscosity base fluid (ISO 220)

Calcium sulfonate thickener

- Inherently prevents rust and corrosion – even in sea water
- Has very high dropping point as compared to conventional thickeners
- Ensures excellent mechanical stability for long-lasting use

- Imparts outstanding EP properties (without the addition of heavy metals), providing protection even when pound-out conditions occur

Wear-reducing additive

- Protects against wear, metal-to-metal contact and scoring
- Provides exceptional film strength
- Resists oxidation and water contamination
- Maintains consistency after repeated heating and cooling

Available Grade

- NLGI 2

Proprietary Additives

LE's proprietary additives are used exclusively in LE lubricants. Monocal™ GP Grease contains Monolec.

Monolec® wear-reducing additive creates a single molecular lubricating film on metal surfaces, vastly increasing oil film strength without affecting clearances. An invaluable component in LE's engine oils, industrial oils and many of its other lubricants, Monolec allows opposing surfaces to slide by one another, greatly reducing friction, heat and wear.



Monocal™ GP Grease

Performance Requirements Met or Exceeded

- USDA H2

Recommendations

- Can be used in Diamond Power soot blowers
- Can be used in anti-friction bearings up to 6,000 rpm

Typical Industries

- Agriculture
- Chemicals
- Construction
- Lumber & wood
- Mining
- Oil & gas
- Paper products
- Power generation
- Refuse & waste systems
- Rubber & plastic
- Steel & primary metals
- Transportation & fleet
- Water & wastewater
- Any industries where hot weather, humidity and overheated machinery create moisture problems

Typical Applications

- Industrial: Bearings (anti-friction, conveyor, fan, heavily loaded ball, high-speed, plain, roller element, slow-speed), forging equipment, machine tools, presses, rolling mills and rotary aerators
- Automotive: Ball joints, chassis, front axle arrangements, U-joints, wheel bearings

	1499
Thickener Type	Calcium Sulfonate Complex
Texture	Smooth
Color	Blue
NLGI Grade	2
Worked 60 Penetration ASTM D217	280
Worked 10K Penetration ASTM D217	±5%
Worked 100K Penetration ASTM D217	±7%
Dropping Point °C (°F), ASTM D2265	≥288 (≥550)
Base Fluid Characteristics	
Flash Point °C (°F), ASTM D92	>260 (>500)
Viscosity @ 40°C, cSt, ASTM D445	198-242
Oxidation drop in psi @ 100 hrs, ASTM D942	≤5
Oxidation drop in psi @ 500 hrs, ASTM D942	≤8
Corrosion Prevention DI H₂O, ASTM D1743	Pass
Corrosion Prevention 5% Sea H₂O, ASTM D5969	Pass
Timken OK Load lbs, ASTM D2509	60
Four-Ball EP Weld Point kgf, ASTM D2596	400
Four-Ball EP Load Wear Index kgf, ASTM D2596	50.0
Four-Ball Wear @ 75°C, 1,200 rpm, 40 kgf 60 minutes, mm wear, ASTM D2266	0.50
Water Spray-off % loss, ASTM D4049	<20.0
Copper Corrosion 24 hrs @ 100°C, ASTM D4048	1b
Evaporation 22 hrs @ 100°C, % loss, ASTM D972	<2.0



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