

# Product Information



## Monocal® GP Grease (1499-1498)

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

Lubrication Engineers, Inc. formulated Monocal® GP Grease for use in environments with challenging conditions such as high temperatures, heavy loads and the presence of water. Its high-performance formula features high-viscosity base fluid, calcium sulfonate complex thickener and Monolec®, LE's proprietary wear-reducing additive. Available in NLGI 2 and 1 grades, 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 Grades

- NLGI 2 (1499)
- NLGI 1 (1498)

### Proprietary Additive

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.





# Technical Data

## 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

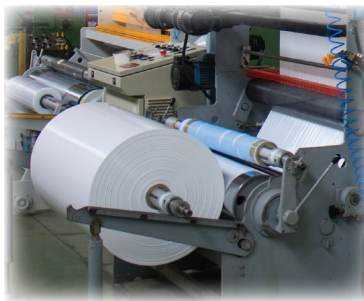
### Typical Industries

- 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

	<u>1499</u>	<u>1498</u>
<b>Thickener Type</b>	Calcium Sulfonate Complex	Calcium Sulfonate Complex
<b>Texture</b>	Smooth	Smooth
<b>Color</b>	Tan	Tan
<b>NLGI Grade</b>	2	1
<b>Worked 60 Penetration ASTM D217</b>	280	325
<b>Worked 10K Penetration ASTM D217</b>	±5%	±5%
<b>Worked 100K Penetration ASTM D217</b>	±7%	±7%
<b>Dropping Point °C (°F), ASTM D2265</b>	316 (600)	316 (600)
<b>Base Fluid Characteristics</b>		
<b>Flash Point °C (°F), ASTM D92</b>	>260 (>500)	>260 (>500)
<b>Viscosity @ 40°C, cSt, ASTM D445</b>	220	220
<b>Oxidation drop in psi @ 100 hrs, ASTM D942</b>	≤5	≤5
<b>Oxidation drop in psi @ 500 hrs, ASTM D942</b>	≤8	≤8
<b>Corrosion Prevention DI H<sub>2</sub>O, ASTM D1743</b>	Pass	Pass
<b>Corrosion Prevention 5% Sea H<sub>2</sub>O, ASTM D5969</b>	Pass	Pass
<b>Timken OK Load lbs, ASTM D2509</b>	60	60
<b>Four-Ball EP Weld Point kgf, ASTM D2596</b>	400	400
<b>Four-Ball EP Load Wear Index kgf, ASTM D2596</b>	50.0	50.0
<b>Four-Ball Wear @ 75°C, 1,200 rpm, 40 kgf 60 minutes, mm wear, ASTM D2266</b>	0.50	0.50
<b>Water Spray-off % loss, ASTM D4049</b>	<20.0	-
<b>Copper Corrosion 24 hrs @ 100°C, ASTM D4048</b>	1b	1b
<b>Evaporation 22 hrs @ 100°C, % loss, ASTM D972</b>	<2.0	<2.0



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LI30117 11-13, rev. 4-22