

## MATRIX® LC CALCIUM SULFONATE GREASE

Matrix® LC is a heavy-duty addition to the Whitmore line of extreme pressure greases. This grease answers demands for a calcium sulfonate complex grease that is pumpable in cold weather and is suitable for higher speed bearings.

When formulating Matrix® LC, Whitmore chemists started with Matrix® EP, which has been our flagship grease for several years. Several changes were made, including the use of a new polymer. All of the most notable benefits of Matrix® EP were retained in Matrix® LC including long life and outstanding wear protection. Needless to say, the rust protection afforded by the calcium sulfonate thickener remains.

For high water wash and underwater applications choose Matrix® EP.

### BENEFITS:

- **LONG LIFE** - reduced re-lubrication frequency.
- **WIDE SPEED RANGE** - recommended for use in electric motor bearings as well as slower-moving bearings and bushings.
- **WEAR PROTECTION** – suitable for use in very heavily loaded bearings.

### APPLICATIONS:

Besides electric motor bearings, Matrix® LC is recommended for use in applications where re-lubrication is infrequent.

This grease is suitable for highly loaded applications such as steel mill roll stands and slew ring bearings on hydraulic shovels.

Matrix® LC Winter has been used with great success on frac pump plungers in ambient conditions ranging from -30°F (-34°C) to over 100°F (38°C).

ASTM #		TYPICAL CHARACTERISTICS			
	Grade	Winter	0	1	2
D-217	Penetration Range	390-410	355-385	310-340	265-295
D-2265	Dropping Point, °F (°C)	520 (270)	520 (270)	520 (270)	520 (270)
D-445	Kinematic Viscosity (Base Oil)				
	cSt @ 40°C	105.15	53	119.61	119.61
	cSt @ 100°C	8.02	7.44	10.07	10.07
D-445	Kinematic Vis (with Polymer)				
	cSt @ 40°C	--	75	480	480
	cSt @ 100°C	--	9.37	33.0	33.0
D-2596	Four Ball EP, Weld Point, kg	620	620	800	800
D-2266	Four Ball Wear, Scar Width, mm	0.47	0.48	0.48	0.48
D-4049	Water Spray Off, % Loss	Not Reported	Not Reported	Not Reported	<20
D-1264	Water Washout, % Loss	Not Reported	Not Reported	<5	<3
FTM 321.2	Screen Bleed, % Loss @ 30 hrs	Not Reported	Not Reported	Not Reported	<1
D-1743	Rust Test	Pass	Pass	Pass	Pass
D-4048	Copper Strip Corrosion 212°F (100°C) @ 3 hrs	1B	1B	1B	1B
	Thickener Type	Calcium Sulfonate Complex	Calcium Sulfonate Complex	Calcium Sulfonate Complex	Calcium Sulfonate Complex
OEM Standard	Low Temperature Pumpability Lincoln Ventmeter @ 400 psi, °F (°C)	-20 (-29)	-5(-20)	10 (-12)	24 (-4)
	Operating Temperature Range (in bearings), °F (°C)	-30 (-34) to 32 (0)	-15(-25) to 45(7)	0 (-18) to 350 (180)	10 (-12) to 350 (180)

The above are average values. Minor variations which do not affect product performance are to be expected in normal manufacturing.

### PACKAGING

Drums	Kegs	Pails	Cartridges 50 Per Case
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For warranty information, scan the QR code.  
You can also email us at [sales@whitmores.com](mailto:sales@whitmores.com)  
Or write to the Sales Department at the address below.

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