

BLACK MAGIC

Premium Mill Grease

Chem and Lube has combined the technology of calcium sulfonate complex with an oil designed specifically for the extreme conditions found in the Hot Strip Mill.

For years, it has been known that calcium sulfonate greases have produced resistance to mechanical breakdowns, withstood extreme pressures and have possessed very good anti-wear properties and excellent resistance to corrosion.

To these excellent qualities, we have added good pumpability, great water resistance and an ability to withstand extreme temperatures.

Black Magic has no heavy metal content which accounts for its extended wear capabilities and has a great appeal as an environmentally friendly product.

Black Magic offers the following:

- * Performs over a wide temperature range
- * Exhibits good shear stability
- * Possesses great water resistance properties
- * Provides protection against rust and corrosion
- * Possesses good anti-wear and load carrying abilities
- * Suitable for use in central grease systems

Black Magic calcium sulfonate complex grease is part of a new generation of lubrication grease technology. A thickener system comprising of a novel inorganic/organic complex is responsible for **Black Magic's** truly outstanding performance characteristics. The results of extreme bench testing and successful applications in the field indicate **Black Magic** has no serious shortcomings or weaknesses.

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SOAP TYPE: CALCIUM SULFONATE COMPLEX
COLOR: BLACK
TEXTURE: SMOOTH

<u>PROPERTY</u>	<u>METHOD</u>	<u>RESULTS</u>	<u>RESULTS</u>
NLGI Grade	NLGI	No. 1.5	No. 2
US Steel Mobility Test @ 0° F			.12 grams / sec
Penetration @ 77° F			
Unworked	D 217	295	275
Worked 60 Strokes	D 217	300	280
Worked 10,000 Strokes	D 217	305	290
Worked 100,000 Strokes	D 217	315	293
Dropping Point; °C (°F)	D 2265	316 (600)	316 (600)
Timken OK Load; lbs.	D 2509	60 min.	60 min.
Roll Stability (% Change)	D 1831	315 (+ 5.0)	293 (+ 5.0)
Rust Prevention Rating	D 1743	Pass	Pass
Base Oil Data:			
cSt. @ 40° C	D 445	404	404
cSt. @ 100° C	D 445	23.6	23.6
SUS @ 100° F	D 2161	2190	2190
SUS @ 210° F	D 2161	118	118
Viscosity Index	D 2270	70	70
Four Ball EP Weld Point, Kgf	D2596	500	500
Four Ball Wear Scar Diameter, mm	D2266	0.4	0.4
Water Sprayoff, % loss	D4049	17.0%	9.1%
Water Washout	D1264		
@ 100° F, %			N/A
@ 175° F, %			0.4