



## Molub-Alloy 936 SF Super Heavy

Open Gear Lubricant

### Description

Castrol Molub-Alloy™ 936 SF Super Heavy is a uniquely compounded solvent free open gear lubricant developed specifically for use on heavy duty equipment in mining and industrial services. It is compounded to give maximum protection for gears and slides on large draglines and shovels while minimizing potential pollutants to the environment. A highly refined, viscous, paraffinic petroleum derivative is the foundation of a blended base fluid with excellent natural chemical and thermal stability.

A proprietary blend of Molub-Alloy lubricating solids is included to promote anti-wear and load carrying properties beyond those of conventional lubricants. The select lubricating solids work synergistically with chemical anti-wear and extreme pressure (EP) additives to reduce contact temperatures while providing excellent anti-weld protection under extreme pressure and shock loading.

### Application

Molub-Alloy 936 SF Super Heavy is suitable for use on all types of open gears, rails and rollers, racks and pinions, dipper slicks and other slides on shovels and draglines. It is certified to Bucyrus International SD 4713 specification for open gear lubricants including electrical hoist drum gear application.

The structural integrity and strength of the lubricating film is particularly valuable in the critical process of sealing new gears because of the natural occurrence of high spots (asperities) in newly machined surfaces. The lubricating film must separate the mating surfaces sufficiently to cushion the effect of the impact of asperities, and minimize initial pitting which could lead to progressive and destructive pitting later.

Molub-Alloy 936 SF Super Heavy may be applied either manually or by heavy duty automatic systems.

### Advantages

- Forms a tough durable film with 'cushioning' effect – even under extreme pressures and at very slow speeds, the semi-dry working film resists erosion from rain or sleet, resists peeling in dusty environments, and resists film destruction by contaminating oils and greases migrating from nearby mechanisms. Excellent rust and oxidation resistance – protects the equipment and the lubricating film against the elements in severe climates.
- Unique compounding technology- flows readily in the film-forming process yet it resists 'squeeze-out' and clings tenaciously even to gear teeth in vertical orientation.
- Good pumpability and set-back resistance – pumpable in heavy automatic lubricating systems and does not heavy up over time.
- Formulated to address environmental concerns- it is free of solvents, lead, antimony and barium.

## Typical Characteristics

Name	Method	Units	Molub-Alloy 936 SF Super Heavy
Appearance	Visual	-	Black
Thickener Type	-	-	Lithium
Base Oil	-	-	Mineral Oil
Density @ 20°C / 68°F	ASTM D4052	kg/m <sup>3</sup>	1,020
Worked Penetration (60 strokes @ 25°C / 77°F)	ISO 2137 / ASTM D217	0.1 mm	355-385
Base Oil Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	6,000
Flash Point - open cup method (Base Oil)	ISO 2592 / ASTM D92	°C/°F	232/450
Rust Test (distilled water)	ASTM D1743	Rating	Pass
Copper Corrosion (24 hrs, 100°C / 212°F)	ASTM D4048	Rating	1b
Grease Pumpability test - Lincoln Ventmeter @ -1°C/30°F	US Steel test method	psi	600
Four Ball Wear test - Wear Scar Diameter (40 kgf / 75°C / 1200 rpm / 1 hr)	ISO 51350 / ASTM D2266	mm	0.52
Four Ball Weld Load test - Weld Point	ISO 11008 / ASTM D2596	kgf	800+
Four Ball Weld Load test - Load Wear Index	ISO 11008 / ASTM D2596	-	120
Lubricating Solids Molybdenum Disulfide, min	-	%	2.0

Subject to usual manufacturing tolerances.

## Additional Information

In order to minimise potential incompatibilities when converting to a new grease, all previous lubricant should be removed as much as possible prior to operation. During initial operation, relubrication intervals should be monitored closely ensure all previous lubricant is purged.

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