



MOLUB-ALLOY® 860/150 ES GREASES

Product Data Sheet

High performance Molub-Alloy 860/150 ES Greases are multiservice lubricants designed to extend the service life of bearings in heavy duty applications and at elevated temperatures. These greases match the rugged service requirements associated with mills producing primary metals, chemicals, cement, glass, and paper.

The following performance characteristics were emphasized in the development of 860/150 ES Greases:

- **Antiwear & load capacity** exceeding the performance of conventional lithium and other complex greases;
- **Temperature stability** to withstand elevated and intermittently high temperatures (dropping point over 260°C/500°F);
- **Shear stability** to match the anticipated service life of precision antifriction bearings.

In addition, the 860/150 ES Greases resist the washing action of water and contain a combination of corrosion inhibitors specifically chosen to provide protection from chemically active process waters.

Molub-Alloy 860/150 ES Greases are part of Castrol Performance Lubricants' Eco-Solutions™ product offering. Formulated to address environmental concerns, they are free of lead, chlorinated solvents, barium, antimony and zinc.

DESCRIPTION

Molub-Alloy 860/150-0 ES, 860/150-1 ES, and 860/150-2 ES meet NLGI Consistency Grades No. 0, No. 1, and No. 2 respectively.

The load-carrying and antiwear capabilities of 860/150 ES Greases exceed conventional complex greases. **High performance** is the result of chemical additives working synergistically with select Molub-Alloy lubricating solids which are dispersed uniformly throughout the grease. These lubricating solids offer their greatest benefit at slow speeds or when bearings must endure heavy loads and shocks. Solids also protect newly machined bearing surfaces during the critical period of "running in." Good bearing surfaces are essential for long service life.

860/150 ES Greases can maintain a high degree of mobility in the work zone of a bearing for its anticipated service life without losing their original consistency. This critical physical property is due to the use of a highly stable, advanced lithium complex thickening system and special manufacturing techniques.

Molub-Alloy 860/150 ES Greases are formulated from premium petroleum base oils, ISO VG 150. In addition to lubricating solids, these lubricants contain a combination of corrosion inhibitors specifically chosen for protection against corrosive process waters. Still other premium components in the balanced additive package provide excellent oxidation resistance for very long service life.

TYPICAL APPLICATIONS

GENERAL - 860/150 ES Greases should be used in antifriction bearings and bushings requiring an ISO 150 viscosity oil.

This includes motor bearings and couplings. Apply 860/150-2 ES by hand packing or with a grease gun. 860/150-1 ES may be applied manually or by automatic dispensing systems. As minimum ambient temperatures approach 0°C/32°F, change to 860/150-0 ES, which pumps at temperatures down to -18°C/0°F.

PRIMARY METALS, INCLUDING STEEL - Use 860/150 ES near hot ingots, soaking pits, and reheat furnaces to lubricate pit cover carriages, mill stand screws, slipper couplings, roll bearings, manipulators and guide rolls for continuous casters.

PAPER AND FOREST PRODUCTS - In chip yards, use 860/150 ES for truck-dump and distribution conveyor head and tail roll bearings, and pillow block bearings. On paper machines use 860/150 ES for wire, felt roll and fourdrinier bearings. In the stock preparation area, use higher viscosity 860/220 ES in the "wet end" couch, suction, and press roll bearings in the paper machine.

REAPPLICATION FREQUENCY - HIGH TEMPERATURE USAGE

Molub-Alloy 860/150 ES Greases are designed to extend service life in all applications. At temperatures above 120°C, regular applications of 860/150 ES must be considered.

Please See Reverse Side for Typical Properties.

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Formerly PDS 4234 2/96

Molub-Alloy® Optimol® Tribol®

REAPPLICATION FREQUENCY (cont'd)-

Establish reapplication intervals by inspection. See NOTES - High temperatures and/or slow speeds.

Generally, for continuous service at temperatures near 177°C/350°F, weekly reapplications of 860/150 ES are suggested.

For continuous service near 204°C/400°F, reapply 860/150 ES daily or once each shift.

Molub-Alloy 860/150 ES Greases have been used above 232°C/450°F. However, frequent reapplication of grease is necessary to prevent deterioration of the petroleum base oil. **Reapply before the grease in the bearing stiffens.**

ADVANTAGES

Molub-Alloy lubricating solids permit extending the lubrication interval while providing an extra measure of antiwear protection.

Molub-Alloy 860/150 ES stays in the bearing. The grease does not thin despite prolonged shearing, nor does it melt at temperatures up to 260°C/500°F.

Molub-Alloy 860/150 ES is formulated to withstand extreme pressures and heavy shock loads.

Molub-Alloy 860/150 ES offers excellent resistance and protection from corrosion. 860/150 ES Greases pass (zero rating) the tough Emcor Rust Test (see Typical Properties below) and can provide protection from corrosive process waters.

NOTES

For higher temperatures and/or slower speeds, a heavier base oil viscosity may be desired. 860/220 ES's are available with a base oil viscosity of ISO VG 220.

Molub-Alloy 860/150 ES is not compatible with sodium or inorganic base greases.

For specific terms, conditions, warranty, and availability, refer to the Castrol Performance Lubricants' Price List in effect at time of purchase.

TYPICAL PROPERTIES

	860/150-0 ES	860/150-1 ES	860/150-2 ES
NLGI Grade	0	1	2
Thickener Type	Lithium Complex	Lithium Complex	Lithium Complex
Worked Penetration, ASTM D217, mm/10	355-385	310-340	265-295
Dropping Point, ASTM D2265, °C/°F	N/A	260+/500+	260+/500+
Base Oil Properties:			
Viscosity, ASTM D445, ASTM D2161			
@ 40°C cSt	164	164	164
@100°C, cSt	14.0	14.0	14.0
@100°F, cSt/SUS	193/894	193/894	193/894
@210°F, cSt/SUS	14.4/76	14.4/76	14.4/76
Flash Point, ASTM D92, °C/°F	232/450	232/450	232/450
Pour Point, ASTM D97, °C/°F	-15/+5	-15/+5	-15/+5
Water Washout, ASTM D1264			
@ 79°C/175°F, % loss	N/A	7.6	4.6
Rust Prevention Properties, ASTM D1743, rating	Pass	Pass	Pass
Emcor Rust Test, DIN 51802, IP 220/85	No. 0 (Pass)	No. 0 (Pass)	No. 0 (Pass)
Roll Stability, ASTM D1831, % change	3	4	5
Timken EP Test, ASTM D2509			
OK Value, kg/lbs	23/50	23/50	23/50
Four Ball EP Test, ASTM D2596:			
Load Wear Index, kg	60	60	60
Weld Load, kg	500	500	500
Molub-Alloy Solids, Grade Classification	Multipurpose	Multipurpose	Multipurpose

Subject to Usual Manufacturing Tolerances