

Product Data Sheet

DYNAGEAR



MULTI-SEASON, MULTIPURPOSE LUBRICANTS FOR OPEN GEARS

April 2009

DYNAGEAR SL and DYNAGEAR HEAVY offer the following features and benefits:

- ◆ Formulated without chlorinated or low flash hydrocarbon solvents.
- ◆ Outstanding load-carrying properties
- ◆ Builds a dark velvety lube film that is easily visible.
- ◆ Low temperature performance of Dynagear SL to allows pumping below -35°C
- ◆ Provides complete lubricant film on the dipper handle without attracting abrasive dust and debris.

Primary Applications

DYNAGEAR SL and DYNAGEAR HEAVY are highly recommended for Shovel dipper stick and racks, swing gears (circle), propel system bushings, crowd gears, sheave bearings and all undercarriage lubrication points. DYNAGEAR SL is recommended for multi-season applications with ambient temperature down to -35°C. for lower temperature requirements Imperial Oil recommends DYNAGEAR EXTRA. DYNAGEAR HEAVY is specifically designed for use in applications operating at higher ambient temperatures and those requiring greater film thickness. DYNAGEAR HEAVY can be used down to -20°C.

Performance Features

DYNAGEAR SL and DYNAGEAR HEAVY are premium multi-purpose grease base open gear lubricants formulated with high viscosity semi-synthetic base fluid that provides a tenacious lubricant film that firmly adheres to lubricated surfaces. The use of these components provide products that allow easier optimization of lubricant systems to reduce waste due to over application and improve development of the protective lubricant film.

Because the formulations are solvent free, run-off that can occur during application is significantly reduced improving safety and environmental concerns and can contribute to a reduction in lubricant consumption. Because the DYNAGEAR SL and DYNAGEAR HEAVY formulations do not contain solvent, flammability is equivalent to any other mineral-oil-based lubricant.

DYNAGEAR SL and DYNAGEAR HEAVY provides outstanding service as a multipurpose shovel lubricant formulated and have been field tested in Bucyrus, Marion and P&H shovels.

Powerful solid lubricants are used in the DYNAGEAR Products to provide excellent load carrying characteristics as measured by the industry standard 4-ball wear test.

DYNAGEAR SL and DYNAGEAR HEAVY are formulated with effective anti-rust, anti-corrosion and oxidation inhibitors.

DYNAGEAR SL and DYNAGEAR HEAVY offer exceptional water resistance preventing wear under wet conditions of rain and snow. The products can absorb moderate amounts of water with little or no affect on the NLGI penetration grade.

Base oils used in DYNAGEAR SL and DYNAGEAR HEAVY contain no asphalt virtually eliminating lubricant build-up on gears and gear tooth roots. This contributes to easier,

less time consuming clean-ups and reduces the likelihood of misalignment problems.

Precautions

DYNAGEAR SL and DYNAGEAR HEAVY are manufactured from high quality petroleum base stocks, carefully blended with selected soaps and additives. As with all of our products, good personal hygiene and careful handling should always be practiced. Avoid prolonged contact to skin, splashing into the eyes, ingestion or vapour inhalation. High-pressure injection of any grease under the skin can cause serious delayed soft tissue damage and should be treated immediately by a physician. To avoid injection injuries, inspect greasing equipment regularly for worn hoses and fittings. Keep fingers away from the nozzle and ensure the nozzle is firmly in place before discharging the grease. Please refer to the Material Safety Data Sheet for further information.

Note: This product is not controlled under Canadian WHMIS legislation.

Typical Properties

	DYNAGEAR SL	DYNAGEAR HEAVY
Operating Temp, °C	-37 to +50	-20 to +55
Min. Dispensing Temp., °C	-37	-15
Worked Pen. mm/10 @ 25°C	335	380
Dropping Pt., °C	198	193
Oil Phase Viscosity		
cSt @ 40°C	620	2000
cSt @ 100 °C	60	120
Timken OK Load, kg	25	25
4 Ball EP, kgf Weld	800	800
4 Ball Wear Scar Diameter, mm	0.6	0.5
Timken Retention (30 lbs/30 min.)	Pass	Pass
Lincoln Ventmeter		
psi @ -35°C	183	-
psi @ -30°C	0	-
psi @ -20°C	-	117
Apparent Viscosity, 20 sec. ⁻¹ shear, P	@ -30° 10,000 @ -40°C 38,000	@ 0°C 2000 @ -15°C 9000

The values shown above are representative of current production. Some are controlled by manufacturing and performance specifications while others are not. All may vary within modest ranges.