



# data sheet

## MBL Grease

### Domestic, Commercial, Marine and Industrial Applications

#### Product Information

MBL Grease is an Extreme Pressure Grease with a Lithium Complex Base. It is extremely resistant to water wash-out and has an operating range from -40°C to +280°C.

MBL Grease may be used for universal joints, suspension and steering joints, wheel bearings, electric motor bearings, hoist and conveyor bearings, axles and bushes, winches and gear boxes (where grease is specified).

There are many operators who would normally grease their machinery on a daily basis. They are now lubricating that same machinery every third or in some cases, every fourth day. **To get the full benefit from MBL Grease use it sparingly.** It has a tremendous operating range, working down below freezing and up to very high temperatures with exceptional results.

MBL Grease is being used in the commercial, industrial, earthmoving and marine fields with success, under many diverse conditions. It is extremely good where water contact is likely.

The micro-metallic particles dispersed throughout the MBL Grease are spherical in shape and act as millions of tiny ball bearings between two surfaces, greatly reducing friction.

Under high pressure application, these spherical micro-metallic particles are deformed and flattened to fill up any pits, scores or irregularities which occur in the surfaces to be lubricated. The unique properties of the micro-metallic particles provide lubrication, film strength and heat dissipation.

MBL Grease has a Lithium Complex base. It features an operating range of -40°C (-40°F) to an incredible 280°C (500°F). Most current Lithium base greases have a maximum operating temperature of 120°C (250°F), while some new Lithium Complex greases have maximums of 180°C (360°F) in a mineral oil and 230°C (430°F) in a synthetic oil. The maximum continuous operating temperature of MBL Grease is 205°C (400°F).

The extreme conditions under which MBL Grease now efficiently lubricates, range from deep freeze operation to disc brake temperatures. MBL Grease has superior oxidation stability, improved water resistance, rust and corrosion protection, high load carrying capability and nylon bearing cage compatibility.



Some grease bases may not be compatible with a Lithium Complex Grease, e.g., clay or Bentonite Grease. If possible, ensure that all previous grease is cleaned from the components to be greased and from the grease gun before using MBL Grease. This will ensure that you receive the maximum benefit from this exceptional grease.

**When greasing bearings, particularly high speed bearings, it is important not to fill the air space more than one quarter to one third full of grease to allow expansion and to allow the grease to move with the bearings for proper lubrication.**

Pro-Ma Performance Products MBL Grease represents the latest in lubrication technology reinforcing Pro-Ma Systems constant commitment to providing quality products to serve the interests of our Distributors and the retail customers.

#### Composition

The Lithium Complex soap structure with a micro metallic base lubricity matrix provides good high-temperature performance characteristics. In many conventional greases, load carrying additives normally limit high temperature performance but MBL Grease retains this feature whilst continuing to provide extreme pressure protection. MBL Grease provides dependable lubrication at low temperatures. Low temperature torque tests conducted at -40°C (-40°F) show MBL Grease to be suitable for use at temperatures at or above this level. The ability to retain a relatively soft consistency at low temperatures means that

cold weather dispensing problems are minimised. MBL Grease has extreme pressure and anti wear characteristics that enable it to serve under conditions of high loading or severe shock loading.

**Benefits of Use**

- Performs within high and low temperature operating ranges
- Resists water and water washout
- Provides oxidation stability
- Protects against rust
- Protects against extreme pressure
- Works well with high loading or severe shock loading
- Extends lubrication periods
- Prevents excessive seal swelling

**The Base Grease Used in MBL Grease has the Following Specifications:**

NLGI Grade.....	2
Soap Type.....	Lithium-complex
Texture.....	Buttery

**Base oil viscosity**

cSt at 40°C.....	148
cSt at 100°C.....	14
SUS at 100°F.....	767
SUS at 210°F.....	75
Base oil viscosity index.....	90
Dropping point C (F) (ASTM D 2265).....	280°C (500°F)

**Penetration, mm/10 (ASTM D 217)**

Unworked.....	280
Worked 60 Strokes.....	285
Worked 100,000 strokes, % change.....	+10

**Trident probe viscosity (ASTM D 3232)**

204°C (400°F), poises.....	15
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**Oil Separation (ASTM D 1742)**

24 hr at 25°C (77°F), %.....	3
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**Lubrication life (ASTM D 3336), no. 204 bearing**

10,000 rpm, 163°C (325°F), hrs.....	290
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**Oxidation stability (ASTM D 942)**

Pressure drop at 100 hr, kPa (psi).....	14(2)
Pressure drop at 500hr, kPa (psi).....	70 (10)
Roll stability (ASTM D 1831) % penetration change.....	+10

**Wheel bearing test (ASTM D 1263 modified:60-9 pack 160°C (325°F)**

leakage, g.....	1.5
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**Load carrying properties:**

Timken load (ASTM D 2509,kg (lb).....	25 (55)
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**4-Ball EP test (ASTM D 2596)**

Load wear Index, kg.....	40
Weld point, kg.....	250

**4-Ball wear test (ASTM D 2266), 40kg, 1200rpm, 75°C (167°F), 1 hr. Wear scar diameter, mm.....**

0.40
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**Ball-joint test (ASTM D 3428)**

Brine sensitivity (noise and wear).....	Pass
Torque stability.....	Pass
Water washout (ASTM D 1264), % at 80°C (175°F).....	4
Rust prevention (ASTM D 1743), ASTM rating.....	1

**Low temperature torque (ASTM D 1478), -40°C (-40°F)**

Starting, g-cm.....	13,000
Running, g-cm.....	5,000

**Mobility (U.S. Steel method)**

Flow rate at -18°C (0°F), g/sec.....	0.5
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**Rubber swell (GM method) 70hr at 100°C (210°F)**

Volume change, %.....	+12
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**Handling**

Product contains petroleum oil, copper and lead particles, **Do NOT store near heat, sparks or flame.** Wash with soap and water after contact with skin. **KEEP OUT OF REACH OF CHILDREN.** A Material Safety Sheet is available from Pro-Ma Systems.

**Warning**

Do NOT take internally. **Harmful or fatal if swallowed.** Contains copper and lead particles and hydrocarbons. If swallowed contact a doctor immediately. Wash hands after use.

**Medical Advice**

Contains petroleum oil, copper and lead particles. **If swallowed, do NOT induce vomiting.** Call physician immediately.

**Available Sizes**

450g, 2.5kg, 20kg, 60kg, and 202.5kg.



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