

NEW

Optimal Lubricants for LM Systems

THK Original Grease L Series

L100 Grease for low dust generation/high load
L500 Grease for high load ball screws



THK Original Grease

L100 Grease for Low Dust Generation/High Load



L100 grease uses a lithium-based thickener and a high-grade synthetic base oil. It is suitable for clean environments and high loads, with low dust-generating characteristics and more extreme pressure additives than past clean room greases.

[Features]

(1) Low dust generation

L100 generates as little dust as previous greases, making it an ideal grease for use in clean rooms.

(2) Extreme pressure

L100 has three times the extreme pressure resistance levels as the previous low dust-generation greases, due to the base oil and additives specifically geared for improvement in load-carrying capacity.

(3) Operating temperature range

The lubricating performance remains high over a wide range of temperatures: -40°C to +150°C.

[Representative Physical Properties]

| Item | Representative physical properties | Test method |
|---|------------------------------------|--------------|
| Consistency enhancer | Lithium-complex type | - |
| Base oil | high-grade synthetic oil | - |
| Base oil kinematic viscosity: mm ² /s (40°C) | 198 | JIS K2283 |
| Worked penetration (25°C, 60W) | 294 | JIS K2220.7 |
| Dropping point °C | 260< | JIS K2220.8 |
| Copper corrosion (B method, 100°C, 24 h) | Accepted | JIS K2220.9 |
| Evaporation amount: mass% (99°C, 22h) | 0.1 | JIS K2220.10 |
| Oil separation rate: mass% (100°C, 24h) | 0.8 | JIS K2220.11 |
| Low temperature torque: N-m (-20°C) | 94/29 (activation/rotation) | JIS K2220.18 |
| Color | Yellow | - |

[Low dust generation]

Comparable to our past low dust generation greases

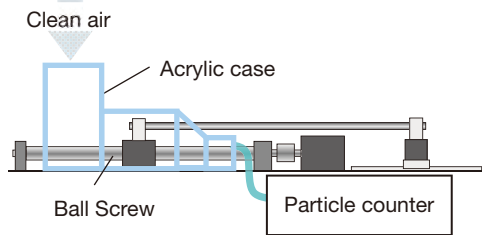
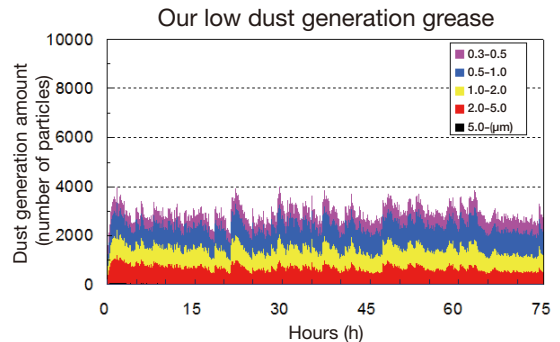
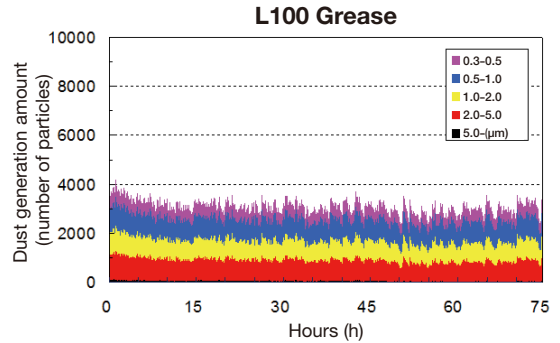


Figure 1 Test apparatus

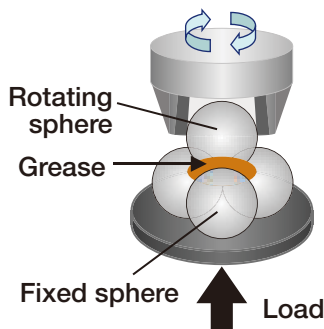
Test conditions

| Item | Description |
|-------------------------------|------------------|
| Model No. | DIK2505-6 |
| Lubrication amount | 6cm ³ |
| Sampling air amount | 0.5ℓ/min |
| Diameter of particle measured | 0.3μm or more |
| Feeding speed | 300mm/s |
| Stroke | 200mm |



[Extreme pressure]

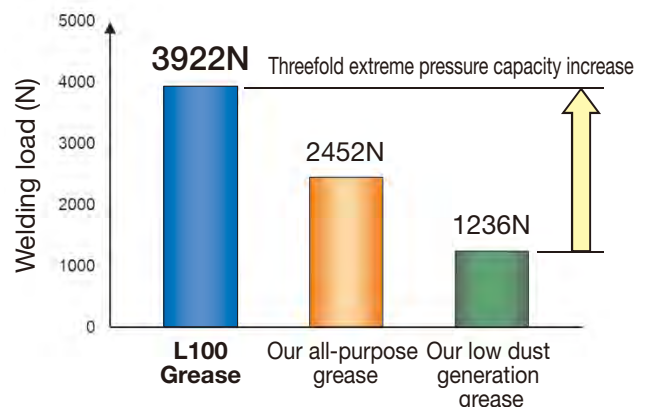
Four-ball welding load test (ASTM D2596)



Test conditions

| Item | Description |
|------------------|-----------------------|
| Test sphere | 12.7mm steel sphere |
| Rotational Speed | 1770min ⁻¹ |
| Time | 10s |

Figure 2 Test apparatus



THK Original Grease

L500 Grease for High-Load Ball Screws



L500 grease is a long-life grease with high load capacity and pumpability, using a lithium-based thickener, refined mineral oil base oil, and special additives.

[Features]

(1) Extreme pressure

L500 has high extreme pressure resistance levels due to the special additives.

(2) Long service life

Lubrication life is longer than general high-load greases. As a result, it lowers maintenance workload.

(3) Pumpability

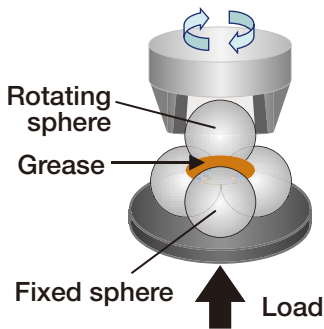
High pumpability allows for use in automatic lubrication systems.

[Representative Physical Properties]

| Item | Representative physical properties | Test method |
|---|------------------------------------|--------------|
| Consistency enhancer | Lithium-complex type | - |
| Base oil | Mineral oil | - |
| Base oil kinematic viscosity: mm ² /s (40°C) | 120 | JIS K2283 |
| Worked penetration (25°C, 60W) | 327 | JIS K2220.7 |
| Dropping point °C | 250< | JIS K2220.8 |
| Copper corrosion (B method, 100°C, 24 h) | Accepted | JIS K2220.9 |
| Evaporation amount: mass% (99°C, 22h) | 0.4 | JIS K2220.10 |
| Oil separation rate: mass% (100°C, 24h) | 2.5 | JIS K2220.11 |
| Low temperature torque: mN·m (-20°C) | 110/50 (activation/rotation) | JIS K2220.18 |
| Service Temperature Range °C | -20 to +175°C | - |
| Color | Yellow | - |

[Extreme pressure]

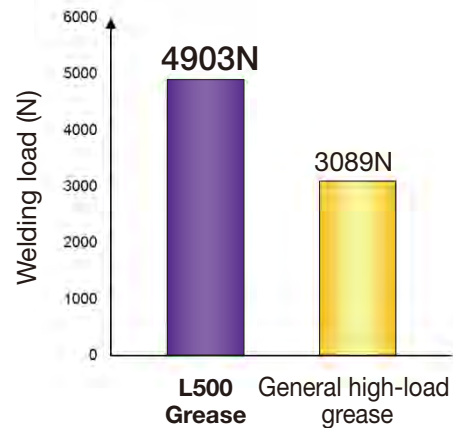
Four-ball welding load test (ASTM D2596)



Test conditions

| Item | Description |
|------------------|-----------------------|
| Test sphere | 12.7mm steel sphere |
| Rotational Speed | 1770min ⁻¹ |
| Time | 10s |

Figure 3 Test apparatus



[Long service life]

Measure the lubrication life in a ball screw

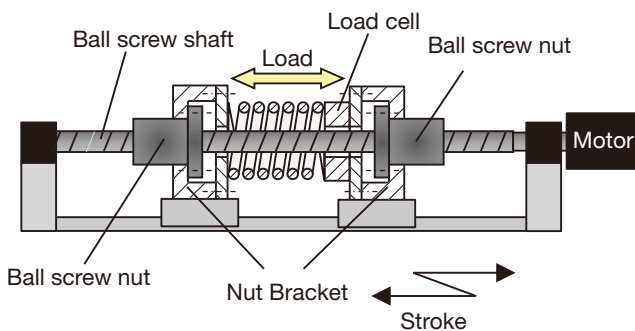
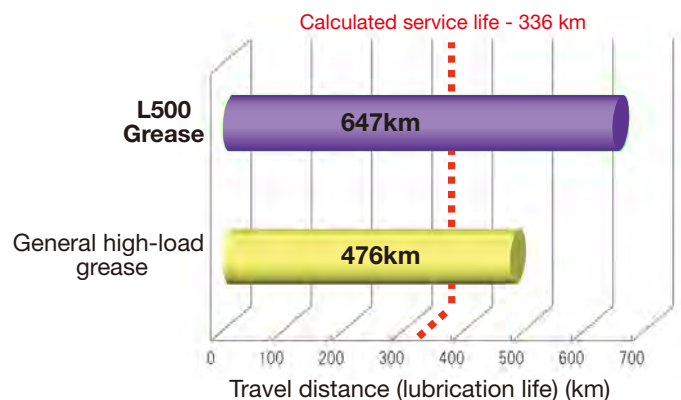


Figure 4 Test apparatus



Test conditions

| Item | Description |
|--------------------------|--|
| Tested model | HBN3210-5RR |
| Applied load | 31.9kN |
| Maximum rotational speed | 1500min ⁻¹ |
| Stroke | 300mm |
| Lubrication amount | 35cm ³ (Initial lubrication only) |

THK THK Original Grease L Series L100/L500

Model Number Coding

L100 GREASE + 80G

Cartridge capacity (80 g/400 g)
Grease type

L500 GREASE + 400G

Cartridge capacity (80 g/400 g/630 g)
Grease type

● Style of packing - Bellows cartridge

Precautions for Use

● Handling

- If the grease enters your eye or touches your skin, it may cause an injury such as inflammation, so use protective glasses and protective gloves when handling the grease.
- When applying the grease to the LM system, do not apply any different lubricants. Even lubricants containing the same type of thickening agent may, if mixed, interact in an adverse manner due to disparate additives or other ingredients.
- Lubricant viscosity can vary depending on the temperature. Please keep in mind that the LM system's sliding resistance and torque may be affected by changes in viscosity.
- Following lubrication, stirring-resistance within the lubricant can cause the LM system to exhibit increased sliding resistance and torque. Before commencing operations, make sure to run the unit through several warm-up cycles to ensure that the lubricant is adequately integrated and dispersed.
- The property of the grease deteriorates over time, which degrades the lubricity. It is necessary to inspect and apply the grease in accordance with the usage frequency.

● Emergency measure

In the following cases, take the emergency measures immediately.

- If the grease enters your eye, clean your eye with clean water for 15 minutes and get a diagnosis by a doctor.
- If the grease is attached to your skin, wipe it off well and then clean your skin with water and soap sufficiently.
- If you inspire the gas from the grease, move to a place with fresh air, cover your body with a blanket, etc. to keep your body warm, and get a diagnosis by a doctor.
- If anyone happens to eat the grease, do not make him/her throw it up forcibly but get a diagnosis by a doctor immediately.

● Storage

- Avoid direct sunlight and keep the grease away from any fire and heat sources.
- Seal the grease after taking off the seal to prevent the entry of dust, water, etc.

● Safety data sheet (SDS)

- Each THK original grease L series has its own "Safety data sheet (SDS)," so contact THK.

● The photo may differ slightly in appearance from the actual product.

● The appearance and specifications of the product are subject to change without notice. Contact THK before placing an order.

● Although great care has been taken in the production of this catalog, THK will not take any responsibility for damage resulting from typographical errors or omissions.

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