

Precision, Speed and Reliability  
in All Applications



## LUBCON® Products for Machine Tools

With the development of modern industries, the machine tool sector has evolved into a crucial part of industrial manufacturing. Due to the progressive shortening of machine cycles and the constant increase in volumes, machine speeds and accuracies, the manufacturing process has become more productive but also more complicated.

Advanced technology makes it possible to produce high performance machine tools to meet the specific requirements of modern plants. Digital automated machine tools, such as computer numerical control (CNC) systems, can execute a vast number of operations from simple to complex in a very short time whilst maintaining the highest efficiency. Large industrial machine tools usually perform functions of cutting, drilling, milling and turning. These operations utilize high rotational speed and up to 5-axes of movement whereby the machine tool head is precisely controlled down to 1 micron ( $\mu\text{m}$ ). Such a critical interaction of high speed bearings, gears in drilling and milling heads as well as high speed linear guide and drive systems require a prudent selection of high performance greases and lubrication oils to ensure maximum productivity and longevity of the machine tools. High impact loads, contamination and exposure to water soluble metal working fluids are just a few reasons for premature equipment failures.

A close cooperation with the OEM i.e. manufacturers of machine tools, spindles, roller bearings etc., allowed LUBCON to develop a unique range of lubricants specifically dedicated to applications in high speed spindle bearings, gears, linear guides, ball screws and associated components.

LUBCON lubricants provide stability during the manufacturing process and the highest machine reliability even in harsh operating conditions. This full range of premium grade lubricants, with highly refined components and processed under stringently controlled conditions, guarantees precision and high performance levels in the machine tool industry.

### Improved High Speed Spindle Performance

Complete and custom-made solutions have been specifically developed for high speed spindle bearings in machine tools. They ensure safety and accuracy even in extreme conditions where quality and precision are of vital importance in the manufacturing process! The spindles require a stable bearing operation with the lowest possible bearing friction.

To ensure steady running conditions the mechanical stability of the thickener as well as the base oil viscosity has been optimized to fulfill the bearings requirements.



## Spindle Bearings



#### Turmogrease® Li 802 EP

Long term grease including a carefully selected lithium soap thickener combined with special additives for optimum performance of high speed spindles. This bearing grease is especially suitable for high loads, high temperatures and high speed applications (up to 1 Mio. n·dm)

- ✓ very good running behavior
- ✓ high operating performance
- ✓ optimum corrosion protection
- ✓ high stability
- ✓ high load carrying capacity
- ✓ very good lubricating film stability

#### Thermoplex® 2 TML

Fully synthetic long life grease with high viscosity base oil and EP additives for high load and high operating temperatures. Suitable in high speed spindles up to 1.3 Mio. n·dm

- ✓ low self-heating tendency
- ✓ protects against friction
- ✓ high thermal resistance
- ✓ suitable for life time lubrication
- ✓ resistant to water and cooling lubricants
- ✓ stable at high or low running conditions

#### Turmogrease® Highspeed L 182 and L 252

High speed and long life spindle bearing greases for maximum speeds up to 3 Mio. n·dm. The ester/PAO based low viscosity greases with a lithium soap thickener are utilized and approved by the major OEM and bearing manufacturers in the industry.

- ✓ prevent friction and wear
- ✓ absorb radial and axial forces
- ✓ very good adhesion
- ✓ high resistance to water and cooling lubricants
- ✓ low noise
- ✓ suitable for life time lubrication

#### Turmogrease® N 503 B

Special PAO/ester bearing grease especially suitable for bearings with inner ring mounting diameter  $< d=100\text{ mm}$ .

- ✓ high speed factor up to 1.3 Mio.
- ✓ resistant to water and cooling lubricants
- ✓ low noise
- ✓ very good lubricating film stability

# LUBCON® Machine Tools

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## Drilling and Milling Heads

Gears

### Thermoplex® ALN 1001/00

Semifluid synthetic grease with a special selection of additives for best metal affinity suitable at high operating temperatures. Its special aluminum complex soap assures both optimum lubricating effect and low friction values.

- ✓ high thermal resistance
- ✓ excellent wear protection
- ✓ long service life

### Turmogrease® Highspeed L 251

Unique lithium complex soap with low friction properties and excellent corrosion protection. Its low-heat characteristics in high speed applications make it perfectly suitable for the gears of milling heads in CNC machines. It is recommended by OEM such as FPT, Group Parpas, OMV srl etc.

- ✓ low friction movement
- ✓ low dynamic viscosity
- ✓ minimal starting resistance
- ✓ high peripheral speeds in intermittent operations
- ✓ excellent acceleration

Bearings

### Turmogrease® Highspeed L 252

Fully synthetic grease with low friction and excellent high speed performance for roller bearings in terms of higher rotational speeds and accuracy.

- ✓ low friction torque
- ✓ stable temperature over a wide speed range
- ✓ energy saving

## Linear Motion

Linear Guides and Ball Screws

### Turmogrease® LC 252

Partly synthetic grease with perfectly selected additives for best protection against wear and corrosion. This adhesive high performance lubricant has low separation behavior and high resistance towards water and cooling lubricant.

- ✓ high working stability
- ✓ low dynamic viscosity
- ✓ ability for high media resistance

### Turmogrease® Highspeed L 251 and L 252

### Thermoplex® 2 TML

Fully synthetic high performance grease with high viscosity base oil and EP additives for low noise, high speeds, high temperatures and high mechanical loads.

- ✓ suitable for life time lubrication
- ✓ HIWIN high speed approval
- ✓ particularly appropriate for critical bearings in difficult environments
- ✓ long term lubrication providing reduced operating costs
- ✓ high load capability

### Thermoplex® ALN 1001 and ALN 1001/00

Synthetic lubricating greases for linear motions such as ball screws and linear guides with outstanding oxidation stability. Their excellent low friction values and cool running behavior make them perfect to achieve best machine performance.

- ✓ high degree of reliability
- ✓ smooth running
- ✓ high acceleration
- ✓ perfect for centralized automatic lubrication systems

### Turmogrease® Li 801 EP

Long term lubricant for high loads with the ability to build up a stable lubricating film for excellent corrosion protection and outstanding behavior at high and low temperatures.

- ✓ provides high degree of precision
- ✓ smooth running
- ✓ optimum worked stability
- ✓ extends life considerably
- ✓ high sealing ability

## Disc Springs and Chucks

### Turmopast® NBI 2 white

Light-coloured grease assembly paste with solid lubricants for long-term lubrication.

- ✓ prevents tribo-corrosion
- ✓ stable under static and dynamic loads

### Turmogrease® DF 30

Damping grease for improving the efficiency of disc springs, tool grippers and chucks.

- ✓ reduces noise and vibration
- ✓ prevents stick-slip

### LUBRICANT CONSULT GMBH

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