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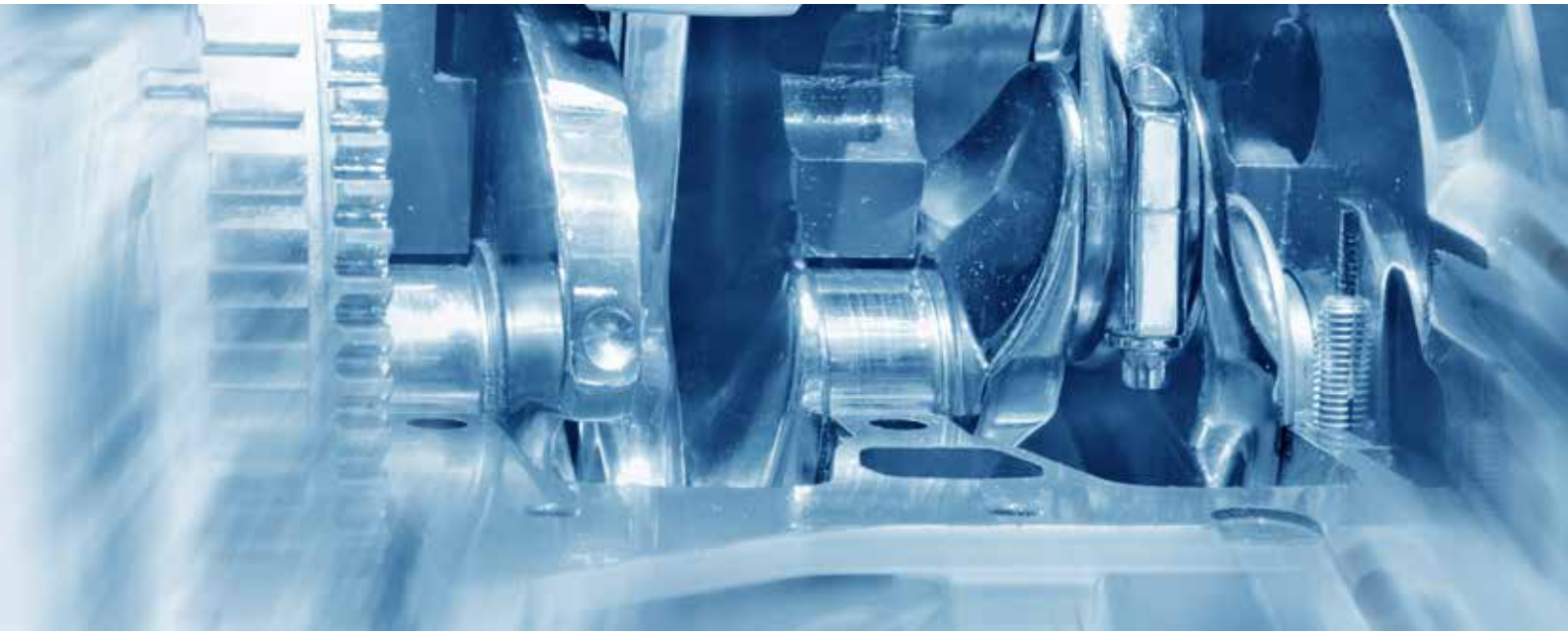
Boron Nitride Oil **HeBoLub®** for tribological solutions



HeBoLub® - an innovative high performance lubricant additive for power plant, power transmissions and other diverse equipment applications.

Used as an additive in lubricants, the extremely fine dispersion of Boron Nitride in oil has a demonstrable track record in reducing friction and wear.

HeBoLub® - for improved lubricating properties, higher thermal conductivity, higher load capability

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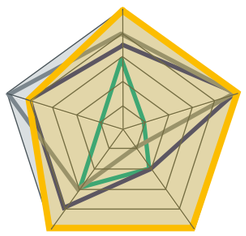
Our **HeBoLub®** product innovation is a high performance lubricant additive for the widest range of applications.

HeBoLub® finds application in high performance power transmission systems, power plant, as well as in the metal processing and metal forming industries.

The new Boron Nitride dispersion in oil comprises a mineral base oil combined with fine, crystalline hexagonal Boron Nitride particles. Even small quantities of **HeBoLub®** improve the performance of lubricants and as a result contribute to reducing wear.

The incorporation of Boron Nitride, a solid lubricant, in **HeBoLub®** sets new standards in performance, productivity and economy.

The effectiveness of **HeBoLub®** is particularly evident in highly demanding boundary lubrication conditions, especially when high temperatures, high loads and low frictional speeds are in evidence.



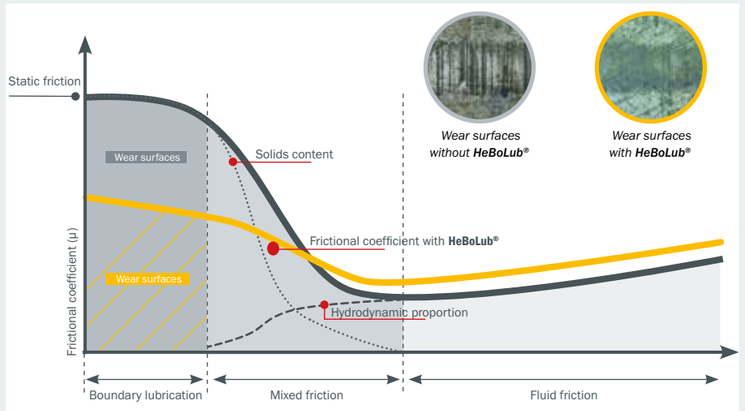
HeBoLub® reduces wear

Without HeBoLub®

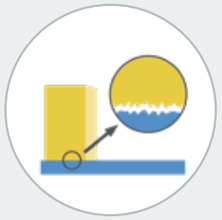
Wear increases as no effective lubricating film is formed on the surface roughness peaks on the mating surfaces.

With HeBoLub®

***HeBoLub®** - forms a separating protective layer to help prevent wear. This protective layer is particularly effective in boundary lubrication conditions under high loads or low frictional speeds.*



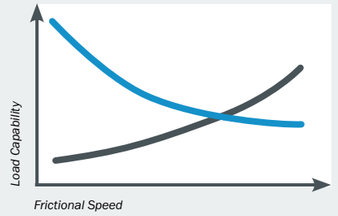
Stribeck-Curve in relation to lubricating parameters
Result of a tribological experiment using a cross cylinder tester (XCT) at the Kompetenzzentrums Tribologie, Hochschule Mannheim



- **HeBoLub®** effectively stabilises frictional effects over the full spectrum. Extremes are smoothed out and wear is reduced as a result of consistent lubrication.

HeBoLub® significantly increases the load capability

- The increase in load capability ensures a constant lubricant film even in critical conditions, specifically at low frictional speeds.

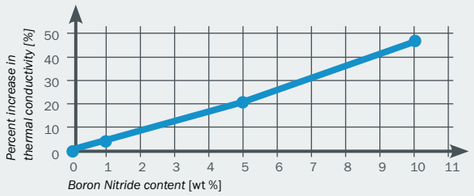


HeBoLub® smoothes in long service life conditions

- Small Boron Nitride particles settle in the scored mating surfaces to smooth the surface. This reduces the coefficient of friction, thus reducing wear, resulting in smoother running.
- This repair effect is particularly noticeable with rough surfaces in demanding applications.
- The effectiveness of the repair ultimately depends on the Boron Nitride particle size as well as the surface roughness

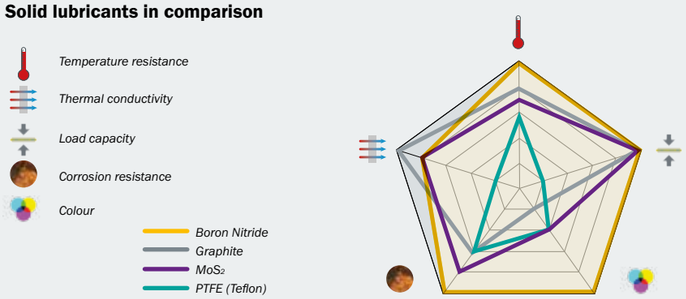
HeBoLub® increases thermal conductivity

- **HeBoLub®** contains finely dispersed Boron Nitride particles which build heat dispersion paths to improve the thermal conductivity of the lubricant.



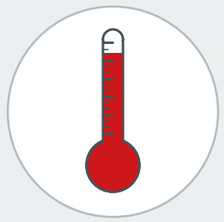
Measured results of the thermal conductivity of HeBoLub® by "flucon fluid control GmbH"

Solid lubricants in comparison



HeBoLub® improves the temperature resistance

- Boron Nitride exhibits a particularly high temperature resistance. It is stable up to 900 °C under Oxygen and to temperatures in excess of 2,000 °C in inert conditions or under vacuum – setting new performance standards in comparison with other solid lubricants such as PTFE (Teflon), MoS2 or Graphite.



HeBoLub® Benefits

High Performance
The increase in load capability is directly attributable to the solid lubricant content. The dry lubricant film and its lubricity remain constant even under high loads. Surface roughness peaks remain protected. **HeBoLub®** exhibits good creep and wetting properties.

Economy
Fuel and energy consumption are reduced as a result of a reduction in friction. This has a very positive impact on efficiency and economy.
The use of **HeBoLub®** increases the Long-Life-Cycle of components due to the critical wear resistance layer that is formed on the mating surfaces.

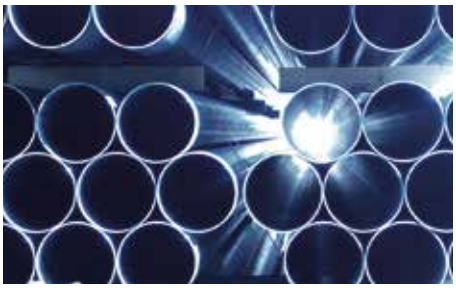
Productivity
HeBoLub® is easy to use and easily dispersed. It offers high compatibility and optimises the productivity of production processes.

Safe in use
HeBoLub® is physiologically inert and compatible with seals and other rubber based components. The effectiveness of the Boron Nitride particles is retained even under extreme conditions as well as at high service temperatures.

HeBoLub® for various applications and industries

Power plant

Chain drives and conveyors



Metal processing and forming

High performance power transmissions

Technical Data

	HeBoLub® 030		HeBoLub® 010	
Colour	Beige		Beige	
Solids content (BN)	30 % highly dispersive		10 % highly dispersive	
Density at 25 °C	1.06 g/cm³		0.91 g/cm³	
Flash point	220 °C		220 °C	
Packing Units	1 kg	screw cap tin	1 kg	screw cap tin
	12 kg	hobbock	12 kg	hobbock
	200 kg	steel drum	180 kg	steel drum
Storage and Safety	see safety data sheet		see safety data sheet	

For any further information about our products or their applications please contact our product specialists or your local distributor.

Henze

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