Klüberlub BE 41-1501

Lead-free heavy-duty grease for low-speed Rolling bearings subject to high loads

Description

This heavy-duty grease consists of a highly viscous mineral hydro carbon oil (ISO VG 1500), special lithium soap and particularly effective EP/AW additives. It also contains solid lubricants (MoS_2 and graphite) to ensure reliable operation under starved lubrication conditions.

Klüberlub BE 41-1501 is resistant to ageing and protects reliably against corrosion.

Application

Klüberlub BE 41-1501 was especially developed for large low-speed rolling bearings subject to high loads.

It is typically applied to lubricate the Bearings of rollers (spherical roller bearings) in roller presses, bowl mill and rotary crushers in the base material industry.

The operating conditions of the roller bearings, i.e.

- low speed, n = 10-30 rpm
- high load, P/C = 0,25 - 0,50
- bearing temperature approx. 50-70 °C
- shock and vibration loads

require a heavy-duty grease with a high base oil viscosity and excellent antiwear properties, such as a grease like Klüberlub BE 41-1501.

This grease is also suitable fort he lubrication of pivoting bearings and plain bearings.

Application notes

The ambient temperature should be ≥ 15 °C when Klüberlub BE 41-1501 is applied with an automatic greasing pump.

Minimum shelf life

The minimum shelf life is approx. 36 months if the product is stored in its unopened original container in a dry place.

Pack size

25	kg	bucket
180	kg	barrel

Current material safety data sheets can be downloaded from our website www.klueber.com or requested from Klüber Lubrication.

Klüberlub BE 41-1501

- heavy-duty grease
- high base oil viscosity (ISO VG 1500)
- excellent wear protection
- contains solid lubricant for emergency operation
- free from lead and chlorine

Behaviour towards elastomers and plastics

Generally, plastics and elastomers that are resistant to mineral hydrocarbon Oils also offer adequate resistance to Klüberlub BE 41-1501. For safety reasons, however, we recommend conducting a resistance test prior to series application.

Compatibility with elastomers 100 °C; 168 h	Change in volume %	Change in hardness Shore A, approx.
72 NBR 902	< 10	-5

Antiwear behaviour

500 h test on the FAG-FE-8 rolling bearing test rig

1 test run **2 angular contact ball bearings** 7312 TP F_a = 80 kN, P/C = 0,54, n = 7,5 rpm Steady-state temperature, °C Friction moment, Nm Rolling element wear (V_{50}), mg	 36,4* 19,7* 2**
2 test runs **4 tapered roller bearings** 31312 A, F_a = 50 kN, P/C = 0,24, n = 75 rpm Steady-state temperature, °C Friction moment, Nm Rolling element wear (V_{50}), mg	 46* 15,5* 18**

* Average values
** **Requirement of FAG/Schweinfurt "heavy-duty grease": ≤ 35 mg**

Summary of FAG test results *(excerpt):*

"From the test results it can be concluded that Klüberlub BE 41-1501 meets the requirements for FAG grease category LG12. This means that it is suitable for application in low-speed rolling bearings subject to very high loads and shocks (in case of point and linear contacts) used, for example, in roller presses and bowl mill crushers."

Klüberlub BE 41-1501

Lead-free heavy-duty grease for low-speed
Rolling bearings subject to high loads

Product data

Service temperature range*, °C, approx. (based on DIN 51 825, DIN 51 821/2)	-10 to 150
FAG-FE9-test run, based on DIN 51 821/2 n = 3000 rpm, F_a = 1500 N L_{50} – operating time, h/°C	 115 / 150
Flow pressure, DIN 51 805 at -10 °C, mbar	< 1400
Colour	black-grey
Texture	homogeneous, fibred
Density, DIN 51 757 at 20 °C, g/cm^3, approx.	0,92
Base oil viscosity, DIN 51 561 at 40 °C, mm^2/s, approx. at 100 °C, mm^2/s, approx.	 1500 60
Drop point, DIN ISO 2176, °C	> 180
Speed factor** (n x dm), mm x min^{-1}, approx.	100 000
Worked penetration, DIN ISO 2137 (ASTM-D 217), at 25 °C; 0,1 mm	 310 to 340
Consistency class , DIN 51 818, NLGI	1
Corrosion behaviour (Emcor test), DIN 51 802, 1 week, distilled Water, rating	 0/1
Four ball tester, welding force DIN 51 350/4, N	≥ 4000

* Service temperatures are guide values which depend on the lubricant's composition, the intended use and the application method. Lubricants change their consistency, apparent dynamic viscosity or viscosity depending on the mechano-dynamical loads, time, pressure and temperature. These changes in product characteristics may affect the function of a component.

** Speed factors are guide values which depend on the type and size of the rolling bearing type and the local operating conditions, which is why they have to be confirmed in tests carried out by the user in each individual case.

Klüber Lubrication München KG
Geisenhausenerstraße 7, 81379 München, Deutschland
☎ +49 89 7876-0, Telefax +49 89 7876-333, www.klueber.com