Klüberlub BE 41- 542

Heavy-duty grease for high-load rolling bearings

Benefits for your application

- **Heavy-duty grease**
- **For highly loaded rolling bearings**

Description

Klüberlub BE 41-542 is a heavy-duty lubricating grease ("extreme-pressure grease") based on highly viscous mineral oil, special lithium soap, EP/AW, anti-oxidant and anticorrosion additives.

Performance characteristics:

- Highly loadable lubricant film
- Excellent wear protection
- Good water resistance
- Service temperatures up to 140°C
- Excellent adhesion

Application

Typical Klüberlub BE 41-542 applications are in high-load rolling bearings operating at low to medium speeds such as for

- load rollers in rotary kilns for the cement industry,
- crane wheels,
- bucket wheel excavators,
- hammer crushers, hammer mills,
- work rolls in hot strip mills,
- cold pilger rolling mills, and
- rolling bearings subject to shock or pulsating stress.

Application notes

The ambient temperature should be ≥ 15 °C when applying the product with an automatic grease pump.

Anti-wear effect

500 h test on the FAG FE8 rolling bearing grease test rig.

Material safety data sheets

Material safety data sheets can be requested via our website www.klueber.com. You may also obtain them through your contact person at Klüber Lubrication.

Pack sizes	Klüberlub BE 41- 542
Bucket 25 kg	+
Drum 180 kg	+

Product data	Klüberlub BE 41- 542
Article number	020269
Chemical composition, thickener	special lithium soap
Chemical composition, type of oil	mineral oil
Lower service temperature	-20 °C / -4 °F
Upper service temperature	140 °C / 284 °F
Colour space	brown
Texture	homogeneous
Density at 20 °C	approx. 0.93 g/cm³

Klüberlub BE 41- 542

Heavy-duty grease for high-load rolling bearings

Product data	Klüberlub BE 41- 542
Worked penetration, DIN ISO 2137, 25 °C, lower limit value	265 x 0.1 mm
Worked penetration, DIN ISO 2137, 25 °C, upper limit value	295 x 0.1 mm
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 40 °C	approx. 540 mm²/s
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 100 °C	approx. 28 mm²/s
NLGI grade, DIN 51818	2
Speed factor (n x dm)	approx. 500 000 mm/min
Flow pressure of lubricating greases, DIN 51805, test temperature: -20 °C	<= 1 400 mbar
Corrosion inhibiting properties of lubricating greases, DIN 51802, (SKF-EMCOR), test duration: 1 week, distilled water	<= 1 corrosion degree
Testing of lubricating greases on FAG FE9 rolling bearing tester, DIN 51821 pt. 02, speed: 6000 min-1, axial load: 1500 N, temperature: 140 °C, service life F50:	>= 100 h
Drop point, DIN ISO 2176	>= 230 °C
Four-ball tester, welding load, DIN 51350 pt. 04	>= 3 000 N
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	36 months
Water resistance, DIN 51807 pt. 01, 3 h/90 °C, rating	<= 1 - 90

Tapered roller bearings

31312 A, Fa = 50 kN, P/C = 0.24, n = 75 min^{-1}	
Steady-state temperature, °C	39.5*
Friction moment, Nm	10.5*
Rolling element wear (V50), mg	22**
Cage wear (V50), mg	42**

* Average
** FAG/Schweinfurt requirement for a “heavy-duty grease”: ≤ 100 mg

Compatibility with elastomers and plastics

The following elastomer types were tested for 168 h at 100 or 140 °C to check their resistance to Klüberlub BE 41-542. **We recommend checking the resistance of all materials in contact with the lubricant, especially prior to series applications** (our test results were obtained with random samples. They are no substitute for your own compatibility tests).

Material Test period/temperature	72 NBR 902 168 h/100°C	70 ACM 370 168h/140°C	75 FPM 585 168h/140°C
Change in volume (%)	8	10	2
Change in hardness (SHA)	-4	-6	4
Tensile strength (%)	-11	-26	-40
Elongation at tear (%)	-1	-4	-54

Product information

Klüberlub BE 41- 542

Heavy-duty grease for high-load rolling bearings

Klüber Lubrication – your global specialist

Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 80 years.

**Klüber Lubrication München SE & Co. KG /
Geisenhausenerstraße 7 / 81379 München / Germany /
phone +49 89 7876-0 / fax +49 89 7876-333.**