

# Klübersynth HBE 94-401

Synthetic heavy-duty grease for long-term lubrication



## Benefits for your application

- **Extended component life due to:**
  - very good wear protection,
  - excellent corrosion protection
  - excellent water resistance
- **Reduced maintenance costs due to extended relubrication intervals or lifetime lubrication, even at elevated temperatures due to synthetic grease technology**

## Description

As a manufacturer or operator of modern installations operating at high temperature, you need to protect components subject to high loads and with a high percentage of sliding friction reliably against wear and corrosion, even when they are not relubricated continuously (e.g. sealed rolling bearings). With Klübersynth HBE 94-401 we offer you a lubricating grease based on high-quality synthetic base oil and a special calcium complex soap thickener. This combination enables the formation of a lubricating film with high resistance to mechanical loads providing excellent wear protection. Moreover, Klübersynth HBE 94-401 is resistant to water and has a good sealing effect due to the special thickener component used. Are your components subject to strong oscillations? With its very good antiwear properties, Klübersynth HBE 94-401 meets this challenge too.

- support roller bearings in pickling and tin plating
- plain bearings of forging presses

Due to its excellent wear resistance this lubricating grease can also be used for roller bearings in wood pellet presses.

## Application notes

Klübersynth HBE 94-401 can be applied by means of spatula, grease gun or centralised lubricating systems. Ideally, all lubrication points should be cleaned and old grease be removed prior to the application of Klübersynth HBE 94-401.

If the friction points cannot be cleaned for technical reasons, we recommend replacing the existing grease by more frequent relubrication in the initial phase after changeover. For further application-related details, please contact our experts.

## Application

Klübersynth HBE 94-401 can be used for all sealed, highly loaded rolling and plain bearings at high temperatures, e.g. in the steel industry.

This special lubricating grease meets the complex requirements of your for-life lubricated components, e.g. in

- support rollers in continuous casting installations
- conveyor roller bearings in continuous furnaces

## Material safety data sheets

Material safety data sheets can be requested via our website [www.klueber.com](http://www.klueber.com). You may also obtain them through your contact person at Klüber Lubrication.

Pack sizes	Klübersynth HBE 94-401
Bucket 25 kg	+
Drum 180 kg	+

# Klübersynth HBE 94-401

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Product data	Klübersynth HBE 94-401
Chemical composition, type of oil	synthetic hydrocarbon oil
Chemical composition, thickener	calcium complex soap
Article number	004295
Lower service temperature	-40 °C / -40 °F
Upper service temperature	160 °C / 320 °F
Colour space	brown
Texture	long-fibred
Texture	homogeneous
Density at 20 °C	approx. 0.93 g/cm <sup>3</sup>
Worked penetration, DIN ISO 2137, 25 °C, lower limit value	290 x 0.1 mm
Worked penetration, DIN ISO 2137, 25 °C, upper limit value	320 x 0.1 mm
Shear viscosity at 25 °C, shear rate 300 s <sup>-1</sup> , equipment: rotational viscometer, lower limit value	4 000 mPas
Shear viscosity at 25°C, shear rate 300 s <sup>-1</sup> , equipment:rotational viscometer, upper limit value	8 000 mPas
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 40 °C	approx. 400 mm <sup>2</sup> /s
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 100 °C	approx. 40 mm <sup>2</sup> /s
Corrosion inhibiting properties of lubricating greases, DIN 51802, (SKF-EMCOR), test duration: 1 week, distilled water	<= corrosion degree
Oil separation, DIN 51817 N, after 7 d/40 °C	<= 3 % by weight
Flow pressure of lubricating greases, DIN 51805, test temperature: -40 °C	<= 1 400 mbar
Drop point, DIN ISO 2176	>= 230 °C
Four-ball tester, welding load, DIN 51350 pt. 04	>= 2 800 N
Water resistance, DIN 51807 pt. 01, 3 h/90 °C, rating	0 - 90
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	24 months





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## 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.

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The data in this document is based on our general experience and knowledge at the time of publication and is intended to give information of possible applications to a reader with technical experience. It constitutes neither an assurance of product properties nor does it release the user from the obligation of performing preliminary field tests with the product selected for a specific application. All data are guide values which depend on the lubricant's composition, the intended use and the application method. The technical values of lubricants change depending on the mechanical, dynamical, chemical and thermal loads, time and pressure. These changes may affect the function of a component. We recommend contacting us to discuss your specific application. If possible we will be pleased to provide a sample for testing on request. Klüber products are continually improved. Therefore, Klüber Lubrication reserves the right to change all the technical data in this document at any time without notice.

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