

# Klübertemp HB 53-391/392

High-temperature and long-term greases for rolling bearings subject to high temperatures in Siempelkamp ContiRoll presses



## Description

Klübertemp HB 53-391 and Klübertemp HB 53-392 are synthetic long-term greases for high temperatures up to 260 °C. Klübertemp HB 53 greases offer good corrosion protection and excellent wear protection. They are neutral towards a large number of materials (metals, duroplastics, thermoplastics, elastomers). Owing to the many different elastomer and plastic compositions their compatibility has to be checked prior to series applications.

## Application

Klübertemp HB 53-391 and Klübertemp HB 53-392 were especially developed for the lubrication of rolling bearings subject to high thermal stress in Siempelkamp ContiRoll presses.

During their development, these products were continuously tested on roller test rigs and subjected to real-life tests in ContiRoll presses. Consequently, they were approved by the company Siempelkamp of Krefeld/Germany.

For the initial lubrication in the plant Klübertemp HB 53-391 is currently used exclusively. For existing presses, operators and Siempelkamp should cooperate in switching over to Klübertemp HB 53-391 or Klübertemp HB 53-392. Siempelkamp will provide detailed instructions on switchover tailored to the individual plants and machines.

## Application notes

Klübertemp HB 53-391 and Klübertemp HB 53-392 can be applied by means of grease metering units or automatic small-quantity metering devices as are used for Siempelkamp ContiRoll presses.

Optimum lubrication is achieved if the friction points are cleaned with white spirit 180/210 prior to the first

application of Klübertemp HB 53-391 or HB 53-392. The friction points have to be bright and free of contamination. To remove lubricants based on perfluorinated polyether oil, such as Klübertemp HB 53-..., use Klüberalfa XZ 3-1.

Klübertemp HB 53-391 and HB 53-392 can be mixed with lubricants having the same type of base oil.

## Minimum shelf life

The minimum shelf life is approx. 60 months if the product is stored in the original closed container in a dry place.

## Klübertemp HB 53-391/392

- Long-term lubricating grease for high temperatures up to 260 °C
- Good corrosion protection
- Almost neutral towards many materials
- Excellent wear protection
- Especially developed for rolling bearings subject to high temperatures in Siempelkamp ContiRoll presses

## Pack sizes

10 kg bucket  
45 kg bucket

## Product data

	Klübertemp HB 53-391	Klübertemp HB 53-392
Service temperature range*, °C	-20 to 260	
Base oil / thickener	Perfluorinated polyether oil / PTFE	
Flow pressure, DIN 51805, -20 °C, mbar	≤ 1400	
Colour	white	
Density at 20 °C, g/cm <sup>3</sup> , approx.	1.95	
Base oil viscosity, DIN 51562 pt. 01 at 40 °C, mm <sup>2</sup> /s, approx.	390 to 450	
at 100 °C, mm <sup>2</sup> /s, approx.	35 to 45	
Drop point, DIN ISO 2176	not measurable	
Apparent dynamic viscosity, Klüber viscosity grade **	M	
Worked penetration, DIN ISO 2137, 25 °C, 0.1 mm	330 to 350	280 to 310

\* 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.

Klübertemp HB 53-391 and 392 are non-toxic within the specified temperature range. At temperatures above 280 °C, chemical transformation may cause toxic vapours. When in contact with certain materials (e.g. titanium, aluminium and their alloys), decomposition temperatures may be lower. Sufficient ventilation should be ensured in these cases.

\*\*Klüber viscosity grades: EL = extra light lubricating grease; L = light lubricating grease; M = medium lubricating grease; S = heavy lubricating grease; ES = extra heavy lubricating grease

# Klübertemp HB 53-391/392

## Safety Data Sheet

<b>1.1 Product name:</b> Klübertemp HB a) 53-391, b) 53-392 <b>Code-No.:</b> a) 090 096, b) 090 095 <b>13.09.2001</b>
<b>1.2</b> Klüber Lubrication München KG Geisenhausenerstraße 7 D-81379 München Tel. ++49 - 89 78 76 - 0 telephone exchange Fax: ++49 - 89 78 76 - 333 <b>Emergency telephone no.:</b> <b>++49 - 89 7876 - 0</b>
<b>2. Composition / information on ingredients</b> Chemical characterization (preparation): Fluorinated polyether oil, PTFE
<b>3. Hazards identification</b> No particular hazards known
<b>4. First aid measures</b> After inhalation: Not applicable After contact with skin: Wash off with soap and plenty of water After contact with eyes: Rinse with plenty of water After ingestion: Do not induce vomiting. Obtain medical attention Advice to doctor: Treat symptomatically
<b>5. Fire-fighting measures</b> Suitable extinguishing media: The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment Special Hazards: In case of fire the following can be released: Traces of fluorinated products Special protective equipment for firefighters: Standard procedure for chemical fires Additional information: Water mist may be used to cool closed containers. In the event of fire and/or explosion do not breathe fumes
<b>6. Accidental release measures</b> Personal precautions: Not required Environmental precautions: Do not flush into surface water or sanitary sewer system Methods for cleaning up / taking up: Use mechanical handling equipment. Dispose of absorbed material in accordance with the regulations Additional information: None
<b>7. Handling and storage</b> Advice on safe handling: No special handling advice required Advice on protection against fire and explosion: No special precautions required Requirements on storage rooms and vessels: Store at room temperature in the original container Incompatible materials: Do not store together with food Further information on storage conditions: None
<b>8. Exposure controls / personal protection</b> Additional advice on system design: Not applicable Ingredients and specific control parameters: None Respiratory protection: No special protective equipment required Hand protection: No special protective equipment required Eye protection: No special protective equipment required Body protection: No special protective equipment required Other protection measures: No special protective equipment required General protection and hygiene measures: Avoid prolonged and/or repeated contact with skin. Remove soiled or soaked clothing immediately. Clean skin thoroughly after work; apply skin cream. Keep away from tobacco products

<b>9. Physical and chemical properties</b> Form: paste Colour: white Odour: none Drop point: not melting, DIN ISO 2176 Flash point: none (base oil) Ignition temperature: not applicable Lower explosion limit: not applicable Upper explosion limit: not applicable Vapour pressure-first: not applicable Density: approx. 1.95 g/cm <sup>3</sup> , 20 °C Water solubility: a) insoluble, b) dispersible pH value: not applicable Kinematic viscosity: not applicable Further information: none
<b>10. Stability and reactivity</b> Conditions to avoid: None Materials to avoid: Strong bases, alkali metals, alkaline earth metals, Lewis acids Hazardous decomposition products: > 260 °C traces of fluorinated products Additional information: Some materials (e.g. titanium, aluminium or alloys of these materials) may cause lower decomposition
<b>11. Toxicological information</b> The toxicological data has been taken from products of similar composition Acute toxicity: LD <sub>50</sub> /oral/rat = > 2 g/kg (literature data) Chronic toxicity: None Human experience: Prolonged skin contact may cause skin irritation and/or dermatitis
<b>12. Ecological information</b> Information on elimination (persistence and degradability): Product is insoluble in water. May be separated out mechanically in purification plants Behaviour in environmental compartments: Ecological injuries are not known or expected under normal use Ecotoxic effects: Aquatic toxicity is unlikely due to low solubility Additional information: Should not be released into the environment
<b>13. Advice on Disposal</b> Code of waste: 120 112, Wastes from shaping and surface treatment of metals and plastics; wastes from shaping (including forging, welding, pressing, drawing, turning, cutting and filling); spent waxes and fats Disposal: The code of waste has to correspond to the Council Directive 75/442/EEC and be specific as far as the related sector and process are concerned. Can be incinerated when in compliance with local, state and federal regulations. Contains halogene Dispose of contaminated packaging and recommended cleaning: Offer rinsed packaging material to local recycling facilities
<b>14. Transport information</b> GGVS / GGVE: not applicable ADN / ADN: not applicable IMDG-Code: not applicable ICAO / IATA-DGR: not applicable Further information: Not classified as dangerous in the meaning of transport regulations
<b>15. Regulatory information</b> Labelling according to EU-guidelines: The product does not require a hazard warning label in accordance with EC-directives/German regulations on dangerous substances National regulations
<b>16. Other information</b> Issue-department of Safety Data Sheet: Chemical Documentation, Tel.: ++49 - 89 7876 - 564

The data in this product information is based on our general experience and knowledge at the time of printing 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 tests with the selected product. We recommend contacting our Technical Consulting Staff to discuss your specific application. If required and possible we will be pleased to provide a sample for testing. Klüber products are continually improved. Therefore, Klüber Lubrication reserves the right to change all the technical data in this product information at any time without notice.



Klüber Lubrication München KG, a member of the Freudenberg group