Klüberpaste UH1 96-402

Light-coloured high-temperature paste for the food-processing and pharmaceutical industries

Benefits for your application

- **Reliable dry lubrication at temperatures from 200 °C to 1200 °C**
- **Good adhesion to the friction point, also when subject to humidity**
- **ISO 21469 certified – supports the compliance with the hygienic requirements in your production. You will find further information about ISO Standard 21469 on our website www.klueber.com**

Description

Klüberpaste UH1 96-402 is a high-temperature paste designed for versatile assembly purposes in hygienically sensitive environments. It contains fully synthetic base oils and a special blend of ceramic solid lubricants.

Across the “normal” temperature range up to approx. 160 °C, Klüberpaste UH1 96-402 is a water-resistant lubricating and assembly paste providing good adhesion on metals.

Under permanently higher temperatures up to 1200 °C, its solid lubricating particles provide protection against tribocorrosion or fretting corrosion.

Klüberpaste UH1 96-402 is NSF H1 registered and therefore complies with FDA 21 CFR § 178.3570. The lubricant was developed for incidental contact with products and packaging materials in the food-processing, cosmetics, pharmaceutical or animal feed industries. The use of Klüberpaste UH1 96-402 can contribute to increase reliability of your production processes. We nevertheless recommend conducting an additional risk analysis, e.g. HACCP.

Application

Klüberpaste UH1 96-402 is suitable for a variety of friction points in food-processing and pharmaceutical machines which are subject to high loads

- as an assembly paste for transition and loose fits to prevent fretting corrosion
- as a paste for screw connections based on high-alloy steels to optimise the tightening torque and demounting, even after long operating periods
- as a long-term lubricant for low-speed guide rails, hinges, rollers, etc.

Application notes

Before applying KlüberpasteUH1 96-402 it is important to clean and degrease the contact surfaces thoroughly. A thin layer of the paste is then applied by brush, leather cloth or synthetic sponge. Klüberpaste UH1 96-402 spreads easily over the entire surface, facilitating easy processing. We recommend carrying out compatibility tests before applying the paste to plastic materials. Equipment manufacturers and operators should therefore conduct risk analyses prior to such applications. Measures to exclude health or injury risks are to be undertaken if necessary.

Opened packs must be thoroughly closed again after use to protect the paste from contamination.

The friction values indicated on page 2 in the Section Product Data were determined with two different materials. Other materials/surfaces have to be checked accordingly.

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	Klüberpaste UH1 96-402
Cartridge 600 g	+
Can 750 g	+
Polyethylen pail (HDPE) 30 kg	+

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Product data	Klüberpaste UH1 96-402
Article number	005116
NSF-H1 registration	056 338
Lower service temperature	-30 °C / -22 °F
Upper service temperature	1200 °C / 2192 °F
Colour	hellgrau
NLGI grade, DIN 51818	2
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 40 °C	approx. 360 mm²/s
Kinematic viscosity of the base oil, DIN 51562 pt. 01/ASTM D-445/ASTM D 7042, 100 °C	approx. 57 mm²/s
Corrosion inhibiting properties of lubricating greases, DIN 51802, (SKF-EMCOR), test duration: 1 week, distilled water	<= 1 corrosion degree
Four-ball tester, welding load, DIN 51350 pt. 04	>= 2 600 N
Friction coefficient screw test, measured with hexagon bolts M10x30-8.8, DIN EN ISO 4017, tightening speed n = 5 rpm, number of screws = 20, nut M10-8, plain and degreased, face material 42CrMo4 with roughness Ra 1.6, tightening torque MA = 50 Nm, averaged bearing surface friction coefficient (initial tightening)	approx. 0.13
Friction coefficient screw test, measured with hexagon bolts M10x30-8.8, DIN EN ISO 4017, tightening speed n = 5 rpm, number of screws = 20, nut M10-8, plain and degreased, face material 42CrMo4 with roughness Ra 1.6, tightening torque MA = 50 Nm, standard deviation (S) of averaged bearing surface friction coefficient (initial tightening)	approx. 0.018
Friction coefficients screw test, screw M 10x30-8.8, DIN EN ISO 4017, black and nut M 10-8, DIN EN ISO 4032, polished, averaged thread friction coefficient (first-time tightening)	approx. 0.11
Friction coefficient screw test, Measured with hexagon bolts M10x30-8.8, DIN EN ISO 4017, tightening speed n = 5 rpm, number of screws = 20, nut M10-8, plain and degreased, face material 42CrMo4 with roughness Ra 1.6, tightening torque MA = 50 Nm, standard deviation (S) of averaged thread friction coefficient (initial tightening)	approx. 0.009
Friction coefficient screw test, measured with hexagon bolts M10x50-A2-70, DIN EN ISO 4017, tightening speed n = 5 rpm, number of screws = 20, material of the nut A2, face material 42CrMo4 with roughness Ra 1.6, tightening torque MA = 40 Nm, averaged thread friction coefficient (initial tightening)	approx. 0.11
Friction coefficient screw test, measured with hexagon bolts M10x50-A2-70, DIN EN ISO 4017, tightening speed n = 5 rpm, number of screws = 20, material of the nut A2, face material 42CrMo4 with roughness Ra 1.6, tightening torque MA = 40 Nm, averaged bearing surface friction coefficient (initial tightening)	approx. 0.12
Friction coefficient screw test, measured with hexagon bolts M10x50-A2-70, DIN EN ISO 4017, tightening speed n = 5 rpm, number of screws = 20, material of the nut A2, face material 42CrMo4 with roughness Ra 1.6, tightening torque MA = 40 Nm, standard deviation (S) of averaged bearing surface friction coefficient (initial tightening)	approx. 0.01
Friction coefficient screw test, measured with hexagon bolts M10x50-A2-70, DIN EN ISO 4017, tightening speed n = 5 rpm, number of screws = 20, material of the nut A2, face material 42CrMo4 with roughness Ra 1.6, tightening torque MA = 40 Nm, standard deviation (S) of averaged thread friction coefficient (initial tightening)	approx. 0.019
Water resistance, DIN 51807 pt. 01, 3 h/90 °C, rating	<= 1 - 90
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	24 months

Product information

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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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