

Klüberplus SK 12-205

Lubricating Wax Emulsion for Screws, Nuts and Bolts



Benefits for your application

- **Low friction coefficient with very low dispersion**
- **Transparent, “dry-to-touch” lubricant film**
- **Water miscible**
- **Free from solvents**
- **Easy to use**
- **Suitable for self-tapping screws**

Description

Klüberplus SK 12-205 is an aqueous wax emulsion suitable for dilution with water. Once dry, Klüberplus SK 12-205 provides a transparent, “dry-to-touch” lubricant film. This dry lubricant film has a very low friction coefficient, which varies depending on the water mix ratio. For coating inspection purposes, Klüberplus SK 12-205 includes a UV indicator, visible at 366 nm under a UV lamp.

Application

The dry, transparent and quick-drying lubricant film make Klüberplus SK 12-205 particularly suitable for coating mass produced parts. Using simple coating processes, components such as screws, bolts, nuts, pins and rivets can be treated with Klüberplus SK 12-205 thus minimising friction and friction dispersion. The adhesion of Klüberplus SK 12-205 on steels and plastics is very good. The “dry-to-touch” lubricant film ensures that dust and other forms of contamination will not adhere to the surface of coated parts in storage.

Application notes

Klüberplus SK 12-205 is delivered as a ready-to-use lubricating wax emulsion. It can be diluted with cold mains water if required. We recommend a mixing ratio of between 1:3 and 1:10 (Klüberplus to water) depending on the application. Stir continuously when adding water to Klüberplus SK 12-205 in order to achieve the desired mixing result. The lubricating wax emulsion will be “dry-to-touch” approximately 10 minutes after application at room temperature. The drying time can be considerably reduced using a warm air supply of up to 80°C.

The best application of Klüberplus SK 12-205 is achieved using dip-feed baths or dip/spin processes. The bath should not spin too quickly otherwise the product is liable to foam. Spray centrifuges should not be used as foaming is also likely due to the air intake.

The concentration and pH-value should be monitored continuously when using large baths or the spin coating application method. A flat metal or glass dish can be used for the concentration measurement. The sample can be measured into the dish which is then evaporated at 95 °C. The difference in weight determines the content of solids in the bath. The parts to be coated must be free of fat and grease in order to ensure good surface adhesion. Soiling or cross-contamination with substances from other baths must be avoided at all times.

Protect from frost!

* All the values refer to the materials/surfaces and test conditions indicated. In case of other materials/surfaces are used, tests have to be performed.

** Mixing ratio: 1:3, application: 2 x dip/spin

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	Klüberplus SK 12-205
Canister 10 l	+
Drum 200 l	+

Klüberplus SK 12-205

Lubricating Wax Emulsion for Screws, Nuts and Bolts

Product data	Klüberplus SK 12-205
Article number	012227
Lower service temperature	-40 °C / -40 °F
Upper service temperature	90 °C / 194 °F
Texture	liquid
Colour space	beige
Density, DIN 51757, 20 °C	approx. 1 g/cm ³
Determination of pH value, DIN 51369, electrometrically, undiluted	approx. 9
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)*,**	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)*,**	0.005
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 thread friction coefficient (initial tightening)*,**	0.1
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)*,**	0.008
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	24 months





Klüberplus SK 12-205

Lubricating Wax Emulsion for Screws, Nuts and Bolts



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.**

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.

Publisher and Copyright: Klüber Lubrication München SE & Co. KG. Reprints, total or in part, are permitted only prior consultation with Klüber Lubrication München SE & Co. KG and if source is indicated and voucher copy is forwarded.