Klüberflex 200-0 N A-B Komp. A

Water-miscible two-component bonded coating for windshield wipers and other elastomer components

Your benefits at a glance

- **Optimised friction behaviour of your wiper rubber**
- **Low cross-linking temperature, enabling use with temperature-sensitive elastomers such as CR, NR**
- **High flexibility in meeting your requirements**
- **Individual product adjustments possible with selected additional Klüberflex modules**
- **Lower application costs**
- **No air filter systems required as VOC < 10g/l**
- **Rapid quality inspection upon layer application due to integrated UV indicator (excitation at 300 - 400 nm)**

Your requirements - our solution

Klüberflex 200-0 N A/B Komp. A is an innovative, water-miscible two-component bonded coating system for windshield wipers and other elastomer components.

Compared with conventional graphite dispersions, this bonded coating has a matrix with good resistance to abrasion and chemicals and offers good friction characteristics.

Dirty hands are a frequent complaint in the handling of wipers coated with graphite dispersion; with Klüberflex 200-0 N A/B Komp. A, this is not the case.

Klüberflex stands for a modular product concept enabling highly individualised product design due to optional additional modules. Adhesion and friction characteristics, for instance, can be adjusted to suit the material used and the requirements of the end customer by adding specific modules.

Application

Klüberflex 200-0 N A/B Komp. A enables a reduction in friction coefficient on windshield wiper elastomer materials.

Application to other elastomer components is possible, e.g. O-rings.

Application recommendation:

Both online spraying in the extrusion stage and offline spraying are possible.

Application notes

Recommended data for spray application: Klüberflex 200-0 N A/B Komp. A

Feed pressure: approx. 2 bar

Spray nozzle diameter: 0.5 mm to 0.8 mm

Ensure that only oil- and water-free compressed air is used.

The recommended layer thickness for tribological applications is approx. 5 to 10 µm.

Should stronger adhesion be required for the application in hand, we recommend adding 2 to 5 % of Klüberflex Module 2, or performing a plasma pretreatment, if possible.

Further modules for the optimisation of friction can be obtained on request.

NOTE: Any additional modules may only be added after the A and B components have been mixed.

Additional notes for the application of Klüberflex 200-0 N A/B Komp. A

Application technique: spraying

(Notes on other application methods can be obtained on request)

Klüberflex 200-0 N A/B Komp. A is a coating system comprising two components!

The hardening agent to be used is Klübertop TH 01 component B.

When processing the product, please proceed as follows:

Before use, stir component A well by means of an electric stirrer. Add component B to component A.

CAUTION! Please observe the mixing ratio A : B = 100 : 3! For increased flexibility, the mixing ratio may be adjusted (100 : 1 to 100 : 3).

Parameters / dimensions of the dispersion disc.

Peripheral speed of dispersion disc stirrer min. 1 m/s, max. 25 m/s (recommended range 3 to 5 m/s) Diameter of vessel = 2 to 3 times that of dispersion disc stirrer. Position of dispersion disc stirrer: in lower third of the vessel.

CAUTION! When the hardening agent B has been added, start mixing components A and B immediately!

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Mix both components by means of a stirrer for approx. 5 to 10 minutes. The product should then be filtered, e.g. using a nylon filter with a pore size of 125-150 µm. The product is ready for use after mixing. Should the application require viscosity modification, use deionised water for adjustment.▪When using a spray system for the application of the product, we recommend installing a stirrer in the storage container to prevent solid particles from settling. Cover the storage vessel containing the mixed product with a lid in order to prevent the formation of a solid top layer caused by air draughts.

The maximum processing time (pot time) of the mixture is 8 hours at 23 °C. After this period we recommend removing any residues from the spraying equipment, feed lines and storage container before filling it with fresh material. Clean the spraying equipment, storage container, etc. with tap water (see also "Special notes”). Open packs of both components should be closed again immediately after use. The bonded coatings are water-based and require a minimum temperature to form a coating layer. They should therefore not be processed at temperatures below 10 °C.

For drying and hardening conditions, please see the product data section.

Special notes

Converting a system from solvent-containing to water-miscible bonded coatings

Flammable coatings, adhesives, etc. usually contain organic solvents and binding agents which are not water-miscible.

Observe the following instructions when converting a system from solvent-containing to water-miscible bonded coatings in order to prevent incompatibility reactions or system clogging caused by precipitation:

For short-term conversions (e.g. for testing purposes) a HYBRID SOLVENT must be used as an INTERMEDIATE CLEANING AGENT. It is important for the solvent to be compatible with both the solvent-containing coating and the water-miscible coating.

The following INTERMEDIATE CLEANING AGENTS might be used:

- isopropanol
- butyl glycol
- acetone

Before using the intermediate cleaning agent, make sure it is compatible with the solvent-containing coating.

Conversion steps to a water-miscible coating:

Clean the equipment with a solvent/cleaner compatible with the flammable coating▪Use an intermediate cleaner (as described above)▪Secondary cleaning with water▪Apply the water-miscible coating

For a permanent conversion to water-miscible coatings we recommend replacing all hoses, control valves and feed lines.

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	Klüberflex 200-0 N A/B Komp. A
Can 1 l	+
Bucket 15 l	+

Product data	Klüberflex 200-0 N A/B Komp. A
Article number	099223
Operating temperature, upper limit value (standard mixture)	100 °C
Service temperature, lower limiting value (standard mixture)	-40 °C
Colour space	black
Density, DIN EN ISO 2811, at 20 °C	approx. 1.01 g/cm³
Chemical resistance to ethanol/water (1:1), duration of exposure 1 h	resistant
Chemical resistance to isopropanol, duration of exposure 1 h	resistant

Product data	Klüberflex 200-0 N A/B Komp. A
Chemical resistance to window cleaner (commercial product), duration of exposure 1 h	resistant
pH-value, DIN ISO 976	approx. 9
Runout time, DIN EN ISO 2431, with flow cups, nozzle 4 mm	approx. 40 s
Yield with a tribo-film thickness of 7 micrometers	approx. 14 m²/l
Cross-cut adhesion (EPDM), PA-063 based on DIN EN ISO 2409, value	0 Gt
Mixing ratio of components (standard mixture)	100:3
Flexibility of coating after exposure to thermal stress , 96 h at 100 °C, 80 % elongation	keine Rissbildung
Adhesion in a humid atmosphere, DIN EN ISO 6270-2, 240 h, no removal of the bonded coating	0 Gt
Non-volatile matter, DIN EN ISO 3251, t=1h, T=105°C, recirculating air drying cabinet, dish d~10 cm (standard mixture)	approx. 12 % by weight
Friction coefficient DIN 53375, against glass, sliding friction (µd)	0.39
Friction coefficient DIN 53375 against glass, static friction (µs)	0.34
Drying time, at approx. 23 °C (room temperature), hardened	24 h
Drying time, at approx. 100 °C, dry to the touch	5 min
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	12 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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