

Klüber TP 36-1300 N A-B

Water-miscible two-component bonded coating for sealing rings and coloured elastomers



Your benefits at a glance

- **Soft, visually appealing surface**
- **Reduction of assembly forces**
- **Can be coloured**
- **High chemical stability**
- **High elasticity**
- **Contains UV indicator (excitation at 300 - 400 nm)**

Your requirements - our solution

Klüber TP 36-1300 N A/B is a colourless two-component bonded coating for elastomers and thermoplastics. It has a low friction coefficient and a high resistance to wear as well as chemical stability.

As Klüber TP 36-1300 N A/B forms a nearly colourless dry film, it is particularly suitable for coloured seals and O-rings where increased operational reliability and colour fastness are equally important.

The bonded coating also shows good adhesion on materials like EPDM, TPE, NBR, HNBR, FPM and PA. Due to the large variety of materials, we recommend performing tests with the component prior to series application.

Application

- Coating of coloured TPE profiles, molded parts
- Reduction of assembly forces for O-rings

Application notes

Klüber TP 36-1300 N A/B can be applied by spraying or by brush.

Spraying:

Feed pressure: approx. 2 bar

Nozzle diameter: 0.3 to 0.5 mm

Recommended coating thickness: approx. 5–10 µm

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

As component B use Klüber TH 03.

In individual cases, the use of a primer or plasma treatment will improve adhesion.

Please contact us for further information on how to reduce assembly forces for O-rings.

Protect from frost and heat.

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	Klüber TP 36-1300 N A/B Komp. A
Can 1 l	+
Bucket 15 l	+

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Product data	Klüber TP 36-1300 N A/B Komp. A
Article number	099221
Lower service temperature	-40 °C / -40 °F
Upper service temperature	100 °C / 212 °F
upper service temperatur (short-time)	180 °C
Density, DIN EN ISO 2811, at 20 °C	approx. 1.08 g/cm ³
Runout time, DIN EN ISO 2431, with flow cups, 4 mm nozzle	approx. 21 s
Mixing ratio of components (standard mixture)	100:6.5
Drying time, at approx. 20 °C, completely hardened	approx. 24 h
Drying time, at approx. 100 °C, dry to the touch	approx. 5 min
Yield with a tribo-film thickness of 10 micrometer	approx. 24 m ² /l
Recommended layer thickness, tribological coating	5 - 10 µm
Mandrel bending test, DIN EN ISO 1519, material EPDM, layer thickness 5-10 µm, test temperature -40 °C, mandrel diameter 10 mm , result	passed
Friction coefficient DIN 53375, against glass, sliding friction (µd)	approx. 0.3
Wear resistance on glass, (MG 9909 P/Toyota TSM 1708), 1 kg * layer thickness: approx. 25 µm, cycles depend on the EPDM shore hardness	approx. 10 000 cycles
Wear resistance to textile fabric, test path: 100 mm, testing speed: 100 mm/s, frequency: 60 strokes/min, layer thickness: approx. 10 µm, load 1 kg, material: compact rubber; cycles	approx. 10 000 cycles
Flexibility of coating after exposure to thermal stress, 96 h at -40 °C, after 100 % elongation	resistant
Flexibility of coating after exposure to thermal stress, 96 h at 100 °C, after 100 % elongation	resistant
Chemical resistance to FAM test fuel, DIN 51604, duration of exposure 10 min.	resistant
Chemical resistance to window cleaner (commercial product), duration of exposure 10 min	resistant
Chemical resistance to isopropanol, duration of exposure 10 min	resistant
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	12 months

Processing instructions for Klüber TP 36-1300 N A/B

Application method: spraying

(Information on other application methods is available on request.)

Klüber TP 36-1300 N A/B is a two-component system!

The specified A:B mixing ratio by weight must be observed.

As component B (hardener) use Klüber TH 03 component B.

Please follow these instructions when processing Klüber TP 36-1300 N A/B:

- Stir component A well before use – if possible with an electric agitator operating at low speed.
- Place component A on a balance and add component B.
NOTE: The A:B mixing ratio must be observed!

Parameters / Dimensions of dispersion disc

- Peripheral speed of dispersion disc: min. 1/ ms, max. 25 m/ s (recommended range 18-25 m/s)
- Diameter of vessel: 2 to 3 times the diameter of the dispersion disc.
- Position of dispersion disc: in the lower third of the vessel.

IMPORTANT: Immediately after adding the hardener component B start mixing of A and B components!

- Mix both components for approx. 5 min. using an electric agitator operating at low speed. The mixture 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. If the application requires the viscosity to be modified, use deionized water or tap water at a hardness of 10 °dH.



- When applying the mixture with an automatic spray system, we recommend installing an agitator 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 drafts.
- The maximum processing time (pot time) of the mixture is 8 hours. After this period we recommend removing all 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 should be closed again immediately after use.
- Klübertop TP 36-1300 N A/B is a water-based product requiring a minimum temperature to form a coating layer. It should therefore not be processed at ambient temperatures below 10 °C.
- Klübertop TP 36-1300 N A/B is dry to the touch after approx. 5 min. at 100 °C. Information on shorter drying periods and pertinent temperature requirements is available on request. The product is completely hard after 24 hours at approx. 25 °C.

Special notes

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

Flammable coatings, adhesives, etc. usually contain organic solvents and binders 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 paint precipitation:

In case of short-term conversions (e.g. for testing purposes) it is indispensable to use a HYBRID SOLVENT as an INTERMEDIATE CLEANING AGENT. It is important for the solvent to be compatible with the solvent-containing coating and also with the water-miscible coating.

The following INTERMEDIATE CLEANING AGENTS are suitable:

- a) acetone
- b) butyl glycol
- c) isopropanol
- d) n-methyl pyrrolidon (only for PTFE hoses)

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

Steps of conversion to a water-miscible coating:

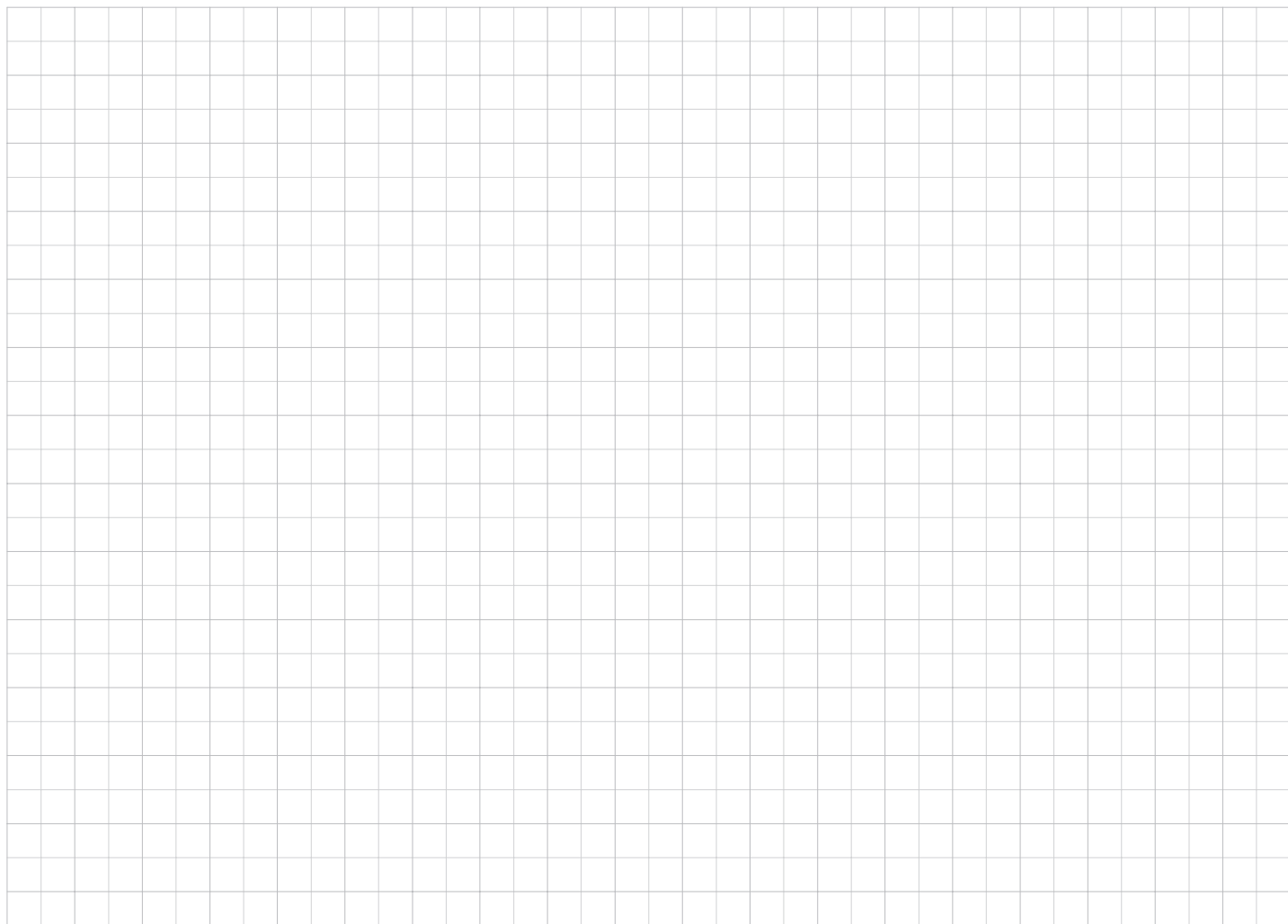
- a) Clean the equipment with a solvent/cleaner compatible with the flammable coating.
- b) Use an intermediate cleaner (as described above).
- c) Secondary cleaning with water.
- d) Apply the water-miscible coating.

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



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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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