FLUOROPAN 340 NP A-B

Two-component, thermosetting bonded coating for long component life

Benefits for your application

- **High reliability and long service life of components**
  - lifetime lubrication due to excellent abrasion resistance
  - highly resistant when subjected to medium loads and corrosive media
  - excellent wear protection under tribological stress
  - for dry running or in combination with greases and oils
- **Clean and dry surface with lubricating effect**
  - no contamination by fluid lubricant
  - no sticking of lubricated components during automated assembly
  - lubricant firmly incorporated in the friction point

Description

FLUOROPAN 340 NP A/B is a thermosetting, black-colored high-performance bonded coating made up of two component parts. It has an organic binder containing PTFE as the solid lubricant.

FLUOROPAN 340 NP A/B is supplied in liquid form and contains an inflammable solvent mixture (former hazard class A II).

Once applied and hardened, the bonded coating ensures high wear resistance, long service life, wide service temperature range, low friction coefficients, stick-slip free sliding at low speeds and good corrosion protection.

Application

FLUOROPAN 340 NP A/B reduces friction and wear on metal/metal and metal/plastic material pairings.

FLUOROPAN 340 NP A/B has proven successful for applications subject to high temperatures, critical ambient conditions (dust or dirt), oscillating movements, while providing good protection of the base material against corrosion.

FLUOROPAN 340 NP A/B is used for components in the automotive industry, electrical and precision engineering or textile machines, e.g. sliding rails, bolts, bushes and similar parts where contamination by oil or grease is undesirable.

FLUOROPAN 340 NP A/B is particularly suitable for the dry lubrication under high mechanical load in combination with high service life requirements, e.g. in magnet armatures.

Application notes

FLUOROPAN 340 NP A/B consists of component A (art. No. 099201) and componente B (art. No. 099200). Stir both components well prior to use.

Mix component A and component B at a ratio of 95:5.
Example: 950 g of component A with 50 g of component B.

Ensure perfect homogenization of the mixture by stirring. If the volume of the mixture is more than 1 liter we recommend using an electric stirrer. In this case, make sure the temperature of the bonded coating does not significantly exceed 30 °C.

After mixing, pass the mixture through a polyethylene filter with approx. 150 µm pore size.

The mixing container should always be covered with a lid.

The mixture of components A and B can be processed for approx. 24 h provided the ambient temperature is not much above 25 °C (pot life).

Any tubes in contact with the mixture must be made of polyethylene or PTFE.

The bonded coating is applied by spraying or brush. Uniform layer thicknesses are best achieved by spraying.

Information on other application methods are available on request.

The surfaces to be coated should be cleaned and degreased and be completely free from oil, grease, water, corrosion and scale.

Roughening of the surface by sand blasting or phosphatizing is recommended to increase adhesion. When applied under bonded coatings, phosphate layers help to increase corrosion protection.

When applying FLUOROPAN 340 N A/B by spraying, use a spray gun.

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Other application conditions

Feed pressure: 2 bar

Spraying distance: approx. 20 cm

Spray nozzle diameter: 0.8 mm

Make sure that only compressed air is used which is free from oil and water.

The recommended film thickness for sliding loads is between 5 and 25 mm.

When spraying by hand, it is recommended to apply the product in a zig-zag pattern.

When spraying systems are used, an agitator should be installed in the container to prevent the solid particles from settling.

To clean the spray equipment and dilute the bonded coating, the Klüber solvent and cleaning agent SOLUTIN C 6 (Art. No. 058037) may be used.

FLUOROPAN 340 NP A/B is ready to handle after approx. 5 min at 100 °C. The coating is hardened at 230 °C object temperature for at least 15 min.

The product will only offer its full performance if hardened completely as described.

To obtain a bubble-free coating, especially when its thickness is > 15 µm, the coated component should be allowed to deaerate for 10 to 15 min at a temperature between 80 °C and 120 °C prior to hardening at 230 °C.

The maximum storage temperature of 25 °C should not be exceeded but for a short time.

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	FLUOROPAN 340 NP A/ BKOMP. A
Bottle 50 ml	-
Can 900 ml	-
Can 950 ml	+
Bucket 17.1 l	+

Product data	FLUOROPAN 340 NP A/ BKOMP. A
Article number	099201
Colour space	
Operating temperature, upper limit value (standard mixture)	230 °C
Service temperature, lower limiting value (standard mixture)	-40 °C
Runout time, DIN EN ISO 2431, with flow cups, 3 mm nozzle	
Runout time, DIN EN ISO 2431, with flow cups, nozzle 6 mm	approx. 53 s
Runout time, DIN EN ISO 2431, with flow cups, 6 mm nozzle (standard mixture)	approx. 45 s
Density, DIN EN ISO 2811, at 20 °C	approx. 1.05 g/cm³
Density DIN EN ISO 2811, 20°C (standard mixture)	approx. 1.05 g/cm³
Flash point, DIN EN ISO 1516, -30 °C to 110 °C	approx. 28 °C
Cross-cut adhesion (test plate), PA-063 based on DIN EN ISO 2409, value	0 Gt
Mandrel bending test, DIN EN ISO 1519, material tinplate, layer thickness 10 - 80 µm, temperature -40 °C, mandrel diameter 2 mm	passed
Drying time, at approx. 100 °C dry to the touch, layer thickness 15 µm	approx. 6 min
Drying time, at approx. 100 °C dry to the touch, layer thickness 30 µm	approx. 8 min

Product data	FLUOROPAN 340 NP A/ BKOMP. A
Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm,substrate steel, medium soda lye, result: film resistant, tested up to	1 000 h
Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm,substrate steel, medium 0.1n hydrochloric acid, result: film resistant, tested up to	1 000 h
Media resistance of coatings, DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm, material steel ST 1303, medium diester oil, result: film resistant, tested up to	1 000 h
Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm, material steel ST 1303, medium doped mineral oil, result: film resistant, tested up to	1 000 h
Salt spray test, DIN EN ISO 9227, 5% NaCL, temperature 35°C, material steel ST 1405, layer thickness 15 µm, corrosion after	>= 180 h
Salt spray test, DIN EN ISO 9227,linked with DIN EN ISO 7253, 5% NaCl, temperature 35°C, material steel zinc-phosphatized, layer thickness 15 µm, corrosion after	>= 500 h
Friction coefficient, Tannert sliding indicator, room temperature, vmax = 0.243 mm/s, F = 50 - 300 N	approx. 0.03
AC²T sliding friction test rig ball/disc, ambient temperature, v = 0.16 m/s, F = 30 N, friction coefficient µ	approx. 0.15
AC²T sliding friction test rig ball/disc, ambient temperature, v = 0.16 m/s, F = 50 N, friction coefficient µ	approx. 0.1
AC²T sliding friction test rig, ball/disc, ambient temperature, v = 0.16 m/s, F = 50 N, layer thickness = 15 µm	approx. 10 min
AC²T sliding friction test rig, ball/disc, T = 20°C, v = 0.16 m/s, F = 30 N, layer thickness = 15 µm	>= 120 min
Yield with a tribo-film thickness of 15 micrometer (standard mixture)	approx. 13.5 m²/l
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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