

Klüber TG 05 N

Thermosetting bonded coating



Benefits for your application

- Bonded graphite coating for metal components
- Wide service temperature range
- Efficient lubricating capacity in humid environments
- Suitable in context with oil lubrication
- Long service life, good wear resistance
- Good resistance to chemicals and oil
- Low friction coefficient

Description

Klüber TG 05 N is a thermo-setting, grey-black bonded coating based on graphite and an organic binding agent. It is a fluid, ready-to-use product containing a highly flammable mixture of solvents (former hazard class VbF A II). Once applied and hardened, the coating forms a dry lubricant layer which has a very wide service temperature range and a low friction coefficient, ensures that there is no stick slip at low speeds, has a long service life and is very resistant to wear. In addition, this product has an excellent resistance to oil, and a good resistance to chemicals. It also provides good corrosion protection on phosphated surfaces.

Application

Klüber TG 05 N reduces friction and wear in metal/metal and metal/plastic sliding components. Owing to its structure, Klüber TG 05 N is particularly suitable for applications in humid environments. It can also be used in context with oil lubrication, e.g. on pistons and other engine components, and in similar fields of application. As a dry lubricant it is suitable for a wide range of components used in bearings, electrical engineering, precision engineering and in textile machines, where contamination by oil or grease should be avoided.

Klüber TG 05 N has also proven effective, especially in terms of corrosion protection, when exposed to high temperatures, extreme environmental conditions (impact of dust, dirt, etc.), and oscillating movements.

Application notes

Stir or shake well before use. The product has to be filtered after stirring (e.g. using a nylon filter with a pore size of 125-150 µm). Klüber TG 05 N can be applied by spraying or screen printing, or by means of a brush. Other types of application (e.g. for bulk processes) are indicated on request. The surfaces to be

coated must be cleaned / degreased and be completely free from oil, grease, water, corrosion and scale. Roughening of the surface by means of a chemical (e.g. phosphating) or mechanical (e.g. sand blasting) process is recommended to increase adhesion and extend the component's usable life. Zinc-phosphatizing improves corrosion protection. When applying Klüber TG 05 N by spraying, use a spray gun.

Other application conditions:

Feed pressure: 2 bar

Spraying distance: approx. 20 cm

Nozzle diameter: 0.8 mm

Ensure that only pressurized air is used which is free from oil and water. In the case of 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. The recommended film thickness for tribological loads is between 7 and 15 µm. Klüber TG 05 N is delivered as a ready to use product. Nevertheless, the component or application method may require viscosity adjustment. To this effect, and to clean the spray gun, use the SOLUTIN C 10 diluting and cleaning agent.

Klüber TG 05 N is dust-dry after approx. 5 min at 80 °C and touch-dry after 12 min at 80 °C. The ideal thermosetting process requires a temperature of 250 °C for 15 min or, alternatively, 210 °C for 60 min. The indicated temperatures are component temperatures.

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.

KlüberTOP TG 05 N

Thermosetting bonded coating

Pack sizes	KlüberTOP TG 05 N
Can 1 l	+
Bucket 20 l	+

Product data	KlüberTOP TG 05 N
Article number	099204
Lower service temperature	-40 °C / -40 °F
Upper service temperature	300 °C / 572 °F
Colour space	grey
Density, DIN EN ISO 2811, at 20 °C	approx. 1.07 g/cm ³
Yield with a tribo-film thickness of 10 micrometer	approx. 15 m ² /l
Mandrel bending test, DIN EN ISO 1519, material steel, layer thickness 15 µm, temperature -40 °C, mandrel diameter 2 mm , result	passed
Cross-cut adhesion (test plate), PA-063 based on DIN EN ISO 2409, value	0 Gt
Mandrel bending test, DIN EN ISO 1519, material steel, layer thickness 15 µm, room temperature mandrel diameter 2 mm , result	passed
AC ² T sliding friction test rig ball/disc, ambient temperature, v = 0.16 m/s, F = 10 N, layer thickness 15 µm, sliding distance	>= 1 150 m
Friction coefficient, Tannert sliding indicator, room temperature, v _{max} = 0.243 mm/s, F = 50 - 300 N	0.08
Stick-slip, Tannert sliding indicator, room temperature, v _{max} = 0.243 mm/s, F = 50 -300 N, evaluation	no stick slip
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, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm,substrate steel, 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,substrate steel, medium mineral oil, result: film resistant, tested up to	1 000 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	>= 36 h
Salt spray test, DIN EN ISO 9227, 5% NaCl, linked with DIN EN ISO 7253, temperature 35°C, material steel sand blasted, layer thickness 15 µm, corrosion after	>= 24 h
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	24 months





Klüber top TG 05 N

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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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