

# Klüber TP 15-810

Water-miscible, air-drying bonded coating offering lifetime wear protection



## Benefits for your application

- **Clean, dry wear protection**
  - lifetime wear protection firmly 'rooted' in the surface
  - no contamination by fluid lubricant
  - no sticking during automated assembly
- **Lower costs and less space required during processing**
  - Klüber TP 15-810 is water-miscible and requires no VOC filter system
  - cost-efficient mass coating of small parts
  - fast air-drying – no heat setting required
- **Higher component performance**
  - very low friction coefficient
  - no stick-slip
  - delayed tribocorrosion
  - good corrosion protection on phosphatized substrates

## Description

Klüber TP 15-810 is a black air-drying bonded coating based on polytetrafluoroethylene (PTFE) and an organic water-miscible binder. Klüber TP 15-810 is a fluid, ready-to-use and non-flammable product. Once applied and hardened, this bonded coating dries rapidly and ensures good resistance to wear and chemicals, a low friction coefficient, no stick-slip at low speeds and good corrosion protection on phosphated surfaces. Its resistance to oils and greases is good.

Adhesion to metals and various plastics is good. Owing to its composition, and due to the fact that heat setting is not required, Klüber TP 15-810 is particularly suitable for the coating of synthetic materials such as ABS, PC, PVC, PU, PA, PS.

## Application

Klüber TP 15-810 is especially suitable for applications requiring a highly adhesive and quick-drying bonded coating in applications where heat setting is not possible (also on difficult surfaces such as the plastic materials listed above).

Klüber TP 15-810 reduces friction and wear in metal/metal, metal/plastic or plastic/plastic sliding contacts.

Klüber TP 15-810 is also suitable for the cost-effective coating of small mass-produced parts such as straight pins, studs, safety belt components and similarly shaped items. It can also be applied in components used in electrical engineering, precision engineering and textile machinery such as slideways, springs, armatures, etc. which are subject to low or medium

mechanical loads, and where contamination by oil or grease should be avoided. Some tests on mechano-dynamical test rigs have even shown that this air-drying and water-miscible product has a longer service life and higher resistance to wear than some thermosetting bonded coatings.

Klüber TP 15-810 is also suitable for components performing an oscillating motion.

## Application notes

Stir well before use. The product should be filtered after stirring, e.g. using a nylon filter with a pore size of 125-150 µm.

Klüber TP 15-810 can be applied by immersion, spraying or by brush. Information on other types of application (e.g. mass-coating) are provided upon request. The surfaces to be coated must be cleaned/ degreased and be completely free from oil, grease, water, corrosion and scale.

When applying Klüber TP 15-810 by spraying, use a lacquer spray gun.

### Further application conditions:

- Feed pressure: 2 bar
- Spraying distance: approx. 20 cm
- Spray nozzle diameter: 1.2 mm or 0.8 mm

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

# Klüber TP 15-810

Water-miscible, air-drying bonded coating offering lifetime wear protection

When spraying by hand, it is recommended to apply the product in a zig-zag pattern. If spraying systems are used, an agitator should be installed in the container to prevent the solid particles from settling.

When applying the product by immersion, use plastic or special steel containers. Please note that Klüber TP 15-810 tends to form a skin in open baths and packages as it is a quickly drying product. Therefore, close packages immediately after use and prepare only small quantities for open baths. The recommended film thickness for tribological loads is between 7 and 15 µm depending on the application and the application method.

While Klüber TP 15-810 is supplied as a ready-to-use product, its viscosity may have to be adjusted to suit the particular component or application. For this purpose as well as

for cleaning the lacquer spray gun – when the lubricant film has not yet hardened – deionized water or tap water up to 10° dH may be used.

Klüber TP 15-810 is ready to handle after approx. 15 min at 25°C or approx. 1 min at 60°C and hardened after 24 h.

Protect from frost and direct heat.

## Material safety data sheets

Material safety data sheets can be requested via our website [www.klueber.com](http://www.klueber.com). You may also obtain them through your contact person at Klüber Lubrication.

Pack sizes	Klüber TP 15-810
Can 1 l	+
Bucket 15 l	+

Product data	Klüber TP 15-810
Article number	099145
Lower service temperature	-40 °C / -40 °F
Upper service temperature	80 °C / 176 °F
Colour space	black
Density, DIN EN ISO 2811, at 20 °C	approx. 1.24 g/cm <sup>3</sup>
Runout time, DIN EN ISO 2431, with flow cups, 4 mm nozzle	approx. 40 s
Mandrel bending test, based on DIN EN ISO 1519 (type 2), material steel, layer thickness 20 µm, test temperature 23°C, mandrel diameter 2 mm, result	passed
Mandrel bending test, based on DIN EN ISO 1519 (type 2), material steel, layer thickness 20 µm, test temperature -40 °C, mandrel diameter 10 mm, result	passed
Wear resistance OGP, at room temperature, load: 200 N, V: 50 mm/s, linear contact, steel blasted, layer thickness 15 µm	> 400 m
Cross-cut adhesion (test plate), PA-063 based on DIN EN ISO 2409, value	0 Gt
Friction coefficient, Tannert sliding indicator, room temperature, v <sub>max</sub> = 0.243 mm/s, F = 300 N	approx. 0.045
Stick-slip, Tannert sliding indicator, room temperature, v <sub>max</sub> = 0.243 mm/s, F = 300 N, evaluation	no stick slip
AC <sup>2</sup> T sliding friction test rig, ball/disc, T = 20°C, v = 0.16 m/s, F = 30 N, layer thickness = 15 µm	480 m
Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm, material steel zinc-phosphatized, medium diester oil, result: film resistant, tested up to	500 h
Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm, material steel zinc-phosphatized, doped mineral oil, result: film resistant, tested up to	500 h



<b>Product data</b>	<b>Klüber TP 15-810</b>
Media resistance of coatings, based on, DIN EN ISO 2812; tested at room temperature, layer thickness approx. 15 µm, material steel zinc-phosphatized, polyglycol, result: film resistant, tested up to	500 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	>= 168 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
Yield with a tribo-film thickness of 10 micrometer	approx. 34 m <sup>2</sup> /l
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	18 months



# Klüber<sup>®</sup>top TP 15-810

Water-miscible, air-drying bonded coating offering lifetime wear protection



---

## 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.