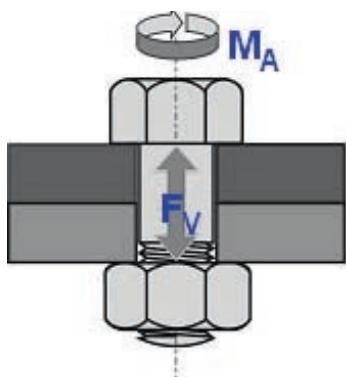
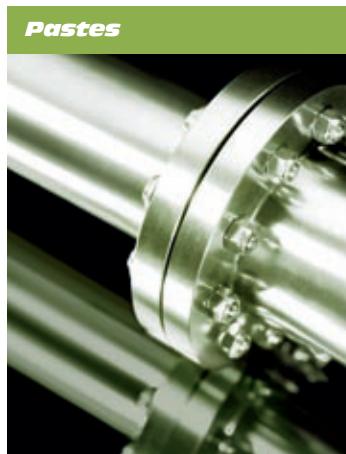


## Lubrication of screw connections

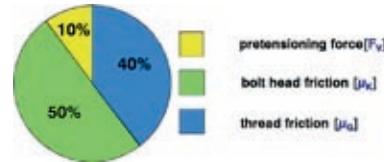
### White Allround Paste, metal-free



Consistent coefficients of sliding friction in order to achieve a defined pre-tension are imperative for fault-free mounting of a screwed connection. Screws base on the principle of transferring a tightening torque [ $M_A$  in Nm] into a pre-tension force [ $F_V$  in N] in the screw shank with which the connecting parts are pressed together (clamping force). In this case the transfer is effected by means of the screw thread between the head and the nut of the screw. Frictional resistances in the screw thread [ $\mu_G$ ] and at the screw head [ $\mu_K$ ] as a rule reduce the transfer of the tightening torque [ $M_A$ ] into the pre-tension [ $F_V$ ]. However, they also make a fastening thread, such as at a thread, self-locking. Weldings of the thread surface, so-called cold welding, can result time and again when screws are mounted, in particular at high-alloy steels (austenitic materials), so that a defined pretension can no longer be achieved or is prevented. Problems also occur time and again when screw threaded connections are dismantled, for example through burning together at high operating temperatures ( $>200^\circ\text{C}$ ).

#### Advantages and benefits

- Optimum ratio of tightening torque to achievable pre-tension
- Separates reliably
- Excellent corrosion protection
- Metal-free (no graphite, no  $\text{MoS}_2$ )
- Resistant to cold and hot water
- Suitable for stainless-steel connection
- NSF H2 registered (Reg.-No. 131379)



In the process oxidation of the surface arises and layers of scale are formed that can result in a thread being blocked. At normal temperatures corrosion, caused by the capillary property in the thread that lets moisture ingress, can make it impossible to open a screw without destroying it.

#### Product description

OKS 250 is a white, metal-free high-temperature screw paste that was developed specially for special-steel screws. OKS 250 does not contain any sulphurous additives and solid lubricants such as  $\text{MoS}_2$  that can influence the screw material negatively under extreme conditions of use. The white solid lubricants separate the thread surfaces reliably during mounting, thus preventing

cold welding. The consistent coefficient of sliding friction ensures optimal transfer of the tightening torque into the pre-tension. The smooth consistency of the paste allows it to be applied evenly and thinly to the thread. Thanks to its excellent corrosion protection OKS 250 makes it possible to dismantle a screw without destroying it — also after a long period of use and under extreme conditions.

## Lubrication of screw connections

### Example of use: White Allround Paste, metal-free

A German manufacturer of locomotives uses OKS 250 when mounting all screws at the locomotives. As a universal paste OKS 250 is suitable for all common screw materials. Thus only a single paste has to be used in mounting instead of various special pastes. In addition to simplifying procurement, errors caused by confusing pastes are also avoided.



picture 1



picture 2

Great value is also placed on being able to unscrew a connection even after longer use under aggressive conditions. With its metal-free solid lubricants OKS 250 reliably prevents tribo-corrosion in the thread. The contained corrosion protection additives protect the lubricating point reliably against corrosion for a long period. Even after subjection to high-temperature stress, the solid lubricants allow the connection to be dismantled without destruction.

An example is the mounting of the braking sand reservoir (picture 1) for the locomotives. This is mounted in front of the front bogey of the locomotive and is thus subjected to rain, snow, cold and heat. OKS 250 is applied with a brush to the four large fastening screws of the sand reservoir before mounting (picture 2).

#### Further OKS products for screw connections

<b>OKS 2610/2611</b>	to clean screws
<b>OKS 214, OKS 217, OKS 240/241, OKS 255/251</b>	further screw pastes
<b>OKS 1300/1301, OKS 1700, OKS 1750 and OKS 1765</b>	for pre-coating of screws (for reliable processing).
<b>OKS 600/601, OKS 610/611, OKS 621, OKS 640/641</b>	for non-destructive dismantling of rusted screw connections



Our catalogue "Speciality Lubricants for industrial applications" is available for downloading under [www.oks-germany.com](http://www.oks-germany.com)