# MOLYKOTE® 1000 Paste

Solid lubricant paste for bolted metal joints; contains no lead or nickel

## Features & benefits

- Can be used over a wide range of temperatures (-30°C/-22°F to +650°C/1,202°F)
- High load-carrying capacity
- Enables nondestructive dismantling, even after long use at high temperatures
- Coefficient of friction unchanged in the area of oiled bolts, even after several bolt retightening and loosening processes
- Good corrosion protection

## Composition

- Solid lubricants
- Mineral oil
- Thickener
- Powdered metal

## Applications

Suitable for bolted joints that are subjected to high temperatures up to 650°C (1,202°F) and to corrosive effects – and that after assembling and the initial operation, have to be retightened or disconnected. In order to ensure constant pre-stressing forces, uniform and steady coefficients of friction of the lubricant are necessary. Used successfully for cylinder head bolts, nozzle head screws of plastic injection molding machines, bolted joints in the chemical industry, and also for the tension rings of centrifuges.

## Description

MOLYKOTE® 1000 Paste is a lead- and nickel-free anti-seize paste used to reduce wear and optimize friction of threaded fasteners, or other metal-to-metal joints, enabling nondestructive dismantling, even after long exposure to high temperatures. It offers good corrosion protection, under high loads, over a wide temperature range.

## How to use

If possible, clean the thread and the bolt with a wire brush. Spread an adequate amount of the paste on the thread, right up to its root to obtain a good seal. In order not to alter the properties, the paste must not be mixed with grease or oils.

To enable this product to be applied more quickly and cleanly to larger areas, it is advisable to use the spray can.

## Typical properties

Specification writers: These values are not intended for use in preparing specifications. Please contact your local MOLYKOTE® sales representative prior to writing specifications on this product.

| Standard[1] | Test | Unit | Result |
|---|---|---|---|
| | Color | | Brown |
| **Penetration, density** | | | |
| ISO 2137 | Unworked penetration | mm/10 | 280-310 |
| ISO 2811 | Density at 20°C (68°F) | g/ml | 1.26 |
| **Temperature** | | | |
| | Service temperature range[2] | °C<br>°F | -30 to 650<br>-22 to 1,202 |
| **Load-carrying capacity, wear protection, service life** | | | |
| | Four-ball tester | | |
| DIN 51 350 pt.4 | Weld load | N | 4,800 |
| DIN 51 350 pt.5 | Wear scar under 400 N load | mm | 0.65 |
| | Almen-Wieland machine | | |
| | OK load | N | 20,000 |
| | Frictional force | N | 2,600 |
| **Coefficient of friction** | | | |
| | Screw test - μ thread[3] | | 0.13 |
| | Screw test - μ head | | 0.08 |
| | Initial break-away torque[4] | Nm | 135 |
| DIN 51 802 | SKF-Emcor method | | 1 |

[1] ISO: International Standardization Organization. DIN: Deutsche Industrie Norm.
[2] Temperature resistance of solid lubricants.
[3] Coefficient of friction in bolted connection, M12, 8.8, on blackened surface.
[4] M 12, with starting torque Ma = 62 Nm and heat treatment at 540°C (1,004°F), 21 hr, bolt material: no. 1.7709.

## Handling precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION.

## Usable life and storage

When stored at or below 20°C (68°F) in the original unopened containers, MOLYKOTE® 1000 Paste has a usable life of 60 months from the date of production.

## Packaging

This product is available in different standard container sizes. Detailed container size information should be obtained from your nearest MOLYKOTE® sales office or MOLYKOTE® distributor.

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