



# MOLYKOTE® HSC Plus Paste

Solid lubricant paste; no intentional lead or nickel

## Features

- Can be used over a wide range of temperatures (-30°C/-22°F to 1,100°C/2,012°F)
- Enables nondestructive dismantling, even after long use at high temperatures
- High load-carrying capacity
- Due to stated coefficient of friction, defined pre-stressing forces for bolted joints can be achieved
- Good corrosion protection
- Good electrical conductivity

## Composition

- Mineral oil
- Thickening agents
- Solid lubricants
- Metal powder (lead-free)

## Applications

For metal/metal combinations that are subjected to high temperatures and frictional contacts that typically for bolted joints, are free from lead or nickel. Suitable for lubrication points with low speeds, subjected to high temperatures and corrosive effects, and also require a low and constant coefficient of friction. As a contact lubricant for electrically conducting components. Used successfully for stud bolts in industrial turbines, stud bolts in turbochargers of diesel engines, flanged connections in chemical and petrochemical plants.

## How to use

If possible, clean the thread and used bolts with a wire brush. Spread an adequate amount of the paste on the contact areas in order to obtain a good seal. An excess is not harmful. In order not to alter the properties, the paste must not be mixed with greases 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 <sup>(1)</sup>	Test	Unit	Result
	Color		Copper

### Penetration, density, viscosity

ISO 2137	Unworked penetration	mm/10	250-280
ISO 2811	Density at 20°C (68°F)	g/ml	1.4

### Temperature

	Service temperature <sup>(2)</sup>	°C	-30 to 1,100
		°F	-22 to 2,012
ISO 2176	Drop point	°C	None
		°F	None

### 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	0.6
DIN 51 350 pt.5	Wear scar under 800 N load	mm	1.1
Almen-Wieland machine			
	OK load	N	20,000
	Frictional force	N	1,700

### Coefficient of friction

Screw test: Erichsen <sup>(3)</sup>			
	Screw test - $\mu$ thread		0.14
	Screw test - $\mu$ head		0.09
	Initial break-away torque <sup>(4)</sup>	Nm	120

<sup>(1)</sup>ISO: International Standardization Organization. DIN: Deutsche Industrie Norm.

<sup>(2)</sup>Temperature limit of solid lubricants.

<sup>(3)</sup>Coefficient of friction in bolted connection, M12, 8.8, on blackened surface.

<sup>(4)</sup>M12, with starting torque  $M_a = 56$  Nm and heat treatment at 540°C/1,004°F, 21 h, bolt material: 21 Cr MoV 57 mat 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, this product has a usable life of 60 months from the date of production.

Specifically for aerosol packaging, this product has a usable life of 24 months from the date of production when stored between 5°C and 35°C in the original unopened container. Because it is an aerosol, punctures should be avoided, and containers should be kept away from heat, sparks and open flame.

## Packaging

This product is available in different standard container sizes as shown on [molykote.com](http://molykote.com). Detailed container size information should be obtained from your nearest MOLYKOTE® sales office or MOLYKOTE® distributor.

*DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, SM or ® are owned by affiliates of DuPont de Nemours, Inc. unless otherwise noted.  
© 1997-2022 DuPont.*

The information set forth herein is furnished free of charge and is based on technical data that DuPont believes to be reliable and falls within the normal range of properties. It is intended for use by persons having technical skill, at their own discretion and risk. This data should not be used to establish specification limits nor used alone as the basis of design. Handling precaution information is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards. Since conditions of product use and disposal are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any product, evaluation under end use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate or a recommendation to infringe on patents.