

# MARYLAND METRICS

P.O.Box 261 Owings Mills, MD 21117 USA

(410)358-3130 (800)638-1830 Faxes: (410)358-3142 (800)872-9329

<http://mdmetric.com>

[techinfo@mdmetric.com](mailto:techinfo@mdmetric.com)

## TECHNICAL INFORMATION and DATA

We offer this only as a process applied to our fastener products, not as a separate item.

### Bolt lubrication

## MOLYKOTE®

For high-tensile bolted connections, the most important criterion for effectiveness is the preload. Using torque controlled tightening, friction in the thread and under the bearing face directly influences the attained preload.

Bolt lubrication aims to reduce and stabilize friction and minimize the scatter between fastened joints. Additionally, it will improve the ability to loosen the bolts even after long term operation. In view of the many different materials for bolts and nuts and the environmental influences, it is understandable that there can not be a single, multi-purpose lubricant. However, for common use the plain, slightly oiled surface or zinc plating gives sufficient temporary protection against corrosion and a favourable coefficient of friction.

For stainless steel or hot dip galvanized fasteners, for high temperature or critical applications as far as corrosion or preload are concerned, an additional lubrication leads to better performance and higher security of the bolted joints.

- Low coefficient of friction, high preload
- Low variation of friction, equal preload
- Additional protection against corrosion
- Dry fasteners, clean handling
- Assured loosening even after years of operation

Application	Service temperature				
	- 30 °C to + 125 °C	+ 125 °C to + 300 °C	+ 300 °C to + 600 °C	+ 600 °C to + 1100 °C	+ 1100 °C to + 1400 °C
● <b>Low coefficient of friction</b>	D G-Rapid plus 1000 7405	G-Rapid plus D 321R	HSC plus 1000	HSC plus	P 37
● <b>Low variation of friction</b>	1000 7405	1000 P 37	P 37	P 37	P 37
● <b>Protection from cold welding (galling) of austenitic stainless fasteners during assembly</b>	D D 321R				
● <b>Protection from seizure of hot dip galvanized bolted connections</b>	G-Rapid plus D 321R D 3484				
● <b>Corrosion protection Easy loosening</b>	D HSC plus 1000 7443	HSC plus 1000			
● <b>High load carrying capacity</b>	D G-Rapid plus D 321R D 3484	G-Rapid plus D 321R D 3484	HSC plus	HSC plus	P 37

	Paste					AFC Anti-friction coating			
	G-Rapid plus*	HSC plus	1000	P 37	D *	7405 **	D 321R *	7443 **	D 3484 ***
μ-thread	0,10	0,12	0,11	0,13	0,13	0,08	0,09	0,14	0,14
μ-head	0,07	0,010	0,10	0,10	0,08	0,09	0,04	0,07	0,03

\* = Preferably for austenitic stainless steels as coefficient of friction is very low

\*\* = Thread phosphated

\*\*\* = Preferably for hot dip galvanized

Molykote® coated heavy nuts for high-strength structural bolting and heat-resistant nuts class 5-2 are available on special order.