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MOLYKOTE® D-321 R Anti-Friction Coating

Air-curing dry-film lubricant in bulk liquid or aerosolized spray form

Features & benefits

- Air drying
- Avoidance of stick-slip
- High aging resistance
- No intentional polytetrafluoroethylene (PTFE) or per- and polyfluoroalkyl substances (PFAS)

Composition

- Solid lubricants
- Solvents
- Binder

Applications

For metal/metal combinations with slow to medium fast movements and high loads. Both the liquid coating and aerosolized spray have been used for improving the running-in process and for lubrication of plain bearings, bushings and sleeves, power screw drives, threaded connections/fasteners, and high voltage switches – even under high vacuum and at extreme temperatures.

Additionally, MOLYKOTE® D-321 R Anti-Friction Coating is used frequently for slides, guides and tracks.

MOLYKOTE® D-321 R Anti-Friction Coating Spray is frequently used on hard to reach surfaces or for emergency boundary lubrication as well as on chains or as a multi-purpose penetrant.

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		Gray-black
Physical properties			
ISO 2431	Viscosity at 23°C (#3 cup)	seconds	23
DIN 53217/2	Density at 20°C	g/ml	1.07
CTM 0242 I	Nonvolatile content	%	29
Temperature			
	Service temperature range	°C	-180 to 450
Load-carrying capacity, wear protection, service life			
ASTM D2625	Falex load-carrying capacity[2]	N	b = 4,500 p = 12,500 s = 6,800
ASTM D2714	LFW-I, rotating[2] F = 2,860 N, n = 72 rpm[2], V = 7.9 m/minute No. of revolutions x 1,000 to μ = 0.1		b = 212 p = 146 s = 306

[1]ISO: International Standardization Organization DIN: Deutsche Industrie Norm. CTM: Corporate Test Method, copies of CTMs are available on request. ASTM: American Society for Testing and Materials
[2]Surface pretreatment: b = blank, p = phosphated, s = sand blasted.

How to use

Surface preparation

First, clean and degrease the surface that will be coated with MOLYKOTE® D-321 R Anti-Friction Coating or MOLYKOTE® D-321 R Anti-Friction Coating Spray. Phosphatization or sandblasting (180 grit) increases the adhesion and service life.

How to apply

Bulk liquid MOLYKOTE® D-321 R Anti-Friction Coating should be stirred or rolled thoroughly before applying by brushing or spraying.

Aerosolized cans of MOLYKOTE® D-321 R Anti-Friction Coating Spray should be shaken thoroughly before applying. For best results, apply coating in a sweeping motion to obtain a thick, uniform coating.

Recommended dry-film thickness: 5 to 20 µm.

Drying Time

After 5 minutes at 23°C, the applied film of MOLYKOTE® D-321 R Anti-Friction Coating or MOLYKOTE® D-321 R Anti-Friction Coating Spray is touch-dry; this process time can be reduced to 1 minute by exposing the coated part to hot air at 80°C.

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Curing time
MOLYKOTE® D-321 R Anti-Friction Coating and MOLYKOTE® D-321R Anti-Friction Coating Spray are fully cured and ready for use after 2 hours at 23°C.

Solubility
Thinning can be carried out using MOLYKOTE® L-13 Thinner.

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 between 0 and 40°C in the original unopened containers, these products have a usable life of 24 months from the date of production.

Because it is an aerosol, punctures should be avoided, and containers should be kept away from heat, sparks and open flame.

Packaging

The bulk liquid is available in different standard container sizes as shown on **molykote.com**; the aerosolized spray is available in a can. Detailed container size information should be obtained from your nearest MOLYKOTE® sales office or MOLYKOTE® distributor.

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