



MOLYKOTE® 557 Silicone Dry Film Lubricant

Extreme-pressure dry-film lubricant provides exceptional release & lubricating properties

Features

- Colorless
- Nonstaining
- No intentional polytetrafluoroethylene (PTFE) or per- and polyfluoroalkyl substances (PFAS)

Composition

- Waxlike, extreme-pressure lubricant
- Supplied as liquid or aerosol; remains as wax film after solvent evaporation

Applications

MOLYKOTE® 557 Silicone Dry Film Lubricant can be used:

- In steel production, where it can increase slitter-blade life, resulting in clean, square edges
- In aluminum production, where it can lengthen the life of tools and dies, improve surface finish, lubricate sliding surfaces and surfaces during extruding, deep drawing or spinning
- In machine shops, where it can improve surface finishes; extend the life of cutting tools, taps, dies, drills, slitters, and forming tools; reduce wear and reduce stick-slip or metal seizure on bearings, slides, cams adjusting screws, guides and ways
- For textile, paper and woodworking industries, where it can reduce wear and friction and reduce product staining from spinning frames, knives, scissors, punches, chain, conveyors or material-handling equipment
- For rubber and plastic industries, where it can reduce sticking, pickup or product contamination from handling equipment, knives, conveyors or sliding surfaces

Description

MOLYKOTE® 557 Silicone Dry Film Lubricant is:

- An extreme-pressure lubricant with exceptional release properties for cutting and forming metals, and with lubricating properties for heavily loaded tracks, cams, slides, etc.
- Colorless in thin films
- Nonstaining to paper or fabrics

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
As supplied			
	Color		Clear
CTM 0137A	Specific gravity		0.77
	Flash point ⁽²⁾	°C (°F)	39 (102)
	Service temperature range ⁽³⁾	°C (°F)	-40 to 43 (-40 to 110)
	Drying time	minutes	30
	Solvent, bulk		Naphtha
As applied			
	Appearance		Clear wax film
	Melting range	°C (°F)	32 to 46 (90 to 115)
	Press fit ⁽⁴⁾		No stick-slip
ASTM D2596	Four ball weld load	N	1,200
Fed Std 791a ⁽⁵⁾	Four ball wear scar	mm	0.85
	Coefficient of friction ⁽⁴⁾		0.07

⁽¹⁾ASTM: American Society for Testing and Materials. Corporate Test Methods (CTMs) correspond to standard ASTM tests in most instances; copies of CTMs are available upon request. Fed Std: Federal Standard.

⁽²⁾Bulk form only.

⁽³⁾Estimated service temperature range based on product formulation and laboratory testing. Actual service temperature range is dependent on other factors, including the specific application environment.

⁽⁴⁾Tested on a Falex LFW-4 Press Fit tester, steel vs. steel, Rc60, 0.6-inch per minute, 12,000 psi in air, room temperature.

⁽⁵⁾Method 6514.1.

The solvent evaporates after application, leaving a nearly transparent, thin film. This lubricant film begins to melt at 32°C (90°F) and adheres tenaciously to most surfaces, whether in a solid or fluid state.

Listings/specifications

MOLYKOTE® 557 Silicone Dry Film Lubricant is authorized for use in official establishments operating under the Federal Meat and Poultry Inspection Program (formerly USDA H2 ratings) where there is no possibility of food contact.

How to use

MOLYKOTE® 557 Silicone Dry Film Lubricant may be sprayed from an aerosol can or an automatic lubricator, applied by brushing or dipping. Only a very thin film is needed for maximum results. The film is useful immediately after the solvent evaporates.

Avoid freezing. If bulk MOLYKOTE® 557 Silicone Dry Film Lubricant separates due to freezing, heat the solution to 32°C (90°F) and stir the product until the wax dissolves back into solution. It should remain stable until frozen again or until excessive solvent evaporation occurs.

Avoid unnecessary solvent loss, where possible, by closing open application systems. When dipping, use the smallest dip container appropriate to the volume of parts being coated. Keep containers closed unless dipping or removing product. Do not leave dip drums or tanks open overnight or between shifts.

In most dip operations, excessive solvent loss is unavoidable and the solvent must be replenished. Adding naphtha alone will not suffice. The solvent component consists of 94 percent naphtha (41°C [105°F] flash point) mixed with methyl amyl alcohol. This premix should be added to the depleted product that has been heated to 32°C (90°F) and stirred until all wax solids have gone back into solution. Methyl amyl alcohol can be added up to 8 percent, but not less than 6 percent of the solvent mixture.

The amount of premix solvent to be added can be determined through experience or by conducting a percent solids test by weighing a well-mixed 3 g (0.1 oz) sample, heating to 105°C (221°F) for 20 minutes and weighing the remaining wax at room temperature. When adding solvent, strive for no more than 8 percent wax solids unless a thicker film is desired than provided by the standard formulation.

This rejuvenation process should work three to four times, after which the used material should be replaced with fresh product.

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Removal of film

MOLYKOTE® 557 Silicone Dry Film Lubricant may be removed by most solvents or by vapor degreasing.

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 25°C (77°F), MOLYKOTE® 557 Silicone Dry Film Lubricant has a shelf life of 60 months from date of manufacture. Refer to product packaging for "Use By" date.

When stored at or below 4°C (40°F), solid material may precipitate. When the material is warmed to room temperature, this material will readily redissolve without affecting lubrication properties.

When stored at or below 25°C (77°F), MOLYKOTE® 557 Silicone Dry Film Lubricant Spray has a shelf life of 24 months from the date of manufacture. Refer to product packaging for "Use By" date. Because it is an aerosol, punctures should be avoided, and containers should be kept away from heat, sparks and open flame.

Packaging

The liquid and aerosol products are available in different standard container sizes as shown on molykote.com. Detailed container size information should be obtained from your nearest MOLYKOTE® sales office or MOLYKOTE® distributor.

Shipping limitations

MOLYKOTE® 557 Silicone Dry Film Lubricant is a combustible material.

MOLYKOTE® 557 Silicone Dry Film Lubricant Spray has the DOT Classification: Compressed gas NOS – flammable gas.