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MOLYKOTE® 5 Compound

Dielectric compound used on insulators and bushings; as a lubricant for high-current switches

Features & benefits

- Nonconductive
- Water-repellent
- Long-lasting
- Easy to apply
- Helps prevent formation of conductive paths
- No intentional polytetrafluoroethylene (PTFE) or per- and polyfluoroalkyl substances (PFAS)

Composition

- Greaselike silicone paste with phenylmethyl-based fluid

Applications

Applications where improved metal-to-metal lubricity (compared to other MOLYKOTE® brand silicone compounds) is needed. To help prevent arcing and flashovers on insulators and bushings. As a contact lubricant on high-voltage equipment. To lubricate static and dynamic O-ring seals in hot-melt adhesive equipment. To help prevent rust and corrosion on insulator threads and bolts; also helps in removal of insulators and hardware for replacement. As a water-repellent filling material to help prevent moisture from traveling inside the rubber jacket of service entrance cable (can be injected using a grease gun with a needle-type nozzle). To help prevent oxidation and corrosion on contacts and band-tightening screws of socket-type watt-hour meters.

Description

MOLYKOTE® 5 Compound is a greaselike material containing an inert amorphous silica filler in combination with selected dimethyl and phenylmethyl silicone fluids. This nonconductive compound is used primarily for applications requiring compatibility with rubber, metal, and plastic.

Specific features include:

- Easy application by hand, wiping, brushing, or automated equipment
- Room-temperature consistency over a wide range of hot and cold temperatures
- Serviceable temperature range of -54 to 232°C (-65 to 450°F) – a significant improvement over other silicone compounds
- Resistance to oxidation and moisture

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		Light gray to translucent white
ASTM D217	Penetration, unworked	mm/10	170-230
ASTM D1403	Penetration, worked 60 (1/2 scale)	mm/10	228
AMS8660	Bleed, 30 hours at 204°C (399°F)	%	0.4
AMS8660	Evaporation, 30 hours at 204°C (399°F)	%	1.2
ASTM D471, AMS8660	Volume change rubber SRE-NBR-28/PX	%	-0.6
ASTM D2240	Durometer hardness Delta (80 Shore A)		+2
AMS8660	Flammability	Pass/Fail	Pass
AMS8660	Corrosive effects (metals)	No evidence	Pass
ASTM D1478	Low temp torque, -65°F (-54°C)		
	Starting torque	gm-cm	2087
	Running torque, 60 minutes	gm-cm	313
ASM8660	Waterproof seal, 24 hours at 25°C (77°F)	Pass/Fail	Pass
ASTM D149, AMS8660	Dielectric strength, 50 mil	volts/mil	321
ASTM D257, AMS8660	Volume resistivity		
	@ 23°C, 500VDC	ohm-cm	1.61×10^{14}
	@ 177°C, 500VDC	ohm-cm	1.51×10^{14}
ASTM D495, AMS8660	Arc resistance (mean)	seconds	124

[1] ASTM: American Society for Testing and Materials. AMS: Aerospace Materials Specifications.

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- Virtually inert and nonvolatile

How to use

MOLYKOTE® 5 Compound can be applied by hand, brush, wipe, or specially designed automated equipment. However, certain dispensing equipment may seize with silicone compounds, so testing is recommended prior to use.

If a thinner consistency is needed, the compound can be dispersed in low-viscosity polydimethyl siloxane fluid (i.e., ≈20 cSt viscosity) or other solvents and applied by brushing, dipping, or spraying.

Note: When using any solvent, always provide adequate ventilation. Follow precautions on solvent container label.

MOLYKOTE® 5 Compound can be cleaned from a surface by wiping or washing with low-viscosity polydimethyl siloxane fluid (i.e., ≈20 cSt viscosity) or other solvents, or by washing with detergent.

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

MOLYKOTE® 5 Compound has a shelf life of 60 months from date of manufacture. Refer to product packaging for “Use By” date.

Packaging

This product is 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.

Typical properties, cont.

Standard(1)	Test	Unit	Result
ASTM D150, AMS8660	Dielectric constant		
	1 kHz		2.77
	1 MHz		2.91
	10 MHz		2.76
ASTM D150, AMS8660	Dissipation factor		
	1 kHz		0.0004
	1 MHz		0.0017
	10 MHz		0.0026
ASTM D5470 (TIM)	Thermal conductivity @ 30°C	W/mK	0.238
ASTM E2716	Specific heat		
	@ 50°C	J/(g °C)	1.385
	@ 100°C	J/(g °C)	1.502
	@ 150°C	J/(g °C)	1.541

(1) ASTM: American Society for Testing and Materials. AMS: Aerospace Materials Specifications.

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Limitations

MOLYKOTE® 5 Compound should not be applied to any surface that will be painted or finished. Such coatings may not adhere to the silicone-treated surfaces.

Not recommended for use with highly oxidative chemicals (e.g., liquid chlorine, liquid oxygen). Not recommended as a lubricant in metal bearings.

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