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MOLYKOTE® 4 Electrical Insulating Compound

Silicone-based compound with semi-flowable consistency that exhibits excellent dielectric strength and electrical insulating properties

Features & benefits

- High dielectric strength and excellent electrical insulating properties
- Good adhesion to most dry materials, including metals, elastomers, polymers and ceramics
- Semi-flowable rheology may allow compound to enter complex geometries
- Good moisture resistance and water repellency
- Low volatility and evaporation
- Good oxidation stability
- Excellent low temperature performance and broad temperature range (-54°C to 200°C)
- Certified to NSF 51 and 61, meets 21 CFR 175.30, Kosher Pareve, Halal
- Material tested to AMS8660 Tables 1-4, see **Typical properties** table
- No intentional polytetrafluoroethylene (PTFE) or per- and polyfluoroalkyl substances (PFAS)

Applications

Used as a lubricant and seal for cable connectors, battery terminals, rubber seals, elastomer and polymer O-rings, and assembly of various metal on polymer and metal on rubber combinations. A moisture proof seal for transportation and industrial applications including ignition systems, sealed electrical connectors, disconnect junctions, and terminals where a semi-flowable consistency material is appropriate. Consider using MOLYKOTE® 111 Compound or MOLYKOTE® 5 Compound if higher consistency material is needed related to electrical based applications or MOLYKOTE® 112 High-Performance Lube/Sealant for critical mechanical based applications.

How to use

MOLYKOTE® 4 Electrical Compound can be applied by hand, brushing or wiping into the application. Shear can impact the product rheology and cause increase in flow characteristics which can be a benefit in some applications where material needs to flow into complex geometries. If the application is not tolerant to variation in rheology characteristics, mechanical means of sealing or isolating the material is recommended. Designed

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	Test	Unit	Typical
	Color		Light gray to translucent white
ASTM D217	Penetration, unworked	mm/10	200-250
ASTM D217	Penetration, worked 60,	mm/10	310 max
ASTM D217, AMS8660	Penetration, worked 60, after 24 hrs at 204°C	mm/10	310 max
AMS8660	Bleed, 30 hrs at 204°C	%	4.4
AMS8660	Evaporation, 30 hrs at 204°C	%	1.1
ASTM D471, AMS8660	Volume change rubber SRE-NBR-28/PX	%	-0.7
ASTM D2240	Durometer hardness Delta (80 Shore A)		0
AMS8660	Flammability	Pass/Fail	Pass
AMS8660	Corrosive effects (metals)	No evidence	Pass
AMS8660	Corrosive effects (non-metals)	No evidence	Pass
ASTM D1478	Low temp torque, -65F and (-54C)		
	Starting torque	gm-cm	676
	Running torque, 60 minutes	gm-cm	197
AMS8660	Waterproof seal, 25°C for 24 hours	Pass/Fail	Pass
AMS8660	Insolubility 8-day soak		Pass
ASTM D149, AMS8660	Dielectric strength, 50 mil	volts/mil	338

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

Continued on next page.

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Typical properties, cont.

Standard[1]	Test	Unit	Typical
ASTM D257, AMS8660	Volume resistivity		
	@ 23°C, 500VDC	ohm-cm	4.62×10^{13}
	@ 177°C, 500VDC	ohm-cm	4.11×10^{13}
ASTM D495, AMS8660	Arc resistance (mean)	Seconds	225
ASTM D150, AMS8660	Dielectric constant		
	1kHz		2.80
	1MHz		2.89
	10MHz		2.80
ASTM D150, AMS8660	Dissipation factor		
	1 kHz		0.0006
	1 MHz		0.0013
	10 MHz		0.0024
ASTM D5470 (TIM)	Thermal conductivity @ 30°C	W/mK	0.235
ASTM E2716	Specific heat		
	@ 50°C	J/(g°C)	1.266
	@ 100°C	J/(g°C)	1.457
	@ 150°C	J/(g°C)	1.471
AMS8660	Storage stability 6 months at 38°C		Pass

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

automation dispensing is possible but should be validated at customer prior to use due to high shear from pumps. Silicone compounds should not be applied to surfaces that require painting or coating.

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 in the original unopened containers, this product has a usable life of 60 months from the date of production.

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.

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