MOLYKOTE® 111 Compound

Features & benefits

- Wide service-temperature range (-40°C/-40°F to 204°C/400°F)
- Excellent water resistance
- Compatible with many plastics and elastomers
- Low vapor pressure
- Low volatility
- Meets several global standards for water contact
- No intentional polytetrafluoroethylene (PTFE) or per- and polyfluoroalkyl substances (PFAS)

Composition

- Silicone oil
- Inorganic thickener

Applications

Lubrication for control and pressure plug valves, water softener and faucet valves. Sealant for vacuum and pressure systems and outdoor equipment (also shipboard) subject to washing and harsh environmental exposure, such as meters, electrical service entrance and underground connections. Damping medium for dash pots in electrical and electronic equipment. As an anti-stick and a sealant for transformer gasket and equipment enclosures – it prevents gaskets from sticking to metal and resists weathering and water washout. Also suitable for rubber and plastic O-rings, gaskets and seals.

Certifications

MOLYKOTE® 111 Compound meets several global standards for water contact, including NSF 51, NSF 61, FDA 21 CFR 175.300, Water Regulations Advisory Scheme Approval BS6920 (England), IPL Certificate of Conformity (France), AS/NZS 4020:2018 (Australia), and the hygiene suitability for drinking water contact from HyCert (Germany).

How to use

How to apply

MOLYKOTE® 111 Compound can be applied by hand, specially designed automated equipment, brushing or wiping. Certain designs of grease guns may seize up; test prior to use. A thinner consistency can be achieved by dispersing in solvents such as xylene, mineral spirits and methyl ethyl ketone. MOLYKOTE® 111 Compound can then be applied by brushing, dipping or spraying.

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		White to light gray; translucent
ASTM D217	Penetration, unworked	mm/10	170 to 230
ASTM D217, ISO 2137	Penetration, worked 60	mm/10	260 max
AMS8660	Bleed, 30 hrs at 204°C	%	0.2
AMS8660	Evaporation, 30 hrs at 204°C	%	0.8
ASTM D471, AMS8660	Volume change rubber SRE-NBR-28/PX	%	-0.4
ASTM D2240	Durometer hardness Delta (80 Shore A)		0
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	9100
	Running torque, 60 minutes	gm-cm	2015
ASM8660	Waterproof seal, 25°C for 24 hours	Pass/Fail	Pass
ASTM D149, AMS8660	Dielectric strength, 50 mil	volts/mil	320
ASTM D257, AMS8660	Volume resistivity		
	@ 23°C, 500VDC	ohm-cm	1.09×10^{14}
	@ 177°C, 500VDC	ohm-cm	9.92×10^{13}
ASTM D495, AMS8660	Arc resistance (mean)	Seconds	184

[1] ASTM: American Society for Testing and Materials. AMS: Aerospace Materials Specifications. ISO: International Standardization Organization.

Continued on following page.

Typical properties, cont.

Standard[1]	Test	Unit	Result
ASTM D150, AMS8660	Dielectric constant		
	1 kHz		2.75
	1 MHz		2.81
	10 MHz		2.74
ASTM D150, AMS8660	Dissipation factor		
	1 kHz		0.0005
	1 MHz		0.0011
	10 MHz		0.0013
ASTM D5470 (TIM)	Thermal conductivity @ 30°C	W/mK	0.248
ASTM E2716	Specific heat		
	@ 50°C	J/(g°C)	1.358
	@ 100°C	J/(g°C)	1.429
	@ 150°C	J/(g°C)	1.451

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

MOLYKOTE® 111 Compound should not be applied to any surface that will be painted or finished. Such coatings may not adhere to the silicone-treated surface. If contaminated by a silicone coating, parts can be wiped or washed with solvent, washed with detergent, or immersed in an alcoholic potassium hydroxide solution and then rinsed in clear water before painting.

Chemical resistance
MOLYKOTE® 111 Compound is not greatly affected by mineral oils, vegetable oils or air. It is generally resistant to dilute acids and alkalines and to most aqueous solutions.

Because each application may vary in chemical composition, pressure, flow velocity, relubrication requirements and equipment design, it is recommended that the silicone compound be tested before adopting for regular use.

MOLYKOTE® 111 Compound is not to be used with liquid oxygen and should not be used in applications requiring LOX compatibility.

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, 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.