

Product Information

Specialty Lubricants

Dow Corning[®] 7 Release Compound, *Dow Corning*[®] 4 Electrical Insulating Compound and *Dow Corning*[®] 111 Valve Lubricant & Sealant

FEATURES

- Maintain room temperature consistency from -40 to 400°F (-40 to 204°C)
- Practically nonvolatile
- Odorless
- Resistant to a wide range of chemicals; generally resistant to mineral oils, vegetable oils, air, dilute acids, alkalines and most aqueous solutions; *Dow Corning* 111 Valve Lubricant & Sealant is quite resistant to a variety of organic and inorganic chemicals
- Moisture resistant
- Electrically insulating
- Excellent rubber lubrication
- Excellent release and sealing properties
- Resistant to oxidation
- Essentially nontoxic and non-melting
- Show little tendency to dry out in service

COMPOSITION

- Greaselike materials containing an inert amorphous silica filler in combination with selected polydimethyl silicone fluids

Dimethyl silicone compounds for a variety of lubrication and protection applications

USES

Dow Corning[®] 7 Release Compound can be used in applications including:

- Mold release agent for foundry shell and core molds
- Break-in treatment for bladders on tire presses
- Rubber lubricant and preservative
- Release agent for adhesives and glues
- Airframe lubricant
- Cable-pulling lubricant to draw rubber-covered cable through conduit
- Release agent for plastic extruders and processing equipment
- Release agent for plastic film packaging machines

Uses of *Dow Corning*[®] 4 Electrical Insulating Compound include:

- Moisture-proof seal for aircraft, automotive and marine ignition systems and spark plug connections
- Waterproof electrical connections
- Electrical assemblies and terminals
- Seal and lubricant for cable connectors, battery terminals, rubber door seals and rubber and plastic O-rings
- Assembly lubricant for various metal-on-plastic and metal-on-rubber combinations
- Lubrication for control and pressure plug valves

Dow Corning[®] 111 Valve Lubricant & Sealant can be used in applications such as:

- Sealant for vacuum and pressure systems
- Sealant for outdoor equipment, including shipboard applications, subject to washing and harsh environments; meters; electrical service entrance and underground connections
- Damping medium for dash pots in electrical and electronic equipment
- Chemical barrier coating
- Antistick and sealant for transformer gaskets and equipment enclosures, which help prevent gaskets from sticking to metal and resist weathering and water washout
- Lubricant for rubber and plastic O-rings (see Use Limitations)
- Sealant for gaskets and seals
- Lubricant for water softener and faucet valves
- Valve stem lubricant for potable water
- Aircraft vacuum systems

DESCRIPTION

Dimethyl silicone compounds come in three basic consistencies:

- Light – *Dow Corning* 7 Release Compound
- Medium – *Dow Corning* 4 Electrical Insulating Compound
- Heavy – *Dow Corning* 111 Valve Lubricant & Sealant

LISTINGS/ SPECIFICATIONS

These compounds are permitted for food contact use under FDA Regulation 21 CFR 175.300, covering polymeric coatings applied as continuous film over a metal substrate. Additionally, these compounds are listed under NSF Standard 51 for use in food processing equipment and NSF Standard 61 for use in potable water applications.

Dow Corning 4 Electrical Insulating Compound is designed to meet the requirements of MIL-S-8660C.

HOW TO USE

For best results, clean and dry surfaces before application.

Dow Corning silicone compounds can be applied by hand, by specially designed automated equipment, or by brushing or wiping. When using some high pressure dispensing equipment, separation and compaction can occur. Certain designs of grease guns may seize with silicone compounds; test prior to using.

Where a thinner consistency is needed, the compound can be dispersed in a solvent and applied by brushing or spraying.¹

USE LIMITATIONS

These specific *Dow Corning* compounds should not be applied:

- To any surface that will be painted or finished. Such coatings may not adhere to the

silicone-treated surfaces. If contaminated by a silicone coating, parts can be wiped or washed with solvent or washed with detergent.

- To O-rings or other components made of silicone rubber because they can deteriorate the silicone rubber. These compounds will also slightly swell natural butyl rubbers. Any rubber should be tested for excessive swell or shrink.

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

These compounds are not intended for use with liquid oxygen or other strong oxidizing chemicals and should not be used in applications requiring LOX compatibility.

These products are neither tested nor represented as suitable for medical or pharmaceutical uses.

SHIPPING LIMITATIONS

None.

STORAGE AND SHELF LIFE

When stored at 77°F (25°C), these *Dow Corning* silicone compounds have a shelf life of at least 36 months from date of manufacture. Refer to product packaging for “Use By” date.

PACKAGING

These *Dow Corning* silicone compounds are supplied in 5.3-oz (150-g) tubes, 8-lb (3.6-kg) cans, 40-lb (18.1-kg) pails and 440-lb (199.6-kg) drums.

Dow Corning 111 Valve Lubricant & Sealant is also available in 14.1-fl oz (400-g) cartridges.

SAFE HANDLING INFORMATION

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY WRITING TO DOW CORNING CUSTOMER SERVICES, OR BY CALLING (517) 496-6000.

WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer’s tests to ensure that Dow Corning’s products are safe, effective, and fully satisfactory for the intended end use.

Dow Corning’s sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. Dow Corning specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability. Unless Dow Corning provides you with a specific, duly signed endorsement of fitness for use, Dow Corning disclaims liability for any incidental or consequential damages. Suggestions of use shall not be taken as inducements to infringe any patent.

¹Follows solvent manufacturer’s recommended safe handling instructions and applicable federal, state and local regulations.

TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

Method	Test	Unit	Result		
			<i>Dow Corning</i>	<i>Dow Corning</i>	<i>Dow Corning</i>
			7 Release	4 Electrical	111 Valve
			<u>Compound</u>	<u>Compound</u>	<u>Lubricant & Sealant</u>
			White, translucent	White, translucent	White, translucent
Physical					
CTM ¹ 0176	Color		#1	#2	#3
CTM 0191	NLGI		270	240	205
	Penetration, worked 60 worked 100,000		322	279	217
CTM 0033A	Bleed, 24 hr/392°F (200°C)	percent	6.5	4.5	0.05
CTM 0033A	Evaporation, 24 hr/392°F (200°C)	percent	0.8	1.4	1.1
	Service Temperature Range	°F (°C)	-40 to 400 (-40 to 204)	-70 to 400 (-57 to 204)	-40 to 400 (-40 to 204)
	Melting Point		None	None	None
CTM 0022	Specific Gravity at 77°F (25°C)		1.0	1.0	1.0
	FDA Recognition, 21 CFR 175.300		Yes	Yes	Yes
Electrical					
CTM 0112	Dielectric Constant,				
	at 100 Hz		2.85	2.98	2.88
	at 100 kHz		2.83	3.01	2.95
CTM 0112	Dissipation Factor,				
	at 100 Hz		<0.0001	0.0001	0.0001
	at 100 kHz		<0.0001	<0.0002	<0.0005
CTM 0114	Dielectric Strength, 50 mil gap	volts/mil	>450	>450	>450
	Volume Resistivity at 73°F (23°C)	ohm-cm	2.8 x 10 ¹⁵	1.1 x 10 ¹⁵	2.17 x 10 ¹⁵
CTM 0171	Arc Resistance	seconds	126	130	124

¹CTMs (Corporate Test Methods) correspond to standard ASTM tests in most instances. Copies of CTMs are available upon request.

Specification Writers: Please obtain copies of the Dow Corning Sales Specifications for these products and use them as a basis for your specifications. They may be obtained from any Dow Corning Sales Office, or from Dow Corning Customer Service in Midland, MI. Call (517) 496-6000.

