



DOW CORNING

Industrial Equipment
and Maintenance
Solutions

Certified Solutions for Food and Beverage Processing

Gain efficiency with lubricants and sealants from Dow Corning





INCREASE PERFORMANCE.

REDUCE SERVICE REPAIRS AND COSTS.

Efficiently operating food and beverage processing plants requires reliable industrial maintenance – with materials that meet critical industry regulations.

You need durable lubricants ... adhesives and sealants to help reduce unplanned maintenance ... products that fight corrosion, resist water washout, and remain stable under hot and cold temperatures.

For maximum productivity, you need certified solutions from Dow Corning.

Dow Corning's experience and expertise can help you with solutions for:

- Mixers, ovens and equipment
- Pumping and wash systems, process tanks, filling and packaging/bottling lines, centralized lubrication systems, hydraulics/pneumatics, and sealing requirements
- Cutters and saws, mixers, cooking/freezing chambers, conveyor systems, and packaging equipment
- Gearboxes, chains, compressors and valves
- Reducing maintenance, downtime and repair expenses

Potential applications include:

- Baked goods and confectionaries
- Milk and beverage processing
- Meat-processing and meat-packing plants
- Food carton fabricators
- Food-canning operations
- Sugar mills



CERTIFIED SOLUTIONS



High-performance materials from Dow Corning are well-suited for food and beverage operations. Many products conform to critical food-production requirements, including NSF and FDA regulations.

Molykote® brand specialty lubricants provide *Smart Lubrication™* solutions for the harsh conditions of food and beverage operations. Choose from a wide range of greases, oils, fluids, lubricant compounds and special-purpose sprays.

- **High-performance greases** can be used to lubricate bearings, gears, chains and sliding mechanisms in food and beverage processing applications and are suitable for lubrication points with low to high loads, moderate to high temperatures, and moderate to high speeds.
- **Compressor and pump fluids** are formulated to meet or exceed the performance requirements of most comparable OEM fill applications. These compressor and vacuum pump oils are compatible with mineral oils and systems designed for mineral oil lubrication. Oil analysis testing service is available for purchase to assist in product selection to ensure lubricant life is maximized. For more information, email us at industrial@dowcorning.com.
- **Gearbox and chain lubricants** help prevent wear and process interruptions in power transmission systems and components. Compared

to conventional oils, they also offer greater resistance to oxidation and stable performance at high temperatures and under high loads. *Molykote®* brand gearbox oils maximize fill intervals and maintain viscosity characteristics at wide temperature ranges.

- **Hydraulic oils** minimize formation of emulsions in contact with water due to the purity of the base fluid. They generally will perform successfully in hydraulic systems far longer than conventional hydraulic oils. Plants can gain significant savings from reduced oil consumption, reduced disposal cost, labor savings and fewer interruptions to production. These nontoxic oils are derived from hydrocracked or synthetic base stocks and can be used in systems designed for low-pour-point or high-flash-point mineral oils.
- **Multipurpose oils** provide protection and lubrication for a wide range of moving components in industrial systems. Your Molykote representative can help you select the right oil from a range of viscosities, additive packages and pour points.
- **Pastes** consist of high concentrations of solid lubricants dispersed in oil for convenient application. In cases where oils and greases are squeezed out of the lubricating contact, solid lubricants form tenacious adhering films that prevent damage under extreme loads and low speeds. Major applications are initial assembly and running-in.



- **Dispersions** are finely dispersed solids or other lubricants suspended in lubricating fluids. They are preferred where it is necessary to apply solid lubricants

in liquid form to units in operation or to otherwise inaccessible points. Some dispersions serve as anti-wear and extreme-pressure additives for lubricating oils such as gear and engine oils.

Dow Corning® and Molykote® brand silicone compounds are greaselike lubricants that contain silicone fluids and inert silica fillers. They are resistant to oxidation and thermal degradation while maintaining their properties over a wide temperature range. They are designed as release agents and may be used as O-ring assembly lubricants, as nonconductors of electricity, as noncuring sealants and as assembly lubricants for plastic and rubber parts. Silicone compounds may be used for applications in which they function in a dual role as both lubricant and sealant.

Dow Corning® brand silicone adhesives and sealants provide options for strong bonding and sealing, form-in-place gasketing, coatings, and hot-melt adhesives.

Silicone-based sealants last longer and are more versatile than most organic polymer sealants. They cure at room temperature to a tough, rubbery solid with exceptional performance characteristics and meet a wide variety of your industrial bonding and sealing needs. *Dow Corning* silicone sealants are stable over a wide temperature range, typically from -70 to 350°F/-56 to 177°C (400°F/204°C intermittent), with still others capable of higher thermal stability up to and exceeding 500°F/260°C (600°F/315°C intermittent).

- **Acetoxy sealants** are competitively priced versus organics and offer fast cure. These one-part sealants offer good shelf life and adhesion durability, and they are available in clear and no-catalyst versions.
- **Alkoxy sealants** offer robust adhesion in a neutral-cure, low-VOC formulation; economical chalk-filled formulations are available.
- **Hot-melt sealants** provide instant green strength for immediate hold, which enables instant assembly – no “hold time” is required. These sealants have a proven, neutral-cure 100% silicone chemistry with aggressive adhesion to a variety of substrates. The worker-friendly formulation has low odor and is nonhazardous, and it features a long pot life and long open time.





Tenaciously tacky bearing grease resists water spray-off to deliver wear resistance

Mechanical equipment operating in a water-rich environment, such as can cookers, requires special lubrication that’s tough enough to perform effectively – to simultaneously resist water spray-off and prevent wear and corrosion. *Molykote® G-1502FM Synthetic Bearing & Gear Grease* delivers that combination.

Of 10 greases tested (Figure 1), *Molykote G-1502FM Synthetic Bearing & Gear Grease* best demonstrated the ability to minimize both grease loss and wear scar. In high-pressure wash-down and spray-off environments, *Molykote G-1502FM Grease* stays put longer and increases equipment life – stretching your maintenance intervals but not your budget.

Figure 1: *Molykote® G-1502FM Grease* minimizes wear scar and grease loss



NOTE: All four-ball wear scar results are recorded as average results of vertical and horizontal scars from three different balls.

NSF H1 – INCIDENTAL FOOD CONTACT

Bearing Greases	Base Oil	Viscosity @ 40°C	Thickener	Solid Lubricants	Penetration, mm/10	NLGI Number	Service Temperature Range, °C	Dropping Point, °C	Four-Ball Weld Load, N
Molykote® G-0050 FM White EP Bearing Grease	MO	98.7	Al Complex	White Solids	370 (unworked)	0	-17 to 150	260	3,922
Molykote® G-0051 FM White EP Bearing Grease	MO	98.7	Al Complex	White Solids	325 (unworked)	1	-17 to 150	256	7,845
Molykote® G-0052 FM White EP Bearing Grease	MO	98.7	Al Complex	White Solids	280 (unworked)	2	-17 to 150	269	6,080
Molykote® G-1502FM Synthetic Bearing & Gear Grease	PAO	220	Al Complex	White Solids	255 (unworked); 250 (worked)	2.5	-40 to 149	260	3,922
Molykote® G-4000 FM Semi-Fluid Synthetic Grease	PAO	220	Al Complex	PTFE	410 to 440 (worked)	00	-40 to 149	200	3,089
Molykote® G-4500 FM Multi-Purpose Synthetic Grease	PAO	100	Al Complex	PTFE, White Solids	265 to 295 (unworked)	2	-40 to 150	270	3,090
Molykote® G-4500 Multi-Purpose Synthetic Grease (Aerosol)	PAO	100	Al Complex	PTFE, White Solids		2	-40 to 150	270	3,090
Molykote® G-4501 FM Multi-Purpose Synthetic Grease	PAO	100	Al Complex	PTFE, White Solids	310 to 340 (unworked)	1	-40 to 150	260	>3,100
Molykote® G-5032 Grease	Silicone	499 @ 25°C	PTFE	PTFE	265 to 295 (worked)	2	-40 to 200	>280	1,570
Molykote® HP-300 Grease	PFPE	160	PTFE	PTFE	280 (worked)	2	-40 to 200		3,340
Molykote® HP-500 Grease	PFPE	420	PTFE	PTFE	280 (worked)	2	-20 to 200		3,440
Compressor and Vacuum Pump Oils	ISO Grade	Base Oil	Additive Package	Viscosity @ 40°C, cSt	Viscosity @ 100°C, cSt	Viscosity Index	Pour Point, °C	Flash Point, Closed Cup °C	Density, g/mL
Molykote® L-1232 FM Synthetic Compressor Oil	32	PAO	R&O	30.2	5.7	138	-60	241	0.826
Molykote® L-1246FM Synthetic Compressor Oil	46	PAO	R&O	47	7.9	138	-42	246	0.829
Molykote® L-1668 FM Synthetic Blend Vacuum Pump Oil	68	MO/PAO	R&O	63.1	9	113	-18	229	0.856
Gearbox and Chain Oils	ISO Grade	Base Oil	Additive Package	Viscosity @ 40°C, cSt	Viscosity @ 100°C, cSt	Viscosity Index	Pour Point, °C	Flash Point, °C	Density @ 20°C, g/mL
Molykote® L-0115FM Gear Oil - ISO 150	150	MO	R&O/AW	150	15.4	100	-18	260	0.86
Molykote® L-0122FM Gear Oil - ISO 220	220	MO	R&O/AW	219.1	20	101	-21	254	0.86
Molykote® L-0146FM Gear Oil - ISO 460	460	MO	R&O/AW	441.1	33.1	107	-18	302	0.88
Molykote® L-0460 FM Chain Oil	68	MO	R&O/AW/T/PPD	66	8.3	100	-12	240	0.858
Molykote® L-1115FM Synthetic Gear Oil - ISO 150	150	PAO	R&O/AW	149	17.4	129	-48	265	0.85
Molykote® L-1122 FM Synthetic Gear Oil - ISO 220	220	PAO	R&O/AW	217	24	127	-39	260	0.85
Molykote® L-1132FM Gear Oil - ISO 320	320	PAO	R&O/AW	332	30.8	129	-39	254	0.85
Molykote® L-1146 FM Synthetic Extreme Temp Gear Oil - ISO 460	460	PAO	R&O/AW	460	39.2	147	-36	285	0.852
Molykote® L-1468 FM Synthetic Freezer Chain Oil	68	PAO	R&O/AW	65.8	9.8	131	-54	271	0.83
Hydraulic Oils	ISO Grade	Base Oil	Additive Package	Viscosity @ 40°C, cSt	Viscosity @ 100°C, cSt	Viscosity Index	Pour Point, °C	Flash Point, °C	Density @ 20°C, g/mL
Molykote® L-0346FM Hydraulic Oil	46	MO	R&O/AW	44.5	6.6	100	-21	218	0.860
Molykote® L-0368FM Hydraulic Oil	68	MO	R&O/AW	66	8.3	100	-15	238	0.867
Molykote® L-1332 FM Synthetic Hydraulic & Gear Oil	32	PAO	R&O/AW	31.7	5.8	127	-42	227	0.834
Molykote® L-1346 FM Synthetic Blend Hydraulic Oil	46	PAO	R&O/AW	44.7	7.4	131	-42	238	0.832
Molykote® L-1368 FM Synthetic Blend Hydraulic Oil	68	PAO	R&O/AW/T	68.2	10.3	138	-42	243	0.838
Multipurpose Oils and Specialty Lubricants	ISO Grade	Base Oil	Additive Package	Viscosity @ 40°C, cSt	Viscosity @ 100°C, cSt	Viscosity Index	Pour Point, °C	Flash Point, °C	Density @ 20°C, g/mL
Molykote® Food Machinery Spray Oil		MO	EP/AW	96	11	102	<-10		
Molykote® Separator Spray Oil		Silicone					-43		
Molykote® L-0510 FM Multi-Purpose Oil	100	MO	R&O/AW	105.1	12	103	-15	257	0.866
Molykote® L-0532 FM Multi-Purpose Light Oil	32	MO	R&O/AW	31.2	5.3	103	-18	215	0.857
Molykote® L-1605 FM Synthetic Barrier Fluid	5	PAO		5.3	2	124	-60	160	0.8
Anti-Seize Paste	Base Oil	Solid Lubricants	Specific Gravity @ 25°C	Service Temperature Range, °C	Four-Ball Weld Load, N	Four-Ball Tester, Wear Scar Under 800 N Load, mm	Coefficient of Friction	Penetration, mm/10	NLGI Number
Molykote® P-1900 Food Machinery Antiseize Paste	MO	White Solids		-30 to 300	3,200	0.90	0.10	290-340 (unworked)	1

NSF H2 – NO POSSIBILITY OF FOOD CONTACT

Bearing Grease	Base Oil	Viscosity @ 40°C	Thickener	Solid Lubricants	Penetration, mm/10	NLGI Number	Service Temperature Range, °C	Dropping Point, °C	Four-Ball Weld Load, N
Molykote® Longterm 1 Plus Extreme Pressure Bearing Grease	MO	265	Li Soap	MoS ₂ , Graphite	310-340 (worked)	1	-25 to 110	≥175	2,400
Gearbox and Chain Oil	ISO Grade	Base Oil	Additive Package	Viscosity @ 40°C, cSt	Viscosity @ 100°C, cSt	Viscosity Index	Pour Point, °C	Flash Point, °C	Density @ 20°C, g/mL
Molykote® L-1428 High Temperature Chain Oil		POE/PB	R&O/AW/PPD	285	24	110	-15	243	0.94
Specialty Lubricant	Lubricant	Solvent	Service Temperature Range, °C	Four-Ball Weld Load, N		Four-Ball Wear Scar, mm		Flash Point, °C	Color
Molykote® 557 Silicone Dry Film Lubricant Spray	Silicone Wax	Petroleum Distillate	-40 to 43	1,200		0.85		10	Clear

NSF STANDARDS

NSF 51	NSF 61	Acetoxy Sealants	Temperature Range ¹ , °F/°C, Continuous (Intermittent)	Skin-Over Time, min	Tack-Free Time, min	Extrusion Rate, g/min	Durometer, Shore A	Tensile, PSI	Elongation	Specific Gravity	Color
•		Dow Corning® 700 Industrial Grade Silicone Sealant	-70 to 350 (400)/-57 to 177 (204)	13	25	350	20	225	577	1.02	Aluminum, clear translucent, white, black
•	•	Dow Corning® 732 Multi-Purpose Sealant	-70 to 350 (400)/-57 to 177 (204)	10	20	350	25	325	600	1.04	Aluminum, black, clear translucent, white
•		Dow Corning® 733 Glass and Metal Sealant	-70 to 350 (400)/-57 to 177 (204)	10	15	350	25	335	500	1.03	Aluminum, black, clear translucent, white
•		Dow Corning® 734 Flowable Sealant	-70 to 350 (400)/-57 to 177 (204)	7	13	650	27	222	315	1.03	Clear, white
•		Dow Corning® 736 Heat Resistant Sealant	-85 to 500 (600)/-65 to 260 (315)	10	17	390	26	350	600	1.04	Red
•		Dow Corning® 786 Mildew Resistant Sealant	-70 to 350 (400)/-57 to 177 (204)	5	20	350	25	325	600	1.04	Clear translucent, white
NSF 51	NSF 61	Alkoxy Sealant	Temperature Range ¹ , °F/°C, Continuous (Intermittent)	Skin-Over Time, min	Tack-Free Time, min	Extrusion Rate, g/min	Durometer, Shore A	Tensile, PSI	Elongation	Specific Gravity	Color
•	•	Dow Corning® 748 Non-Corrosive Sealant	-65 to 350 (400)/-55 to 177 (204)	15	30	150	25	275	350	1.33	Off-white
NSF 51	NSF 61	Hot-Melt Sealants	Specific Gravity	Viscosity @ 120°C, Pa·s	15-Minute Green Strength, MPa	Durometer, Shore A	Ultimate Tensile Strength, MPa	Ultimate Elongation, %	Tear Strength – Type B, pli	Peel Strength ² , pli	SAFT3, °C
•	•	Dow Corning® HM-2500 Assembly Sealant	1.08	200	0.06	49	4.8	1,900	80	>45	250
•	•	Dow Corning® HM-2510 Assembly Sealant	1.08	110	0.04	38	4.6	1,900	78	>41	250
•	•	Dow Corning® HM-2515 Assembly Sealant	1.07	27	0.004	14	2.3	1,500	67	>33	248
•	•	Dow Corning® HM-2520 Assembly Sealant	1.11	110	0.03	31	6	1,500	89	>30	280
NSF 51	NSF 61	Compounds	Base Oil	Thickener System	Penetration, mm/10	NLGI Number	Dielectric Strength, 1.27 mm Gap, V/mil	Bleed, 24 hr @ 200°C	Service Temperature Range, °C	Specific Gravity @ 25°C	
	•	Dow Corning® 4 Electrical Insulating Compound	Silicone	Silica	220 (unworked); 310 (worked 60)	2	>450	6.0 (30 hr @ 200°C)	-54 to 204 ³	1.0	
	•	Dow Corning® 7 Release Compound	Silicone	Silica	270 (worked 60)	1	>450	6.5	-40 to 204	1.0	
	•	Molykote® 111 Compound	Silicone	Silica	170 to 230 (unworked); 260 (worked 60, max)	3-4	>450	0.5	-40 to 204	1.0	
	•	Molykote® G-5511 Water Tap Compound	Silicone	Silica	320 (unworked)	1-2			-40 to 200 ³		
NSF 51	NSF 61	Grease	Base Oil	Thickener System	Penetration, mm/10	NLGI Number	Dielectric Strength, 1.27 mm Gap, V/mil	Bleed, 24 hr @ 200°C	Service Temperature Range, °C	Specific Gravity @ 25°C	
	•	Dow Corning® High Vacuum Grease	Silicone	Silica	170 to 230 (unworked); 260 (worked 60, max)	3-4		<0.5	-40 to 200	1.0	

¹Estimated service temperatures based on product formulation and laboratory testing. Actual service temperature range is dependent on other factors, including the specific application environment.

²180° peel from various substrates based on ASTM C794: 21-day cure (24 ±2°C; 50 ±5% RH) + 7-day H₂O immersion.

³The maximum temperature limit may approach 260°C with no oxygen present.

FDA REGULATIONS

21 CFR 175.300	21 CFR 175.2600	21 CFR 175.105	Compounds	Base Oil	Thickener System	Penetration, mm/10	NLGI Number	Dielectric Strength, 1.27 mm Gap, V/mil	Bleed, 24 hr @ 200°C	Service Temperature Range, °C	Specific Gravity @ 25°C	
•			Dow Corning® 4 Electrical Insulating Compound	Silicone	Silica	220 (unworked), 310 (worked 60)	2	>450	6.0 (30 hr @ 200°C)	-54 to 204 ⁴	1.0	
•			Dow Corning® 7 Release Compound	Silicone	Silica	270 (worked 60)	1	>450	6.5	-40 to 204	1.0	
•			Dow Corning® 111 Valve Lubricant & Sealant	Silicone	Silica	170 to 230 (unworked); 260 (worked 60, max)	3-4	>450	0.5	-40 to 204	1.0	
•			Molykote® 111 Compound	Silicone	Silica	320 (unworked)	1-2			-40 to 200 ⁴		
21 CFR 175.300	21 CFR 175.2600	21 CFR 175.105	Dispersion	Lubricant	Solvent	Service Temperature Range, °C	Color	Density @ 25°C	Flash Point, Closed Cup °C	Drying Time, min		
•			Molykote® 316 Silicone Release Spray	Silicone	Petroleum Distillate	-40 to 199	Clear	0.75	-8	3		
21 CFR 175.300	21 CFR 175.2600	21 CFR 175.105	Acetoxy Sealants	Temperature Range ⁵ , °F/°C, Continuous (Intermittent)	Skin-Over Time, min	Tack-Free Time, min	Extrusion Rate, g/min	Durometer, Shore A	Tensile, PSI	Elongation	Specific Gravity	Color
	•		Dow Corning® 700 Industrial Grade Silicone Sealant	-70 to 350 (400)/-57 to 177 (204)	13	25	350	20	225	577	1.02	Aluminum, clear translucent, white, black
	•		Dow Corning® 732 Multi-Purpose Sealant	-70 to 350 (400)/-57 to 177 (204)	10	20	350	25	325	600	1.04	Aluminum, black, clear translucent, white
	•	•	Dow Corning® 733 Glass and Metal Sealant	-70 to 350 (400)/-57 to 177 (204)	10	15	350	25	335	500	1.03	Aluminum, black, clear translucent, white
	•		Dow Corning® 734 Flowable Sealant	-70 to 350 (400)/-57 to 177 (204)	7	13	650	27	222	315	1.03	Clear, white
	•		Dow Corning® 736 Heat Resistant Sealant	-85 to 500 (600)/-65 to 260 (315)	10	17	390	26	350	600	1.04	Red
	•	•	Dow Corning® 786 Mildew Resistant Sealant	-70 to 350 (400)/-57 to 177 (204)	5	20	350	25	325	600	1.04	Clear translucent, white
	•		Dow Corning® 1890 Protective Coating	-70 to 350 (400)/-57 to 177 (204)	15	25	—	21	—	—	1.03	Gray
21 CFR 175.300	21 CFR 175.2600	21 CFR 175.105	Alkoxy Sealant	Temperature Range ⁵ , °F/°C, continuous (intermittent)	Skin-Over Time, min	Tack-Free Time, min	Extrusion Rate, g/min	Durometer, Shore A	Tensile, PSI	Elongation	Specific Gravity	Color
	•	•	Dow Corning® 748 Non-Corrosive Sealant	-65 to 350 (400)/-55 to 177 (204)	15	30	150	25	275	350	1.33	Off-white

⁴The maximum temperature limit may approach 260°C with no oxygen present.
⁵Estimated service temperatures based on product formulation and laboratory testing. Actual service temperature range is dependent on other factors, including the specific application environment.



SHARE IN OUR EXPERTISE

Gain the benefits of *Dow Corning®* and *Molykote®* brand technology-driven solutions to meet assembly and maintenance challenges in the food and beverage industry. We are ready to work for you with specialty products, collaborative problem-solving, and customized services and support. Learn more at dowcorning.com/f&bmachinery.



Images: Cover – AV25812, AV10013, AV25202, AV25818; Page 2 – AV14174, AV25814, AV25810, AV25821; Page 3 – AV25814, AV25821, AV25817; Page 4 – AV25811; Page 5 – AV25816, AV23389; Page 6 – AV18676; Page 10 – AV25820; Page 11 – AV25815, AV25202; Page 12 – AV25819

HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW CORNING WEBSITE AT DOWCORNING.COM, OR FROM YOUR DOW CORNING SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CORNING CUSTOMER SERVICE.

LIMITED 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 our products are safe, effective and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow Corning's sole warranty is that our products will meet the 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.

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.

DOW CORNING DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Dow is a registered trademark of The Dow Chemical Company.
Dow Corning is a registered trademark of Dow Corning Corporation. The Corning portion of the Dow Corning trademark is a trademark of Corning Incorporated, used under license.
Molykote and *XIAMETER* are registered trademarks of Dow Corning Corporation.
Smart Lubrication is a trademark of Dow Corning Corporation.
©2016 Dow Corning Corporation, a wholly owned subsidiary of The Dow Chemical Company.
All rights reserved.

AGP14834

Form No. 80-3189A-01



DOW CORNING