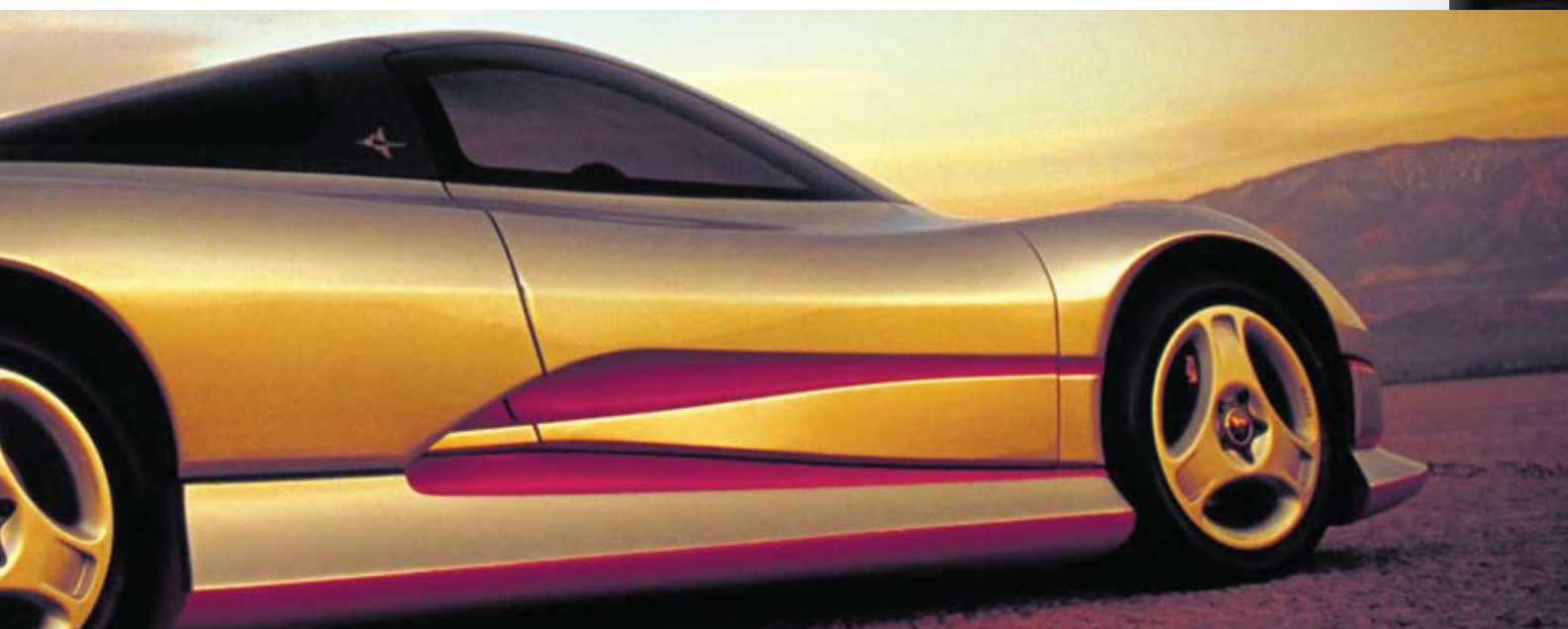


DOW CORNING

Automotive
Solutions

Automotive Appearance Chemicals Product Selection Guide



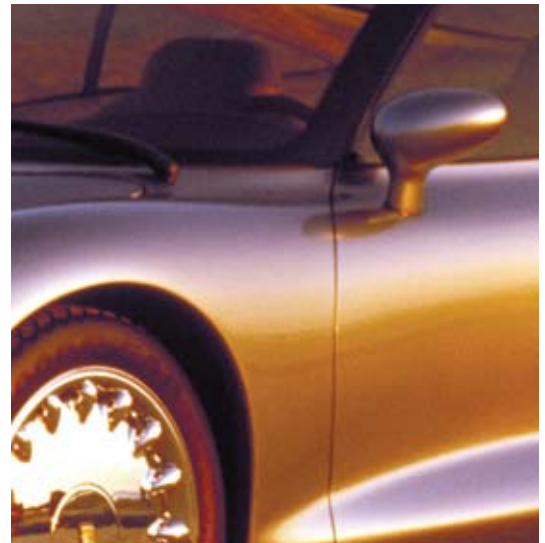
AUTOMOTIVE SURFACES: Performance-Enhancing Solutions from Dow Corning

Dow Corning provides an array of performance-enhancing solutions for manufacturers of products for automotive surfaces, including waxes, polishes, and tire and vinyl protectants. Dow Corning's silicone-based innovations offer choices that allow manufacturers to differentiate their products by improving shine and durability, while modifying water beading potential, sheeting effect, and feel.

Silicones impart a range of perceived benefits to automotive surface products destined for use in the institutional, body shop, and retail markets. Benefits include:

- Application ease
- Gloss
- Depth of gloss, also known as color enhancement
- Durability and detergent resistance
- Water repellency
- Ease of buff or rub-out

XIAMETER® brand PMX-200 Silicone Fluids from Dow Corning set the industry standard for many automotive surface applications. These fluids, plus other *Dow Corning*® and XIAMETER® brand products, including organo-modified polysiloxanes, resins, and additional product types, offer manufacturers almost unlimited possibilities for their formulations.



Introduction to This Product Selection Guide

From start to finish, formulating automotive surface products has never been easier. The tables in this guide will assist you in making the right choices to secure the product properties you seek. Table I describes in general terms the benefits achieved by using products from Dow Corning, while Tables II and III allow you to compare products based on a given application. Benefits may vary depending on the actives delivery mechanisms considered in your formulation. Contact Dow Corning for technical support, or visit dowcorning.com/autocare.

Table I: Application Selector Guide¹

Target Application Benefit ▾	Wash and Rinse Aid	Exterior Wax, Conditioner and Sealant	Exterior Trim Protectant	Upholstery Care	Interior Trim Renovator	Leather Conditioner	Glass Care	Vinyl Protectant	Tire Care	
Water-Based	Gloss	FZ-4658*, BY 22-830*, MEM-0349†, MEM-0346†, MEM-1171†	MEM-0349†, MEM-0346†, LDC 1346*, MEM-1665†, MEM-1015†, 2-1865*, MEM-1473†	MEM-0349†, MEM-0346†, LDC 1346*, MEM-1665†, MEM-1015†, 2-1865*, MEM-0039†	MEM-0349†, MEM-0346†	MEM-0349†, MEM-1473†, LDC 1346*, MEM-1015†, MEM-1171†, MEM-0039†, MEM-0346†	MEM-0349†, MEM-1473†, MEM-0346†, MEM-1665†, MEM-1015†, MEM-0039†	193C*	MEM-0349†, MEM-0346†	MEM-0349†, MEM-0346†, MEM-0039†, MEM-1171†, MEM-1665†, MEM-1015†, 1716*
	Durability	2-8035*, BY 22-830*, FZ-4658*	8570*, 2-8035*, BY 22-749*	8570*, 2-8035*, HV 495*, MEM-1665†, MEM-1101†		8570*, 2-8035*, HV 495*, MEM-1665†, MEM-1171†	MEM-0600†, HV 495*	8570*, 2-8035*	2-8035*, BY 22-729 EX*, HV 495*, MEM-0600†, MEM-1101†, MEM-1665†, 1716*	
	Ease of Use	MEM-0349†, MEM-0346†	MEM-0349†, MEM-0346†	MEM-0349†, MEM-0346†		MEM-0349†, MEM-0346†	MEM-0349†, MEM-0346†	MEM-0349†, MEM-0346†	MEM-0349†, MEM-0346†	
	Water Beading	FZ-4658*, BY 22-838*, 2-8035*, MEM-0600†, MEM-1665†	BY 22-749*, 8570*	2-8035*, MEM-0600†			MEM-0349†, MEM-0346†, MEM-1665†		MEM-1665†, MEM-0600†, MEM-1101†, 2-8035*, 1716*	
	Leveling	MEM-0349†, MEM-0346†, LDC 1346*, MEM-1473†	MEM-0349†, MEM-0346†, MEM-0039†, LDC 1346*, MEM-1473†	MEM-0349†, MEM-0346†, MEM-0039†, LDC 1346*, MEM-1473†		MEM-0349†, LDC 1346*, MEM-1473†, MEM-1665†, MEM-1171†, 2-8035*	MEM-0349†, MEM-0346†, MEM-0039†, LDC 1346*, MEM-1473†	193C*	MEM-0349†, MEM-0346†, LDC 1346*, MEM-1473†	
	Paintability		2-5009*, 2418*	2-5009*, 2418*		2418*			2-5009*, 2418*	
	Soft Feel, Matte Finish					8580*, 8570*	8580*, 8570*		8580*, 8570*	
	Wetting	MEM-0349†, MEM-0346†, 2-8035*, MEM-1665†				MEM-0349†, MEM-0346†, 2-8035*, MEM-1171†	MEM-0349†, MEM-0346†, MEM-1665†	2-5211*, 193C*	1716*	MEM-0349†, MEM-0346†, MEM-1665†, MEM-0600†, MEM-1101†, 2-8035*, 1716*, MEM-1171†
	Slip	MEM-0349†, MEM-0346†, 2-8035*, MEM-1665†	1716*, 1865*, MEM-0600†	2-1865*, MEM-0600†, MEM-1101†, MEM-0349†, MEM-0346†		2-8035*, MEM-1171†, MEM-0349†, MEM-0346†	MEM-1665†, MEM-0349†, MEM-0346†		1716*	1716*, 2-8035*, MEM-0600†, MEM-1171†, MEM-1101†, MEM-1665†, MEM-0349†, MEM-0346†
	Color Enhancement		MEM-0600†, HV 495*, 2-1865*, MEM-1101†	MEM-0600†, HV 495*, 2-1865*, MEM-1101†		MEM-0600†, HV 495*, 2-1865*, MEM-1101†	MEM-0600†, HV 495*, 2-1865*, MEM-1101†			MEM-1101†, MEM-0600†, HV 495*
Solvent-Based	Gloss		PMX-200 Silicone Fluid† (350-1000 cSt), 531*, 3527*, 2-1912*, 2-5088*	PMX-200 Silicone Fluid† (350-1000 cSt), 531*, 3527*, 2-1912*		PMX-200 Silicone Fluid† (350-1000 cSt)	PMX-200 Silicone Fluid† (350-1000 cSt), 2-5088*	PMX-200 Silicone Fluid† (350-1000 cSt)	PMX-200 Silicone Fluid† (350-1000 cSt)	
	Durability	OFX-8630†	OFX-0536†, 531*, 3527*, 2-1912*, 593*, 2-5088*, OFX-8630†	3527*, 593*, 2-1912*			2-5088*		PMX-200 Silicone Fluid† (12,500-60,000 cSt), OFX-8630†, 3527*, 593*, 2-1912*	
	Ease of Use		PMX-200 Silicone Fluid† (50-1000 cSt), 531*	PMX-200 Silicone Fluid† (50-1000 cSt), 531*		PMX-200 Silicone Fluid† (50-1000 cSt)	PMX-200 Silicone Fluid† (50-1000 cSt)	PMX-200 Silicone Fluid† (50-1000 cSt)	PMX-200 Silicone Fluid† (50-1000 cSt)	
	Water Beading	PMX-0245†, PMX-200 Silicone Fluid†, OFX-8630†	3527*, 1912*, 531*, 2-5088*, PMX-200 Silicone Fluid†	593*, 531*, OFX-0536†, 2-5088*, PMX-200 Silicone Fluid†	C2-0563*	593*, 2-1912*, 3527*, PMX-200 Silicone Fluid†	2-5088*	3527*	2-1912*, 593*, 3527*, PMX-200 Silicone Fluid†	
	Leveling	PMX-0245†	PMX-200 Silicone Fluid†, 593*	PMX-200 Silicone Fluid†		PMX-200 Silicone Fluid†	PMX-200 Silicone Fluid†		PMX-0244†, PMX-0245†, OS-2*	
	Paintability		2-5088*, 203*, 230*	203*, 230*		203*, 230*	2-5088*		203*, 230*, 2-5088*	
	Dry Finish		2-5088*				2-5088*		230*, 203*	
	Wetting	PMX-0245†	PMX-200 Silicone Fluid†	PMX-200 Silicone Fluid†	PMX-200 Silicone Fluid†	PMX-200 Silicone Fluid†	PMX-200 Silicone Fluid†		PMX-200 Silicone Fluid†	PMX-0244†, PMX-0245†, PMX-0345†, OS-2*, PMX-200 Silicone Fluid†
	Slip		PMX-200 Silicone Fluid†	PMX-200 Silicone Fluid†	PMX-200 Silicone Fluid†	PMX-200 Silicone Fluid†	PMX-200 Silicone Fluid†		PMX-200 Silicone Fluid†	
	Color Enhancement		PMX-200 Silicone Fluid† (10,000-60,000 cSt)	PMX-200 Silicone Fluid† (10,000-60,000 cSt)		PMX-200 Silicone Fluid† (10,000-60,000 cSt)	PMX-200 Silicone Fluid† (10,000-60,000 cSt)			PMX-200 Silicone Fluid† (10,000-60,000 cSt)

¹All products are Dow Corning brand (*) or XIAMETER® brand (†) unless otherwise noted.

Table II: Solvent-Based Product Comparison

Description	Currently Available in These Geographic Areas	Dow Corning® or XIAMETER® Product ¹	Functions, Benefits, and Recommendations	Comparison Ratings ²					Viscosity, cSt ³	% Actives	Notes
				Shine	Durability	Ease of Use	Wetting	Slip			
Volatile Silicone	Global	PMX-200, Silicone Fluid†, 0.65 cs	Volatile, low-viscosity fluids designed for use as carriers, high-performance, non-VOC ⁴ solvents and cleaning aids in a wide range of automotive polish formulations; effective wetting properties deliver actives to the automotive surface; slip, water repellency, and gloss characteristics are present for a limited time; replace mineral seal oil in rinse aids; effective microemulsions can be achieved when combined with silicone surfactants.			•••••	•••••		0.65	100	Volatile carrier, CARB ⁵ compliant
	Global	OS-2*					••••		0.78	100	
	Global	PMX-1184 Fluid†							1.6	100	Not tested for comparison ratings
	Global	PMX-0244 Fluid†							2.5	100	Volatile carrier, CARB ⁵ compliant; not tested for comparison ratings
	Global	PMX-0245 Fluid†					•••••	•••••	4.0	100	Volatile carrier, CARB ⁵ compliant
	Global	PMX-0345 Fluid†					•••••	•••••	5.0	100	Volatile carrier, CARB ⁵ compliant
Silicone Fluid			High-viscosity fluids provide excellent depth of gloss and improvements in durability and water resistance; useful in solvent-based formulations; blend of intermediate- and high-viscosity fluids recommended to achieve a good balance in gloss, application ease, and rub-out; a 3:1:1 ratio of 350, 1,000 and 12,500 cSt products optimizes shine and durability; products are available in emulsion form.	••••	••	••••	••••	•••••	50 - 1000	100	
	Global	PMX-200, Silicone Fluid†		••••	••••	••	•	••••	10,000 - 60,000	100	
Amino Functional Silicone	Global	531 Fluid*	Offering enhanced durability, detergent resistance, and corrosion resistance; offered in cross-linkable (curable) and non-cross-linkable versions; curable products produce a continuous film; non-cross-linkable products offer excellent stability and shelf life; deposit and adhere strongly to automobile finishes, chrome, and aluminum surfaces.	•••••	•••	•••	••	•	160	50	
	Global	OFX-0536 Fluid†		••	•••••	•••	•	••	40	100	
	Global	OFX-8630 Fluid†		•	••••	•••	••	••	500	100	
Alkylaryl Functional Fluid	Global	203 Fluid*	Have properties similar to intermediate-viscosity fluids, but with alkyl functionality; serve as actives for leather conditioners; provide preferred technologies to formulate products for body shop use.	•••	•••	•••	•••	•	1200	100	
	Global	230 Fluid*							1125 - 1645	100	Not tested for comparison ratings
Silicone Wax	Global	2-5088 Wax*	Serves as active for leather conditioners; provides preferred technologies to formulate products for body shop use; serves as an ingredient for hard waxes, paintable polishes, wax conditioners, polishes, and polymer sealants.	••••	••••	••		•	-	100	Melt at 70°C prior to use
Emulsifier Wetting Agent	Global	190 Fluid*	Cleaning and wetting properties; lubricity in glass cleaners; ability to be used in water-in-oil and water-in-silicone emulsions makes them unique to formulate non-VOC products; 190, 193C, and Q4-3667 are suited for co-surfactants; 193C for anti-fog applications; 3225C for water-in-silicone emulsions; 5200 for water-in-oil emulsions.						2000	100	Not tested for comparison ratings
	Global	193C Fluid*		•		•••••	•••••	•	400	100	
	Global	3225C Formulation Aid*		•	•	•••	•••	•	700	100	
	Global	Q4-3667 Fluid*							200 - 500	100	Not tested for comparison ratings
	Global	5200 Formulation Aid*		••••	•	••	••	•	2500	100	
Silicone Resin	Global	593 Fluid*	Long-lasting water durability and repellency that protects automotive surfaces; preferred when enhanced water beading is desired; some can be reacted with catalyst agents to formulate fabric water repellents.	••	••	••••	••••	•••	700	100	
	Global	C2-0563 Fabric Water Repellent*							7	42	Air-drying, air-curing; imparts a high degree of water repellency on natural and synthetic fabrics; not tested for comparison ratings
	Global	2-1912 Fluid*		••••	••	••••	••••	•••	700	100	
	Global	3527 Fluid*		•••	•••	•••	•••	••	2000	100	

¹ All products are Dow Corning brand (*) or XIAMETER brand (†) unless otherwise noted.

² Comparison Ratings (••••• = Best, • = Moderate). Note: Ratings are a preliminary guideline only. See product data sheets for detailed information. All tested products have been tested at 5% actives on automotive panels using a suitable solvent.

³ The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

⁴ VOC = Volatile Organic Compounds, according to the U.S. Clean Air Act. Contact Dow Corning for product compliance in your area.

⁵ California Air Resources Board.

Table III: Water-Based Product Comparison

Description	Currently Available in These Geographic Areas	Dow Corning® or XIAMETER® Product ¹	Functions, Benefits, and Recommendations	Comparison Ratings ²					Viscosity, cSt (†polymer viscosity for the emulsion products)	% Actives	Emulsifier Type	Free of APEO Surfactants	Compliant with European Detergent Regulations EC 648/2004	Notes
				Shine	Durability	Ease of Use	Wetting	Slip						
Silicone Fluid Emulsion	Americas, Asia	MEM-0349 Emulsion†	Preferred for water-based formulations, these emulsions and microemulsions offer significant advantages when formulating flexibility is desirable; good compatibility; good surface abrasion characteristics; good gloss, minimum smear; for use in automotive polishes and rubber/vinyl protectant formulations, cleaning properties; provide proven performance, reliable quality, and speed to market; the small particle size of the microemulsion products offers better penetration, improved wetting out, more consistent coatings.	••••	•••	••••	•••	••	350‡	60	Non-ionic	Yes	Yes	
	Americas, Asia	MEM-0039 Emulsion†		••	••	•••	••	•	350‡	35	Non-ionic	Yes	Yes	
	Americas	MEM-1171 Emulsion†		••••	••	••••	•••	•••	approximately 550‡	50	Non-ionic			Low-odor
	Americas	MEM-1665 Emulsion†		••	•••	•••	•••	••	1000‡	60	Slightly Cationic	Yes		Emulsifiers are readily biodegradable
	Americas	MEM-1101 Emulsion†		•••	••	•••	•••	•••	125,000‡	60	Anionic	Yes		
	Asia	LDC 1346 Emulsion*							350‡	60	Non-ionic			Non-odor; not tested for comparison ratings
	Europe	MEM-0346 Emulsion†		••••	•••	••••	•••	••	350‡	60	Non-ionic	Yes	Yes	
	Europe	2-1473 Emulsion*		••••	•••	•••	•••	•	400	50	Non-ionic	Yes	Yes	
	Global	MEM-0347G Emulsion†		•••	••	••••	•••	•	OH functional	60	Non-ionic	Yes	Yes	
	Europe	MEM-1015 Emulsion†		••••	•••	••••	•••	•••	1000‡	60	Slightly Anionic	Yes	Yes	
	Global	MEM-0600 Emulsion†		•••	•••	••	•••	••	60,000‡	50	Non-ionic	Yes	Yes	
	Global	HV 495 Emulsion*		••••	••••	•	•••	••	100,000‡	35	Anionic	Yes	Yes	
Silicone Fluid Microemulsion	Global	1716 Microemulsion*		•••	••	••	••	••••	10,000‡	30	Cationic	Yes	Yes	Clear translucent
	Global	2-1865 Microemulsion*		••	•••	••	••	••••	12,500‡	25	Anionic/Non-ionic	Yes	Yes	Translucent
Amino Functional Silicone Emulsion	Global	2-8035 Cationic Emulsion*	Provide outstanding bonding and adhesion properties to automotive finishes, allowing repeated washings and adverse weather conditions.	•••	••••	••	•	••••	-	35	Cationic	Yes	Yes	
Alkylaryl Functional Silicone Emulsion	Global	2-5009 Paintable Release Agent*	Have properties similar to intermediate-viscosity fluids, but with alkyl functionality; serve as actives for leather conditioners; provide preferred technologies to formulate products for body shop use.	••	••	•••	•••	••	-	50	Non-ionic	Yes		Emulsifiers are readily biodegradable
	Europe	2418 Release Emulsion*		•••	•••	•••	•••	•	-	50	Non-ionic	Yes	No	
Amino Emulsion	Japan	BY 22-729 EX Emulsion*	Provides durability to tire treatment products.	••	••••	•	•	•••		20	Non-ionic	Yes		
Resin Emulsion	Japan	BY 22-749*	Provides durable water repellency to liquid car polish products, tire treatment products.	•••	••••	••••	•••	••		70	Non-ionic	Yes		
Amino Microemulsion	Global	8570 Elastomer Emulsion*	Produces gloss and durability superior to standard amino functional products. Provides soft feel, a feature incorporated in new auto interior finishes.	•	••••	•••	•	•••		27	Non-ionic	Yes		Translucent white
	Japan	BY 22-830*	Provides durable water repellency to shampoo for automated car washes; the small particle size prevents blockage in the pipes of the washing mechanism.	••••	••••	••••	•••	•••		15	Cationic	Yes		Translucent white
	Japan	FZ-4658*		•••	••••	••••	•••	•••		15	Non-ionic	Yes	Yes	Translucent gray
Elastomer Suspension	Global	8580 Elastomer Suspension*	Produces rubbery feel and matte finishes. Recommended when non-glossy look is desired in automotive interior surfaces.	•••	••	•••	••	••	40	50	Anionic	Yes		

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² Comparison Ratings (••••• = Best, • = Moderate). Note: Ratings are a preliminary guideline only. See product data sheets for detailed information. All tested products have been tested at 5% actives on automotive panels using a suitable solvent.

Two Brands to Serve You

In addition to the *Dow Corning*[®] brand specialty materials and services showcased in this document, Dow Corning Corporation offers over 2,100 standard silicone products under its XIAMETER[®] brand, backed by the same quality and supply you've come to expect from Dow Corning. Visit xiameter.com to learn more about additional silicone options available from XIAMETER brand.

How To Contact Us



Dow Corning has sales offices, manufacturing sites, as well as science and technology laboratories around the globe. Telephone numbers of locations near you are available at dowcorning.com/ContactUs.

Call your nearest Dow Corning Technical Information Center

Chat with an expert online. Live Help is available at dowcorning.com/content/support

For additional product information or to view all of our auto products go to: dowcorning.com/autocare or xiameter.com

Or e-mail us: specialtychemicals@dowcorning.com



Photos: 1 – AV09029 (main), AV09037 (background); 2 – AV09038 (main), AV09036 (background); 3 – AV09033 (background); 4-7 – AV09028 (background); 8 – AV09031

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