



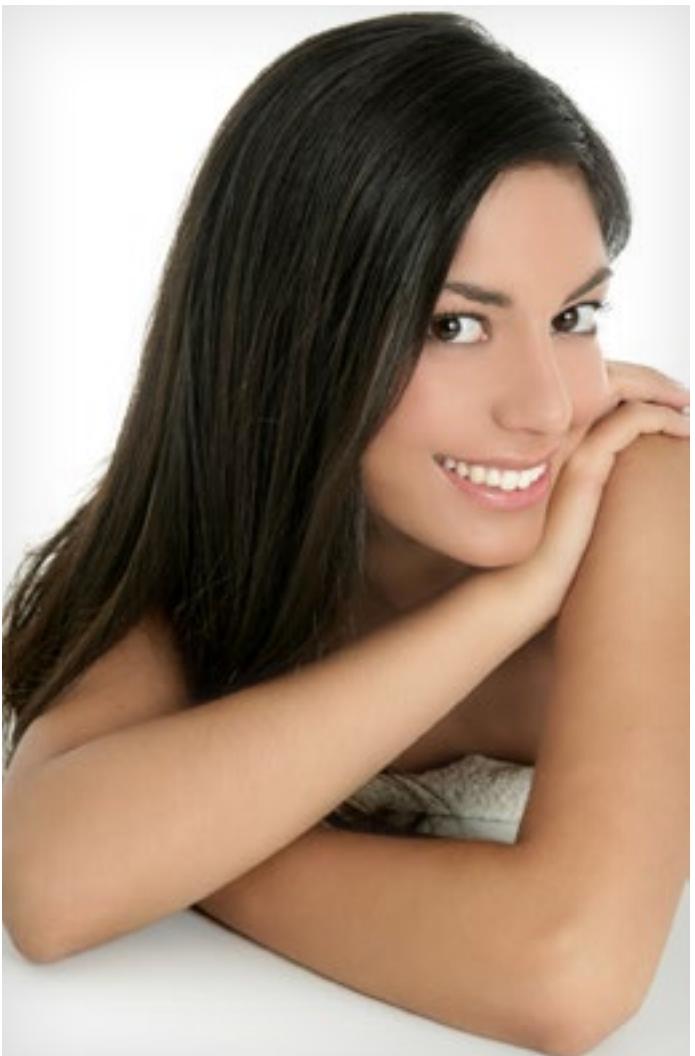
Beauty and Personal Care

Consumer Solutions

Hair Care Product Selection Guide



Adding Value to Life



Silky smoothness. Shine. Bounce. Frizz control. Volume. These are just some of the qualities your customers are looking for from your hair care products. The properties of silicones make them uniquely suited to provide many of these qualities. The DOWSIL™ and XIAMETER™ brands offer you a dependable supply of high-quality, innovative silicone hair care products.

Hair Care Solutions from Dow: Out of the Ordinary. Above the Expected.

The hair care industry demands increasingly ingenious solutions ... solutions that are anything but ordinary. That's because consumers have become more sophisticated, demanding and diverse. They seek better products for cleaning, conditioning, styling and coloring their hair. Furthermore, products must be tailored for different hair types and hairstyles as well as for different age groups, ethnicities, cultures, climates and desires around the world.

Building on our strength in silicon-based technology and more than 30 years of experience in the hair care industry, Dow delivers innovative solutions that address a wide range of hair care needs. We have solutions that meet your formulating challenges.

Broad, Versatile Solutions for Hair Care

Color Protection – More people are using colorants to hide gray hair, embrace fashions or express individuality. Because colorants can cause damage, it is important for hair to retain its natural, radiant and healthy appearance. Dow provides solutions to protect against color fade from shampooing and sunlight and to condition colored hair. Additionally, they deliver extra shine, body, smoothness, softness and manageability.

Hair Strengthening – Hair damage comes not only from treatments such as styling, coloring, heating or straightening, but also from repeated washing, drying, brushing and combing. And the damage is cumulative. Dow offers an array of excellent detangling and conditioning solutions. We also provide materials that deliver hair strengthening benefits in both leave-in and rinse applications to help prevent further damage and breakage.

Lightweight Conditioning – With aging populations, more people have thinning, fine and short hair. Many are concerned about hair damage but anxious about overconditioning. They seek products that clean, condition and style without leaving their hair heavy, limp, dull or greasy. Dow has the solution – a series of lightweight conditioning materials that detangle hair without leaving a heavy or greasy feel. Plus, these materials provide extra body and volume with reduced fly-away hair or frizz.

Flexible Styling – Consumers with curly hair typically seek a natural, soft, bouncy look. This can be difficult to achieve as curls tangle, break and become frizzy, particularly in more extreme climates and environments. Dow has new, patented technologies that provide the right balance of flexible hold and conditioning that is ideal for leave-in conditioners and styling aids. These technologies also add strength and protect hair against heat styling and frizz.

Ethnic Hair Care – Around the world, ethnic groups have fundamentally different hair care needs and expectations. African and Hispanic hair tends to be more curly, kinky, fragile and dry. Products that moisturize and straighten are often desired. Asian hair is generally straighter, thicker, longer and stronger. These consumers favor products that add shine, alignment and smoothness.

Through our broad and versatile range of solutions, Dow can help formulators meet the needs of varying consumer groups.

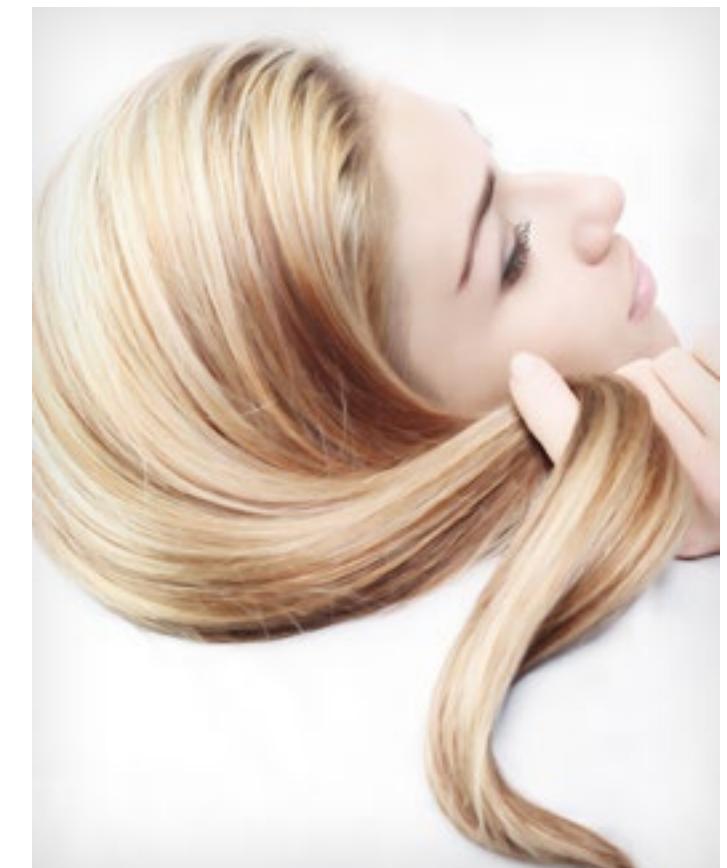
Learn how Dow can help you surpass the limits of current technology to develop hair care products with unique benefits and market-leading capabilities. To find the best solution to meet these and many other key needs in hair care, consult the selector tables on the subsequent pages. Contact us for technical support.

How to Use This Guide

To use the following tables, simply select an application (shampoo, rinse conditioner, leave-in conditioner, styling or colorant product) and review the benefits most important for your formulation. Then select the appropriate Dow solution. Alternatively, if you want an even quicker and easier answer, please refer to the table summary of Product Families for Hair Care.

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Hair Care Product Summary

Product Family and Name	Primary Applications					Description	Benefits	
	Shampoo	Rinse	Leave-In	Conditioner	Styling	Colorant		
Silicone Polyether Fluids and Emulsions								
XIAMETER™ OFX-0193 Fluid	●				●	●	Low molecular weight	Resin plasticizer
XIAMETER™ OFX-5330 Fluid	●	●	●		●		Medium molecular weight	Shine
DOWSIL™ 5225C Formulation Aid			●		●		Silicone polyether in volatile fluid	Water-in-silicone emulsifier
DOWSIL™ 5200 Formulation Aid			●		●		Silicone lauryl polyether	Water-in-oil emulsifier
XIAMETER™ OFX-5220 Fluid					●		High molecular weight	Curl retention
DOWSIL™ CE-1874 Microemulsion	●		●				Nonionic microemulsion	Volume, repair, color protection
Dimethyl Silicone Fluids								
XIAMETER™ PMX-0245 Cyclopentasiloxane or XIAMETER™ PMX-0246 Cyclohexasiloxane		●	●	●			Volatile fluid	Transient conditioning
XIAMETER™ PMX-1501 Fluid or XIAMETER™ PMX-1411 Fluid		●	●	●			Gum in volatile fluid	Shine, frizz control
XIAMETER™ PMX-1502 Fluid		●	●	●			Gum in organic and silicone fluid	Shine, frizz control
XIAMETER™ PMX-1503 Fluid		●	●				Gum in low-viscosity fluid	Shine
XIAMETER™ PMX-200 Silicone Fluid, 1,000-60,000 cSt		●	●	●			High-viscosity fluids	
XIAMETER™ PMX-200 Silicone Fluid, 60,000-500,000 cSt	●	●	●				Ultra high-viscosity fluids	
Dimethyl Silicone Emulsions								
XIAMETER™ MEM-2664 Emulsion	●	●					High-viscosity fluid nonionic emulsion	
XIAMETER™ MEM-7137 Emulsion (large particle size)	●						Ultra high-viscosity fluid nonionic emulsion	Color protection
XIAMETER™ MEM-1352 Emulsion	●						Gum in fluid nonionic emulsion	
XIAMETER™ MEM-1491 Emulsion (large particle size)	●						Gum in fluid nonionic emulsion	
XIAMETER™ MEM-1785 Emulsion	●		●				Ultra high-viscosity fluid anionic emulsion	Low cost
DOWSIL™ CE-2060 Emulsion (large particle size)		●	●				Ultra high-viscosity fluid nonionic emulsion	Shine, frizz control, pliability
DOWSIL™ HMW 2220 Non-Ionic Emulsion	●	●	●				Gum in fluid nonionic emulsion	Color protection, repair
Amino Silicone Fluids								
DOWSIL™ 2-8566 Amino Fluid	●	●	●	●	●		High amine content, low-viscosity	Color protection
DOWSIL™ AP-8087 Fluid	●	●	●				Low amine content, high-viscosity	Color protection
DOWSIL™ 8500 Conditioning Agent	●	●	●		●		Amino glycol copolymer	Clear systems
DOWSIL™ 2-2078 Fluid			●	●	●		Amino phenyl resin	Shine
Amino Silicone Emulsions								
XIAMETER™ MEM-0949 Emulsion		●	●	●	●	●	High-viscosity amino fluid cationic emulsion	Low cost
DOWSIL™ CE-1689 Smoothing Emulsion	●	●					High-viscosity silicone and amino fluid nonionic emulsion	Color protection
DOWSIL™ CE-7080 Smart Style		●	●	●			Silicone amino elastomer nonionic emulsion	Curl retention, definition, memory, repair, color protection
XIAMETER™ MEM-8194 Emulsion		●	●				High-viscosity amino fluid cationic microemulsion	Clear systems
DOWSIL™ CE-8170 AF Microemulsion	●	●	●		●		Medium-viscosity amino fluid nonionic microemulsion	Clear systems, color protection
DOWSIL™ 5-7113 Silicone Quat Microemulsion	●	●	●		●		Silicone quat nonionic microemulsion	Color protection, volume, repair
DOWSIL™ CE 8401 Emulsion	●	●					Amino polyether fluid nonionic emulsion	Moisturized feel, color protection
DOWSIL™ CE-8411 Smooth Plus Emulsion	●	●					Amino polyether fluid nonionic emulsion	Moisturized feel, color protection, shine
Other Specialty Silicones								
DOWSIL™ 556 Cosmetic Grade Fluid			●	●			Phenyl fluid	Shine
DOWSIL™ 9040 Silicone Elastomer Blend			●	●	●		Elastomer in volatile fluid	Silicone gelling agent
DOWSIL™ RSN-0749 Resin					●		Resin in volatile fluid	Color protection



Product Selection Table for Shampoo Formulations

Select the required conditioning level and the most important features and benefits, then move across the table to identify your best solution.

	Silicone Family	Silicone Polyether Fluids and Emulsions			Amino Silicone Fluids			Amino Silicone Emulsions			Dimethyl Silicone Fluids	Dimethyl Silicone Emulsions (Small Particle Size)			Dimethyl Silicone Emulsions (Large Particle Size)				
	Dow Product	XIAMETER™ OFX-0193 Fluid	XIAMETER™ OFX-5330 Fluid	DOWSIL™ CE-1874 Microemulsion	DOWIL™ 8500 Conditioning Agent	DOWSIL™ 2-8566 Amino Fluid	DOWSIL™ AP-8087 Fluid	DOWSIL™ CE-8170 AF Microemulsion	DOWSIL™ 5-7113 Silicone Quat Microemulsion	DOWSIL™ CE-1689 Smoothing Emulsion	DOWSIL™ CE-8411 Smooth Plus Emulsion	XIAMETER™ PMX-200 Silicone Fluid, 60,000-500,000 cSt	XIAMETER™ MEM-2664 Emulsion	XIAMETER™ MEM-1352 Emulsion	XIAMETER™ MEM-1785 Emulsion	DOWSIL™ HMW 2220 Non-Ionic Emulsion	XIAMETER™ MEM-1491 Emulsion	XIAMETER™ MEM-7137 Emulsion	
Features	Silicone content	100%	100%	30%	100%	100%	100%	20%	22%	60%	22%		~56%	100%	50%	60%	59%	60%	65%
	Suggested use level	1-3%	1-3%	1-5%	<1-3%	1-3%	1-3%	4-10%	1-4%	1-3%	2-6%		1-10%	1-3%	2-4%	2-4%	2-4%	2-4%	2-4%
Overall Conditioning Level	Light conditioning (e.g., thin, undamaged hair)	■	■																
	Medium conditioning (e.g., slightly damaged hair)			■	■	■	■		■				■	■	■	■	■	■	
	Intensive conditioning (e.g., thick or damaged hair)					■		■	■	■	■					■	■		
Performance Benefits	Enriched foam/lather	●					●									●			
	Enhanced wet combing	●		■	■	■	●	●	●	■	■		■	●	●	●	●	●	
	Enhanced dry combing	●	●	●	●	●	●	■	●	●	■		■	●	●	●	●	●	
	Smooth, soft, dry feel	●	●	■	●	●	●	●	●	●	●		■	●	●	●	●	●	
	Reduced flyaway				●	●	●	●	●	●	●			●		●		●	
	Enhanced shine	●	●	●	●	●	●	●	●	●	●		●						
	Enhanced body	■		●	●	●							●						
	Synergies ¹			●				●		●				●	●	●	●	●	
	Color protection		●						●									●	
	Targets damaged sites			●		●	■	●	●	●	■		●						
Formulation Benefits	Repair			●															
	For clear shampoos	■	■	■	■	■	■	■	■	■									
	Ease of incorporation	■	■	■	■	■	●	■	■	■	■	■	●	●	●	●	●		
	INCI Nomenclature	PEG-12 Dimethicone	PEG/PPG-15/15 Acetate Dimethicone (and) PEG/PEG-15/15 Allyl Ether Acetate (and) PEG/PEG-15/15 Acetate	PEG-7 Dimethicone (and) Laureth-7 (and) Polysorbate	Bis (C13-15 Alkoxy) PG-Amodimethicone	Amodimethicone	Bis-Hydroxy/Methoxy Amodimethicone	Amodimethicone (and) C11-15 Pareth-7 (and) Laureth-9 (and) Glycerin (and) Trideceth-12	Silicone Quaternium-16 (and) Undeceth-11 (and) Butyloctanol (and) Undeceth-5	Dimethicone (and) Amodimethicone (and) Laureth-23 (and) Polyquaternium-10 (and) Laureth-4	Bis-Isobutyl PEG/PPG-20/35/Amodimethicone Copolymer (and) Cetyl Ethylhexanoate (and) Polysorbate 80 (and) Butylene Glycol	Bis-Diisopropanolamino-PG-propyl Dimethicone/Bis-Isobutyl PEG-14 Copolymer (and) Polysorbate 20 (and) Butyloctanol	Dimethicone	Dimethicone (and) Laureth-4 (and) Laureth-23	Dimethicone (and) Laureth-23 (and) C12-15 Pareth-3	Dimethiconol (and) TEA-diodecylbenzenesulfonate	Divinyl/dimethicone/Dimethicone Copolymer (and) C12-13 Pareth-3	Dimethicone (and) Laureth-23 (and) C12-15 Pareth-3	Dimethicone (and) Cocamidopropyl Betaine (and) C12-15 Pareth-3 (and) Guar Hydroxypropyltrimonium Chloride

■ Excellent Fit ● Good Fit

Note: Blank indicates benefit not yet tested or found.

¹Combination with other components (e.g., polyquats and other silicones) enhances performance.



Product Selection Table for Rinse Conditioner Formulations

Select the required conditioning level and the most important features and benefits, then move across the table to identify your best solution.

	Silicone Family	Silicone Polyether Fluids and Emulsions		Amino Silicone Fluids		Amino Silicone Emulsions						Dimethyl Silicone Fluids			Dimethyl Silicone Emulsions					
	Dow Product	XIAMETER™ OFX-193 Fluid	XIAMETER™ OFX-5330 Fluid	DOWSIL™ 8500 Conditioning Agent	DOWSIL™ 2-8566 Amino Fluid	DOWSIL™ AP-8087 Fluid	DOWSIL™ CE-8170 AF Microemulsion	XIAMETER™ MEM-8194 Emulsion	DOWSIL™ CE-1689 Smoothing Emulsion	DOWSIL™ CE-7080 Smart Style	DOWSIL™ 5-7113 Silicone Quat Microemulsion	DOWSIL™ CE 8401 Emulsion	DOWSIL™ CE-8411 Smooth Plus Emulsion	XIAMETER™ PMX-0245 Cyclopentasiloxane (XIAMETER™ PMX-0246 Cyclohexasiloxane)	XIAMETER™ PMX-200 Silicone Fluid, 10,000-500,000 cSt	XIAMETER™ PMX-1501 Fluid (XIAMETER™ PMX-1411 Fluid)	XIAMETER™ PMX-1503 Fluid	XIAMETER™ MEM-2664 Emulsion	DOWSIL™ CE 2060 Emulsion (large particle size)	DOWSIL™ HMW 2220 Non-Ionic Emulsion
Features	Silicone content	100%	100%	100%	100%	100%	20%	24%	36%	60%	24%	22%	2-6%	1-10%	2-6%	2-4%	1-6%	2-4%	1-5%	1-3%
Features	Suggested use level	1-3%	1-4%	1-2%	1-4%	1-4%	4-10%	3-6%	2-6%	1-3%	1-2%	2-6%	2-6%	1-10%	2-6%	2-4%	1-6%	2-4%	1-5%	1-3%
Overall Conditioning Level	Light conditioning (e.g., thin, undamaged hair)	■	■													■				
	Medium conditioning (e.g., slightly damaged hair)			■		■		■		■						■	■	■	■	■
	Intensive conditioning (e.g., thick or damaged hair)				■	■		■		■			■		■		■	■	■	■
Performance Benefits	Reduced drying time																			
	Enhanced wet combing	●	●	●	●	■	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Enhanced dry combing	●	●	●	●	■	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Smooth, soft, dry feel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Reduced flyaway	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Enhanced shine	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Enhanced body	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Color protection	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Targets damaged sites	●	●	■	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Formulation Benefits	Volatile (transient conditioning)																			
	For clear conditioners	■	■																	
Formulation Benefits	Ease of incorporation	■	■																	
	INCI Nomenclature	PEG-12 Dimethicone	PEG/PPG-15/15 Acetate Dimethicone (and) PEG/PPG-15/15 Allyl Ether Acetate (and) PEG/PEG-15/15 Acetate	Bis (C13-15 Alkoxy) PG-Amodimethicone	Amodimethicone	Bis-Hydroxy/Methoxy Amodimethicone	Amodimethicone (and) C11-15 Pareth-7 (and) Laureth-9 (and) Glycerin (and) Trideceth-12	Amodimethicone (and) Trideceth-12 (and) Cetrimonium Chloride	Amodimethicone (and) Cetrimonium Chloride (and) Trideceth-12	Dimethicone (and) Amodimethicone (and) Laureth-23 (and) Polyquaternium-10 (and) Laureth-4	Silicone Quaternium-16/Glycidooxy Dimethicone Crosspolymer (and) Undeceth-11 (and) Undeceth-5	Silicone Quaternium-16 (and) Undeceth-11 (and) Butyloctanol (and) Undeceth-5	Bis-Isobutyl PEG/PPG-20/35/ Amodimethicone Copolymer (and) Cetyl Ethylhexanoate (and) Polysorbate 80 (and) Butylene Glycol	Bis-Diisopropanolamino-PG-propyl Dimethicone/Bis-Isobutyl PEG-14 Copolymer (and) Polysorbate 20 (and) Butyloctanol	Cyclopentasiloxane (Cyclohexasiloxane) (and) Cyclopentasiloxane	Dimethicone	Cyclopentasiloxane (and) Dimethiconol (Cyclopentasiloxane (and) Dimethicone)	Dimethicone (and) Dimethiconol	Dimethicone (and) Laureth-4 (and) Laureth-23	Dimethicone (and) Cocamidopropyl Betaine (and) C12-15 Pareth-3 (and) Guar Hydroxypropyltrimonium Chloride

■ Excellent Fit ● Good Fit

Note: Blank indicates benefit not yet tested or found.



Product Selection Table for Leave-In Conditioner Formulations

Select the required conditioning level and the most important features and benefits, then move across the table to identify your best solution.

	Silicone Family	Silicone Polyether Fluids and Emulsions				Amino Silicone Fluids				Amino Silicone Emulsions				Dimethyl Silicone Fluids				Dimethyl Silicone Emulsions		Phenyl Silicone	Silicone Elastomer
	Dow Product	XIAMETER™ OFX-5330 Fluid	DOWSIL™ CE-1874 Microemulsion	DOWSIL™ 5225C Formulation Aid	DOWSIL™ 5200 Formulation Aid	DOWSIL™ 8500 Conditioning Agent	DOWSIL™ 2-2078 Fluid	DOWSIL™ AP-8087 Fluid	DOWSIL™ 2-8566 Amino Fluid	XIAMETER™ MEM-0949 Emulsion	DOWSIL™ CE-7080 Smart Style	DOWSIL™ 5-7113 Silicone Quat Microemulsion	XIAMETER™ PMX-0245 Cyclopentasiloxane (XIAMETER™ PMX-0246 Cyclohexasiloxane)	XIAMETER™ PMX-200 Silicone Fluid, 10-50,000 cSt	XIAMETER™ PMX-1501 Fluid (XIAMETER™ PMX-1411 Fluid)	XIAMETER™ PMX-1502 Fluid	DOWSIL™ CE 2060 Emulsion (large particle size)	DOWSIL™ 556 Cosmetic Grade Fluid	DOWSIL™ 9040 Silicone Elastomer Blend		
Features	Silicone content	100%	30%	100%	91%	100%	100%	100%	100%	36%	24%	22%	100%	100%	100%	65%	59%	100%	100%		
	Suggested use level	1-5%	1-5%	5-10%	3-8%	2-6%	1-5%	1-5%	1-5%	2-8%	1-2%	2-8%	2-50%	2-10%	2-20%	2-10%	1-5%	2-5%	1-5%		
Overall Conditioning Level	Light conditioning (e.g., thin, undamaged hair)	■	●	■			■							■					■	■	
	Medium conditioning (e.g., slightly damaged hair)			■	■									■	■	■	■	■			
	Intensive conditioning (e.g., thick or damaged hair)						■	■	■	■	■	■									
Performance Benefits	Reduced drying time													●							
	Enhanced wet combing	●		●	●	●	●	●	●	●	●	●	●	■	●	●	●	●	●	●	
	Enhanced dry combing	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Smooth, soft, dry feel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Reduced flyaway					●	●	●	●	●	●										
	Enhanced shine	●				●	●	●	●	●	●			●	●	●	●	●	●	●	
	Enhanced body																				
	Color protection					●							■								
	Targets damaged sites		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Heat protection		■	●	●		●						■			●	●	●	●	●	
	Reduced frizz			●									■			●	●	●	●	●	
	Volatile (transient conditioning)			●																	
	Curl retention												■								
	Hair strengthening					●								●							
	Hair repair																				
Formulation Benefits	For clear, water base	■		■									■								
	For clear, water-free base		●	●	●	●	●	●	●	●	●	●	■	■	■	■	■	■	■	■	
	Emulsifier		■	■	■	W-in-Si	■	W-in-Oil													
	Gellant for silicone fluids																				
	Ease of incorporation	■		■			■						■	■							
	INCI Nomenclature	PEG/PPG-15/15 Acetate Dimethicone (and) PEG/PEG-15/15 Allyl Ether Acetate (and) PEG/PEG-15/15 Acetate (and) Laureth-7 Dimethicone (and) Polysorbate 20	Cyclopentasiloxane (and) PEG/PPG-18/18 Dimethicone	Lauryl PEG/PPG-18/18 Methicone	Bis (C13-15 Alkoxy) PG-Amodimethicone Aminopropyl Phenyl Trimethicone Bis-Hydroxy/Methoxy Amodimethicone Amodimethicone Amodimethicone (and) Cetyltrimonium Chloride (and) Trideceth-12	Silicone Quaternium-16/Glycidoxyl Dimethicone Crosspolymer (and) Undeceth-11 (and) Undeceth-5	Silicone Quaternium-16 (and) ButylUndeceth-11 (and) Butyloctanol (and) Undeceth-5	Cyclopentasiloxane (Cyclohexasiloxane (and) Cyclopentasiloxane)	Dimethicone	Cyclopentasiloxane (and) Dimethiconol (Cyclopentasiloxane (and) Dimethiconol)	C11-13 Isoparaffin (and) Dimethiconol Isohexadecane (and) Dimethicone	Dimethicone (and) Dimethiconol	Dimethicone (and) Cocamidopropyl Betaine (and) C12-15 Pareth-3 (and) Guar Hydroxypropyltrimonium Chloride	Divinyldimethicone/Dimethicone Copolymer (and) C12-13 Pareth-3	Phenyl Trimethicone Cyclopentasiloxane (and) Dimethicone Crosspolymer						

■ Excellent Fit ● Good Fit

Note: Blank indicates benefit not yet tested or found.



Product Selection Table for Styling Formulations

Select the most important features and benefits, then move across the table to identify your best solution.

	Silicone Family	Silicone Polyether Fluids and Emulsions					Amino Silicone Fluids	Amino Silicone Emulsions		Dimethyl Silicone Fluids			Phenyl Silicone	Silicone Wax	Silicone Elastomer		
Features	Dow Product	XIAMETER™ OFX-0193 Fluid	XIAMETER™ OFX-5330 Fluid	XIAMETER™ OFX-5220 Fluid	DOWSIL™ 5225C Formulation Aid	DOWSIL™ 5220 Formulation Aid	DOWSIL™ 2-2078 Fluid	DOWSIL™ 2-8566 Amino Fluid	XIAMETER™ MEM-0949 Emulsion	DOWSIL™ 5-7113 Silicone Quat Microemulsion	XIAMETER™ PMX-0245 Cyclohexasiloxane (XIAMETER™ PMX-0246 Cyclohexasiloxane)	XIAMETER™ PMX-200 Silicone Fluid, 10-1,000 cSt	DOWSIL™ PMX-1501 Fluid (XIAMETER™ PMX-1411 Fluid)	XIAMETER™ PMX-1502 Fluid	DOWSIL™ 556 Cosmetic Grade Fluid	DOWSIL™ 9040 Silicone Elastomer Blend	
	Silicone content	100%	100%	100%	100%	100%	100%	36%	24%	22%	100%	100%	100%	25%	100%	100%	
Product Type	Suggested use level	1-5%	1-5%	0.1-2%	5-10%	3-8%	1-3%	1-3%	2-4%	1-2%	2-8%	2-50%	2-10%	2-20%	2-20%	2-5%	1-5%
	Spray (organic base) ¹																
Performance Benefits	Spray (water base) ¹	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
	Mousse	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Formulation Benefits	Clear gels	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
	Creams/Lotions	■				■	■	■	■	■	■	■	■	■	■	■	
Performance Benefits	Serums						■	■	■	■	■	■	■	■	■	■	
	Waxes/Pomades					■	■	■	■	■	■	■	■	■	■	■	
Formulation Benefits	Resin plasticizer	■	■	■	■	■				■	■						
	Synergy with styling resins ²																
Performance Benefits	Curl retention		■														
	Reduced drying time								■								
Performance Benefits	Smooth, soft, dry feel	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Reduced flyaway	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Performance Benefits	Enhanced shine	■	■	■	■	■	■	●	●	●	●	●	●	●	●	●	
	Enhanced body																
Performance Benefits	Color protection								●								
	Heat protection										■						
Performance Benefits	Reduced frizz								●								
	Straightening (in lye relaxer)																
Performance Benefits	Hair strengthening										●						
Formulation Benefits	Reduced stickiness	■	■	■	■	●	●				●	●					
	Valve lubrication	■									●	●					
Formulation Benefits	Emulsifier					■ W-in-Si ■ W-in-Oil											
	Rheology modifier																
Formulation Benefits	Ease of incorporation	■	■	■	■	■	■	●	■	■	■						
	INCI Nomenclature	PEG/PPG-18/18 Dimethicone PEG-12 Dimethicone	PEG/PPG-15/15 Acetate Dimethicone (and) PEG/PPG-15/15 Allyl Ether Acetate (and) PEG/PPG-15/15 Acetate	Cyclopentasiloxane (and) PEG/PPG-18/18 Dimethicone	Lauryl PEG/PPG-18/18 Methicone	Aminopropyl Phenyl Trimethicone	Amodimethicone	Amodimethicone (and) Cetrimonium Chloride (and) Trideceth-12	Silicone Quaternium-16/ Glycidoxyl Dimethicone Crosspolymer (and) Undeceth-11 (and) Undeceth-5	Silicone Quaternium-16 (and) Undeceth-11 (and) Butyloctanol (and) Undeceth-5	Cyclopentasiloxane (Cyclohexasiloxane (and) Cyclopentasiloxane)	Dimethicone	Cyclopentasiloxane (and) Dimethiconol (Cyclopentasiloxane (and) Dimethiconol)	C11-13 isoparaffin (and) Dimethiconol (and) Isohexadecane (and) Dimethicone	Phenyl Trimethicone	C30-45 Alkyl Methicone (and) C30-45 Olefin	Cyclopentasiloxane (and) Dimethicone Crosspolymer

■ Excellent Fit ● Good Fit

Note: Blank indicates benefit not yet tested or found.

¹For assistance when formulating aerosol sprays, please consult "Guidance for Aerosol Applications of Silicone-Based Materials," available on the website of the Silicones Environmental Health and Safety Council of North America, <http://www.sehsc.com/science.asp>.

²When used in combination enhances smoothness.



Product Selection Table for Colorant Formulations

Select the most important features and benefits, then move across the table to identify your best solution.

	Silicone Family	Silicone Polyether Fluids and Emulsions	Amino Silicone Fluids		Amino Silicone Emulsions	Silicone Elastomer	Silicone Resin		
Dow Product	XIAMETER™ OFX-0193 Fluid	DOWSIL™ 8500 Conditioning Agent	DOWSIL™ 2-2078 Fluid	DOWSIL™ 2-8566 Amino Fluid	XIAMETER™ MEM-0949 Emulsion	XIAMETER™ MEM-8177 Emulsion	DOWSIL™ 9040 Silicone Elastomer Blend	DOWSIL™ RSN-0749 Resin	
Features	Silicone content	100%	100%	100%	100%	36%	14%	100%	100%
	Suggested use level	1-3%	1-2%	1-3%	1-3%	2-6%	5-12%	1-3%	1-3%
Permanent Colorant Benefits	No impact on pH	■		■		■		■	
	No impact on viscosity	■				●		■	
	Ease of application/spreadability	■			■		■		
	Improves initial color depth	■			■		■		
	Reduces loss of color depth (after shampooing)	■	■	●	●	■		■	
	Reduces loss of color depth (after UV exposure)		■						
	Reduces loss of redness (after UV exposure)		■						
Semi-Permanent Colorant Benefits	Ease of application/spreadability	■			■	●	■	●	
	Shine and softness				■	●	■		
	Improves initial color depth				■	●	■		
	Reduces loss of color depth (after shampooing)	●			■	●	■	●	■
	Reduces loss of redness (after shampooing)	●			●	●	●	●	■
	Reduces loss of color depth (after UV exposure)	●			■	●	●	●	■
	Reduces loss of redness (after UV exposure)	●			●				■
Color Care Hair Rinses	Color protection (Shampoo)	For a full list of products that offer color protection benefits in shampoos, rinse and leave-in conditioners, refer to pages 6-7, 8-9 and 10-11 respectively.							
	Color protection (Conditioner)								
	INCI Nomenclature	PEG-12 Dimethicone	Bis (C12-15 Alkoxy) PG-Amodimethicone	Aminopropyl Phenyl Trimethicone	Amodimethicone	Amodimethicone (and) Cetrimonium Chloride (and) Trideceth-12	Amodimethicone (and) C12-14 Sec-Pareth-7 (and) C12-14 Sec-Pareth-5	Cyclopentasiloxane (and) Dimethylcone Crosspolymer	Cyclopentasiloxane (and) Trimethylsiloxy silicate

■ Excellent Fit ● Good Fit

Note: Blank indicates benefit not yet tested or found.



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