



## PERSONAL CARE

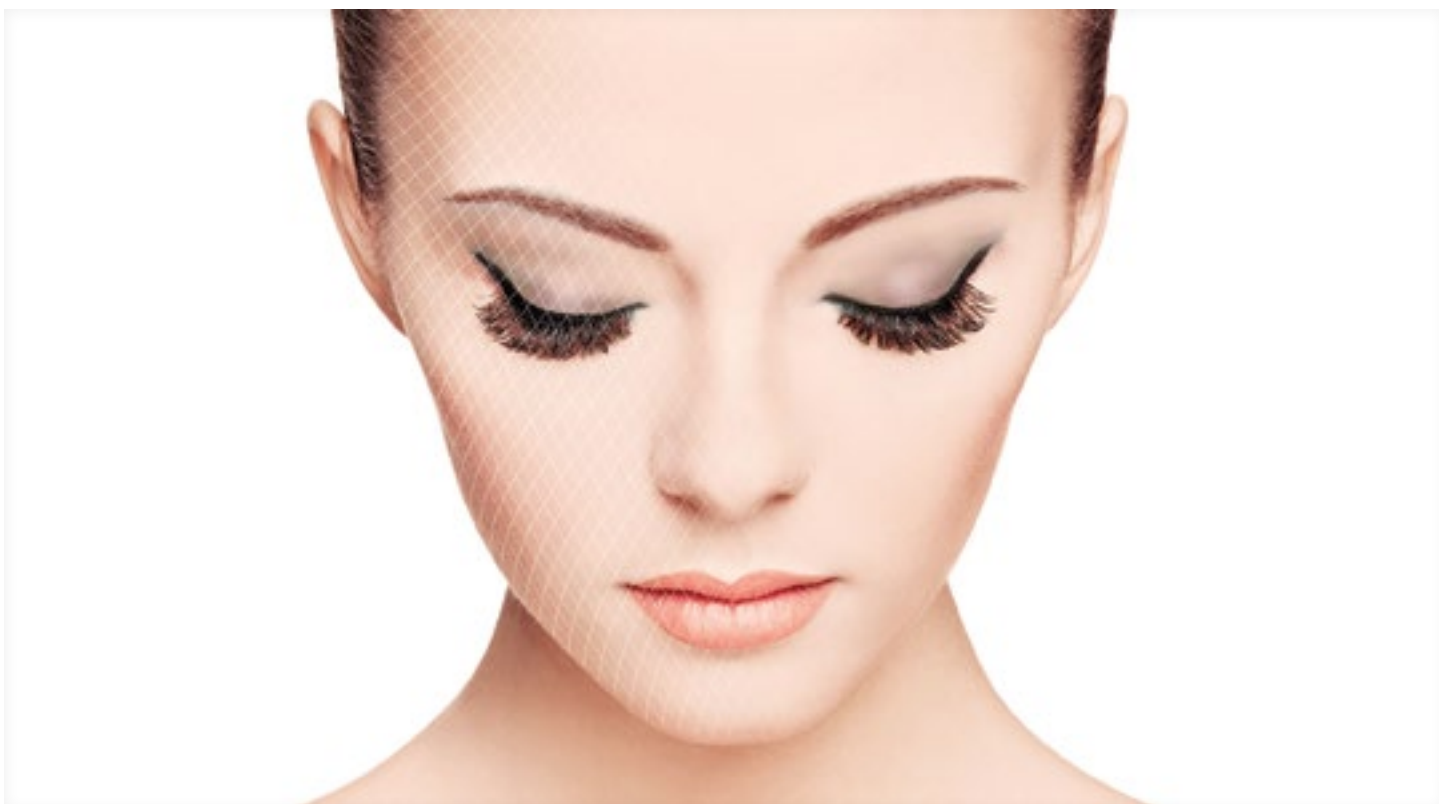
# Film-formers for next-generation skin care and color cosmetics

Within each of us is an infinite capacity for beauty. Help consumers maximize and protect their beauty at every age with film-forming technologies from Dow ... and set your creative spirit free.

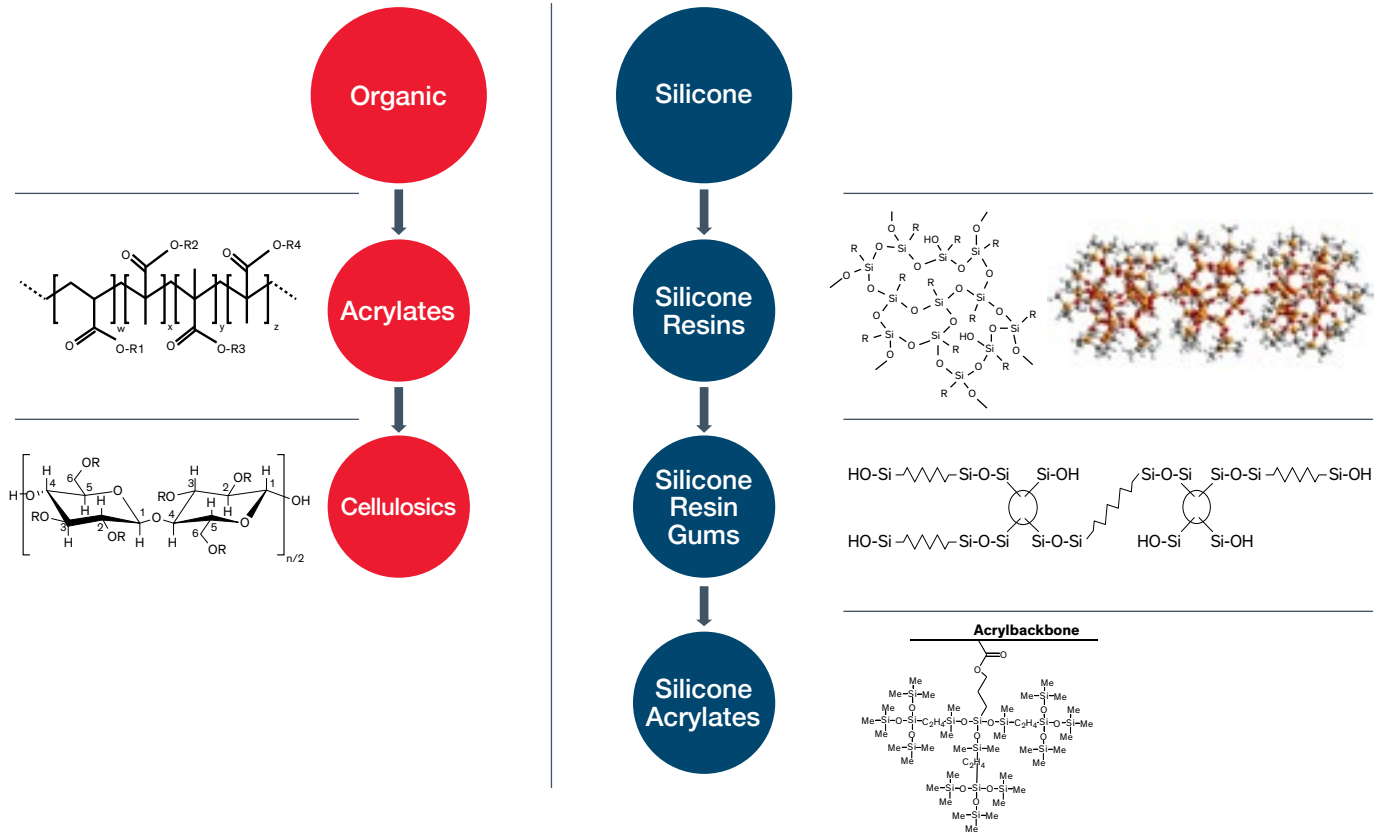
Film-formers are polymers capable of forming a cohesive and continuous film on keratinous surfaces with optimal adhesion and flexibility properties. They give you a different and complementary approach to meeting evolving consumer needs through the formation of a potentially long-lasting "second layer" over the skin.

This approach can be tailored:

- To your **application**
- To the **consumer's need**
- To deliver a **positive skin-care experience**



## Choose from an array of differentiated technologies



## Offering ideal properties for personal care innovation

- Permeable to semi-occlusive
- Uniform and continuous
- Long-lasting and removable
- Comfort and sensory attributes



Skin Anti-Aging



Sun Care



Long-Lasting Cosmetics



Skin Protection



Hair Care

Formulator Advantages	Consumer Advantages
<b>Multiple film-forming technologies</b> available for greater versatility	<b>Use of non-occlusive materials</b> to preserve skin health and breathability
<b>Multiple carriers</b> available for greater formulation and manufacturing-process flexibility	<b>Variable film flexibility</b> for wearing comfort and enjoyment
<b>Good compatibility</b> with common cosmetic ingredients, allowing incorporation in common product types, such as face care, sun care and color cosmetics	<b>High sebum and water repellency</b> as well as <b>high rub-off resistance</b> properties to provide outstanding long-lasting benefits and a rewarding daily skin-care experience

## Explore our extensive film-former portfolio

TESTED WITH PURE FILM-FORMER AT 20% ACTIVE IN APPROPRIATE SOLVENT.

Technology	Product Trade Name	INCI Name	Visual Properties	Tactile Properties	Water Repellency <sup>1</sup>	Sebum Repellency <sup>1</sup>	Film Flexibility	Film Integrity <sup>2</sup>	Rub-Off Resistance <sup>3</sup>	Notes		
Silicone	Silicone MQ Resin	DOWSIL™ MQ-1600 Solid Resin	<b>Trimethylsiloxysilicate</b>	Clear and shiny film with resin aggregates appearing if volatile organic solvent is used	Hard, brittle	High	Medium	Low	Low	Medium	Silicone benchmark technology for color cosmetics	
		DOWSIL™ RSN-0749 Resin	Cyclopentasiloxane (and) <b>Trimethylsiloxysilicate</b>									
		DOWSIL™ 593 Fluid	Dimethicone (and) <b>Trimethylsiloxysilicate</b>									
	Silicone MQ/Tpropyl Resin Blend	DOWSIL™ MQ-1640 Flake Resin	<b>Trimethylsiloxysilicate (and) Polypropylsilsesquioxane</b>	Clear and shiny film with resin aggregates appearing if volatile organic solvent is used	Medium hard, slightly brittle	High	Medium	Low	Low	Medium	Superior performance for skin care formulations, including tightening claims	
	Silicone Resin Gums	DOWSIL™ FC-5001 CM Resin Gum	Cyclopentasiloxane (and) <b>Trimethylsiloxysilicate/Dimethiconol Crosspolymer</b>	Clear and shiny film with no cracks appearing upon solvent evaporation	Soft, not brittle	High	Very high	High	Low to very high, depending on solvent	Medium	Ideal for foundation and eye shadow where sebum repellency and comfort are critical	
		DOWSIL™ FC-5002 IDD Resin Gum	Isododecane (and) <b>Trimethylsiloxysilicate/Dimethiconol Crosspolymer</b>									
		DOWSIL™ FC-5004 DM Silicone Resin Gum	Dimethicone (and) <b>Trimethylsiloxysilicate/Dimethiconol Crosspolymer</b>									
	Silicone Acrylates	High Tg	DOWSIL™ FA 4001 CM Silicone Acrylate	Cyclopentasiloxane (and) <b>Acrylates/Polytrimethylsiloxymethacrylate Copolymer</b>	Clear and shiny film with few cracks appearing upon solvent evaporation	Slightly brittle	High	High	Low	Low	Very high	Superior performance in foundation and lipstick
			DOWSIL™ FA 4002 ID Silicone Acrylate	Isododecane (and) <b>Acrylates/Polytrimethylsiloxymethacrylate Copolymer</b>								
		Low Tg	DOWSIL™ FA 4003 DM Silicone Acrylate	Dimethicone (and) <b>Acrylates/Polytrimethylsiloxymethacrylate Copolymer</b>	Clear and shiny film with no cracks appearing upon solvent evaporation	Soft, not brittle	High	High	High	Low to medium, depending on solvent	Very high	Superior performance for skin and BB/CC formulations, including anti-pollution claims
DOWSIL™ FA 4004 ID Silicone Acrylate			Isododecane (and) <b>Acrylates/Polytrimethylsiloxymethacrylate Copolymer</b>									
DOWSIL™ FA 4103 Silicone Acrylate Emulsion			<b>Acrylates/Polytrimethylsiloxymethacrylate Copolymer (and) Laureth-1 Phosphate</b>	Clear and shiny film with no cracks appearing upon solvent evaporation								
Organic		Organic Acrylates	EPITEX™ 66 Polymer	<b>Acrylates Copolymer</b>	Clear and shiny film with no cracks appearing upon solvent evaporation	Soft, not brittle	Low	Low	High	Very high	Not tested	Superior performance in sun care beach products when water resistance is a must
	Ethylcellulose	ETHOCEL™ Standard 4 Premium Ethylcellulose Polymer	<b>Ethylcellulose</b>	Clear and shiny film with no cracks appearing upon solvent evaporation	Hard, brittle	Medium	Low	Low	Very high	Not tested	Good performance in lip products (lipstick, lip gloss, lip balm)	
		ETHOCEL™ Standard 7 Premium Ethylcellulose Polymer										
		ETHOCEL™ Standard 10 Premium Ethylcellulose Polymer										

<sup>1</sup> Based on contact angle measurement (2 minutes after droplet deposition).

<sup>2</sup> Based on film integrity test (amount of diffused dye after 6 hours).

<sup>3</sup> Tested by XRF fluorescence on silicon atom.

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# LabSense™

## Create Innovations with Dow

Accelerating innovation to the **point of differentiation** with finished product concepts for brand owners around the world

### For more information

For technical data sheets, product samples and thought-starting formulations, visit [consumer.dow.com](http://consumer.dow.com).

### How can we help you today?

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