



Consumer Solutions

DOWSIL™ Specialty Silicones for Soft Focus

What is soft focus?

"Soft focus" is an optical effect that makes a skin imperfection appear blurred.

The intensity of this blurring effect depends on the amount of light scattered or reflected from the interface where the product is applied.

The higher the blurring effect, the stronger the imperfection-masking ability of the product.

Recommended solutions for soft focus

DOWSIL™ 9701 Cosmetic Powder
INCI name: Dimethicone/Vinyl Dimethicone Crosspolymer (and) Silica

DOWSIL™ EP-9801 Hydro Cosmetic Powder
INCI name: Dimethicone/Vinyl Dimethicone Crosspolymer (and) Silica (and) Butylene Glycol

DOWSIL™ VM-2270 Aerogel Fine Particles
INCI name: Silica Silylate

DOWSIL™ 9509 Silicone Elastomer Suspension
INCI name: Dimethicone/Vinyl Dimethicone Crosspolymer (and) C12-14 Pareth-12

DOWSIL™ SW-8005 C30 Resin Wax
INCI name: C30-45 Alkyldimethylsilyl Polypropylsilsesquioxane

Adding Value to Life

Blur the lines with silicone

Consumers are looking for products with an immediate and lasting optical effect – products that give them confidence in their ability to look their best at any age.

We can help you develop formulations that deliver those benefits with advanced silicone technologies and soft-focus testing and formulation expertise from Dow.

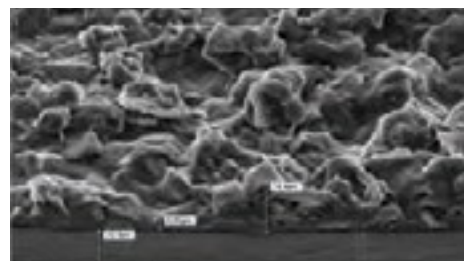
Select DOWSIL™ specialty silicones have demonstrated their ability to add soft-focus (blurring-effect) benefits to oil-in-water, water-in-oil and water-in-silicone skin care formulations – benefits consumers will immediately notice and appreciate.

Delivering soft focus through science

Soft focus can be achieved through the use of silicone particulates or specially engineered silicone films.



DOWSIL™ EP-9801 Hydro Cosmetic Powder (1-10 µ)



DOWSIL™ SW-8005 C30 Resin Wax +
DOWSIL™ VM-2270 Aerogel Fine Particles

Soft-focus testing capabilities

The soft-focus benefits of formulations containing Dow specialty silicones have been demonstrated in both in-vitro and in-vivo testing with good correlation between test method results.

In Vitro

Visual Resolution – A cosmetic formulation was coated onto a glass slide covering an ISO Test chart N°2. Visual assessment performed by a trained operator: The lower the number of lines that could be perceived as not merging, the higher the blur.

UV-Visible Spectrometry – A UV-visible spectrophotometer with an integrating sphere was used to measure the optical properties required to achieve the soft-focus effect, and target percentage values were established.

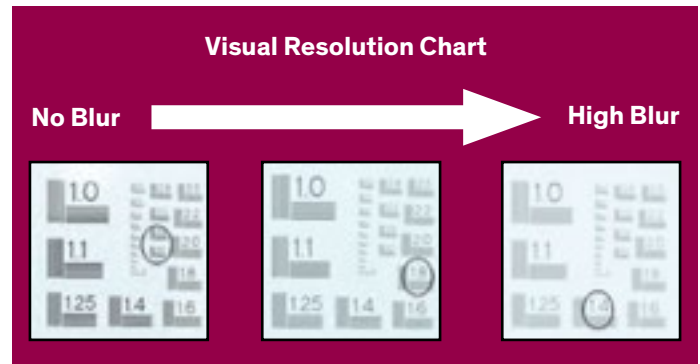
Maximum Total Transmission (TT): Natural skin tone

Maximum Diffused Transmission (DT) and Diffused Reflection (DR): Hides/blurs imperfections

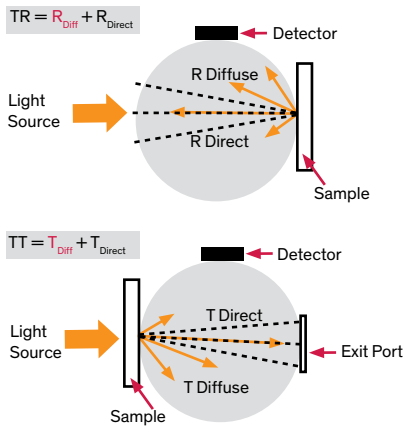
Minimum Total Reflection: (TR) Minimizes shine

Targets: DT/TT > 50%; DR/TR > 80%; TT > 75%; TR < 20%

With the exception of TR (which is an indicator of shine), the higher the value, the greater the blurring effect.



Glass Coated with Formulation



Parameters Quantified/Skin Perception

Min TR Minimizes Shine

Direct* Reflected Light

Diffusely Reflected Light (DR%)

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Skin Blur

Max TT Natural Skin Tone

Direct* Transmitted Light

Diffusely Transmitted Light (DT%)

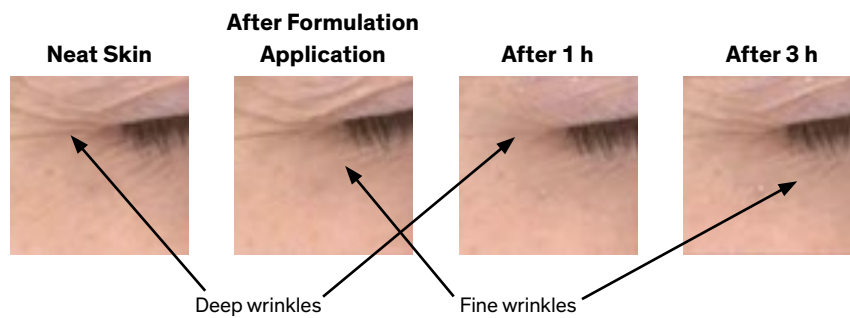
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Hides Skin Imperfections

*Also referred to as "specular."

In Vivo

Image Analysis – Testing was conducted using a computerized image analysis system (VISIA-CR or VisioFace). Five pictures were taken before the application of the formulation (neat skin), immediately after application and at subsequent intervals. The images were then ranked by a minimum of 12 evaluators by order of fine-wrinkle intensity on a scale of 1 to 5 (1 = low and 5 = high).

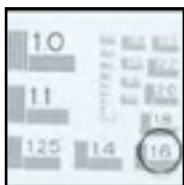


Test results and analysis

Oil-in-water Cream: Wrinkle-Masking (CPF 2094)

Formulation containing 1.6% DOWSIL™ VM-2270 Aerogel Fine Particles and 4% DOWSIL™ SW-8005 C30 Resin Wax

Visual Resolution



Control formulation
(no silicone)

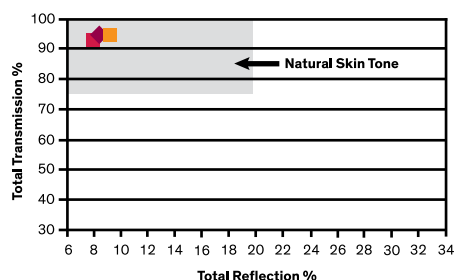
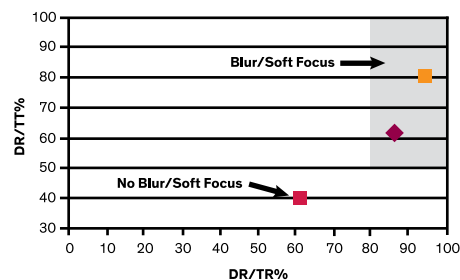


Formulation containing 4% DOWSIL™
SW-8005 C30 Resin Wax and 1.6%
DOWSIL™ VM-2270 Aerogel Fine Particles

Results

Significantly reduced the ability
to perceive fine lines

UV-Visible Spectrometry



Results

Substantial improvement
in blur/soft focus

■ O/W Control

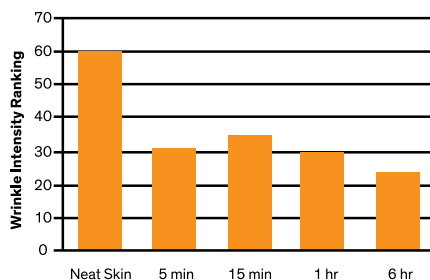
◆ O/W 1.6% DOWSIL™ VM-2270 Aerogel Fine Particles

■ O/W 1.6% DOWSIL™ VM-2270 Aerogel Fine Particles + 4% DOWSIL™ SW-8005 C30 Resin Wax

Image Analysis



Image analysis conducted using a VISIA-CR facial
imaging system manufactured by Canfield Imaging
Systems, Fairfield, NJ, USA



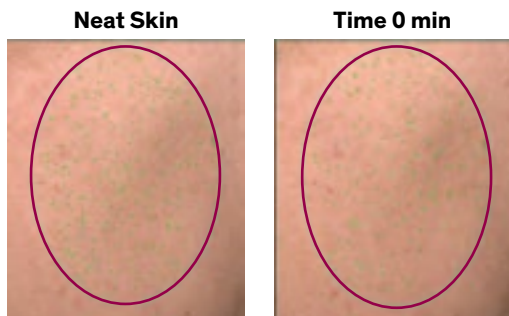
Results

Perceived effect was observed
immediately/instantly and for up
to six hours

HD Oil-in-water Skin Cream: Wrinkle-Masking and Pore-Masking (CPF 2093)

Formulation containing 2% DOWSIL™ VM-2270 Aerogel Fine Particles and 10% DOWSIL™ 9509 Silicone Elastomer Suspension (6.3% silicone active level); applied to Caucasian skin type

Image Analysis



Timetable	Number of Pores
Neat Skin	351
Time 0 min	229
Time 15 min	238
Time 1 hr	235
Time 3 hr	246
Time 6 hr	261

Results

Immediate 35% reduction in
number of visible pores;
31% average reduction

Image analysis conducted using a VISIA-CR facial imaging system manufactured by Canfield Imaging
Systems, Fairfield, NJ, USA

DOWSIL™ specialty silicones for soft focus¹

Product	INCI Name	Additional Benefits for Skin Care
DOWSIL™ 9701 Cosmetic Powder	Dimethicone/Vinyl Dimethicone Crosspolymer (and) Silica	<ul style="list-style-type: none"> Sebum absorption Powdery feel Enhance viscosity of water-in-silicone High oil absorption
DOWSIL™ EP-9801 Hydro Cosmetic Powder	Dimethicone/Vinyl Dimethicone Crosspolymer (and) Silica (and) Butylene Glycol	<ul style="list-style-type: none"> Water-dispersible Powdery feel Mattifying Sebum absorption
DOWSIL™ VM-2270 Aerogel Fine Particles	Silica Silylate	<ul style="list-style-type: none"> Sebum absorption Thickener of oil phases (polar to nonpolar oils)
DOWSIL™ 9509 Silicone Elastomer Suspension	Dimethicone/Vinyl Dimethicone Crosspolymer (and) C12-14 Pareth-12	<ul style="list-style-type: none"> Sebum absorption Smooth, silky feel Mattifying Increase viscosity of water-in-silicone
DOWSIL™ SW-8005 C30 Resin Wax	C30-45 Alkyldimethylsilyl Polypropylsilsequioxane	<ul style="list-style-type: none"> Rheology modifier Good compatibility with organic oils SPF boosting in water-in-oil

¹These products are listed in the Catalogue of Cosmetic Ingredients Used in China.

Benefits for Consumers

- Visual reduction of skin imperfections
- Immediate optical effect perceived, “showing” that the product works
- Long-term optical effect is possible (up to six hours)
- Ability to achieve wrinkle-masking, pore reduction and mattifying performance with a single product, depending on the formulation

Benefits for Formulators

- Soft focus can be developed in the three main formulation types (oil-in-water, water-in-oil and water-in-silicone)
- Fast “indication” of formulation performance through in-vitro testing
- Ability to combine wrinkle-masking with pore reduction and mattifying performance
- Availability of soft-focus formulating expertise from Dow

Beauty Care That Does More

Dow is creating differentiating specialty silicone solutions that bring beauty to life in a way that has a lasting effect on your business and on the lives of consumers everywhere.

For Samples and Formulations

To request product samples and to review product data sheets and sample formulations, visit consumer.dow.com/personalcare.

How can we help you today?

When you need industry-leading innovation, Dow can help. DOWSIL™ solutions are dedicated to meeting your needs for specialty materials, collaborative problem-solving and innovation support. Learn how we can help you bring beauty with impact to your products at consumer.dow.com/personalcare. Or contact your local Dow sales representative at consumer.dow.com/ContactUs.

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