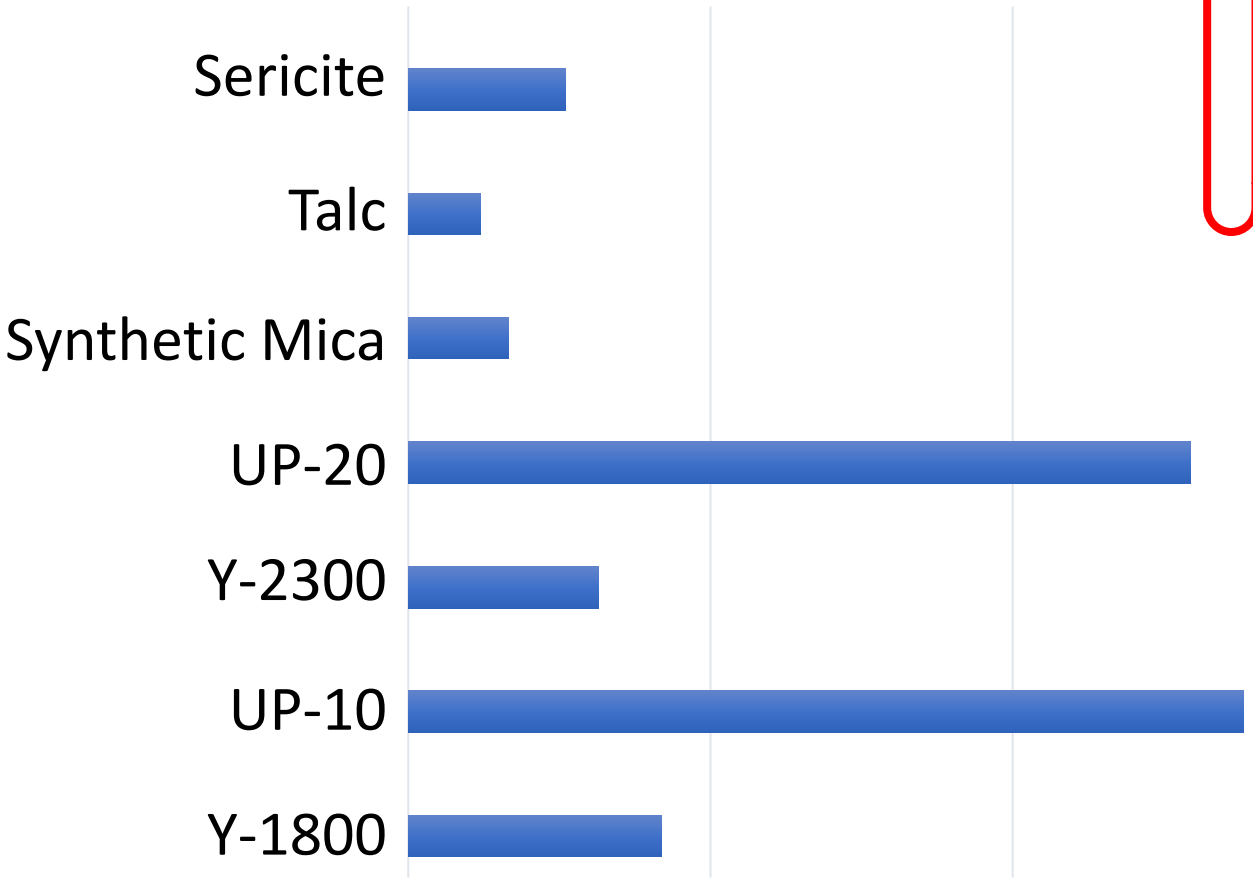
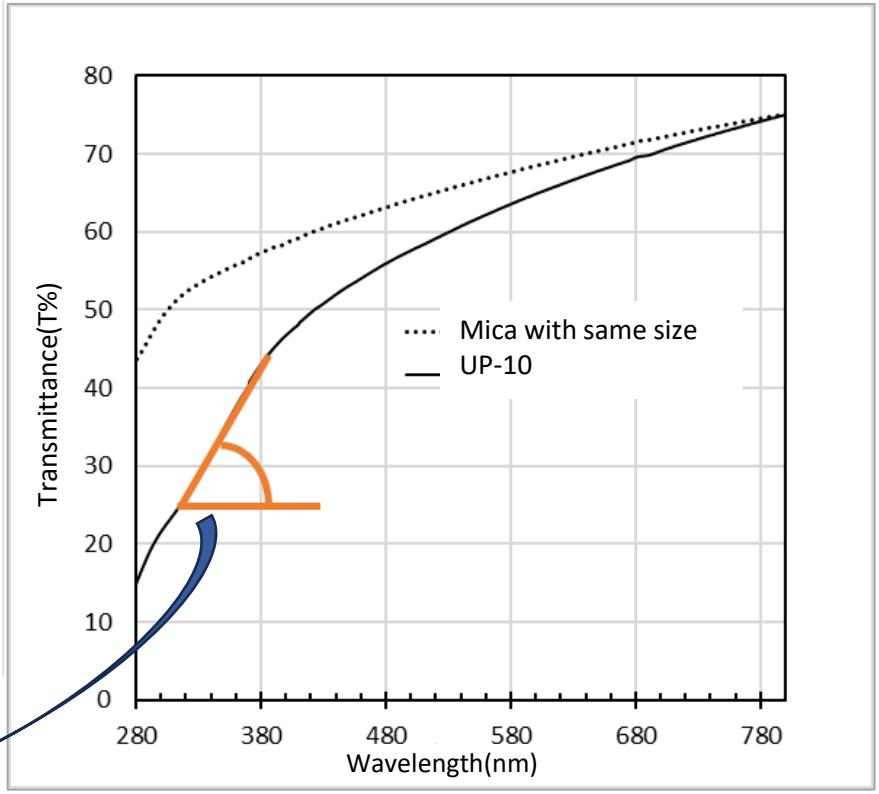
Comparison of transmittance reduction in UV region



Comparison of transmittance reduction in UV region

UP series were transmittance reduction in UV region



UV shielding ability with powder foundation

No.	Component	amount（weight%）		
		Formula 1	Formula 2	Comparison
1	UP-10	45.5	20	0
2	Mica with same size as UP-10 (Y-1800)	0	25.5	45.5
3	Spherical Silica	4.8	4.8	4.8
4	Titanium Dioxide	4.5	4.5	4.5
5	Born Nitride	4.8	4.8	4.8
6	Talc	8.9	8.9	8.9
7	Fine Titanium Dioxide treated with Silicone	15.1	15.1	15.1
8	Fine Zinc Oxide treated with Silicone	3	3	3
9	Iron dioxide(CI77492) Treated with Triethoxycaprylylsilane	1.1	1.1	1.1
10	Iron dioxide(CI77491) Treated with Triethoxycaprylylsilane	0.3	0.3	0.3
11	Iron dioxide(CI77499) Treated with Triethoxycaprylylsilane	0.1	0.1	0.1
12	Magnesium Stearate	0.5	0.5	0.5
13	Ethylhexyl Methoxycinnamate	6.1	6.1	6.1
14	Squalane	5.3	5.3	5.3
Tatal		100	100	100

	SPF	PFA
Formula1	34	10.94
Formula2	26	9.09
Comparison	22	8.18

Ultraviolet Transmittance Analyzer
Labsphere UV-2000

UP-10 can be used as SPF and PFA booster.

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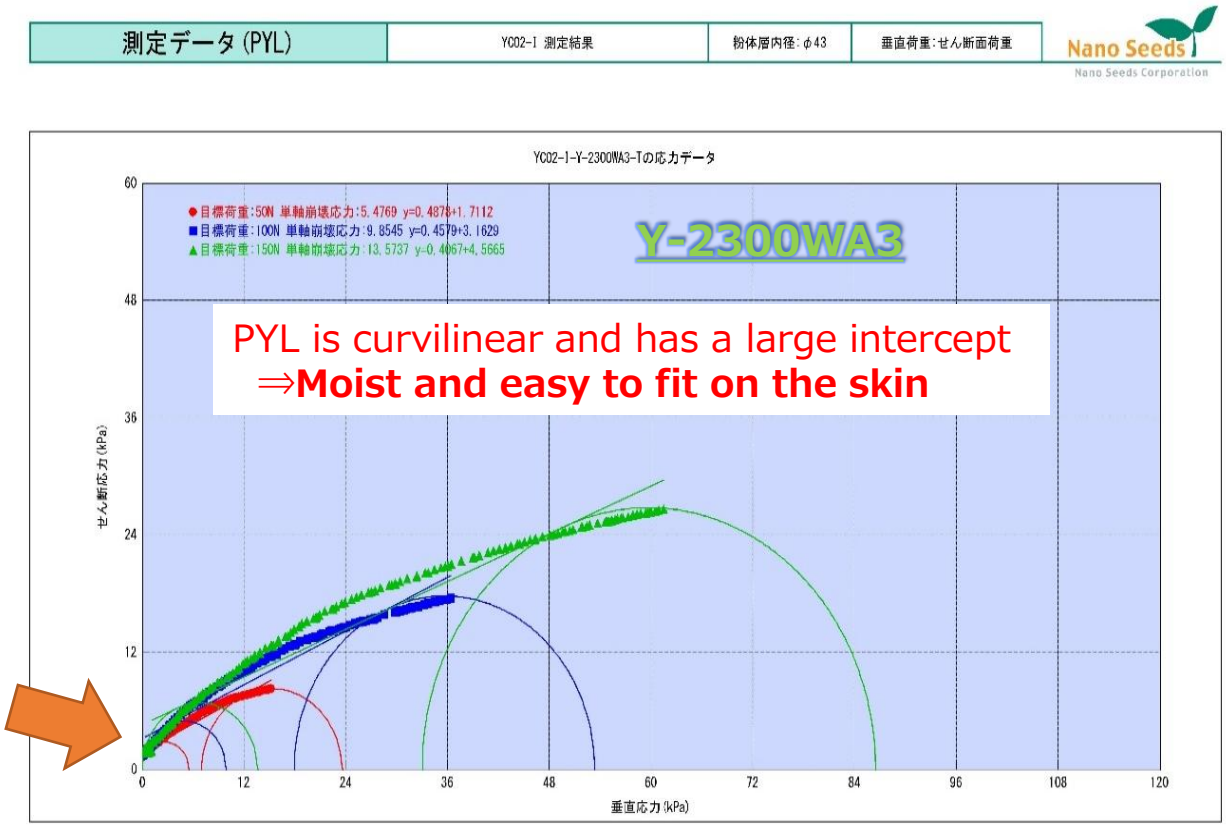
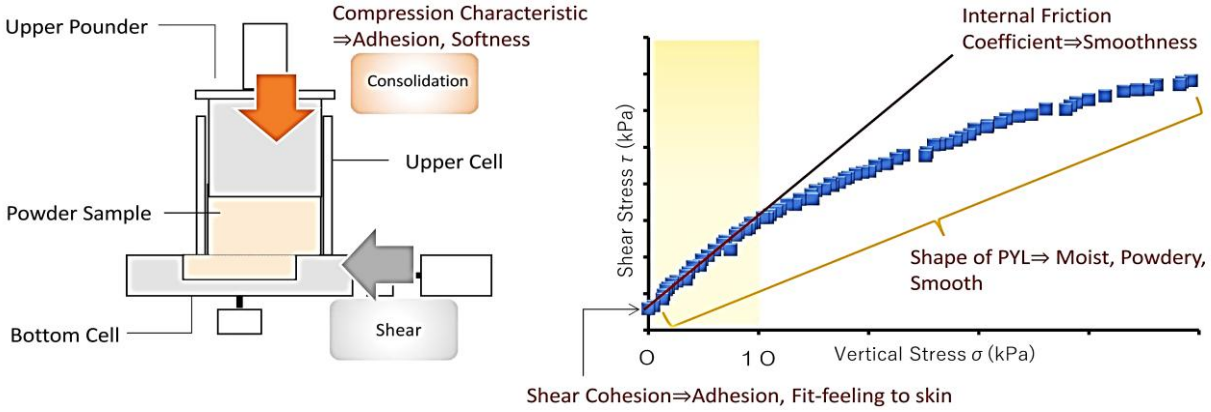
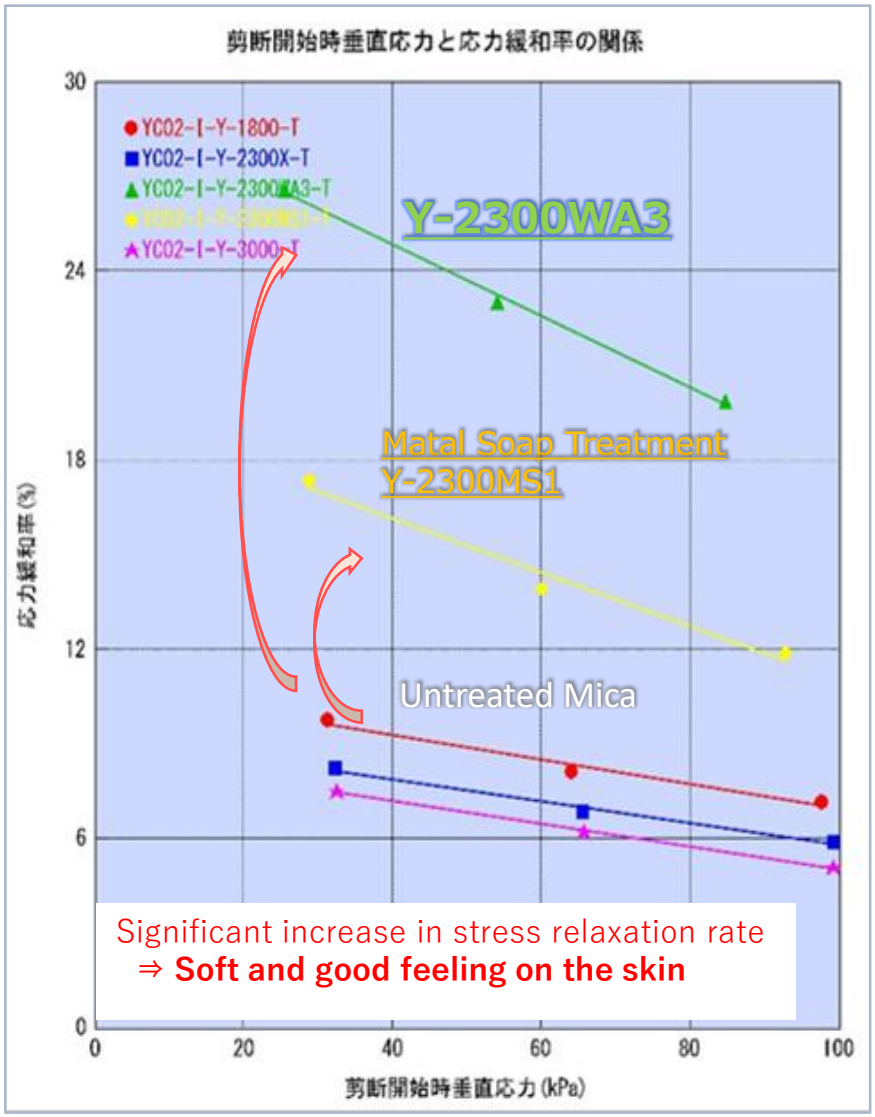
Characterizations of Amodimethicone treatment







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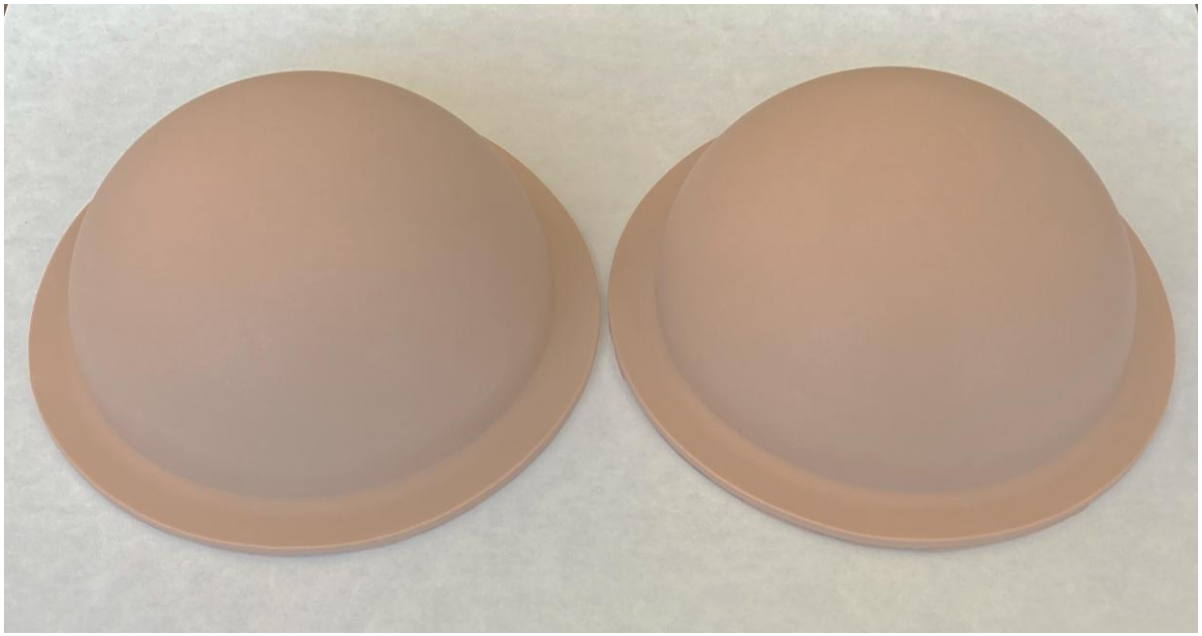
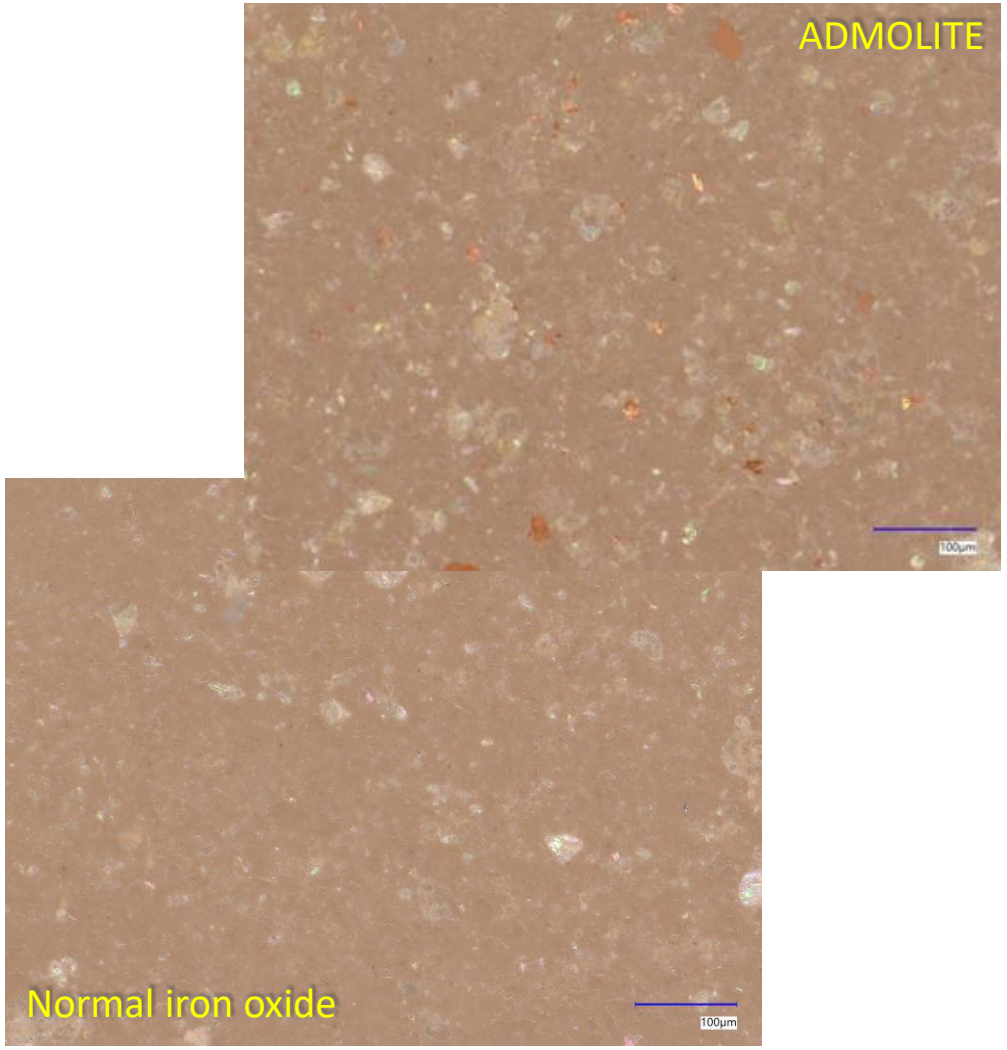
Application color comparison with water foundations

Normal iron oxide　　ADMOLITE

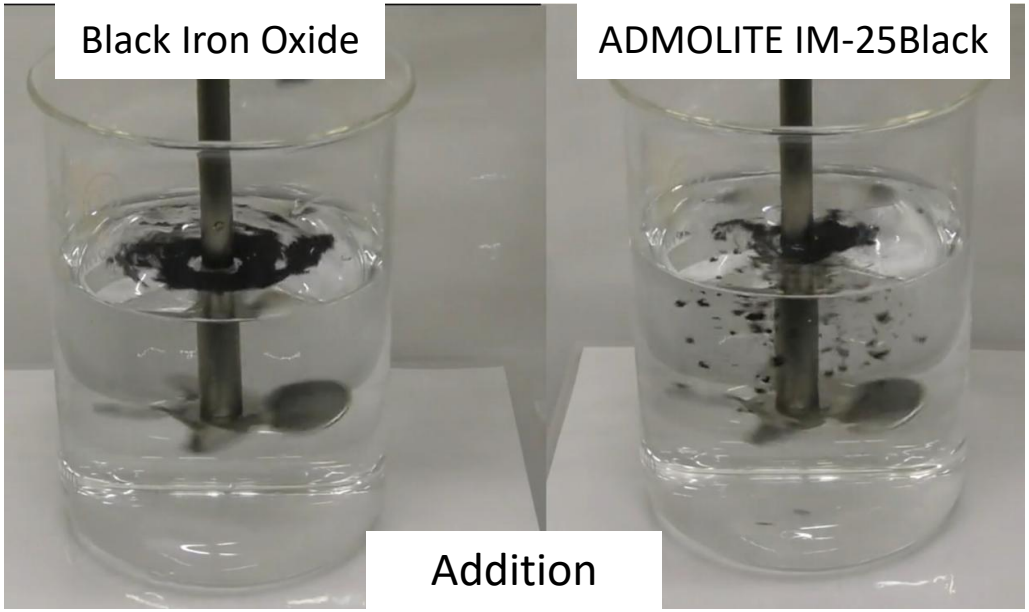


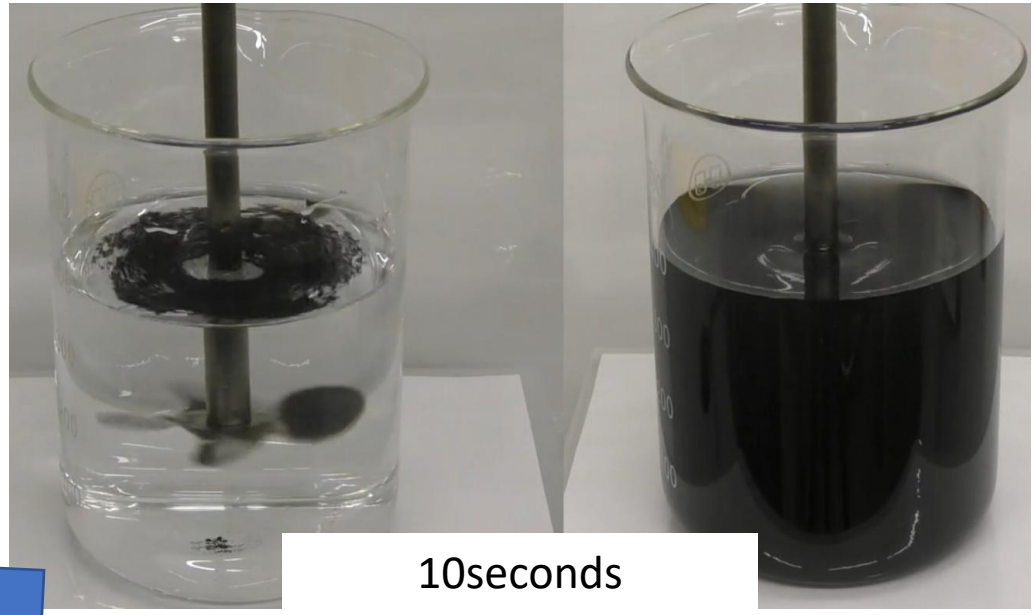


The applied color of the water foundation with ADMOLITE is more saturated due to the scattering of large color particles.　⇒ **Pointillism Effect**

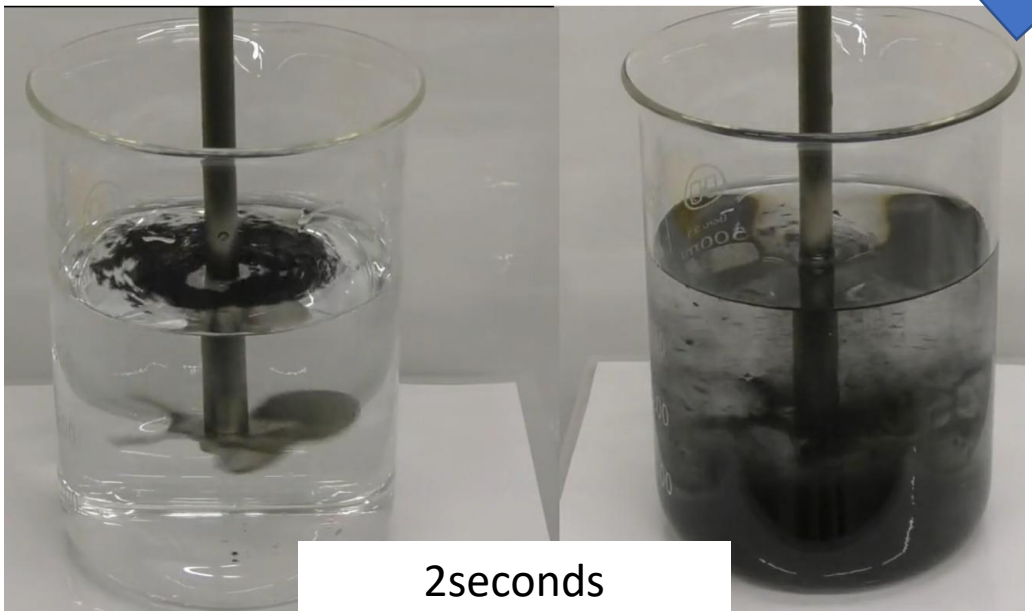
Easy Dispersion

~ Comparison of Dispersions into water ~





0.5g Sample to 400mL Water at 150rpm



ADMOLITE, composite pigment has better excellent dispersibility than Black iron oxide.

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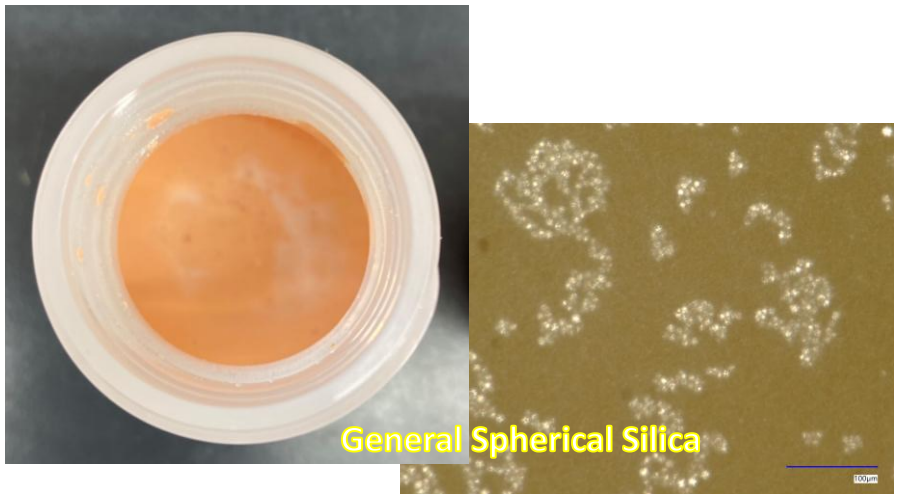
Why PSG-05WA5 is better?

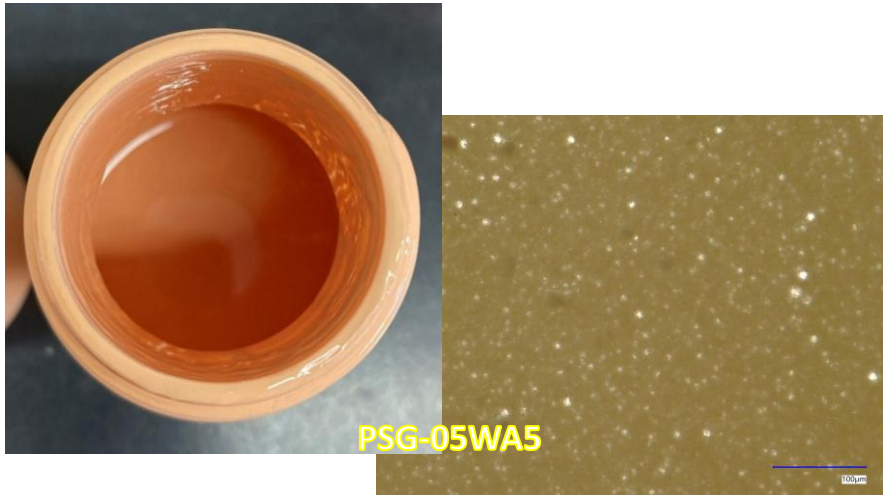
In a W/O emulsification, **have you ever experienced deteriorations in stability** during heat retention and cycle tests, such as when organic spherical particles are replaced with the hydrophobic silica, or when hydrophobic pearl pigments are added to improve the finish?
These are caused by aggregations among the untreated powders or powders with insufficient surface treatment, and destabilization of dispersion and emulsification due to the adsorption of surfactants on these surfaces.

PSG-05WA5 has the following characteristics:

- Feeling of both silicone treatment and amino acid treatment
- Few surface treatment defects that prevent wetting even with an ethanol aqueous solution with low surface tension.

Due to these properties, **PSG-05WA5 improves the usability and stability** of the formulation.





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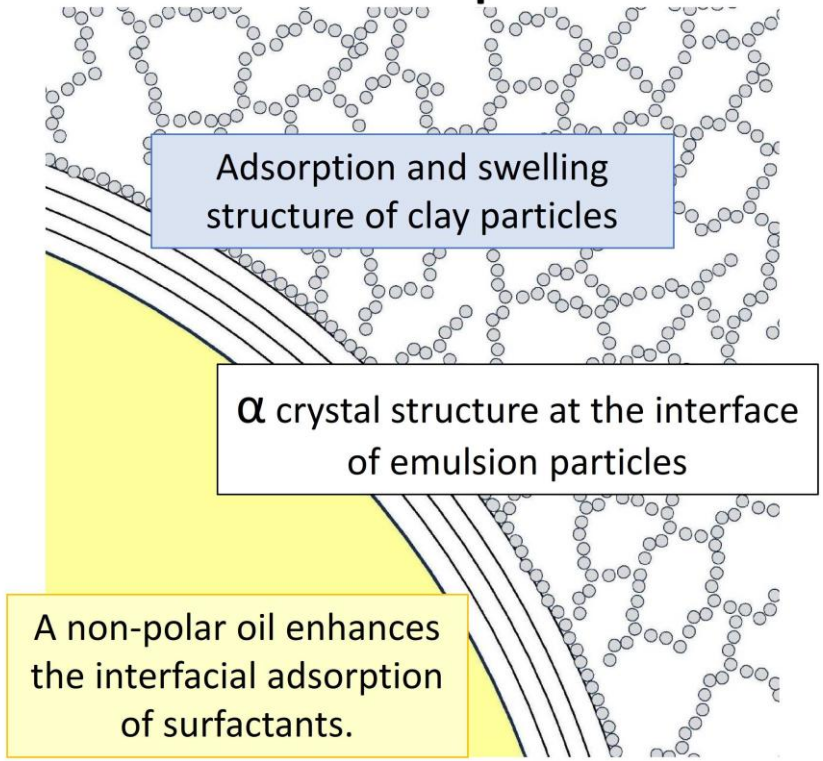
E-MIX WP&OP

E-MIX WP&OP are premix ingredients for easily preparing O/W emulsion cream. Each premix ingredient is used for the water phase and oil phase, respectively.

OP
Polyglyceryl-10 Pentastearate
Glyceryl Stearate SE
Hydrogenated Rapeseed Alcohol
Olive Squalane
WP
BG
Polyglyceryl-10 Isostearate
Magnesium Alminium Silicate
Water

Emulsion stabilization points of E-MIX



This emulsion system was stabilized by two mechanisms: One is a complex consisting of a synthetic clay mineral and a surfactant with low HLB value, and the other is α crystal formed by higher alcohol.

Basic Formulation examples

Ingredient		Sunscreen			UV Cream Foundation
		Chemical	Chemical +Ti	Non-Chem	
Oil Phase	**OP7**	15.00	15.00	10.00	15.00
	Ethylhexyl Methoxycinnamate	10.00	7.00	-	-
	Diethylamino Hydroxybenzoyl Hexyl Benzoate	3.00	3.00	-	-
	Fine Particle Titanium Dioxide Dispersion*1	-	-	10.00	-
	Fine Particle Titanium Dioxide Dispersion*2	-	-	-	8.00
	Water	46.50	43.50	46.50	40.56
Water Phase	**WP4**	15.00	15.00	15.00	10.00
	BG	10.00	8.00	8.00	8.00
	Methylparaben	0.30	0.30	0.30	0.30
	Xanthan Gum	0.20	0.20	0.20	0.20
	Aqueous Dispaersion of Titanium Dioxide Dispersion *3	-	8.00	-	-
	Aqueous Dispaersion of Zinc Dioxide Dispersion*4	-	-	10.00	-
	Mixed Powder for Cream Foundation*5	-	-	-	17.94
Total		100.00	100.00	100.00	100.00

Observation results after 1 week at 50℃

A stable cream that does not loosen or separate

＊1：SA-UT-A40ININ(55%)MiBrid Dispersion (Miyoshi Kasei
＊2：SA-UT-A40(Miyoshi Kasei)/ノムコートTAB(NOF)＝1/1 Mixture
＊3：DIS-AB-10W(Sakai Chem Ind)
＊4：DIF-AB-33W(Sakai Chem Ind)
＊5：

ADMOLITE IM-25Yellow(YMC)	3.86
ADMOLITE IM-25Red(YMC)	0.54
ADMOLITE IM-10Black(YMC)	0.04
CR-50(ISK)/UP-10(YMC)＝3/2	13.50
合計	17.94

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Mica Selection for Desired Feelings

Smoothness
Taking-off
Fitting Feel

Standard Mica

Wet-grinding
Classification

Luster Transparency
Oil Absorption
Softness

Calcination
Acid Treatment

Calcined Mica

Luster Transparency
Oil Absorption

Mild Wet-grinding
Classification

Gloss Mica

Smoothness
Fitting Feel
Moist Feeling
Soft Touch

Surface Treatment

In particular, amodimethicone treatment has the smoothness of silicone and the comfort of amino acids on the skin.

Surface Treatment

YAMAGUCHI MICA CO., LTD.

Product table for Cosmetics

2025 Version

TRADE NAME		Average Particle Size (μm)	Aspect Ratio	Whiteness	Glossiness (GU)	Bulk Density (g/ml)	Remarks
Mica	Y-1800	10	65	85	10	0.15	Fine particles, creamy feel, mattifying
	Y-2300X	19	70	83	11	0.17	Silky and shimmer
	Y-3000	23	80	82	12	0.24	Natural sheen and luster
	SA-310	26	80	82	14	0.20	Velvety sheen and feeling
	SA-350	40	80	80	19	0.22	Glittering and sparkling luster
	FA-450	28	80	80	20	0.23	Excellent transparency, shine and glossiness
	GFA-50	50	60	76	23	0.34	Metallic shine offers pearly effect
Thin Mica	NCF-322	24	100	70	13	0.15	Light gray color, translucent
	TM-10	10	100	77	17	0.12	Fine particles, fluffy feeling
	TM-20	18	120	76	18	0.14	Exceptional transparency, high aspect ratio
SPF Booster Mica	UP-10	10	65	-	-	0.15	Can be used as SPF and PFA booster by formulate 10% or more
	UP-20	20	70	-	-	0.12	Can be used as SPF and PFA booster by formulate 10% or more
Talc	CT-30	10	20	92	4	0.27	Fine particles, good coverage
	CT-35	17	20	91	5	0.44	Dry and smooth feeling
	CT-250	30	20	92	8	0.71	Dry and powdery texture, exceptional transparency
	EX-15	15	20	94	6	0.51	Ultra soft with excellent creaminess

* This is our representative products table.
* Surface treatment is available for these products.
* These characteristics may change without prior notice.

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