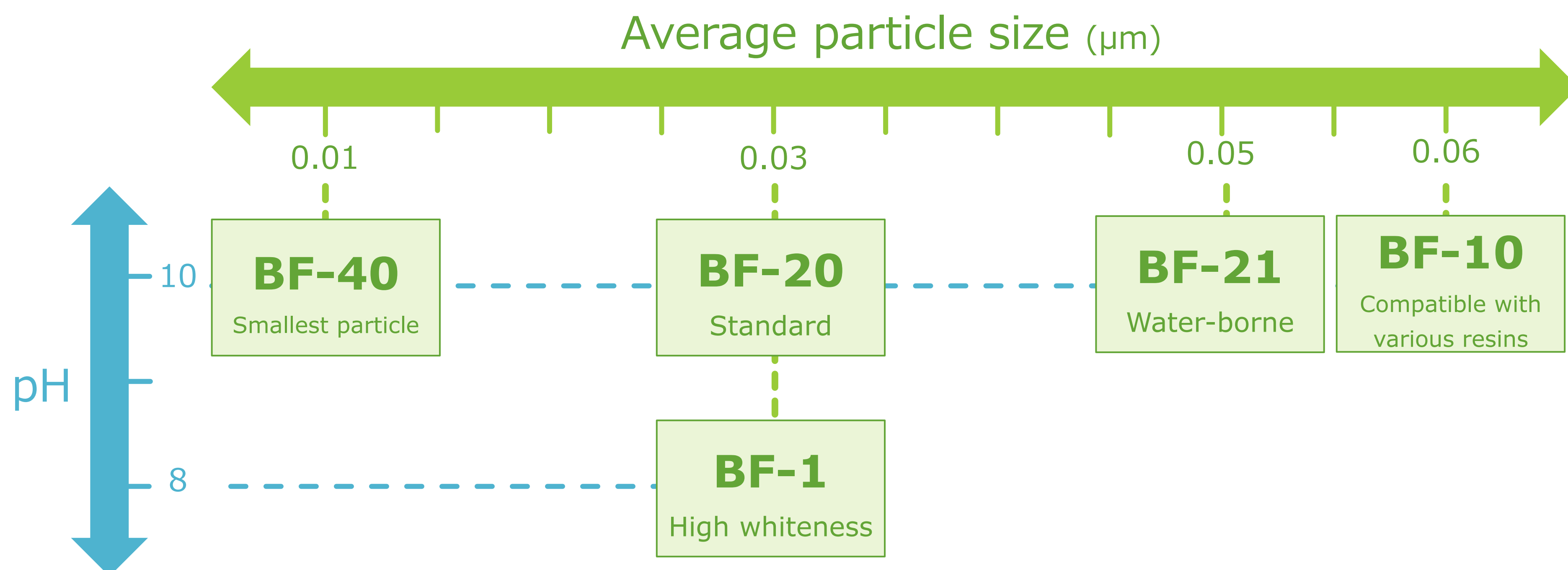


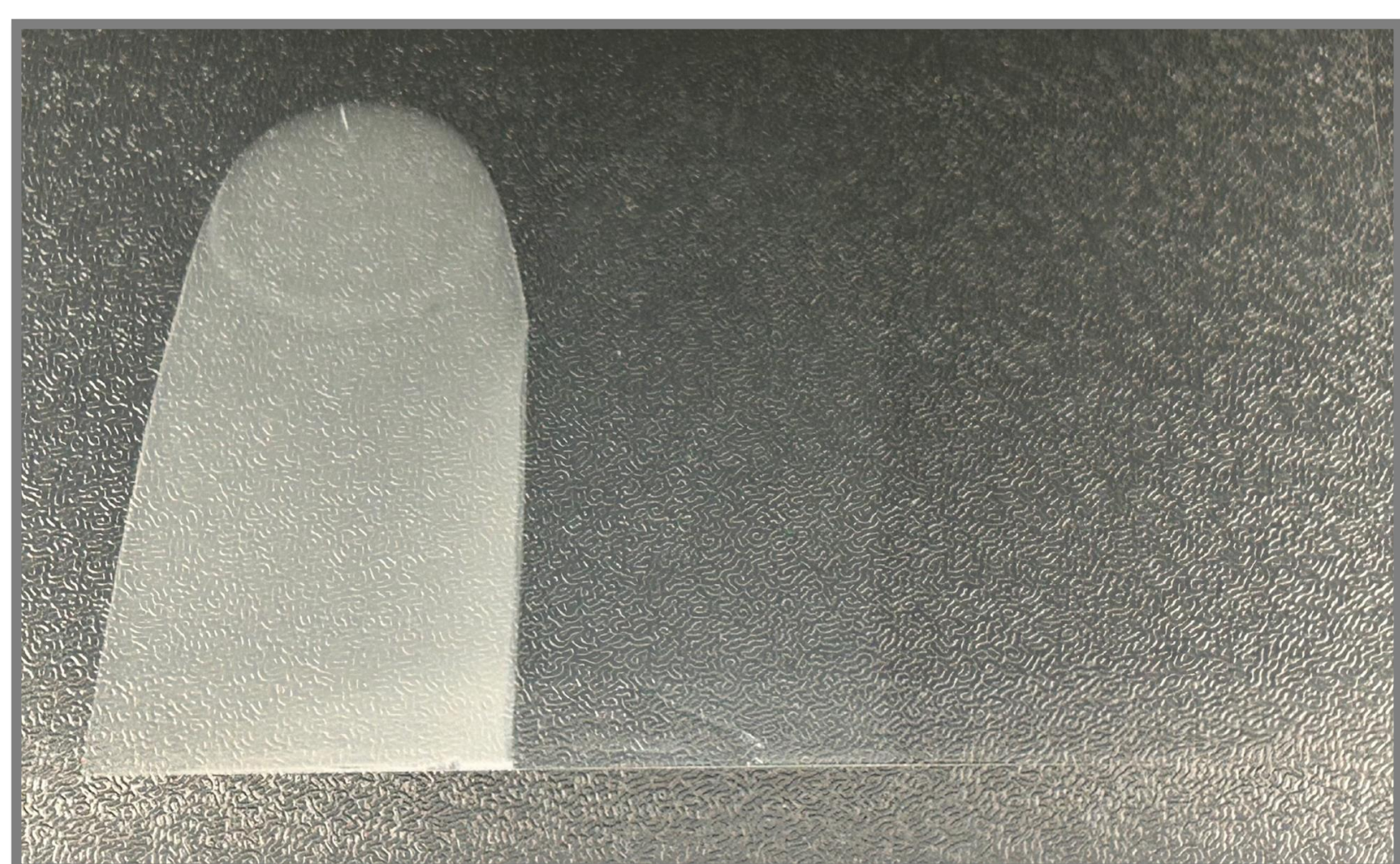
# BARIFINE® series

## What is BARIFINE?

- ✓ World's smallest particle Barium Sulfate
- ✓ High transparency and chemically stable
- ✓ Improve gloss, flatness and smoothness of coating
- ✓ Increase the brightness of metallic color by improving the orientation of aluminum flake
- ✓ Enhance the jet blackness of coating by the media effect towards carbon black



## Transparency



① General BaSO<sub>4</sub>      ② BF-20      ③ Resin only

Formulation (g)	①	②	③
BaSO <sub>4</sub>	15.0		0.0
Acrylic resin		24.0	
Melamine resin		6.0	
Xylene		20.0	

High transparency maximize the performance of pigment color



**Sakai Chemical  
Industry Co., Ltd.**

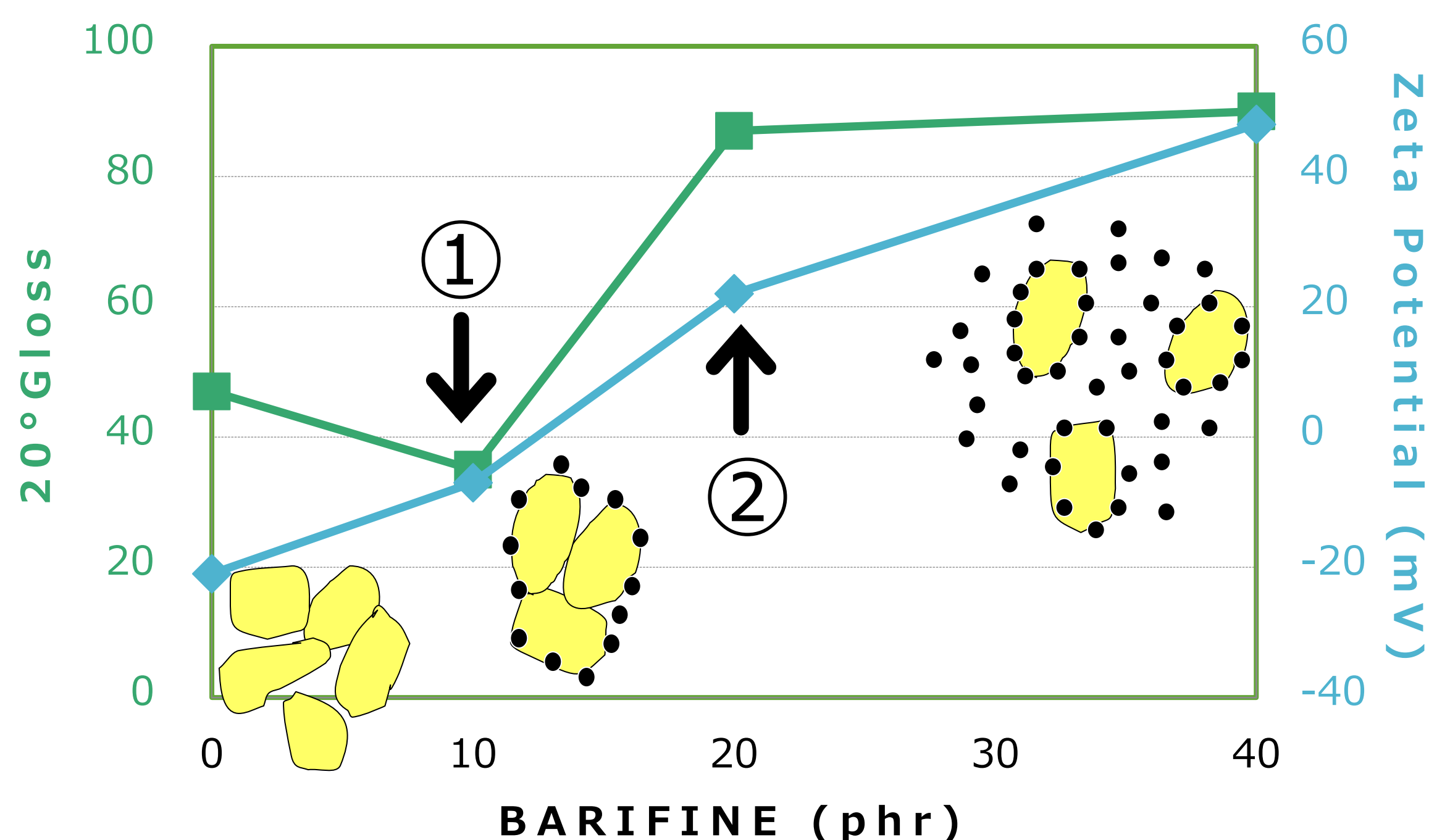
Tokyo TEL:+81-3-5823-3722 FAX:+81-3-3861-1511  
 Osaka TEL:+81-72-223-4155 FAX:+81-72-223-4177  
 E-mail: sales-t@sakai-chem.co.jp  
<http://www.sakai-chem.co.jp>

Mascot character  
**Tiitan**



## Improve pigment color of coating

### How to work



- ① BARIFINE particle absorbed to the surface of pigment and neutralize the electric charge
- ② With further addition of BARIFINE, the Zeta potential becomes positive and the dispersion state more stable due to electrostatic repulsion.

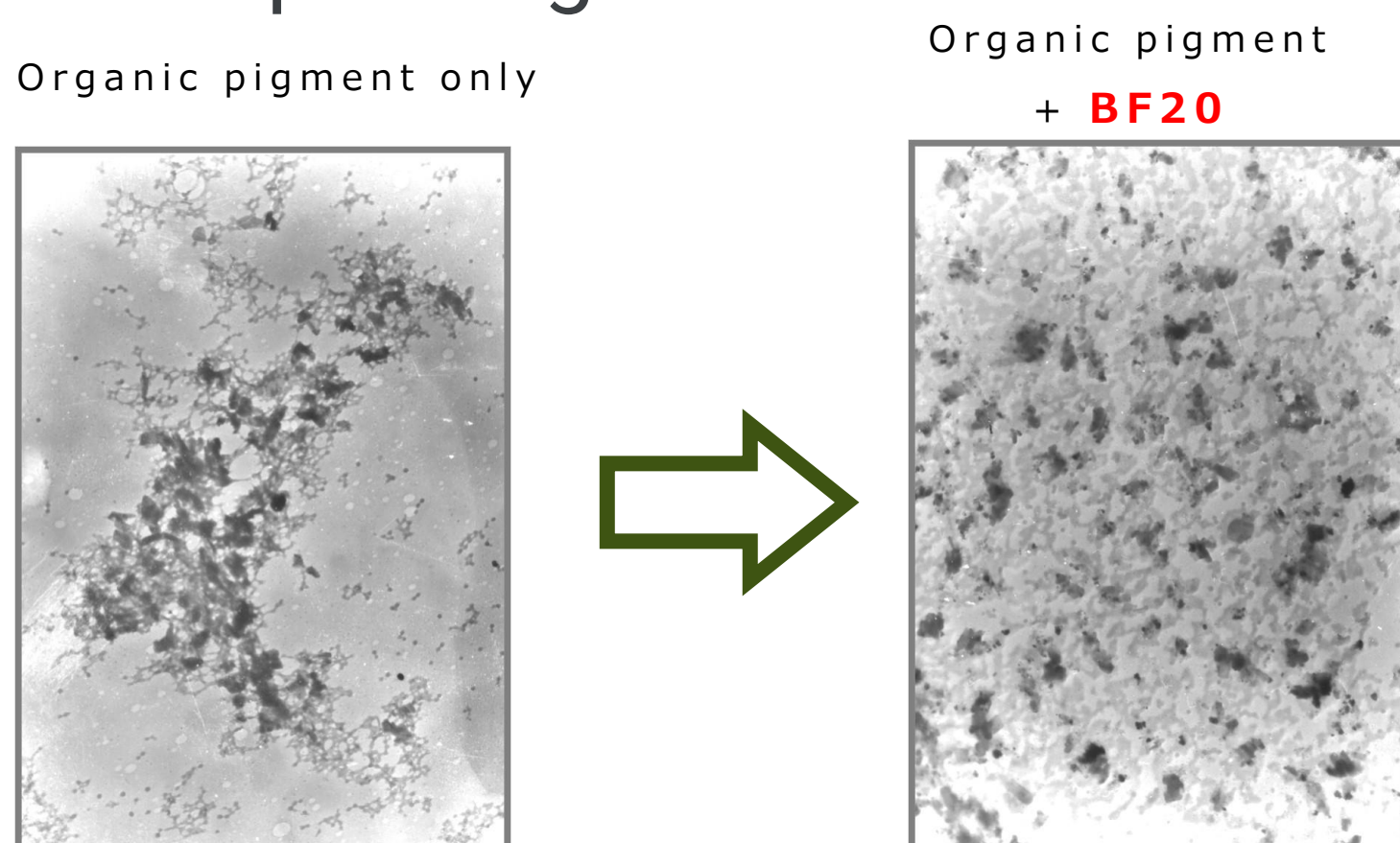
### Test

#### ✓ Result



Gloss 20°	34	<b>75</b>
Gloss 60°	77	<b>92</b>

#### ✓ microscope image



#### ✓ Model mixture (unit: g) 20phr

BF-20	0.0	<b>3.0</b>
Color Pigment	3.0	
Acrylic resin	10.0	
Xylene	20.0	
1.5mm Glass beads	60.0	

In 140 ml glass case



Mixing: 30min  
(by Paint Mixer)



Acrylic resin	14.0
Melamine resin	6.0



Mixing : 5min

➤ **Recommended use:**  
Automobile top coating & interior coating,  
home electronics, ink & plastics



**Sakai Chemical  
Industry Co., Ltd.**

Tokyo TEL:+81-3-5823-3722 FAX:+81-3-3861-1511  
Osaka TEL:+81-72-223-4155 FAX:+81-72-223-4177  
E-mail: sales-t@sakai-chem.co.jp  
<http://www.sakai-chem.co.jp>

Mascot character  
**Tiitan**



# Ultrafine particle Barium sulfate

# BARIFINE® × CarbonBlack

## Function of BARIFINE

### Ultrafine particles of BARIFINE solves the aggregation of carbon black

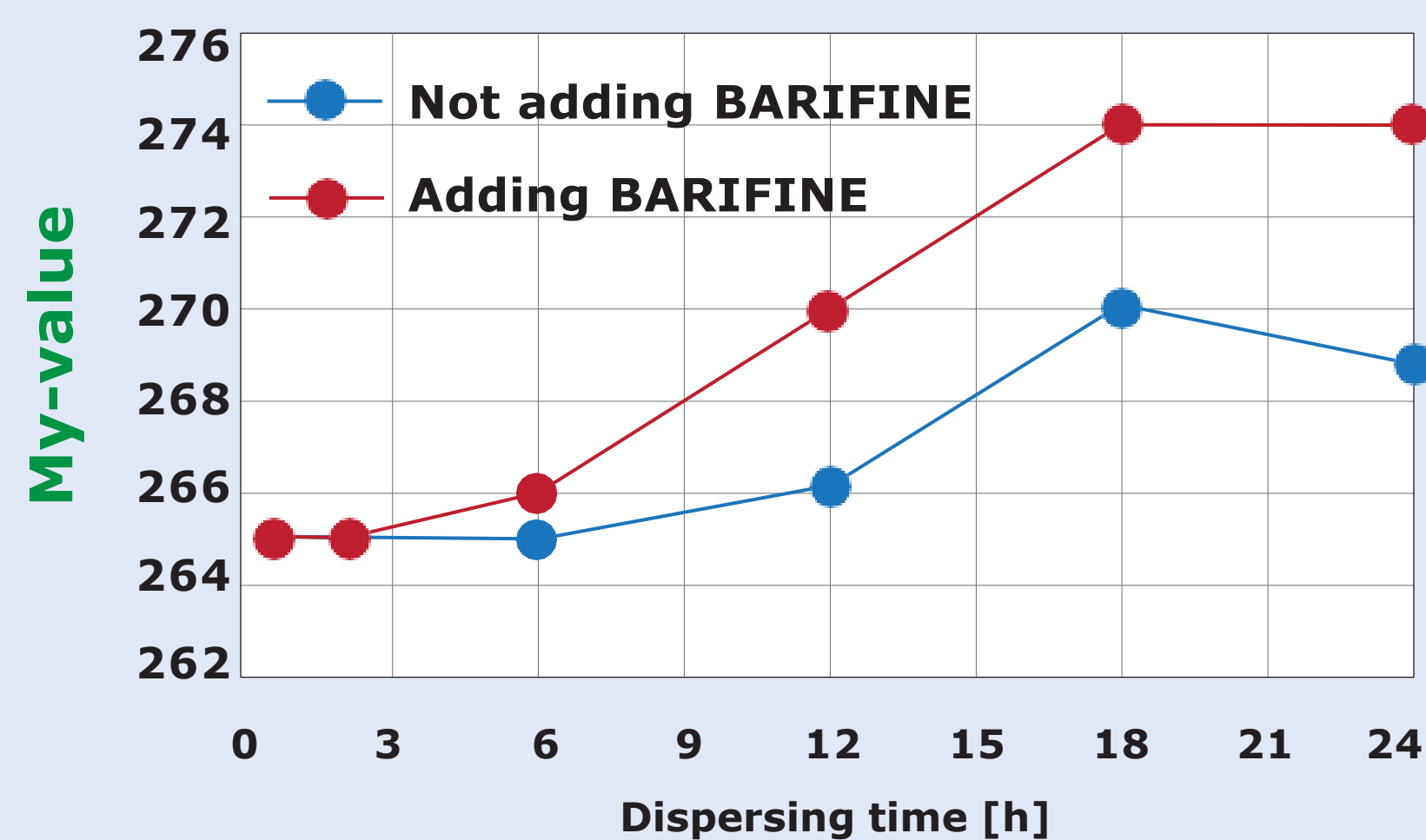
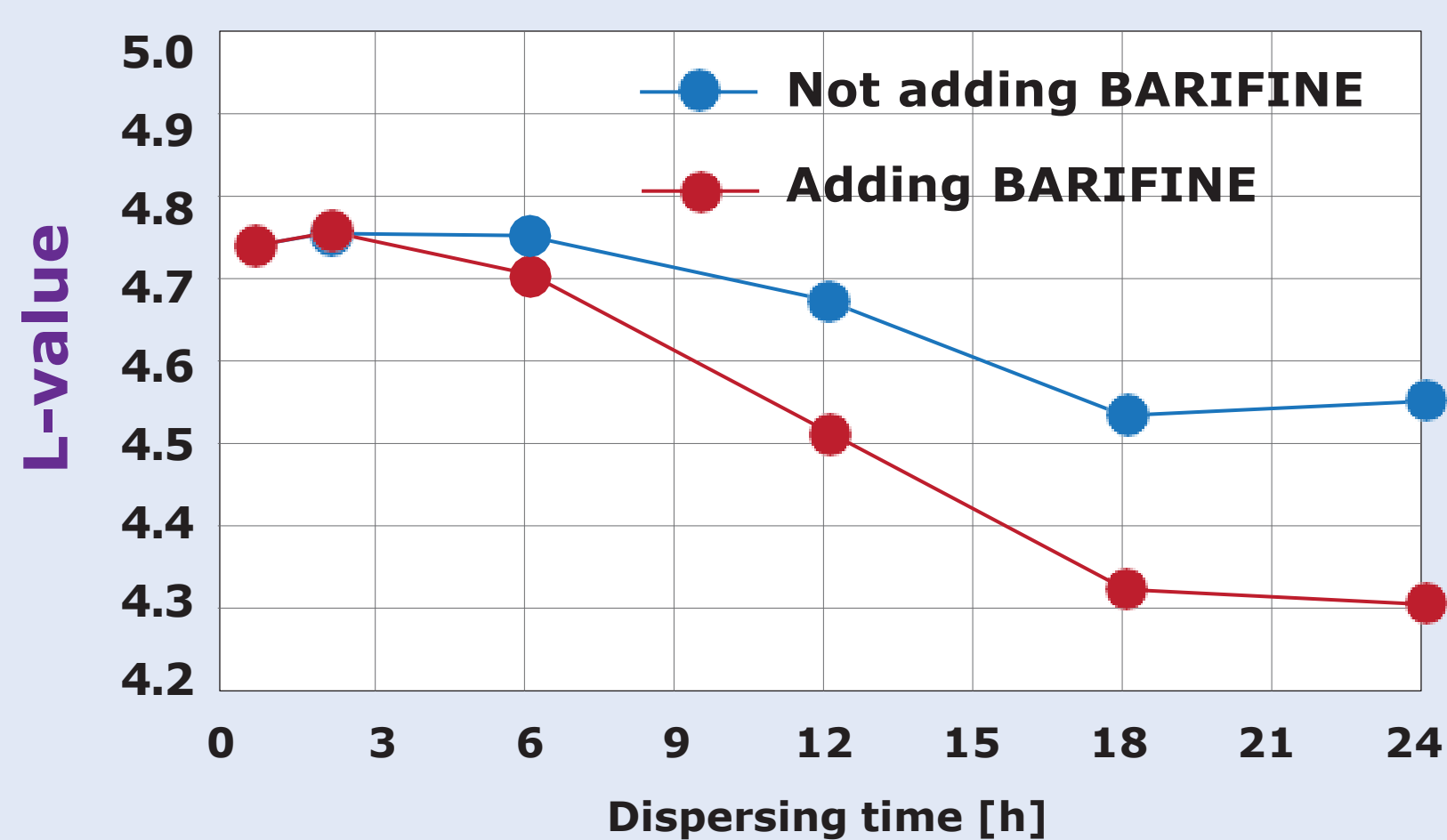
By media effect

· Reduce CB dispersion time

Bead mill dispersion more than 12 hours

· Enhance the Jet Blackness

## Effectiveness with BARIFINE BF-20

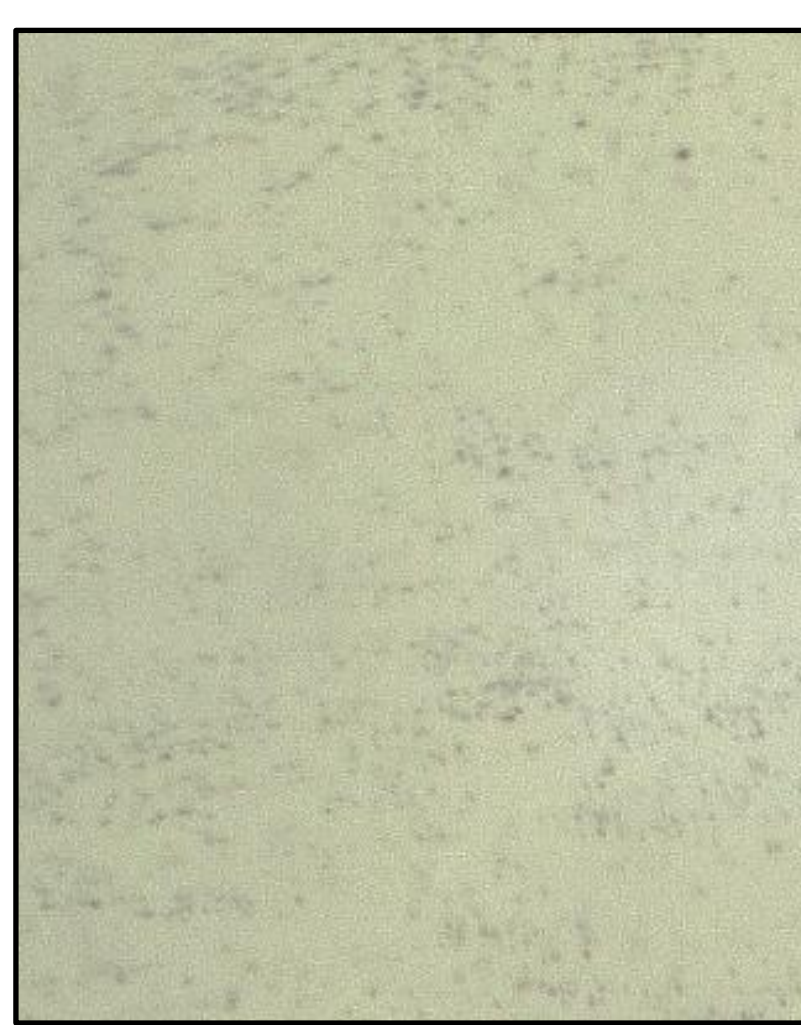


## Picture of CB coating film

Not adding BARIFINE



Adding BARIFINE



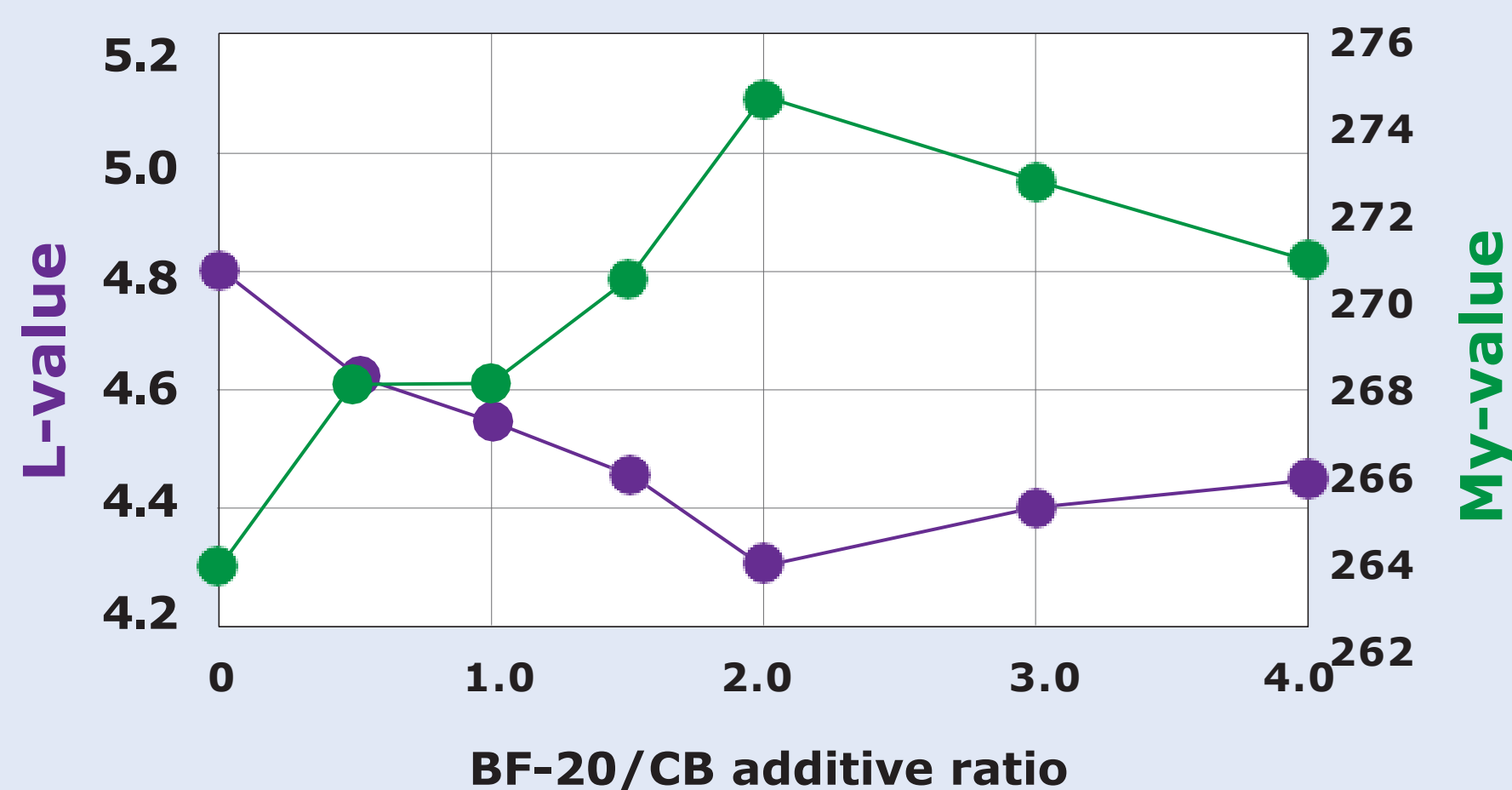
Clear difference of aggregation of CB

<Condition>

After dilution of carbon black paint 100 times with MEK, form a film by spin coating.

Device: digital microscope

## BARIFINE BF-20 addition



[Jet Blackness Evaluation Guideline]

L-value: the Lower, the blacker (lightness)

My-value: Higher level is associated with higher level of lacquer black (calculated from the measured Y value)

The highest effect in this study shows by adding the double dosage (18PHR) against CarbonBlack



**Sakai Chemical Industry Co., Ltd.**

Tokyo TEL:+81-3-5823-3722 FAX:+81-3-3861-1511  
 Osaka TEL:+81-72-223-4155 FAX:+81-72-223-4177  
 E-mail: sales-t@sakai-chem.co.jp  
 http://www.sakai-chem.co.jp

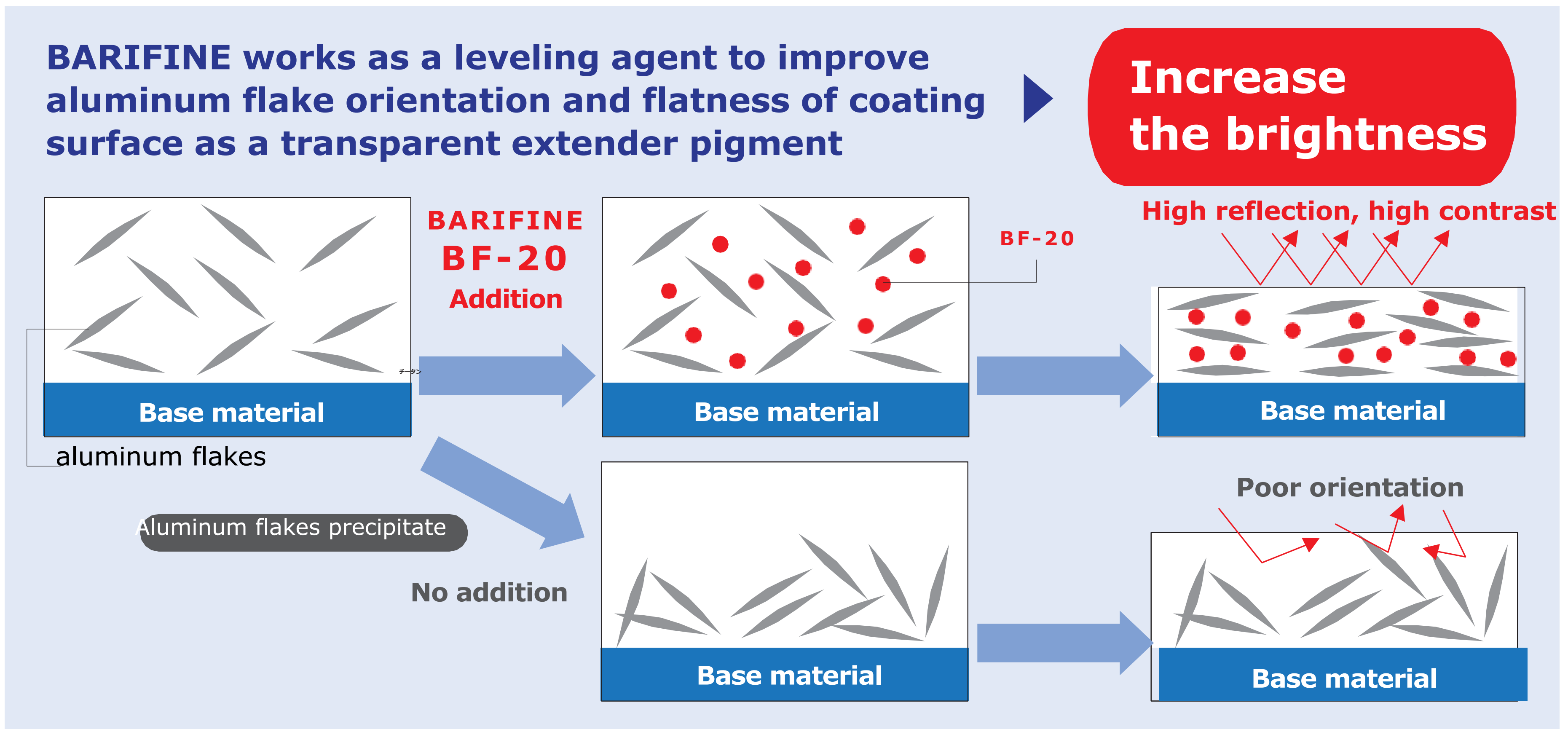
Mascot character  
**Tiitan**



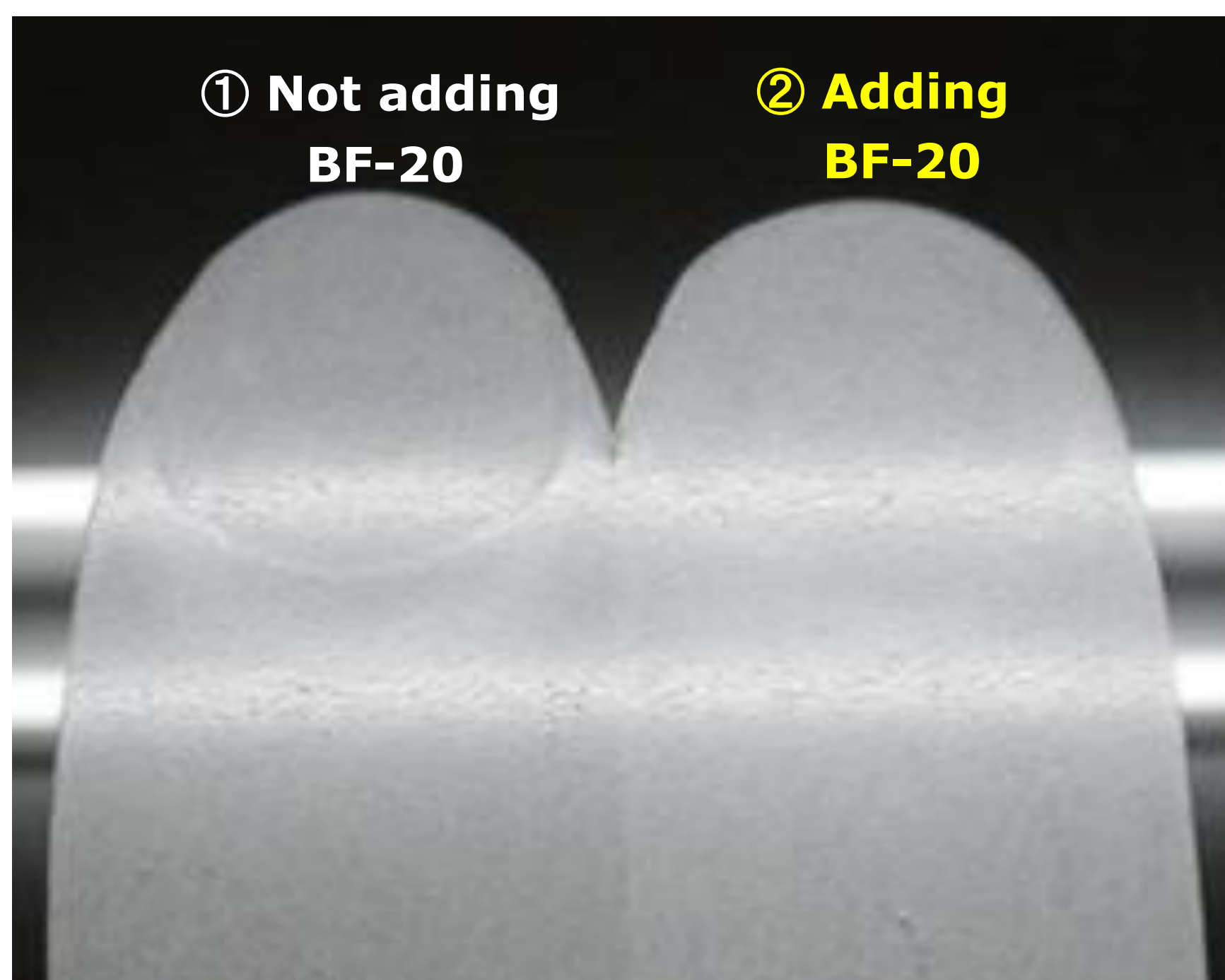
# Ultrafine particle Barium sulfate

# BARIFINE® × Aluminum Flake

## Function of BARIFINE



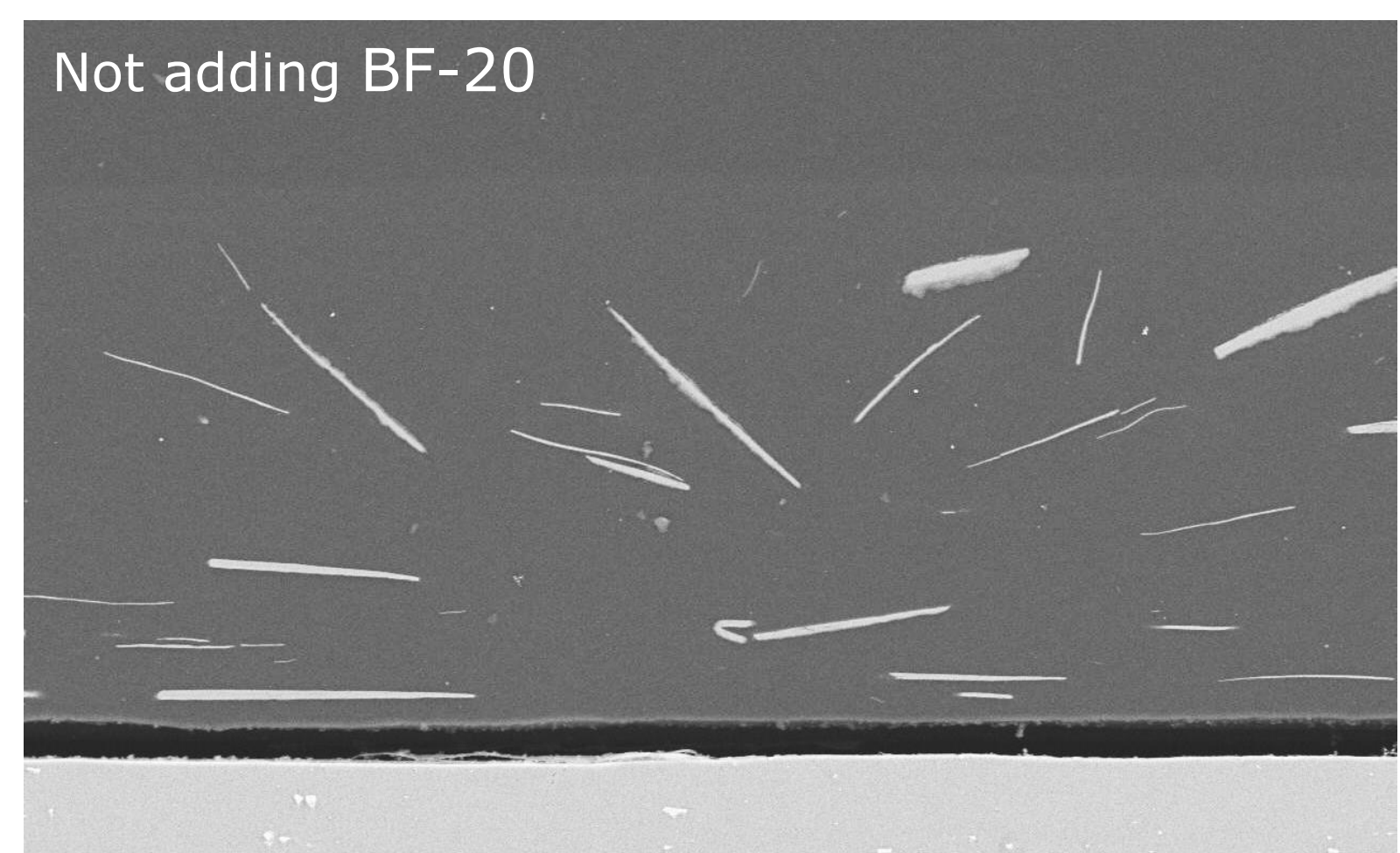
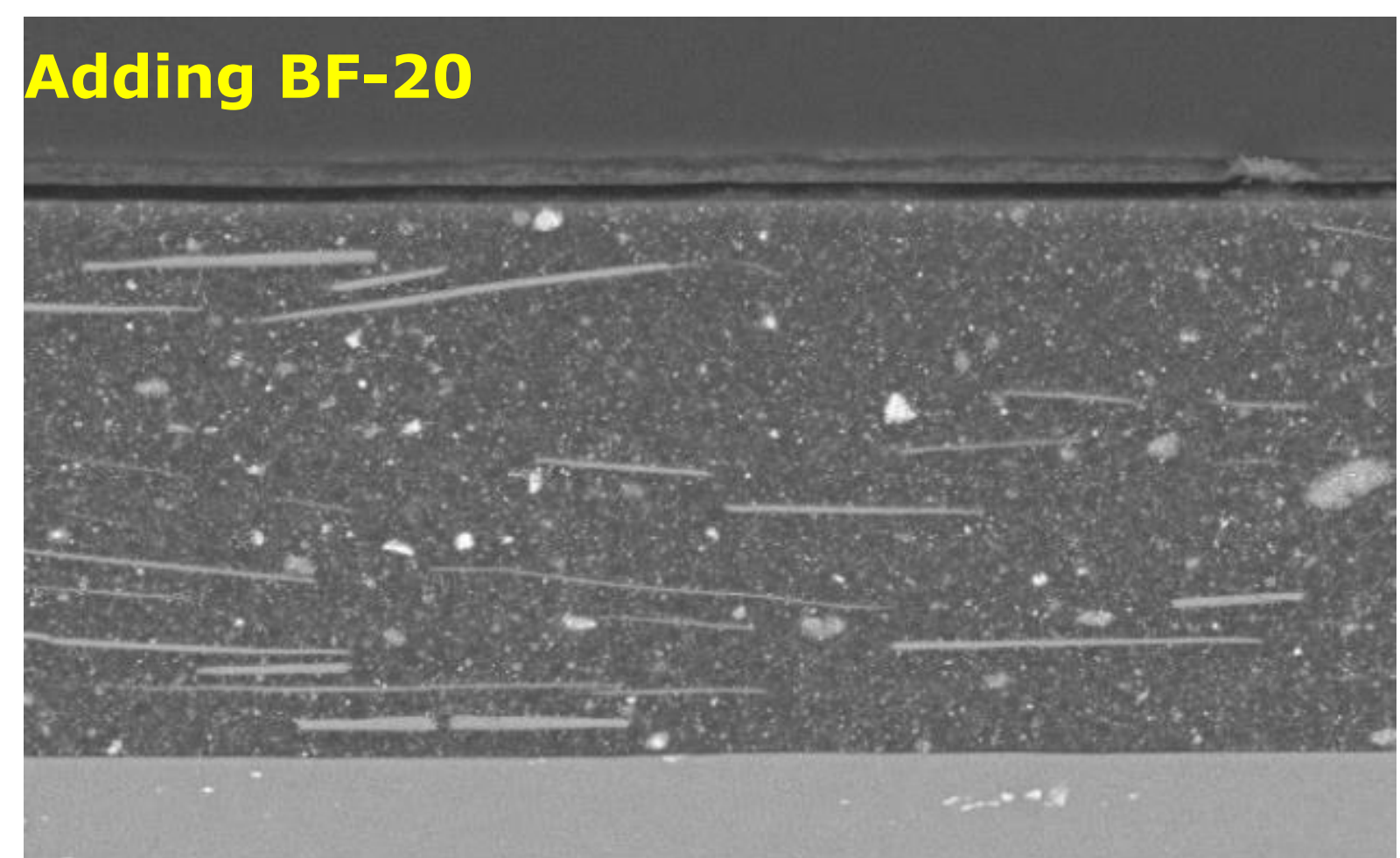
## Effectiveness with BARIFINE BF-20



	①	②
25°L value	106.2	107.0
75°L value	47.4	44.8
FF value	2.24	2.39

**Good orientation**

### Cross-sectional photo of coating (SEM)



**Sakai Chemical  
Industry Co., Ltd.**

Tokyo TEL:+81-3-5823-3722 FAX:+81-3-3861-1511  
 Osaka TEL:+81-72-223-4155 FAX:+81-72-223-4177  
 E-mail: sales-t@sakai-chem.co.jp  
<http://www.sakai-chem.co.jp>

Mascot character  
**Tiitan**

