

World's First Nanotechnology Coating

Anti-Static Anti-fouling & Super hydrophilic Self Cleaning Coat Application record

Fine view maintenance, 50% or more maintenance Cost reduction



Sketch



ECOSHOP

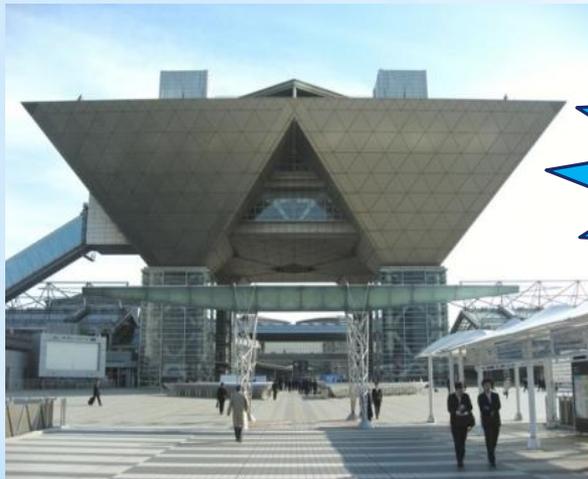
Air Clean & Ecological Coat Humidified Glass Coat Anti-Static Anti-fouling Coat

2015.2.24

Case 1) 'Tokyo Big site' West building skylight (the biggest exhibition hall in Japan)

Differentiation of combination of thermal barrier paint and antifouling coat.

- ◆Purpose : the measure of light-shielding and heat cut
- ◆Result : **Our coating was adopted and applied 2000m²** after competition with the other heat cut painting by test application.



Reflectance
Significant
reduction



We got application field for 2000m²



Case 2) Cocoon tower in Shinjuku, Tokyo

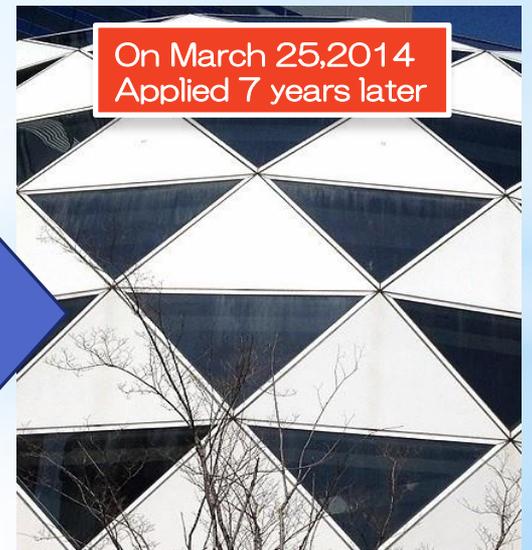
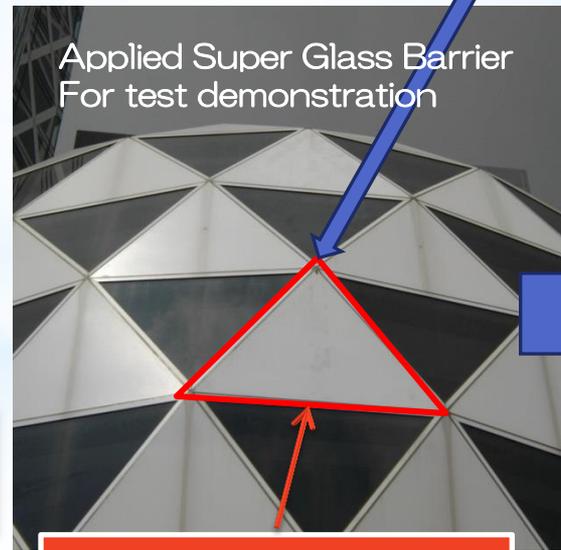
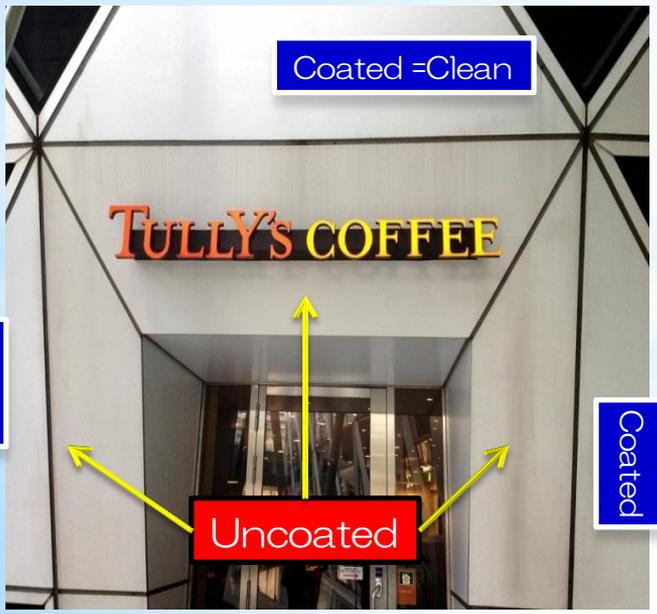
For Aesthetic maintenance

- ◆Purpose : We applied because the trace of rain drop stand out.
- ◆Result : After test application , **Our coating was adopted then we applied on the panel and glass.**



The Exhaust gas dirt of New panel was stand out more than applied super glass barrier before.

The trace of rain drop was conspicuous before it applied anti-static coating.



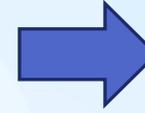
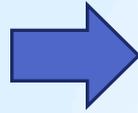
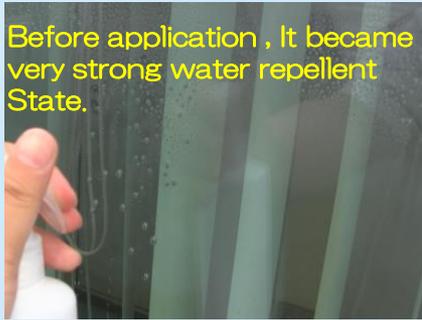
Only Coated point was disappeared to stand out Rain drop

It still has not been stand out The trace of rain drop

Case 3 ; we passed 10 months test application for outside window glass in the Haneda airport

◆ Test application on Dec ,2013

The challenge for reduction of maintenance cost and the number of times !!



◆ At the time of verification on Oct,2014

① Checking dirt adhesion amount by wiping off
= Checking anti-static effect

② checking Hydrophilic effect
After spraying water

③ Checking dirt adhesion amount by wiping off after spraying water
Checking Self cleaning effect



Coated
Clean

Surface resistance value
 $10^9 \Omega/\square$

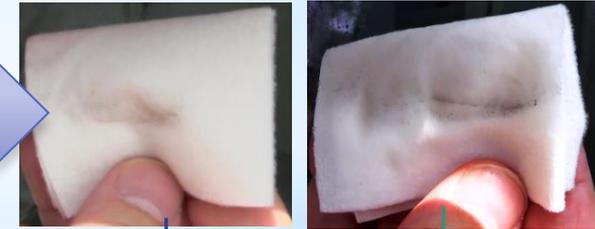
Uncoated
Dirty

Surface resistance value
error



Coated
Super Hydrophilic

Uncoated
Water repellent



Coated
Clean

Uncoated
Dirty

Regular maintenance cleaning for outside window glass 3 times in a year had been cost totally 210 million JPY so far. It has a plan to reduce cleaning 1 time = 70 million JPY because it will become high labor cost in the future. It will have a plan to clean 2 times in a year. It can reduce 700 million JPY for 10 years.

Case4) Anti-fouling effect of Train Body is ok for 1 year in order to reduce the regular maintenance cleaning cost and the number of times

Cleaning side body by machine



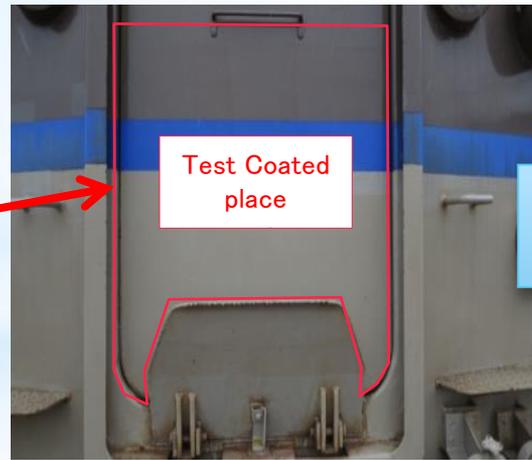
Cleaning front body by Hand



The problem of cleaning train

Side body can be cleaned by machine. But front is cleaned by only hand once every 5 days regularly. hand cleaning takes long time and heavy burden. Beside, it takes huge maintenance cost .So Train company has been expected to reduce the number of cleaning times after applying anti-static coating. If it can reduce the number of cleaning time, It means to reduce maintenance cost as well.

Applied coating on January,2014



Verification after 1 year



Maintaining the effect after 1 year , Reduces dirt adhesion amount, Easy to remove dirt

Applied 100,000m² in Nanjing, China on June, 2014
Base Material: Glass fiber concrete



China Tianjin New Xingang central Terminal
After Fluorine coat and photocatalyst coated, it still became to stand out dirt. After it applied antistatic coat for 43,000m², It became clean finally to solve this problem.

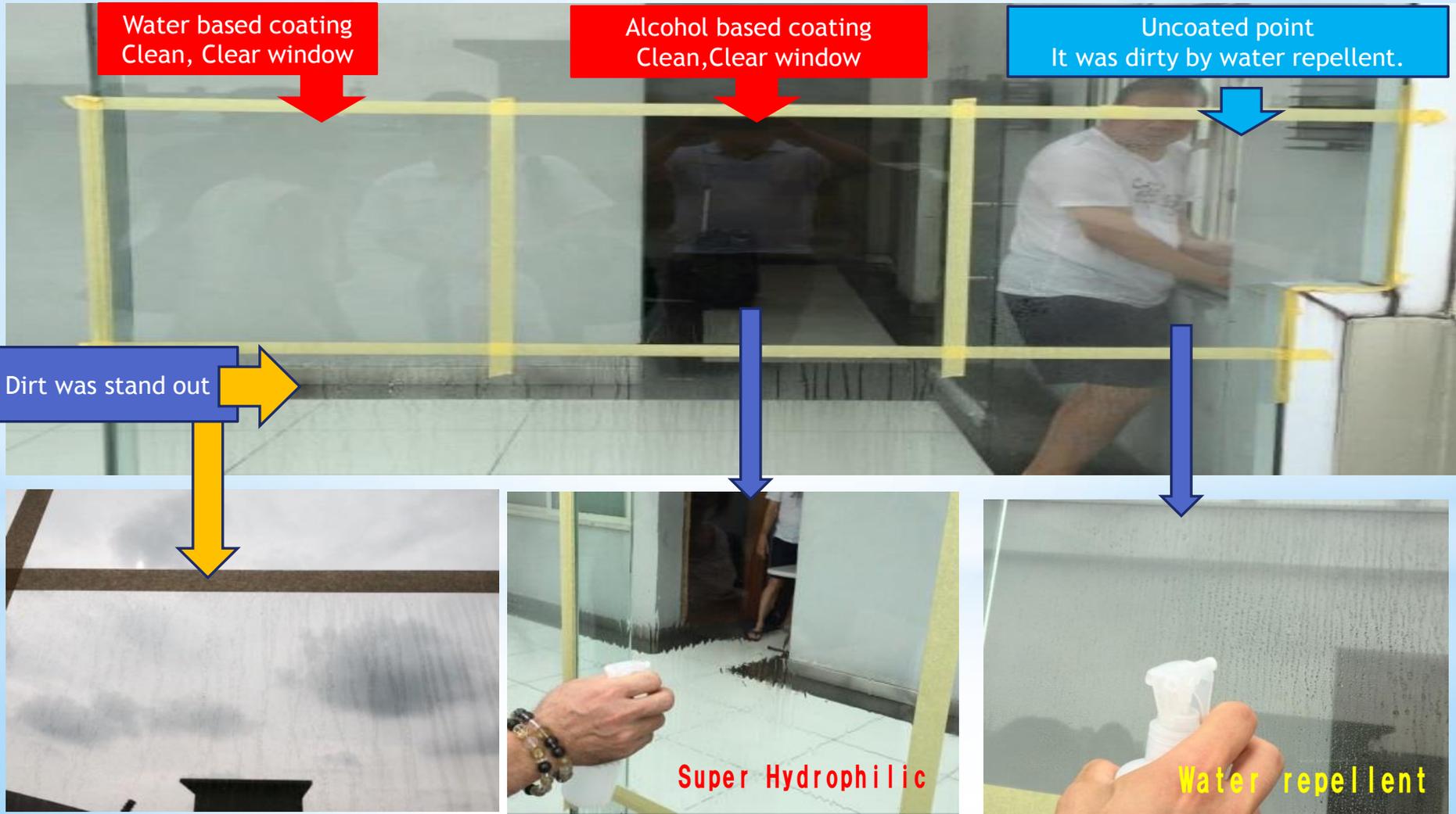


Aesthetic maintenance purposes

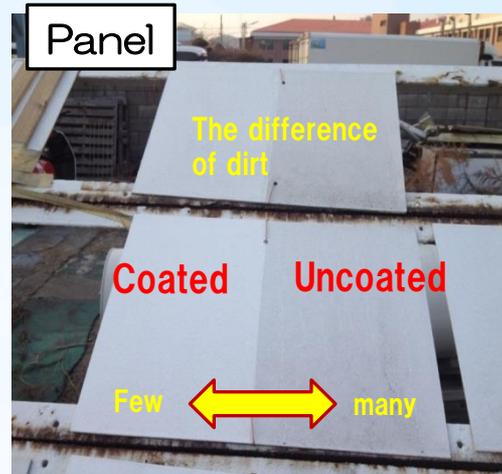
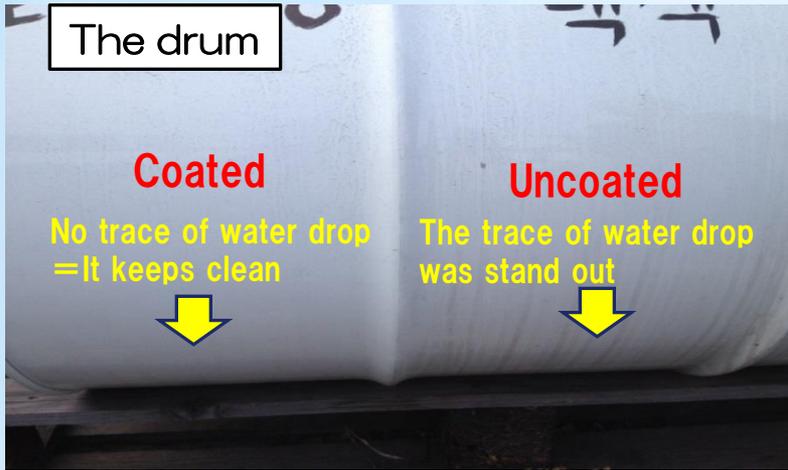


The Verification in Philippines : The test of Super Hydrophilic Self Cleaning effect

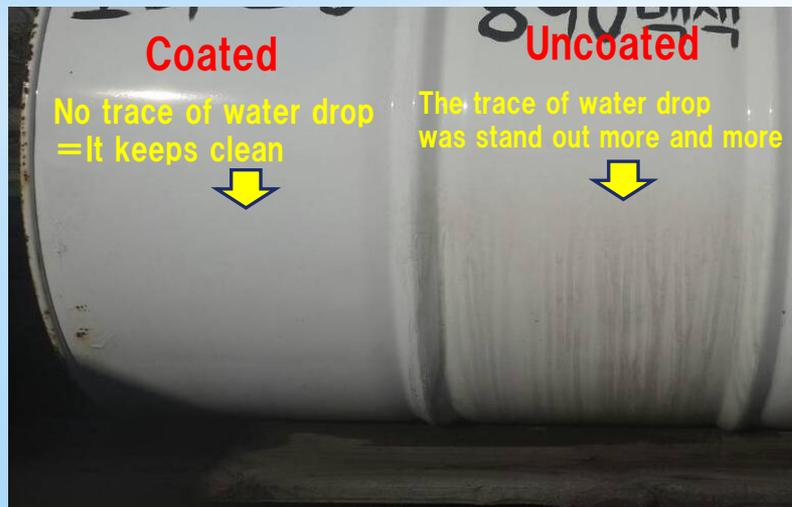
- ◆Location: Quezon city in Philippines, outside window glass of painting company building
- ◆Content: it passed 7 months after coating for outside window glass. To compare with uncoated point, It was very clear to see the difference coated point and uncoated point related to adhesion dirt. Especially when it came to rain, Coated point still kept clean and clear fine view , But, uncoated point was stand out the dirty trace of water drop.



JB paint ,Korean company , Painting manufacture Industry third position
 Test of Anti-static,Super Hydrophilic effect for white paint on March,2014 (4 months later)



On Jan,2015 • 1 year and 2 months later



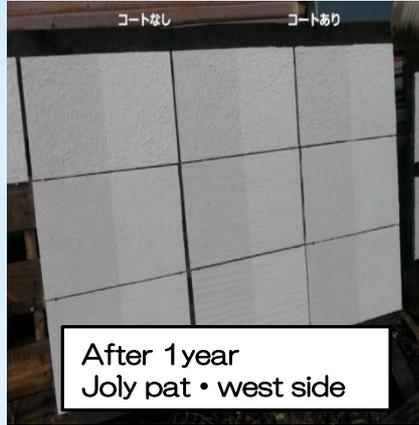
Both coated panel and drum looks like clean certainly. It was the effect of anti-static and super hydrophilic. On the other hand, uncoated drum became dirty trace of the water drop more and more. Compared with uncoated point, this coating has the deterrence effect of water drop.



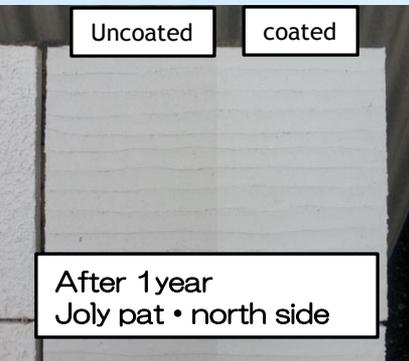
Case) verified exterior



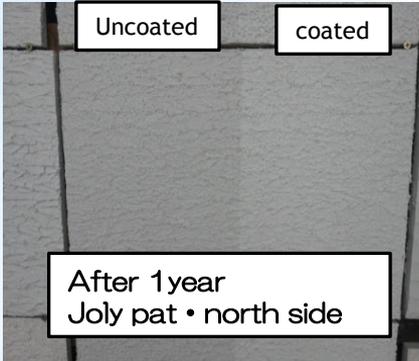
After 1 year
Joly pat • north side



After 1 year
Joly pat • west side



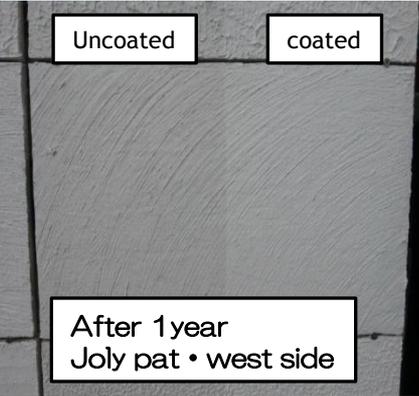
After 1 year
Joly pat • north side



After 1 year
Joly pat • north side

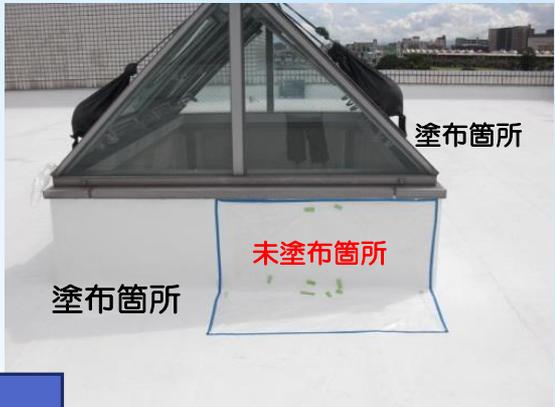


After 2 years
Joly pat • north side

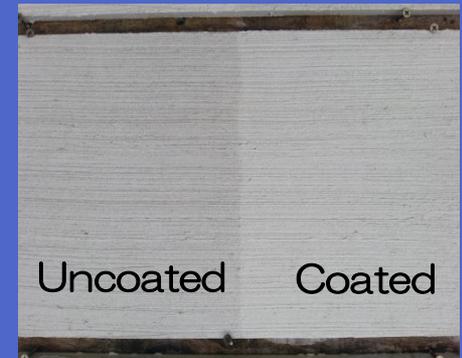
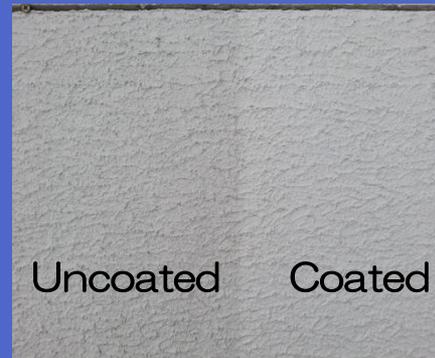
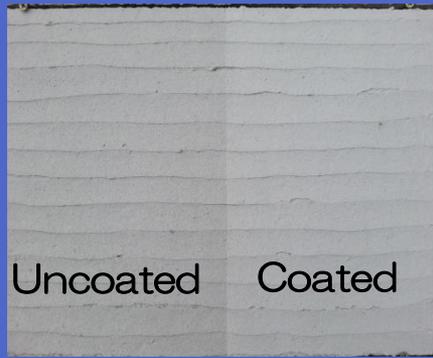
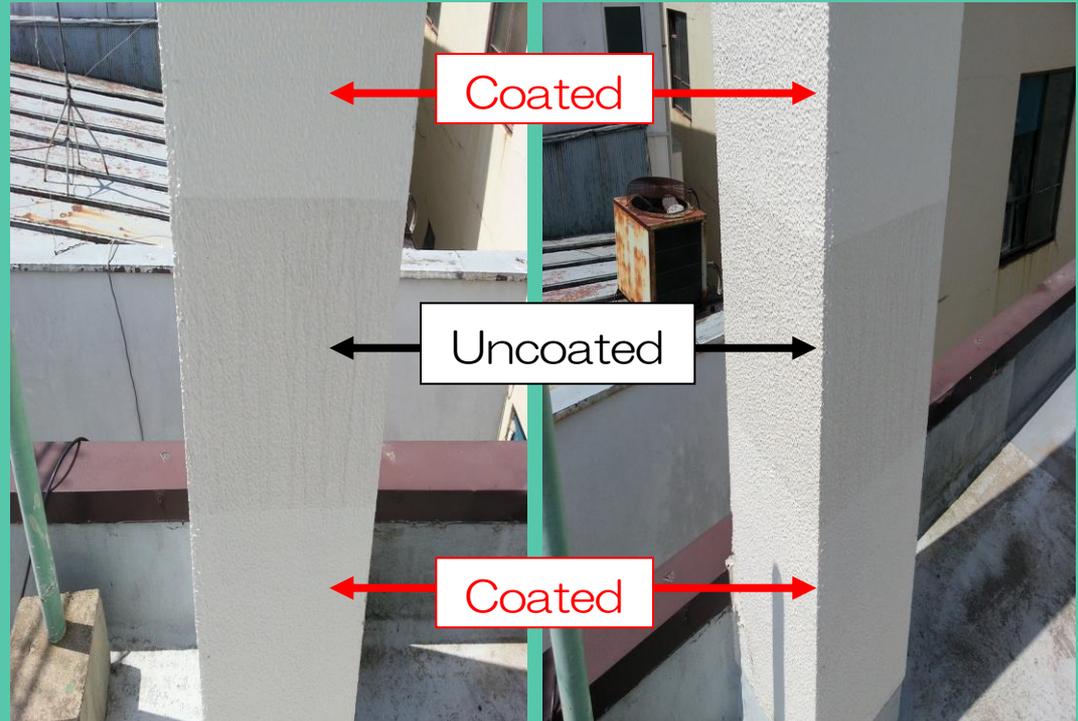
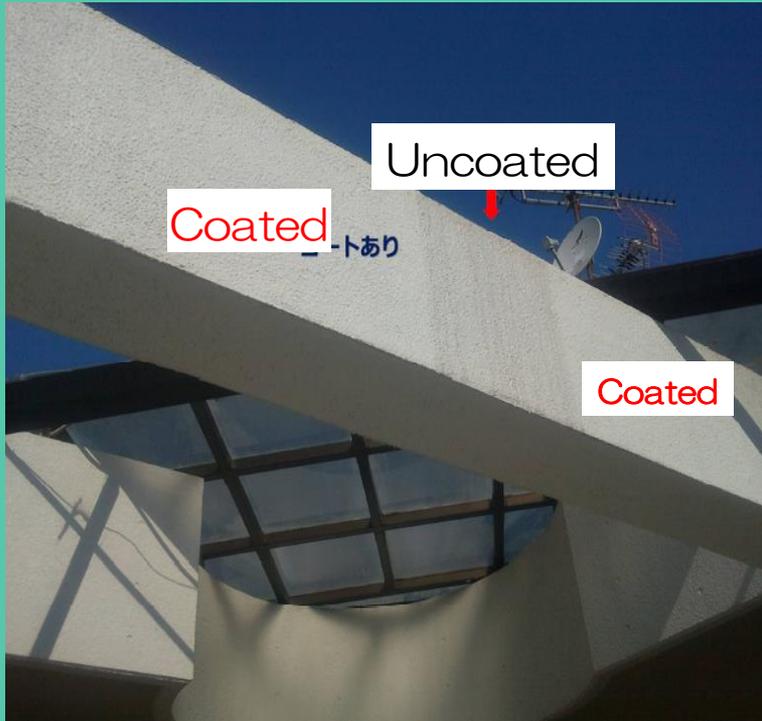


After 1 year
Joly pat • west side

Case) roof of Kagoshima aquarium



Applied Super Glass Barrier takes 2years later



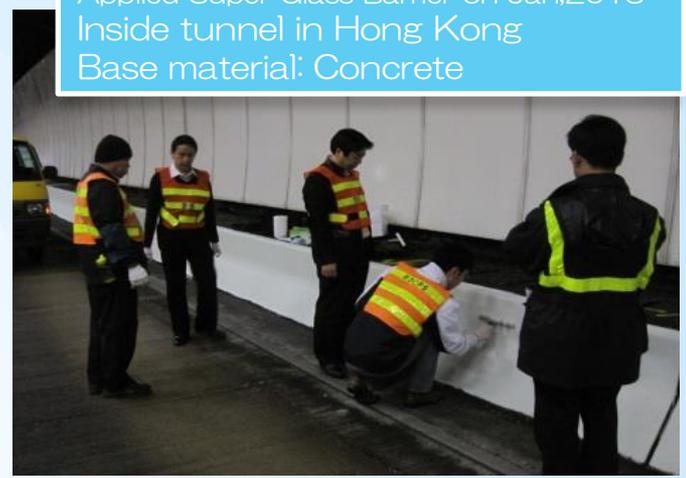
Joly pat

The exhaust gas of the dirt adhesion problem inside the tile of tunnel in Hong kong

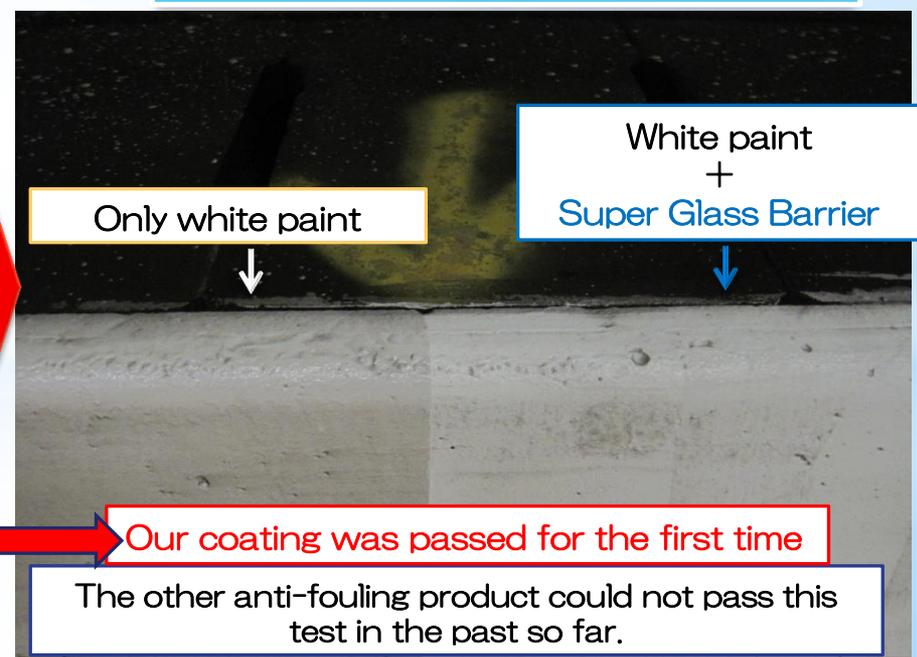
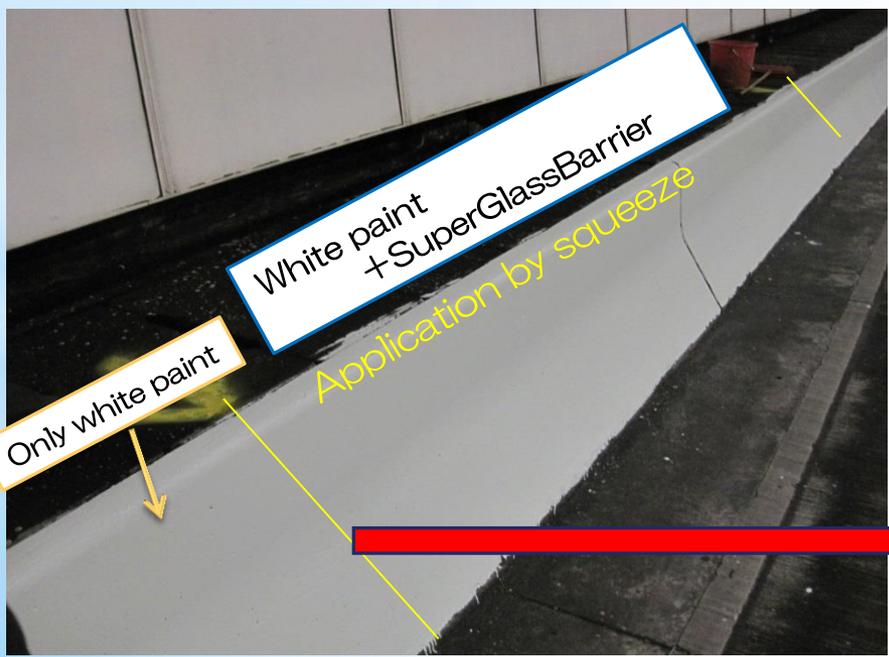
When it has been cleaned inside tunnel as regular maintenance , it always has been worked with traffic regulation. How short the traffic blockade period and how much maintenance cost is reduced is the one of the currently most important issue.

- ◆ Application date : Janurary,2013
- ◆ verified date : June,2013(6months later)
June,2014(1year and 5months later)

Applied Super Glass Barrier on Jan,2013
Inside tunnel in Hong Kong
Base material: Concrete



June ,2013 (6months later)

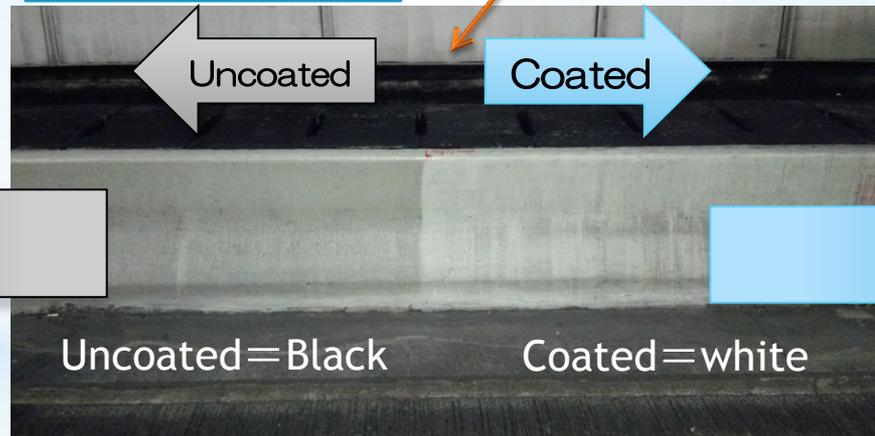


On June 2014 (1 year and 5 months later)

We could confirm to see the difference of dirt adhesion amount by visual observation and the effect of antistatic by surface resistivity meter



Enlarged image



Coated point looks like white compared with uncoated point because coating surface was less deposition of soot stain of the exhaust gas.
=It has been maintaining the effect of anti static, anti-fouling.

Renew & Beauty maintenance coating

Clear Fine view with water stain remover & Super Hydrophilic coating !!



Self maintenance antifouling coating for Solar panel

100m² in Ibaraki ken



310m² in Kagoshima ken



70m² in Kagoshima ken



162m² in Korea
(100pieces of panel)



508.8m²(198pieces) in
Okayama ken



4,000m² in factory of Tochigi ken



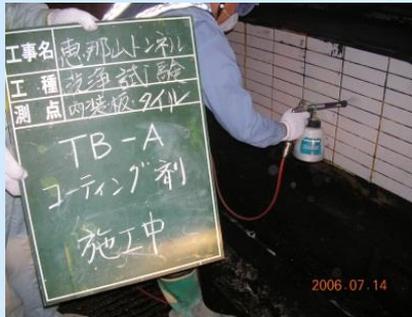
SUBARU Display airplane



JR Bus



Ena tunnel in Nagano ken



Hinachi Dam in Mie ken



Nursing home in Tokyo



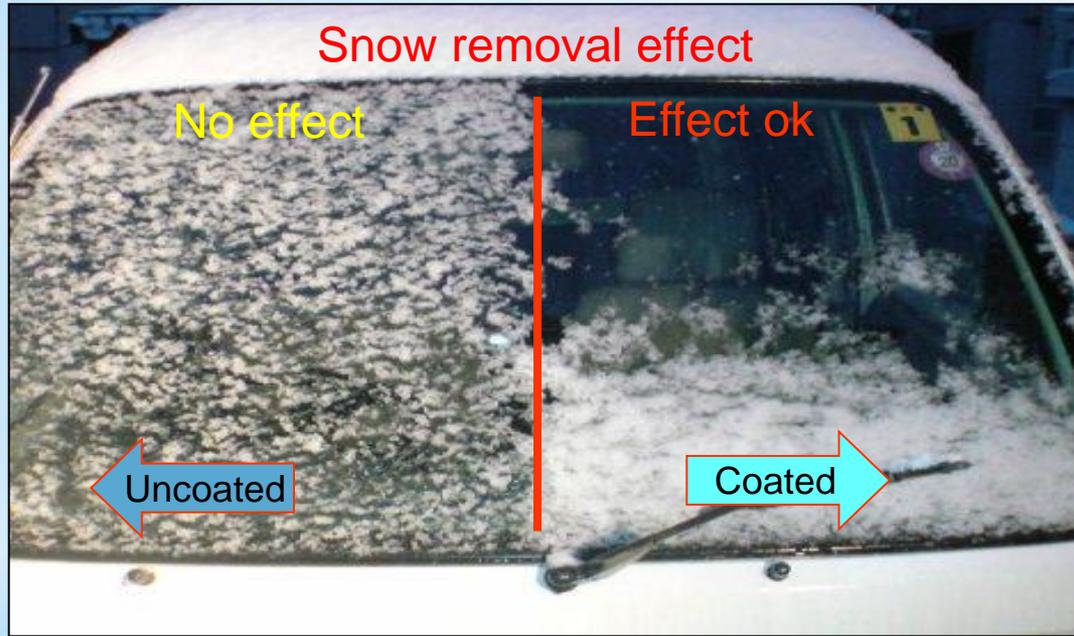
Studio shop in Tokyo



Car dealer shop



Applied windshield



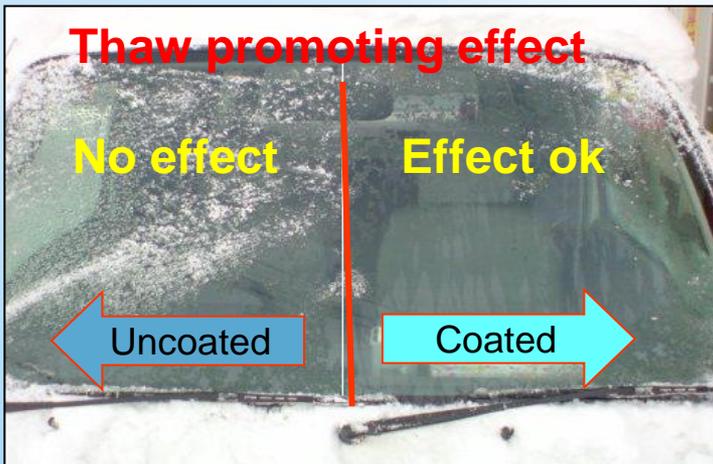
★ Application test to wheel in the same car
State after one year



Uncoated



Super Hydrophilic effect



★ Applied side body



1 year later after coating



