### Test of antistatic characteristic

- Preparation
- Application
- White powder does not cling to the coated side

### Antistatic & super-hydrophilic coating Laboratory test result

<table>
<thead>
<tr>
<th>Test Item</th>
<th>Test Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weather resistant test</td>
<td>Super UV: 300 hour</td>
<td>Equivalent to more than 10 years</td>
</tr>
<tr>
<td>Contact angle with water</td>
<td>Sessile drop method</td>
<td>≤ 5 deg</td>
</tr>
<tr>
<td>Adhesion test</td>
<td>Water boiling test: 1 hour</td>
<td>Equivalent to 10 years</td>
</tr>
<tr>
<td>Pencil hardness test</td>
<td>Varies depending on the hardness of the substrate</td>
<td>4 H ~ 9 H</td>
</tr>
<tr>
<td>Adhesion test</td>
<td>Cross cut test</td>
<td>100/100</td>
</tr>
<tr>
<td>Moisture resistance test</td>
<td>Steam test: 1 hour</td>
<td>Nothing peculiar</td>
</tr>
<tr>
<td>Acid resistant test</td>
<td>5% Hydrochloric acid: 5 minutes</td>
<td>Nothing peculiar</td>
</tr>
<tr>
<td></td>
<td>5% Sodium hydroxide: 5 minutes</td>
<td>Nothing peculiar</td>
</tr>
<tr>
<td>Surface Resistivity</td>
<td>Super Glass Barrier</td>
<td>1 0°/2 10°</td>
</tr>
<tr>
<td></td>
<td>Hyper Glass Barrier (Solar Self-maintenance Coat)</td>
<td>1 0°/2 10°</td>
</tr>
<tr>
<td>Visible light transmission</td>
<td>Super Glass Barrier</td>
<td>92% ~ 94%</td>
</tr>
<tr>
<td></td>
<td>Hyper Glass Barrier (Solar Self-maintenance Coat)</td>
<td></td>
</tr>
<tr>
<td>Heat resistance test</td>
<td>200°C: 1 hour</td>
<td>Nothing peculiar</td>
</tr>
<tr>
<td>Cold resistance test</td>
<td>−18 °C ~ 20 °C</td>
<td>Nothing peculiar</td>
</tr>
</tbody>
</table>

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**Antistatic, Super-hydrophilic anti-fouling surface coating**

Antistatic, Super-hydrophilic, high-clarity and low reflection hard coating
Clear the problems could not be solved with the photocatalysis of Titanium dioxide
Three antistatic, super hydrophilic and ant-fouling surface coating

Easy maintenance coating – Stain resistance and ease of cleaning characteristic

This new coating binding tin oxide with antistatic function to silica used for creating a special glass layer with high permeability with single nano size particles. Platinum is also added in order to improve antistatic performance and tungsten oxide (WO3) for improving the performance of the hard coating. This molecule structure minimizes the deposition of sand and carbon and dirt takes off easily in the rain and with water. The coating can be easily applied with a spray gun or a squeegee.

Using tin oxide as antistatic effect. Tungsten oxide (WO3) and Platinum (Pt) are added for improving the performance of the hard coating.

1. Dirt takes off easily in the rain
2. Only wash by water
3. High durability & Low maintenance
4. Hard Coating
5. Prevent windows from fogging up
6. High clary & Low refractive index

Super hydrophilic coating

Synergetic hydrophilic property of a several varieties of SiO2 utilized the fractal theory creates unique self-cleaning action. (Fractal theory: Fine irregularities of the surface enhance hydrophilic property) Create effective super hydrophilic coating immediately after the application. (It takes more than 24 hours to complete the cure) It doesn’t require any washing detergent. The cleaning costs reduced significantly.

Electrostatic charge prevention function

Ultrafine tin oxide don’t adsorb the dust and fine particles floating in the air and adhere on the minimum amount of dirt and exhaust gas because of these have many free electrons and the electric resistance value is low (Surface resistivity: 10^2 ~ 10^4Ω/cm)

Chemical resistance, durability and hardness are significantly improved by adding tungsten oxide in particulate superalloy (WO3) or PlatinumPt. Acid rain and bird dropping are also cleaned.

Super hydrophilic coating prevents windows and mirrors fogging up and keeps them clear. It achieves ultra hydrophilic film of water droplet contact angle below 5°.

It enable to applied evenly with high clarity by adjusting materials with low refractive index SiO2 and SnO2 to suppress the reflection. Solar self-maintenance Coat achieved visible light transmission over 92% by adding tungsten oxide (WO3).

Type 1)
Super Glass Barrier
For concrete, aluminum panel and general exterior walls

Super Glass Barrier is a great top coat on exterior paint and high reflective paint. Best suitable to concrete, aluminum panel, tile and general exterior walls. Strong adhesion. Hand or spray application. There are a number of practical accomplishments.

Major components - SiO2 (Silicon dioxide), SnO2 (Tin oxide), Methanol

Type 2)
Solar Self-maintenance Coat
Reduce decreasing in power generation efficiency due to contamination of the solar panel

Dust, carbon, pollen, coal ash, yellow sand and bird droppings on the solar panels cause poor power generation efficiency. Antistatic super hydrophilic coating reduces the adhesion of dirt and makes easier to wash the dirt away from the surface. It reduces decreasing in power generation efficiency and significantly reduces the number of maintenance. The coating has 92% of the visible light transmission so does not impair the performance of the panel.

Major components - SiO2 (Silicon dioxide), SnO2 (Tin oxide), WO3 (Tungsten oxide), Pt (Platinum), Methanol, Water

Type 3)
Hyper Glass Barrier
Keep outside window glass in beautiful condition for long
Reduce maintenance costs

The coating reduces the adhesion of dirt and exhaust gas to the outside window glass of hotel, restaurant and high-rise building. Hydrophilic effect minimizes contamination by raindrop. Maintenance costs of cleaning windows can be reduced to about 1/3. The coating can be applied not only windows but also general building exteriors.

Major components - SiO2 (Silicon dioxide), Pt (Platinum), WO3 (Tungsten oxide), SnO2 (Tin oxide), Methanol, Water