Antistatic Wiper

Eleston α

HARADA

Product features

* Only by wiping a target material by Eleston α, it can be cleaned up and static electricity can be removed on the surcface. Additionally it becomes hard to be charged.
* Even if you force it charged, it will be hardly charged.
* You can use Eleston α for glass surface, hydrophobic plastic and resin products（It can not be used for water repellent substance and coating）
* The effect will continue unless it is washed with water or is worn down by strong power.

＊Note：The effect changes depending on target materials. Please verify the effect before using .

Comparison with conventional antistatic agent

Type	Constituent material	Spread ability	Dura bility	Description
Eleston α	Organo Boron Compound + Tri(n-Alkyl)Amine	◎	◎	Excellent spreadability by organo boron compound and high adhesion of Tri(n-Alkyl)Amine realize long-term destaticizing power.
Conventional antistatic agents	Surfactants	△	△	Conventional surfactants have limitations on spreadability and sustainability, and as time goes on, their destaticizing power goes down.

Image of conventional antistatic agents

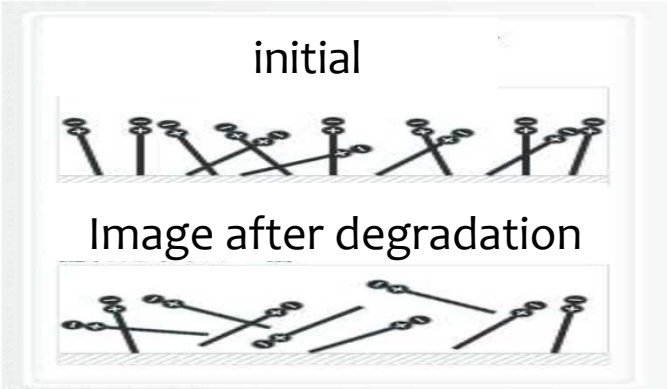
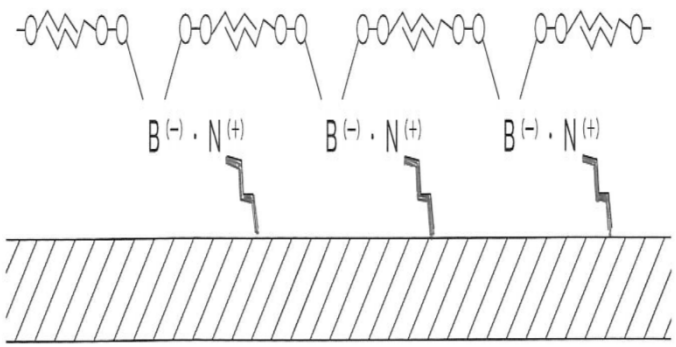


Image of Eleston α



Test items and method

Items	Method
Decay time	Place each acrylic box on the plate monitor charged at 5KV, and then, measure the time for the voltage to fall to 100V.
Surface resistance	Measure the surface resistance on each acrylic box.
Transfer test	Put powder beads into each acrylic box, and then, check the condition after 5 hundred times of shaking.

* The test room humidity：51. 3%

Decay time

Measure the time to fall from 5KV to 100V.

	Unprocessed box	Box processed with conventional antistatic spray	Box processed with Eleston α
Decay time	60seconds or more	60seconds or more	2seconds
60 seconds later			
The charge amount	1. 195KV (61seconds later)	756V (121seconds later)	28V (2seconds)

Conventional antistatic spray required a long decay time.
Eleston α could quickly decay.

Surface resistance

Unprocessed box	Box processed with conventional antistatic spray	Box processed with Eleston α
		
3. 2E+13	5. 0E+10	2. 5E+10

Eleston α had almost the same but a little better level of the surface resistance than conventional antistatic spray.

Transfer test

Put powder beads into each acrylic box, and then, check the condition after 5 hundred times of shaking.

Eleston α　Transfer test.m

Conventional antistatic spray is presumed to have transferred into ingredients to the powder beads.
On the other hand, Eleston α is presumed to have had less transition of its ingredients to the powder beads.

Adoption cases (Operation BOX)

Application：Operation BOX for electronic components, lenses, etc.

Content：

When you carry electronic components in an operation BOX, the components are stuck to the BOX by static. Sticking is solved by using Eleston α.

When you carry lenses in an operation box, particles are attracted by static electricity. The particles stick to the product.
You can reduce attraction of the particles by using Eleston α.

Conductive BOX

Temperature：19℃ Humidity23％

	Unprocessed	Processed with Eleston α
Before shaking		
After shaking		

There is a possibility of charging in a conductive BOX on unprocessed condition.
Charging could be reduced by using Eleston α.

Adoption case（film Core）

Application：Core for wrapping high performance film（Cleaning of core）

Content：

If particles are attached to the core, they will cause scratches when winding the film.

In general, the core is cleaned by a wiper with a solvent such as ethanol.

However it will be charged after wiping. And it will attract particles.

Cleaning the core by Eleston α will reduce particles.

There are cases where particles could be reduced by as high as 80% or more.

Suggestion（Resin products）

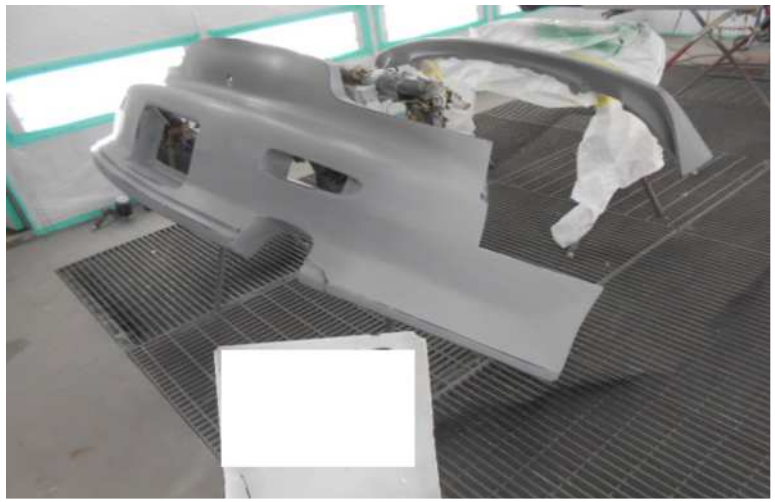
Application：Reduction of painting defect

Content：

If resin parts before painting are charged, particles will be attracted. It may lead to painting defect.

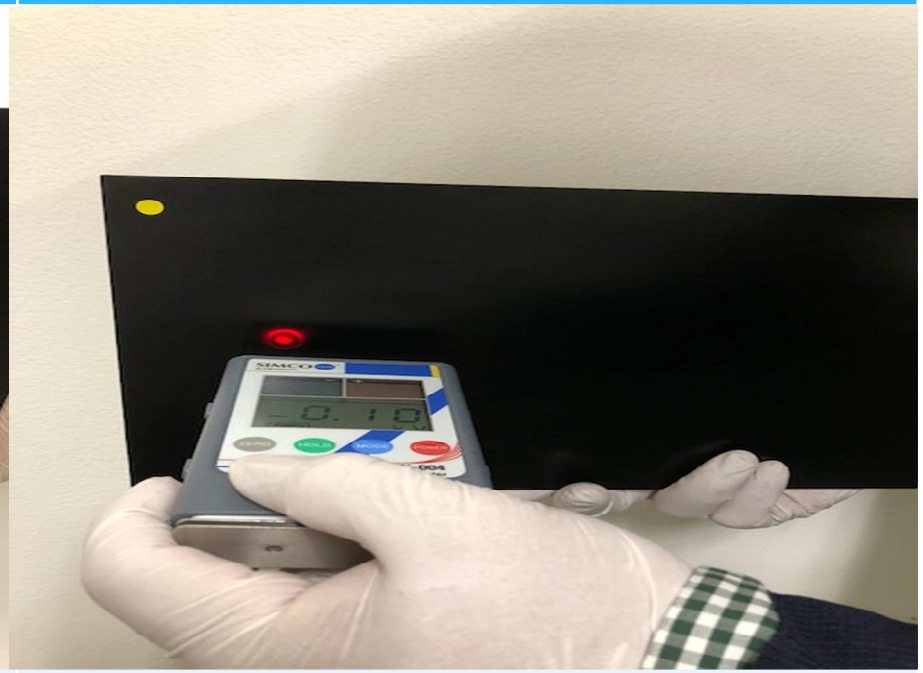
By cleaning resin parts with Eleston α, particles can be removed.

Additionally, it is possible to prevent particles from being attracted, so we can expect paint defect reduction.



Charge amount of resin (PVC)

Temperature：16℃ Humidity：38%

Unprocessed	Processed with Eleston α
	
12. 3KV	0. 10KV

An unprocessed PVC plate was found charged,
but the electricity on it was removed after using Eleston α.

Charge amount of resin（ABS）

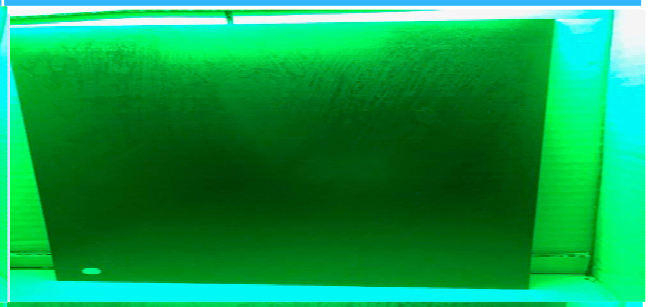
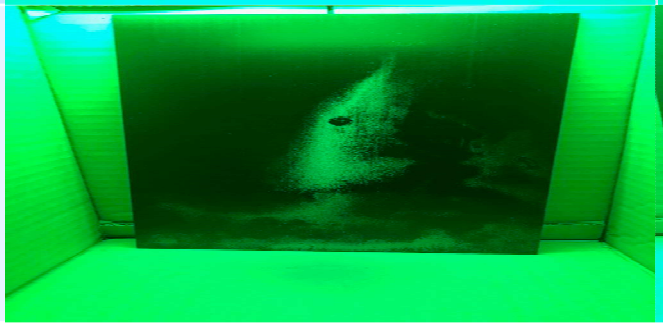
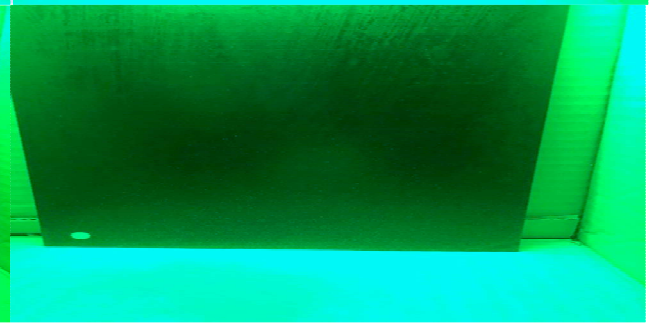
Temperature：16℃　Humidity：38%

Unprocessed	Processed with Eleston α
	
2. 2KV	0. 23KV

An unprocessed ABS plate was found charged,
but the electricity on it was removed after using Eleston α.

Particle attraction to by resin products（PVC)

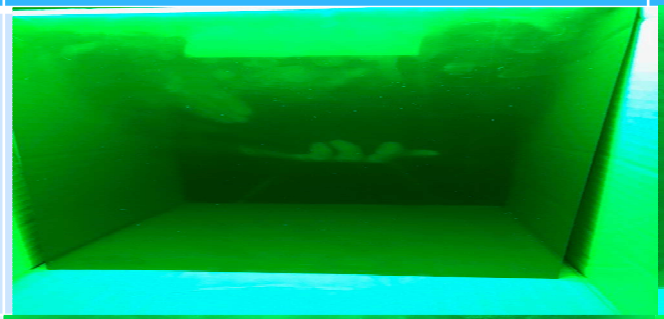
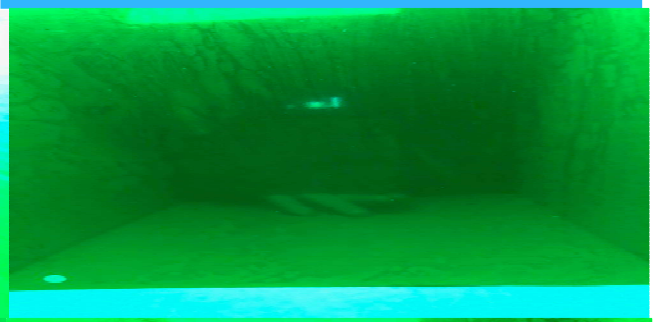
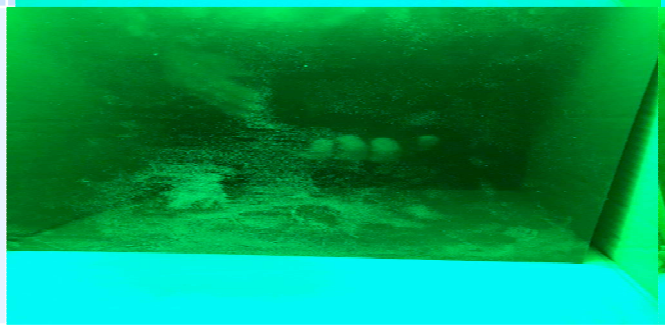
Temperature：17℃　Humidity：28%

	Unprocessed	Processed with Eleston α
Before		
After		

Unprocessed PVC was charged, so adhesion of particles was confirmed after sprinkling them. However, no adhesion of particles was confirmed in case of using Eleston α.

Particles attraction by resin products (ABS)

Temperature：17℃ Humidity：28%

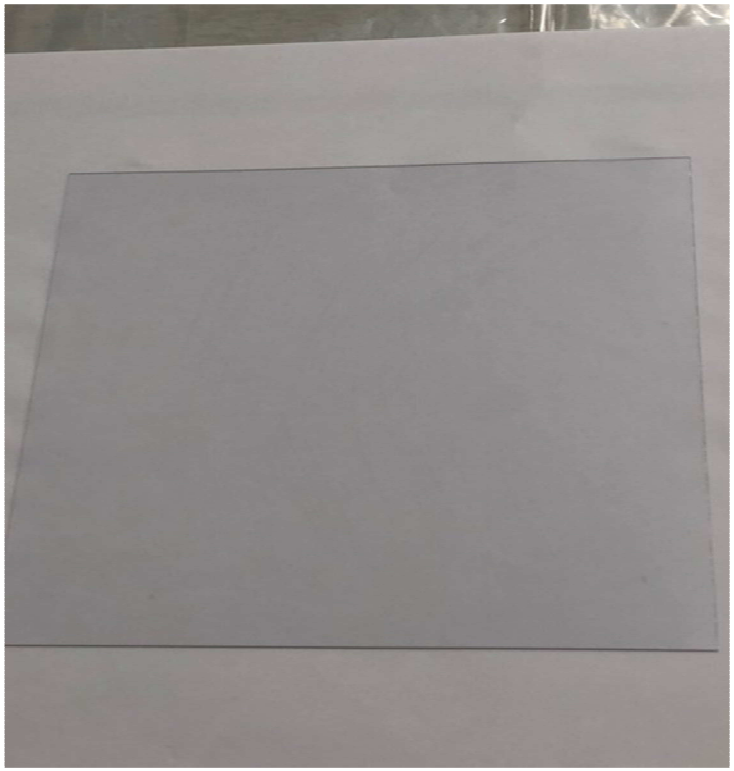
	Unprocessed	Processed with Eleston α
Before		
After		

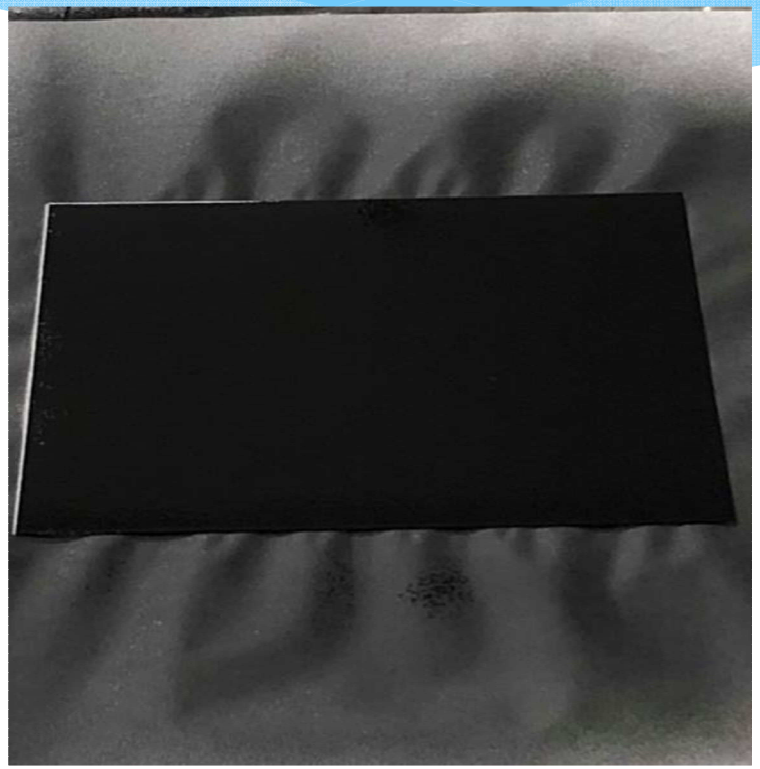
Unprocessed ABS was charged, so adhesion of particles was confirmed after sprinkling them. However, no adhesion of particles was confirmed in case of using Eleston α.

Paint test (Steel plate)

A steel plate was wiped by Eleston α, and then, water-based paint was sprayed to the plate **30** seconds later. No repellency was confirmed.

Paint test (PVC)





A PVC plate was wiped by Eleston α, and then, water-based paint was sprayed to the plate **30** seconds later. No repellency was confirmed.