

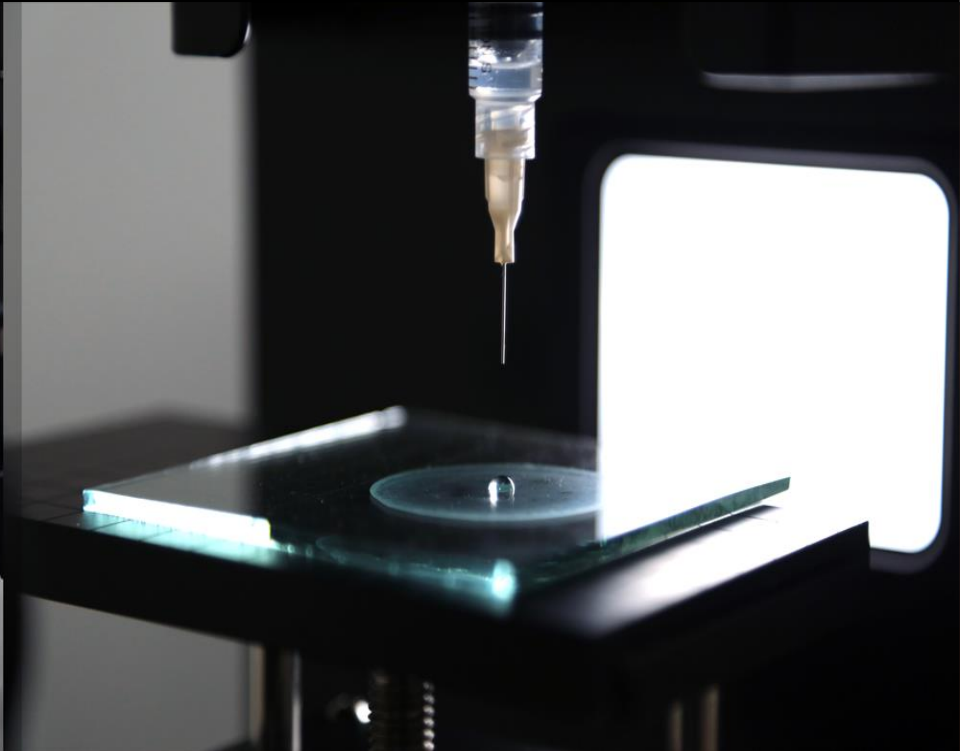
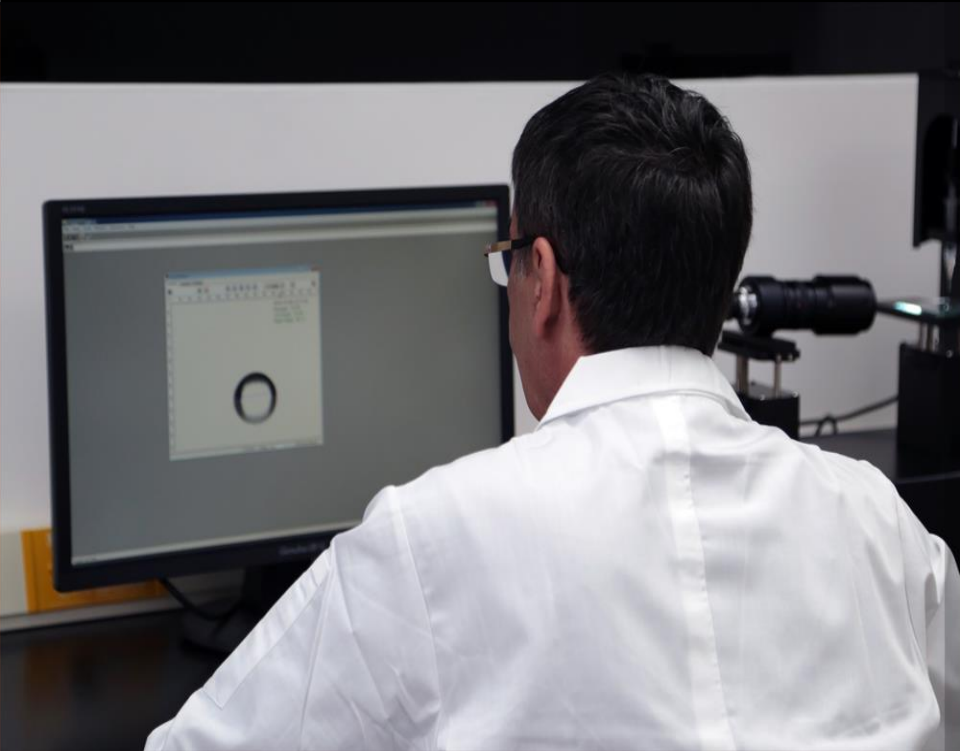


# DURAL BOND

PROTECTING THE FINER THINGS IN LIFE



**CHOOSE NanoTech**  
High Performance Coating



Based on in-depth research and experience in the high-tech industry of photoelectron semiconductors, CHOOSE NanoTech developed and combined “Liquid Glass Technology” and “Cubic Bonding Technology”

## LGT

### Liquid Glass Technology

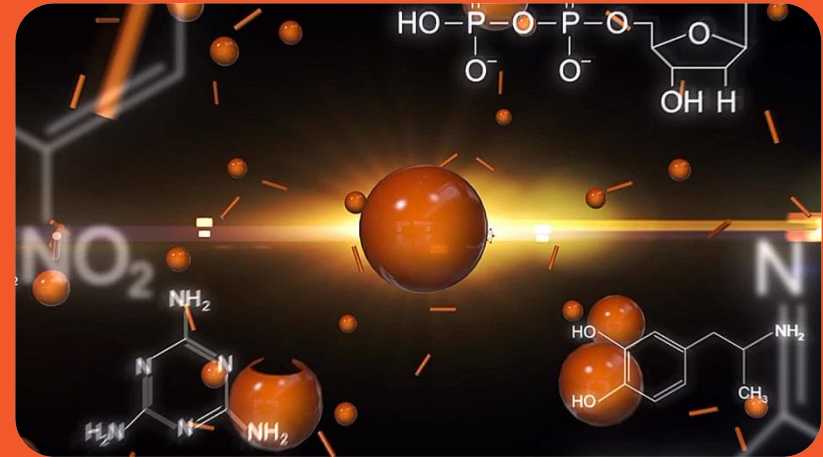


Glass is solid-state in general, CHOOSE NanoTech transforms the solid-state glass into liquid-form through patented Liquid Glass Technology, making them very easy to store and apply. When the liquid glass combines with moisture in the air, the bonding reaction will turn the liquid glass back to a thin, transparent glass film, providing protection to the substrate within just one layer. The most exciting part is that you can apply it on the uneven, bumped surface with this technology without affecting the look or the feel.

It greatly reduces the surface energy, so that when fluids contact with the surface, they will form spherical droplets and roll-off, at the same time, the stains are harder adhesion to the surface. Therefore, the surface becomes easy-to-clean. Also the revolutionary glass coating also buffs the surface hardness drastically to reach outstanding anti-scratch capability.

## CBT

### Cubic Bonding Technology



There are some solutions providing hydrophobic effect and surface protection, but soon they will be wear off due to lack of bonding strength, once they worn off from the surface, as the result, the substrate lost the protect that it should have.

Cubic Bonding Technology provides superior coating bonding strength, this bonding strength is not simply physical viscosity, but through chemical bonding between moisture in the air, liquid glass and the material of substrate, forming up cubic matrix structure during the curing process, it will tied up with surface permanently and the bonding strength is so high that even the smooth, glossy glass surface can be banded together. This bonding strength will not decay and wear off in time, with this technology, CHOOSE NanoTech coating solution provides the substrate ultimate protection permanently.



# DURAL BOND



## SPECIFICATION

Gloss Level  
Curing Condition  
Dry-to-Touch  
Full Function  
Pencil Hardness (JIS 5400 )  
Adhesion (ASTM D3359 )  
Alkali Resistance (JIS 5400 )  
Acid Resistance (JIS 5400 )  
Salt Resistance (JIS 5400 )

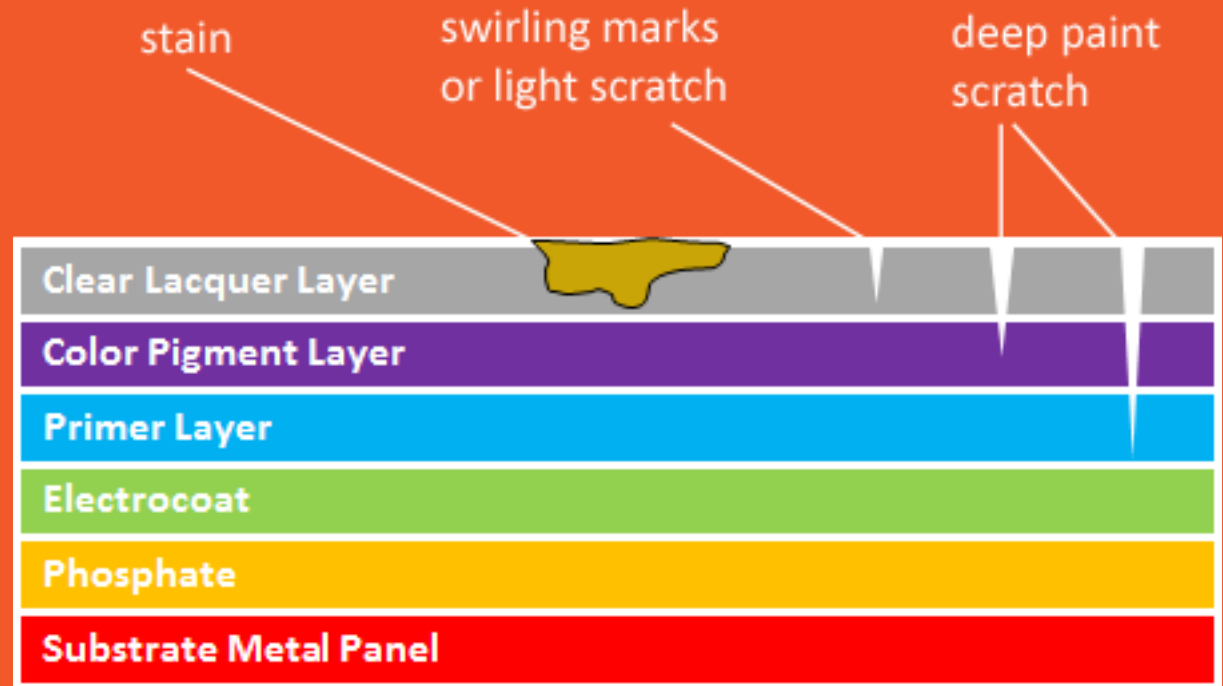
High (depends on substrate)  
Air-cured or Thermal-cured  
2 ~ 8 hrs tack-free at room temperature  
3 ~ 5 days at room temperature  
9H (SGS HV-12-00681X)  
5B  
PASS (SGS HV-11-00656XA)  
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## *Basic coating structure*

*Prime coat (base coat) = adhesion*

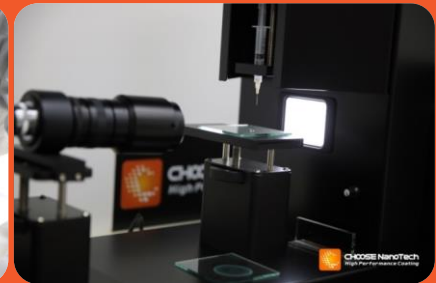
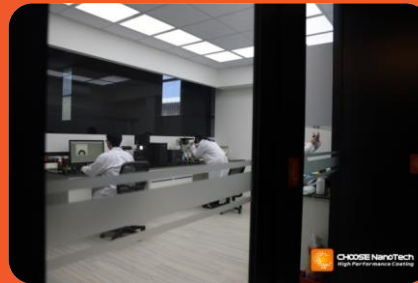
*Color coat = color*

*Clear coat (top coat) = protection*



## *Basic testing criteria for coatings*

- *Cross cut*
- *Pencil hardness*
- *Acid/ Alkali/ Salt resistance*
- *UV resistance*
- *REACH non-toxicological*



## *System of top coat*

- *2K system*
- *1K system*
- *UV system*
- *Water based system*
- *Solvent based system*

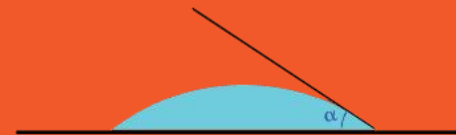
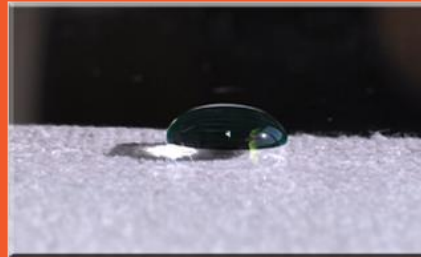




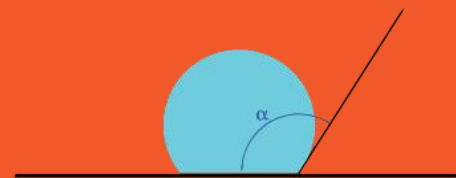
### What is Water Contact Angle ?

Water contact angle is a common way to compare the difference between coated area and non-coated area, because the water contact angle can be easily reveal by visual inspection; Water contact angle of the surface, makes more difficult the liquid or dirt attached. By using the advanced technology, we can make every single substrate in the world to improve the water contract angle to achieve easy-to-clean so that people can save more money and times on the maintenance works.

Before Treatment



After Treatment



## *CLEANING - most important before applying*

- *Grease, common dirt - shampoo*
- *Oxidation – compound*
- *Corrosion – acid washing, compound*
- *Graffiti – solvent based cleaner*



## *DuralBond series* *Advanced 9H Glass Coating*

- *Permanent coating - permanent protection*
- *Easy-to-clean surface enabled*
- *Anti-graffiti & anti-fingerprint*
- *Thermal resistance up to 750 °C*
- *Excellent resistance of weathering*
- *UV resistance & xanthochromia proof*
- *Advanced chemical resistance*
- *Oxidation and corrosion resistance*
- *Outstanding durability*
- *Non-flammable after cured*
- *Room temperature curing*
- *Fluorine-free*
- *Low VOC*



		<b>DBX</b>	<b>DBA</b>
		<i>Solvent Base</i>	<i>Solvent Base</i>
<i>Air Cure</i>	<i>Surface Dry</i>	<i>25 °C, 1-2 hours</i>	<i>25 °C, 8 hours</i>
	<i>Full Dry</i>	<i>25 °C, 3-5 days</i>	<i>25 °C, 3-5 days</i>
<i>Thermal Cure (Oven)</i>		<i>130 °C, 30 minutes</i>	<i>130 °C, 30 minutes</i>
		<i>200 °C, 10 minutes</i>	<i>200 °C, 10 minutes</i>
<i>Application</i>	<i>wiping</i>	<i>X</i>	<i>V</i>
	<i>brushing</i>	<i>V</i>	<i>V</i>
	<i>dipping</i>	<i>V</i> <i>(Clean Room Required)</i>	<i>V</i> <i>(Clean Room Required)</i>
	<i>spraying</i>	<i>V</i> <i>(Clean Room Required)</i>	<i>V</i> <i>(Clean Room Required)</i>
<i>Pencil Hardness</i>		<i>Up to 9H</i>	<i>Up to 9H</i>
<i>Thickness of Coating</i>		<i>Up to 30 micron</i>	<i>Up to 20 micron</i>
<i>Viscosity</i> <i>(#2 Zahn Cup, Cup measurement method)</i>		<i>14 seconds</i>	<i>10 seconds</i>
<i>Applicable Material</i>		<i>Metal, Stone, Wood</i>	<i>Metal, Stone, Wood,</i> <i>Non-absorbent Leather</i>
<i>Stand Consumption</i> <i>(By spraying on non-porous surface)</i>		<i>900 cm<sup>2</sup> / ml</i>	<i>900 cm<sup>2</sup> / ml</i>

# DURAL BOND

- *Excellent Corrosion Resistance*
- *Weather Resistance Test over 60 months*
- *Non-coated area were oxidized*
- *Cross-Cut Adhesion Test is PASS*



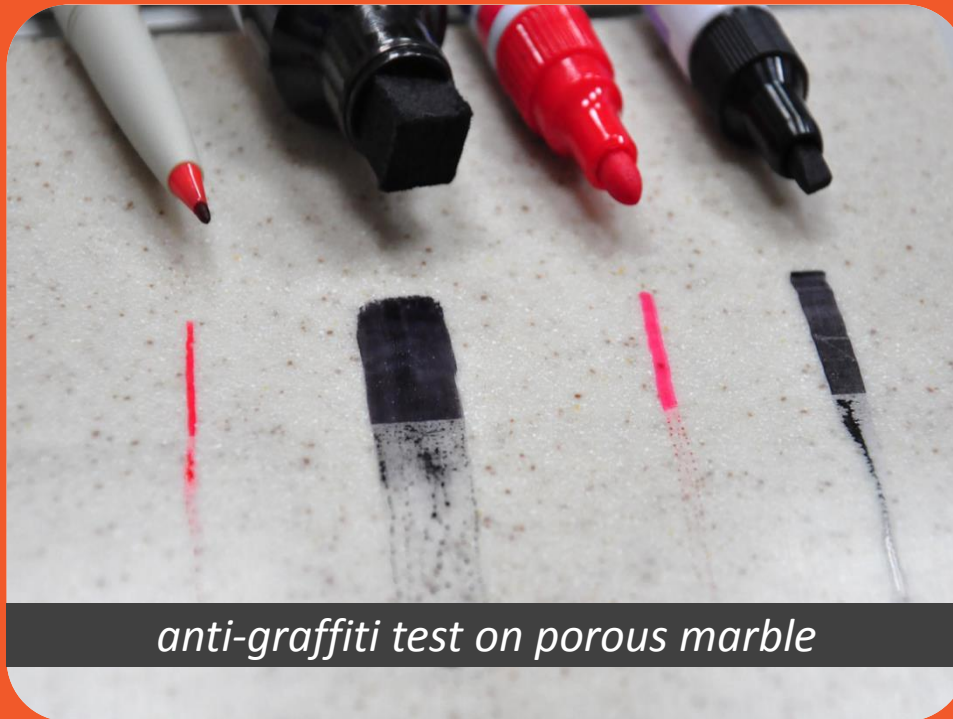
*Non-coated area*

*Coated area*



# DURAL BOND

- *Excellent chemical resistance to achieve anti-graffiti*
- *Protect the surface from graffiti drawings*
- *Enable an anti-fingerprint surface*



Non-coated area

Coated area

## Application Method

*DuralBond is easy to be applied by brushing, dipping and spraying on the substrate.*



*Spraying : You will get the robust thickness and perfectly smoothly surface by this method, but you have to make sure that you have the clean room to avoid dust dropping on the surface.*

*Applications : Automobile Lacquer, Kitchenware Topcoat, Boat Lacquer, Electronic Device Housing, Alloy Wheel Topcoat.*



*Brushing & rolling : You will get a thick thickness by this method but you will see the visible streaks likes. Brushing only use on the area which needs protection but doesn't demand the high quality of the surface. This method particularly is used on the anti-graffiti function for the public transportations and walls.*

*Applications : Building Materials, Public Transportations, Signboard.*



*Dipping : You will get the thinnest thickness and also a perfectly smoothly surface by this method. But you have to make sure that you have the clean room to avoid dust dropping on the surface.*

*Applications : Glass Industry, Electroplate Industry, Electronic Housing, LCD TV Industry.*

## *PRACTICE (wiping, brushing, rolling, spraying)*

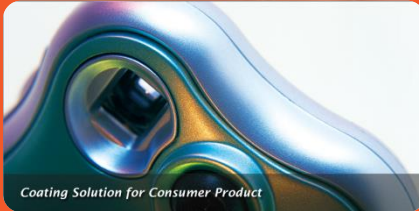
- *Steel panel*
- *Aluminum panel*
- *Cooper panel*
- *Plastic panel*
- *Glass panel*
- *Cement panel*
- *Wood panel*
- *Marble panel*
- *Leather sheet*

### *HINT*

- *Water absorbable*
- *Water non-absorbable*
- *Texture or flat*
- *Mirror or shinny or mat*



## *Multiple Solutions for Industries*



- *Automobile & Motorcycle*
- *Public Transportation*
- *Construction & Real Estate*
- *Consumer Electronics*
- *Solar Energy Glass Panel*
- *Lights & Lighting*
- *Arts Protection*
- *Monuments Maintenance*
- *Furniture & Interior*
- *Textiles & Leather*
- *Public Area & Hospital*



### *Marine*

- **Substrate** : FRP
- **Non-coated** : Marine fouling consists a big issue in maritime for a long time, they cause huge unwanted fuel consumption.
- **Suggested product** : DBX by brushing





### *Marine*



- **Substrate** : FRP
- **Coated** : We coated a FRP buoy to simulate ship hull with DuralBond and soak it in the sea for two months, the result is satisfying, unlike bio toxic anti-fouling method, DuralBond provide ceramic molecular matrix structure on the surface, which decrease the surface roughness greatly, therefore the marine organism cannot stick to the surface, easily remove with little effort, just like the shark skin, the shark skin which consist a nano-scale overlapping effectively prevent sharks from becoming fouled. Besides, DuralBond is highly resist to acid/alkaline and saline, greatly buffer the ship hull overall durability.
- **Suggested Product** : DBX by brushing





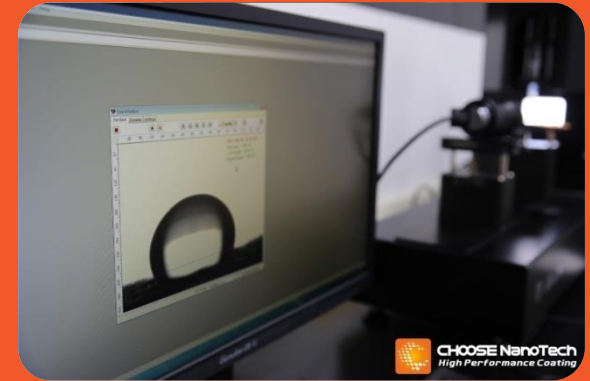
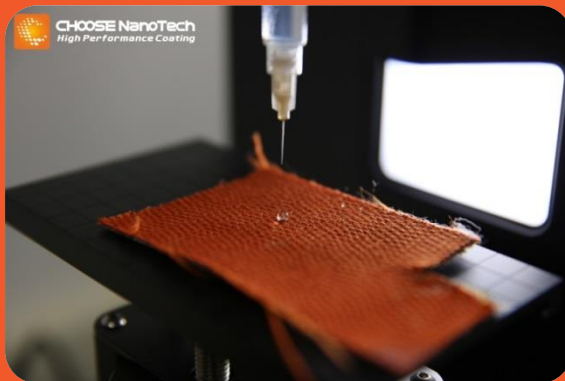
### *Public Furniture*

- **Substrate** : Fireproof Fabric
- **Non-coated** : easy to be dirt and difficult to clean
- **Suggested Product** : DBX/DBA by spraying



### *Public Furniture*

- **Substrate** : Fireproof Fabric
- **Coated** : DuralBond provides a permanent protection with additional hydrophobic capability, so the surface are immune to beverage or other liquid spill, which reduce the maintenance cost and prolong the overall lifecycle greatly, and less concern about facing large numbers of furniture.
- **Suggested Product** : DBX/DBA by spraying







### ***FINGERPRINT SENSOR***

- **Substrate** : Raw Silicon
- **Non-coated** : It tends to be very fragile and susceptible to problems caused by dust, moisture, electrostatic discharge and more.
- **Coated** : The coating offers a super durable coating of invisible, high performance, easy to clean, and high hardness surface to protect the fingerprint sensor. The ending result is a sensor that offers accurate match and high security.
- **Suggested Product** : DBX/DBA by spraying



### *Anti-graffiti*



- **Substrate** : external wall
- **Non-coated** : These graffiti often very stubborn to remove. The paint will seep into the pores in the wall.
- **Coated** : A layer of transparent glass is formed on the surface. This makes it extremely difficult for the paint to stay on the surface, and if it did, it can be removed very easily.
- **Suggested Product** : DBX by brushing/rolling





### *External White Wall*

- **Substrate** : External Wall
- **Non-coated** : Outer wall must endure UV and weathering erosion, it will receive further damages if the rain is unusually acidic.
- **Coated** : DuralBond extraordinary bonding brings the treated area a permanent solution, and provides unparalleled protection to keep wall surface from unavoidable erosion, even white wall stay in clean and shiny!
- **Suggested Product** : DBX by brushing/rolling





### *Leather Sofas*

- **Substrate** : Leather
- **Non-coated** : Heartbreakingly cracking and tearing from constant change in humidity and temperature make the precious leather massage chair difficult and tedious to maintain.
- **Coated** : It forms a thin glass film to strength the surface of the leather and becomes super-hydrophobic and easy to-clean to get the best protection from stain/ water/ mold and make the gloss of the leather as a new one, even if time flies.
- **Suggested Product** : DBA by brushing

### *Granite Floor*

- **Substrate** : Granite
- **Non-coated** : Mold caused by moisture.
- **Coated** : Patented coating technology from CHOOSE NanoTech allows the coating to form a protective layer on the floor and the joints. Allowing the joints to be free of mold and prevent grease to be absorbed into the pores of granite floor, which always leave stains behind.
- **Suggested Product** : DBX by brushing





### *Outdoor Solar panel*



- **Substrate** : Solar panel
- **Non-coated** : Outdoor Solar panel installations harasses by the dirt and rain stain all the time, and the solar transmittance affect directly to the system overall efficiency.
- **Suggested Product** : DBA by brushing/rolling/spraying

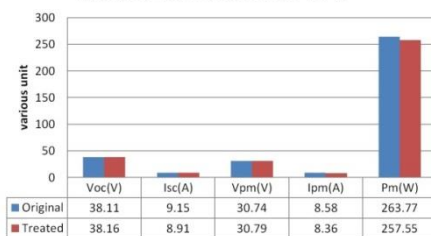


### *Outdoor Solar panel*

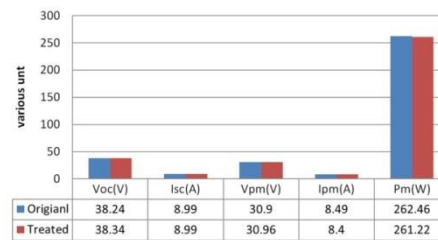
- **Substrate** : Solar panel
- **Coated** : DuralBond nano-molecular matrix structure leads the treated surface to very strong hydrophobic characteristic, and the dirt and stain cannot stick to the surface, a rain shower can easily remove them. Besides, DuralBond will not affect the transmittance of the solar panel, and ensure the system power generating capability, the solution will do.
- **Suggested Product** : DBA by brushing/rolling/spraying



Module 151P606021094828



Module 149P606022016128





### Copper



- **Substrate** : Copper
- **Non-coated** : Copper is widely use of outdoor decorates and ornaments material. Copper reacts with water and atmospheric oxygen to form a layer of brown-black copper oxide, the common way to maintain the copper is by oil or wax to isolate the copper from air contact, but since they are viscous, make it vulnerable to dust and dirt, which causes a lot of problems.
- **Coated** : DuralBond can form a thin glass film on the copper or other metals completely to separate the surface from air and weather and it greatly reduces surface energy, and then dirt and stains are harder stick to surface; the super hydrophobic effect offers anti-graffiti and self-cleaning capability, a shower of rain will remove most of stains on the surface, DuralBond also resists to saline/acid/base providing extra protection.
- **Suggested Product** : DBX by brushing

### Stone



- **Substrate** : Granite and Marble
- **Non-coated** : Granite and marble often use as outdoor statues, ornaments and sculptures materials, however water will cause problems to these porous materials. Moisture surface gather moss or go moldy, and the rain leaves water stains on the surface. If you don't treat it, it just gets worse. Ice cold environment is the biggest enemy to the stone, if there's any water freeze in the stone, even tough granite will be cracked. Most marble composed of recrystallized carbonate minerals, calcium carbonate stands the overall 90%, which is very vulnerable to acid/alkaline, and thus acid rain will do a lot of damage to the stone. Also you have to avoid any base or acid cleaner to clean the surface. Not even the lightly acid/alkaline resisted granite can stands it.
- **Suggested Product** : DBX by brushing



### Stone

- **Substrate** : Granite and Marble
- **Coated** : DuralBond can form super hydrophobic glass coating on surface of marble and granite, isolate the humid or moisture from the weathering, DuralBond resist to acid and alkaline prevent it from any chemical damages. Superior hydrophobic effect leaves you no worries from graffiti anymore, as you can imagine, DuralBond will do.
- **Suggested Product** : DBX by brushing



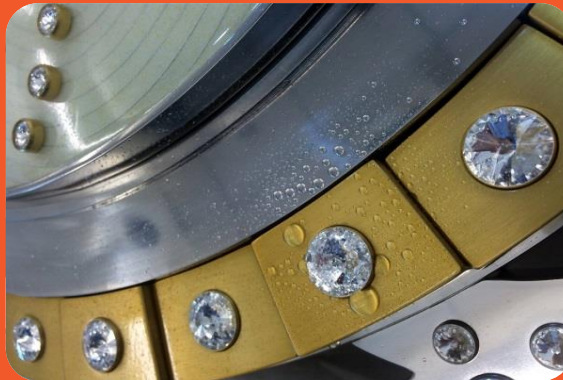


### *Public Art*

- **Substrate** : Stainless Steel
- **Non-coated** : As time passes contaminants are collected on the artwork.
- **Coated** : Our product forms a protective hydrophobic coating on the surface, which not only make it difficult for dirt to stay on the surface, but also allows contaminants to be washed away in the rain.
- **Suggested Product** : DBX by brushing



### *Public Art*



- **Substrate** : Metal
- **Non-coated** : Due to the high salt content of the humid ocean air, rust and oxidation often form on the artwork.
- **Coated** : CHOOSE NanoTech products are used to protect these excellent work of art in a perfect condition, making them last forever just like our love for those who passed on.
- **Suggested Product** : DBA by brushing

### *Public Art*

- **Substrate** : Stainless Steel
- **Non-coated** : As time passes contaminants are collected on the artwork.
- **Coated** : NanoTech products were chosen to be applied on the eagle because of our hydrophobic scratch resistant protective layer.
- **Suggested Product** : DBX/DBA by spraying





### *Public Art*



- **Substrate** : Brass
- **Non-coated** : Public art have to endure the scorched and drenched by sun and rain, in such outdoor condition, regular janitorial service seems to be the only way.
- **Coated** : DuralBond is the ultimate solution, which provides protection from acid/alkaline and corrosive, also the salinity resistance, so copper remains in charm, the coated surface is difficult for water and dust adhere to, makes it easy to clean and anti-graffiti.
- **Suggested Product** : DBX by brushing

### *Public Art*



- **Substrate** : FRP
- **Non-coated** : easy to be dirt
- **Coated** : Treated by the DuralBond in prevent of rain sculpturing and dust.
- **Suggested Product** : DBX by spraying





**CHOOSE NanoTech**  
*High Performance Coating*