



# Introduction of 100% inorganic glass coating solution

The fully inorganic chemical reaction fusing  
for protection of a variety of materials

YASUKAWA Inc.



# What is 100% inorganic glass coating?



The glass coating solution from Yasukawa is 100% inorganic. The silica intertwines and bonds very tightly with a base material at molecular level in a normal room temperature.

## Unprecedented features :

1. The completely inorganic glass coating solution that has never been used before for glass coating.
2. Intertwined bonding by chemical reaction realizes high adhesion hard to peel off, and though it forms a thin layer, it spreads evenly on surface.
3. Because it is completely inorganic, metal ions in window glasses are suppressed by the coated layer. When air pollutants and pollen adhere, the metal ions do not bind to them, and thus the windows do not get stain.
4. Easy to apply and cures in room temperature.

## Examples of usage:

- A. Displays, watches, jewelry, silverwork, etc. (Aesthetics and protection)
- B. Vehicle/Vessel body (Preventing dirt and reducing the deterioration of paint, anti-rust and salt damages.)
- C. Window glass (Preventing dirt/stain)
- D. Kitchen, Bath, Toilet, etc. (damage and dirt prevention for indoor appliances)



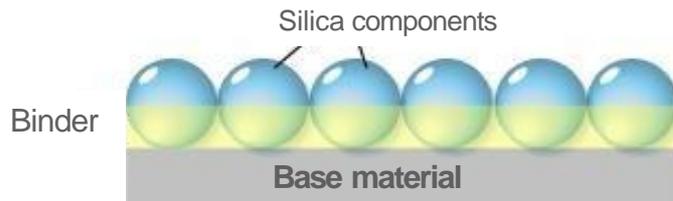
## The layer formed is 100% inorganic glass

Conventional glass coating solutions available in the market contain organic matter.

The organic matter is always degraded by ultraviolet rays and moisture.

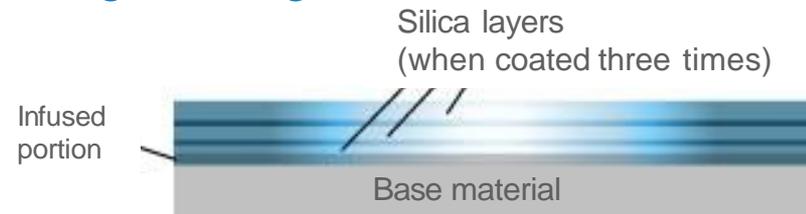
Our glass coating solution is 100% inorganic and forms completely inorganic glass film and tightly bonds with chemical reaction.

### ● Conventional glass coating



In order to fix silica (glass component) organic binder (adhesive) is used. This organic binder causes deterioration and peeling (Varies by environmental conditions).

### ● Our glass coating



With chemical reaction it fuses silica with the base material to form a strong glass film layer. Therefore, it does not cause cracking, peel-off, deterioration, etc., even if it is coated multiple times. This protects the coated objects for a long time, both functionally and aesthetically.

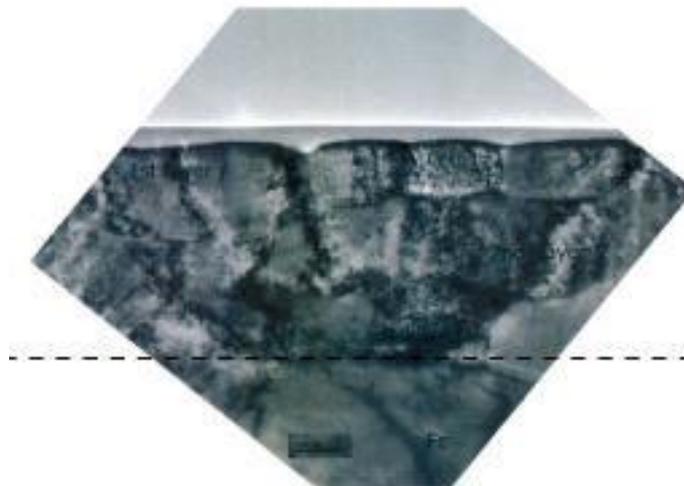


## Absolute difference with conventional glass coatings

### ● Molecular level intertwined bonding

Our glass coating solution chemically reacts with moisture in the air after application, and the base material and silica are intertwined and bonded at the molecular level. Therefore, there is no interface between the base material and the glass coating layer. It does not get peeled off like a conventional coating that only adheres to the base material. A surface modification expert from the National Institute of Materials Science (AIST) of Japan evaluated it as "an unparalleled coating agent."

### Microscope intersection



Our glass coating layer 3

Our glass coating layer 2

Our glass coating layer 1

Original base material surface



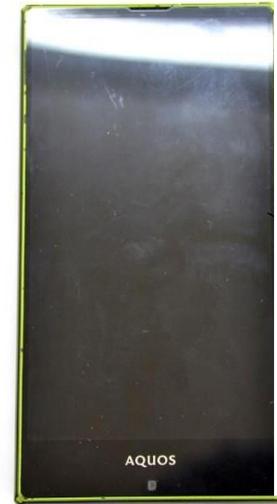
## Mobile phones

Because of the strong adhesion of this solution and the simple application method, it has been adopted in major mobile carriers in Japan.

The main benefits are:

- Preventing dirt such as sebum
- Strengthened glass surfaces and base material
- For smoother finger operation
- Improved touch operation response

Before



After



Before



After

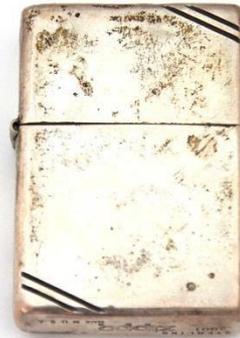




## Coating to Zippo

### Before

Before removing  
and contamination



### After

A year later, still  
glossiness was  
retained, and there  
were no changes to  
the appearance  
after three years,





## Roofs in The Imperial Palace in Tokyo

Application to a zinc plate (tin roof) of historic buildings in The Imperial Palace.

Purpose:

- Rain leakage measures
- Protection of overcoat paint
- Reduce erosion with rust.

By taking advantage of the base material as it is, it was possible to slow down the deterioration speed and extended the period to next maintenance.

Thus, total cost reduction was realized.

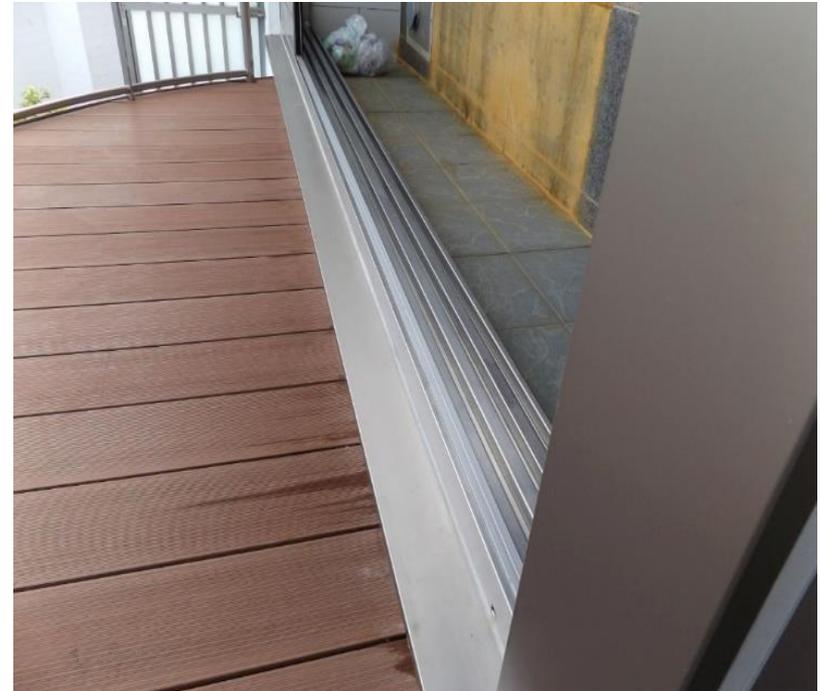




## Hotel stainless steel handrail coating

### Aesthetics maintained

Coating handrails and sash on the veranda of the hotel along a seacoast. Salt damage countermeasures, easier to clean, and aesthetics could be maintained.





# Use Case Wooden and Lacquered Surface

## Surface protection of painted and lacquered surfaces

**Coating done only to the donation coin box at the center. One year later, except for the donation coin box, the glossiness was lost.**

Glass coating was done only with the donation coin box placed at the front center.

A year later. The coin box at the center still retains its glossiness. When dust was wiped off by fingers the shining surface appeared.





## Body surface protection and restoration

Adopted by luxury car dealers such as Porsche, Ferrari, and Bentley.



Coated on a new car before delivery to its owner.



A half area coated car left outdoor near sea and unwashed for ten years. .

Vintage classic cars looking new with our coating.





# Use Case Kitchen

## For antifouling and easy cleaning



Sinks,  
ovens, and  
ventilation  
units





## Brass carpet fasteners

Coating on brass carpet fasteners. Antifouling and deterioration reduction.





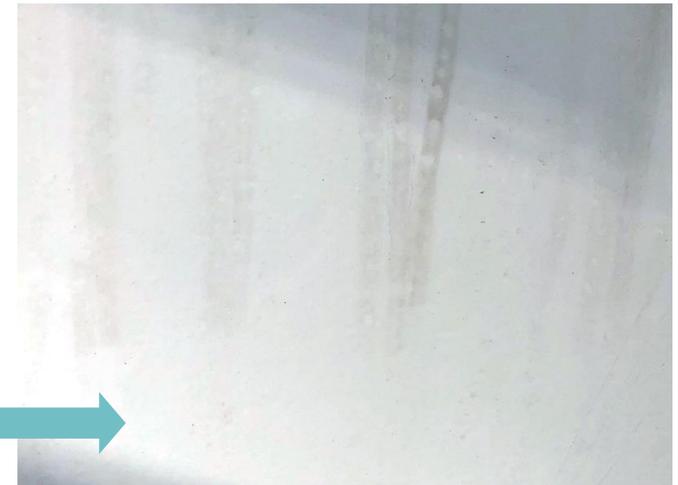
# Use Case Ships

## Cruisers



The gloss remains at the glass coated areas, including hulls and bumpers.

Rain stains fall off when simply rubbed with a towel.





## Fishing gears

Our glass coating is ideal for salt damage control and cleaning of fishing products used in harsh environments.

### Examples:

Rod Reels Cooler box





## Outdoor signboards

Coating on signboards.

For prevention of fouling due to flowing down of rain over the signboards. Contributing to total cost reduction of store management





# For inquiries



YASUKAWA

Thank you.

For more information, please contact us.

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