

Fluorine-free Water and Oil Repellent Coating

NeG

Nippon Electric Glass



The water and oil repellent coating is not applicable to PFAS regulations. Since the coating is transparent, it does not affect the appearance of the coated substrate.

Features

- Water and oil repellency
- High heat resistance
- High visible light transmittance
- Not applicable to PFAS regulations
- Low friction
- High durability

Compatible Substrates

The coating is suitable for various materials such as glass, metal, metal mesh and fabric. It can be tailored to prioritize properties such as water repellency, oil repellency, and sliding performance.

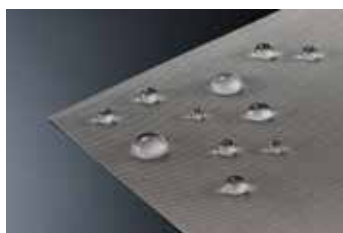
● Glass



● Metal



● Metal mesh



● Fabric





Applications

- Kitchen appliances
- Rainwear
- Medical monitors
- Car displays
- Speakers

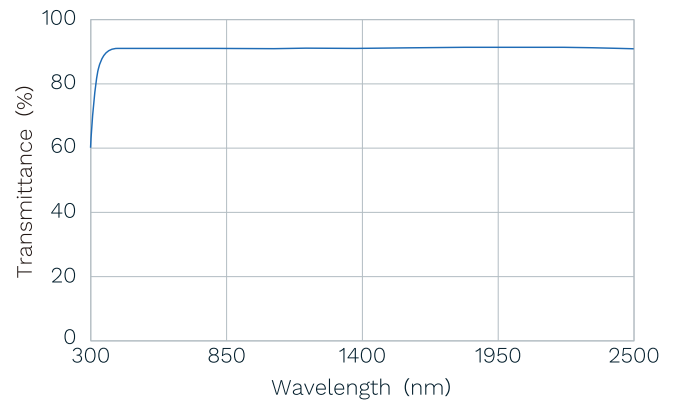


Properties

Properties		Coated glass	Uncoated glass
Item	Unit		
Contact angle (DI water)	deg	105	<5
Contact angle (Oleic Acid)	deg	54	28
Contact angle (Olive oil)	deg	56	29
Contact angle (Vegetable oil)	—		
Pencil hardness test	—	6H	—
Haze	%	<0.2	<0.2
Transmittance	%	91.9	91.9
Coefficient of static friction	—	0.07	0.45
Coefficient of kinetic friction	—	0.04	0.45

※Measurements of coated glass (OA-11, thickness: 0.5mm)
OA-11: Alkali-free glass

Transmittance



→Same transmittance as bare glass, even with coating.

※Measurements of coated glass (OA-11, thickness: 0.5mm)
Thickness of coating: 20nm (Single side coating)
OA-11: Alkali-free glass

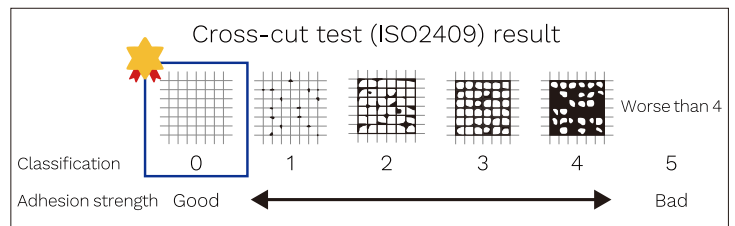
High durability

●Cross-cut test

Test result: Classification 0 (best rating)

→Excellent adhesion, no peeling

※Classification 0 indicates no visible detachment at the cross-cuts, demonstrating excellent coating adhesion.



●Damp heat test 80°C/80%RH, 1500hr

Test item	Initial value	After test	Judgement
Contact angle	105°	104°	Performance maintained
Appearance	Good	Good	No abnormalities

※Measurements of coated glass (T2X-1, thickness: 1.3mm)
T2X-1: Chemically strengthened glass

●Scrub resistance test

Abrasive: Steel wool grade #0000

Load: 250g

Motion: 3000 reciprocating strokes over a distance of 60mm at 60mm/sec

Test item	Initial value	After test	Judgement
Contact angle	105°	97°	Performance maintained
Appearance	Good	Good	No abnormalities

※Measurements of coated glass (T2X-1, thickness: 1.3mm)
T2X-1: Chemically strengthened glass

※The data included in this flyer are reference values and not guaranteed values.

