

UV durable water repellent coating OPTOOL UD120

 TECHNICAL
DATASHEET

OPTOOL UD120 is an antifouling coating agent with excellent weather resistance. UD120 shows excellent performance in stain resistance, chemical resistance and surface slippery under UV exposure condition.

Characteristics

- Excellent water and oil repellency
- Good anti finger print property
- Maintain excellent water and oil repellency with superb UV resistant
- Super thin film coating and no impact for optical properties
- Reduce sliding contact angle
- Non-stick and low surface energy
- Cures with Glass, SiO₂ and AR surface in the room temperature
- Excellent acid / base resistant

Typical Properties (*1)

The following data was measured on UD120 coated Gorilla Glass surface.

Test item	Unit	OPTOOL UD120	Competing Fluorine coating
Water contact angle	°	115	115
Critical surface tension	mN/m	13	13
Sliding angle of water	°	8	8
Sliding angle of n-hexadecane	°	6	6
Tendency for fingerprint transfer	-	Better	Better
Cleanability	-	Excellent	Excellent
QUV durability (*2)	h	600	72
Xenon arc lamp durability (*3)	h	990	200
Steel wool abrasion durability (*4)	cycle	12,000	6,000
COF (*5)	-	0.07	0.07
Haze	-	0.24	0.25
High temperature test (*6)	°	115	114
High temperature and high humidity test (*7)	°	115	115
Acid resistant (*8)	°	115	107
Base resistant (*9)	°	114	59

(*1) Typical properties are not suitable for specification purposes.

(*2) Irradiation time to keep water contact angle above 100 degrees.

UV source: UV-B313, Irradiance (@313nm): 0.63W/m²

(*3) Irradiation (JIS K5600 7-7) time to keep water contact angle above 100 degrees.

(*4) Maximum rubbing cycles to keep water contact angle above 100 degrees.

Conditions: Steel wool #0000, Load: 1kgf/cm², Stroke: 6cm, Speed: 60rpm

(*5) Equipment: LabthinkFPT-1, Load: 200g, Speed: 200mm/min, friction material: paper

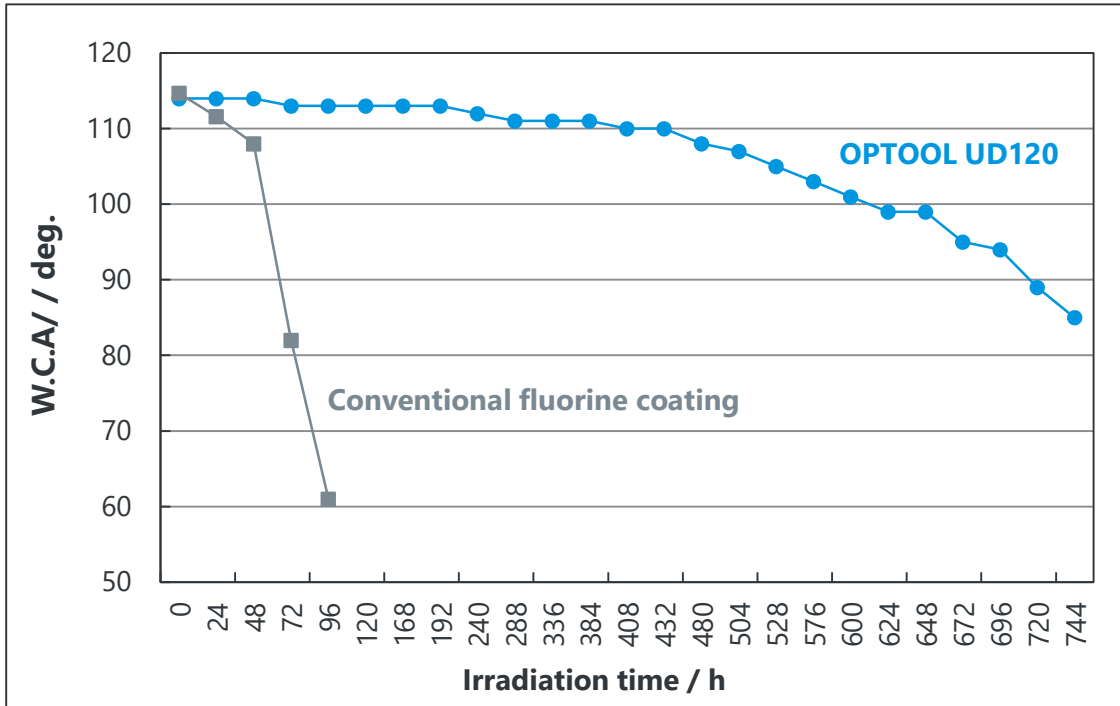
(*6) Water contact angle in Air 130°C after 6days passage.

(*7) Water contact angle in Air 85°C/85%RH after 6days passage.

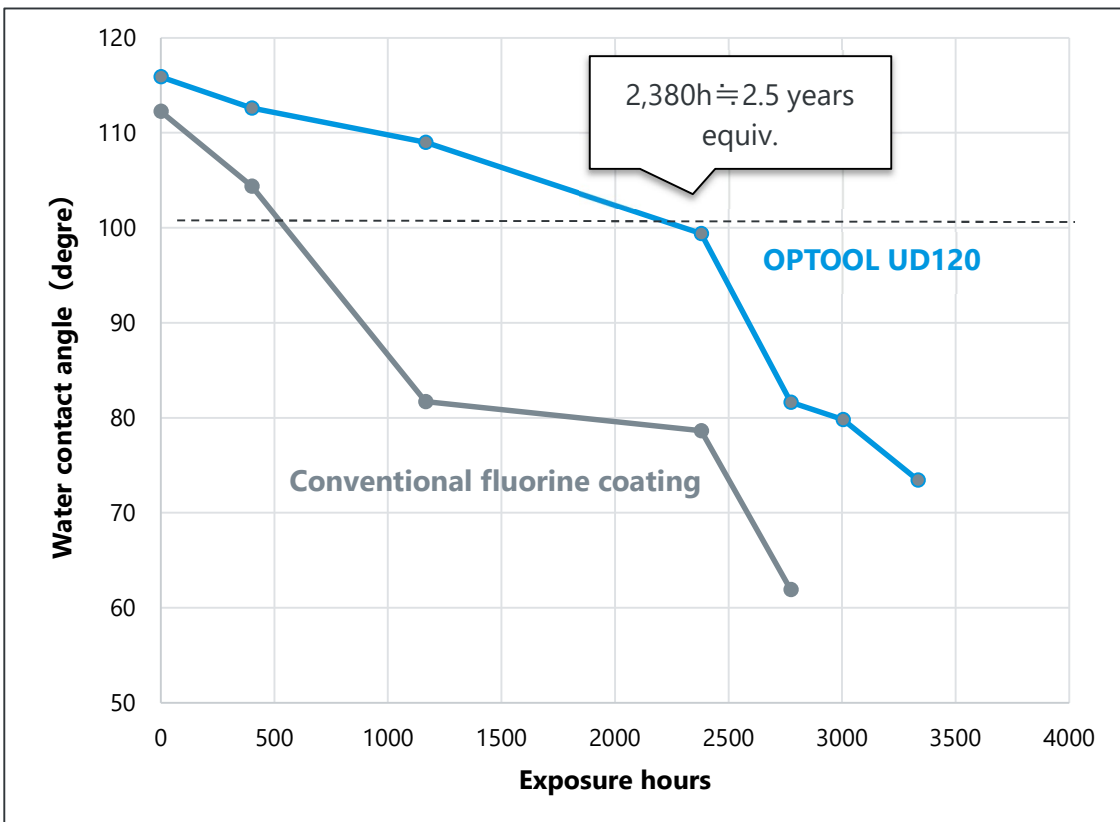
(*8) Water contact angle in 1.0mass% HCl aq. 25°C after 4days passage.

(*9) Water contact angle in 4.0mass% NaOH aq. 25°C after 4hours passage.

Accelerated weathering test (QUV)



Accelerated weathering test (Xenon, JIS K5600 7-7)



Handling and Safety Information

- Please refer to Safety Data Sheet
- The product is designed for industrial use only. The compliance to the relevant regulations and technical standards for intended use is obligation of the manufacturers of final article.

Package

- 100g

For more information, visit our website.

DAIKIN INDUSTRIES, LTD.

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