

# Gemini<sup>®</sup> Superhydrophilic Anti Fog Agent

## AnF-117

### [Introduction]

AnF-117 is a permanent superhydrophilic anti fog agent, it is solvent based one-part UV-curing type, non-toxic and eco friendly. Combining interface compact adhesion, it has high transparency and outstanding weatherability, damp and heat resistance, acid and alkali resistance, super abrasion durability, it brings water hydrophilicity and anti fog to various plastic substrates like PC、PMMA、PET、ABS, keeping it optical transparent and dust proof.

### [Typical Properties]

Properties	Units	AnF-117
Solid	Wt%	60
Appearance	/	Light yellow clear liquid
Density	g/cm <sup>3</sup>	0.9
Solvent	/	Organic solvent
Curing	/	Preheating + UV

### [Performance]

Test Item	Test Method	AnF-117
Water contact angle	10~20 μ L Water	<10°
Film color/thickness	Observation / μ m	Transparent/ 2~8
Hardness	Pencil hardness tester PMMA/PC/PET	H~2H
Adhesion	Cross-Cut Tester	Grade 0
Light Transmittance	Light transmittance tester, 380nm~780nm	> 92%
Abrasion Durability	Steel wool #0000, load 1000g/cm <sup>2</sup> , stroke 4cm, speed 40 rpm,1000rds	Good
Solvent Resistance	99.5% alcohol whipping, load 500g/cm <sup>2</sup> , 100cycle	Good
Acid / Alkali Resistance	30%HCl、 30%NaOH drip on the substrate, standing time 24hrs	Good
High Temp/High Humidity	85°C × 85% RH × 200hrs	Good
Thermal Shock	-40°C × 1hr ⇄ 85°C × 1hr, 10cycle	Good
Water Soaking	Tap water, temperature 25~35°C, soaking time 24 hrs	Good
Impact Resistance	300N/cm <sup>2</sup> front impact and back impact	Good
Water Boiling	100°C × 60mins, boiling water	Good

**[ Applications]**

Used in plastic sheets, plates, optical lens, films, panels, furniture, packaging materials, building construction / decoration materials, electrical appliance and electronic equipment shells, bathroom and swimming pool facilities, kitchen utensils / sinks, bathroom ware, arts & crafts etc.

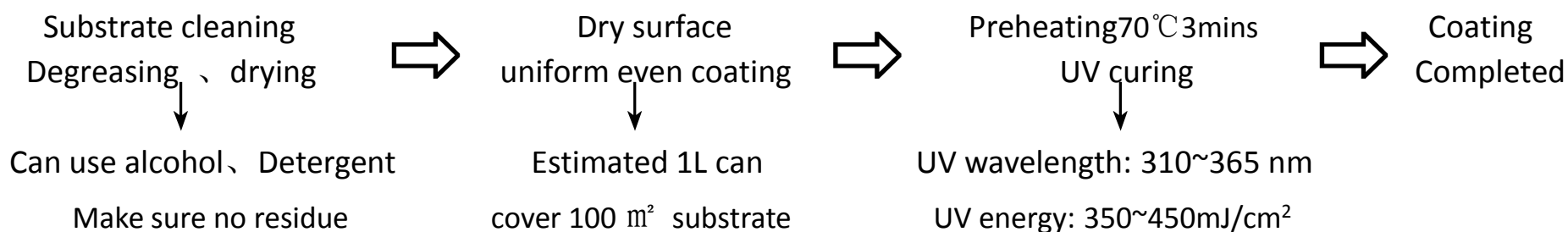
**[ Processing Method]**

**Dipping, spraying, flowing, rolling. Make sure the coating is uniform and even. The temperature of the surface to be coated should be 5°C~35°C. Keep containers at room temperature prior to use. All surfaces need to be dry and free from wax, grease, and polishes for good adhesion.**

**Dilution: Dilute by PGME or absolute ethanol Diluting mass ratio: AnF-117:Solvent=1:2**

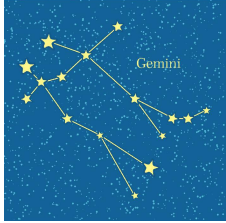
**Please clean the tools or spray gun with absolute ethanol before and after processing to avoid cross contamination. Dipping and flowing please select suitable automatic device. The spray gun is set to low pressure and low volume. One-time spraying can achieve certain effect. Then can proceed the preheating and UV curing process. After UV curing can right away move or transport.**

**For higher standard requirements, nitrogen can be used to isolate the oxygen during UV curing to reduce the effect of oxygen inhibition, effectively improve the film performance, and increase abrasion durability to more than 3000 rds. The UV cured coating must continue to dry for over 24 hours to reach maximum durability, so suggest testing after 1 day. For best long- term performance avoid imposing excessive mechanical friction or other surface treatments.**

**[Attention]**

- During processing, avoid direct contact with the skin, using gloves and safety glass in the test. If skin contacts with products, immediately wipe with a dry cloth and then wash skin with soap and water, If eyes contact with products, immediately flush eyes with plenty of water for at least 5 minutes, and call a physician.
- Keep the container sealed and store between 5~35°C, well ventilated dark locations, shelf life is 1 year.

**[Packaging/Transport]** 25L plastic jug. Classified as dangerous in the meaning of transport regulations



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