



**Everlight
Chemical**

Better Chemistry Better Life

台灣永光化學觸控面板用 感光性絕緣及保護層光阻 EOC 215

技術發展部

2013/11/14

Properties

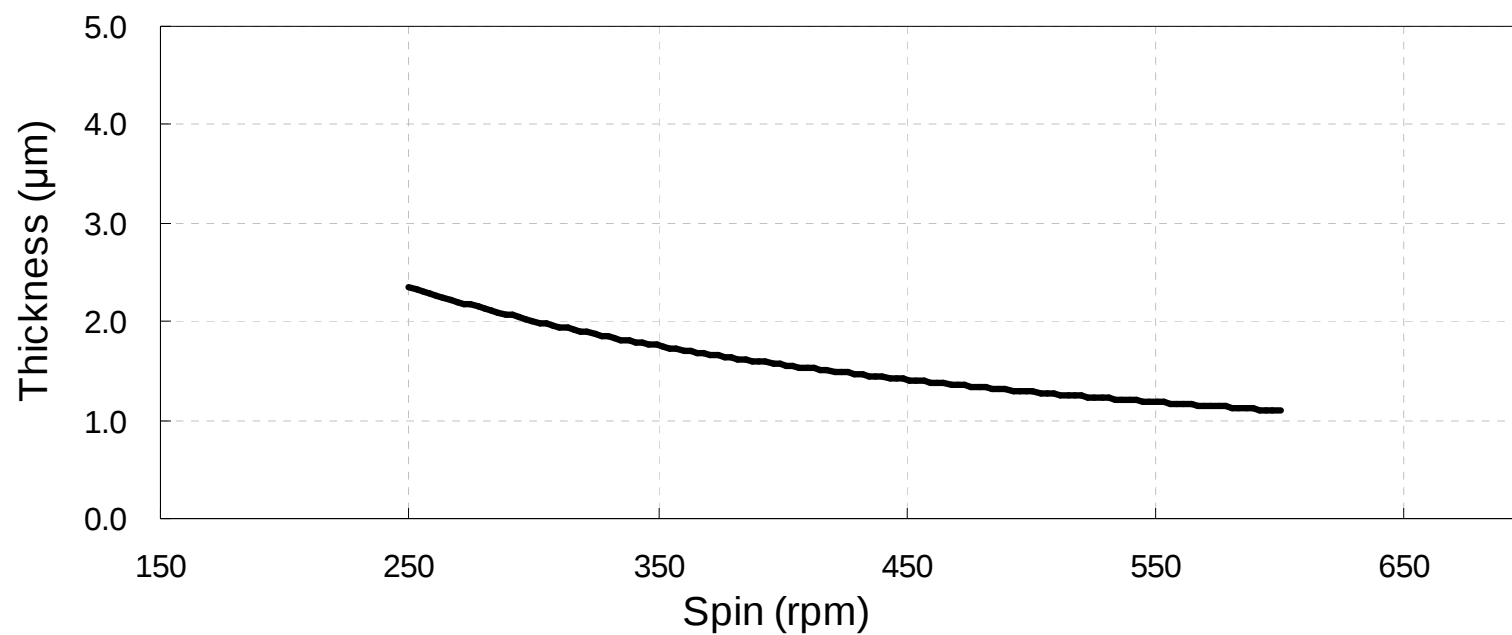
Characteristic	Properties
Film thickness	1.5 ~ 2.0 μm
Solid content	21.5 %
*Surface hardness	4H
Viscosity	4.0 cP
Transmittance value	>95 % (400 nm)
Resolution	20 μm
N value	1.52 (633 nm)
Surface resistance	>10 ¹⁴ (230 °C × 30 min.)

*Weight: 1kg

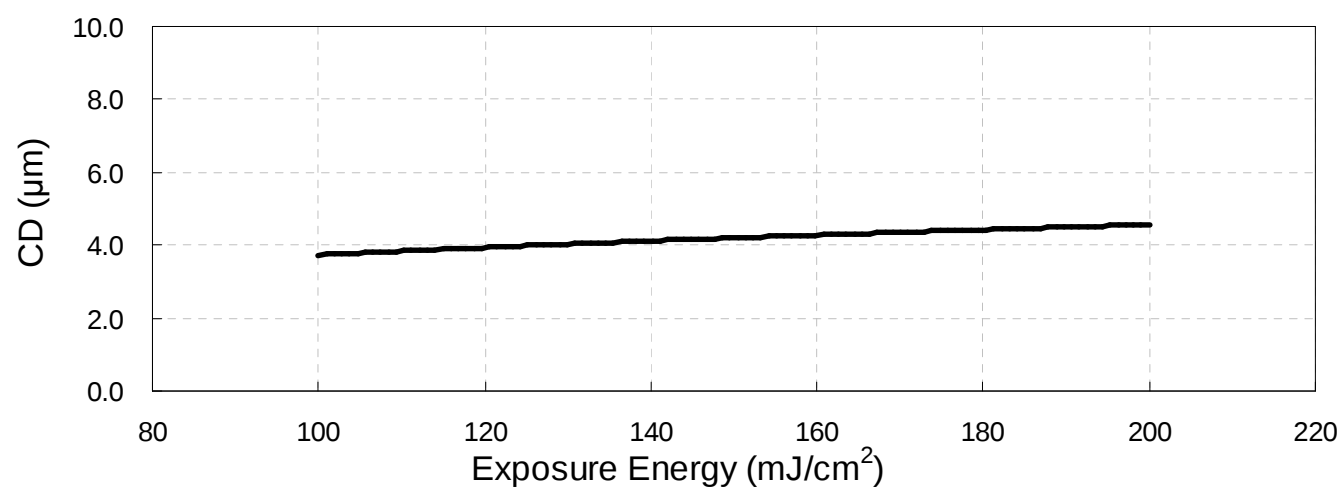
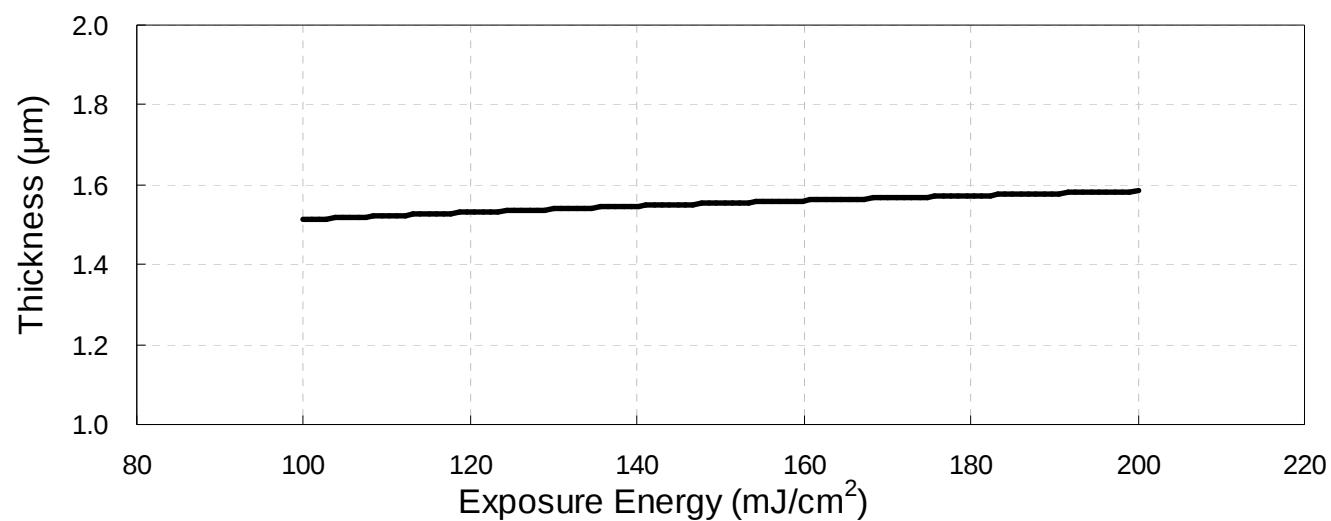
Recipe

Target thickness	1.5 ~ 2.0 μm
Pre-bake	90 °C × 5 min. (hot plate)
Exposure	150 mJ/cm ² (H line), gap = 100 μm
Development	22.5°C, 80 sec (Spray), TMAH 2.38wt.% 25°C, 80 sec (spray), ENPD 80 (Buffer type) 10wt.% 24°C, 80 sec (spray), ENPD 22 (KOH type) 2wt.% 23°C, 80 sec (spray), ENPD 23 (KOH type) 1wt.%
Rinse	Running DI water, 30 sec.
Post-bake	230 °C × 30 min. (oven)

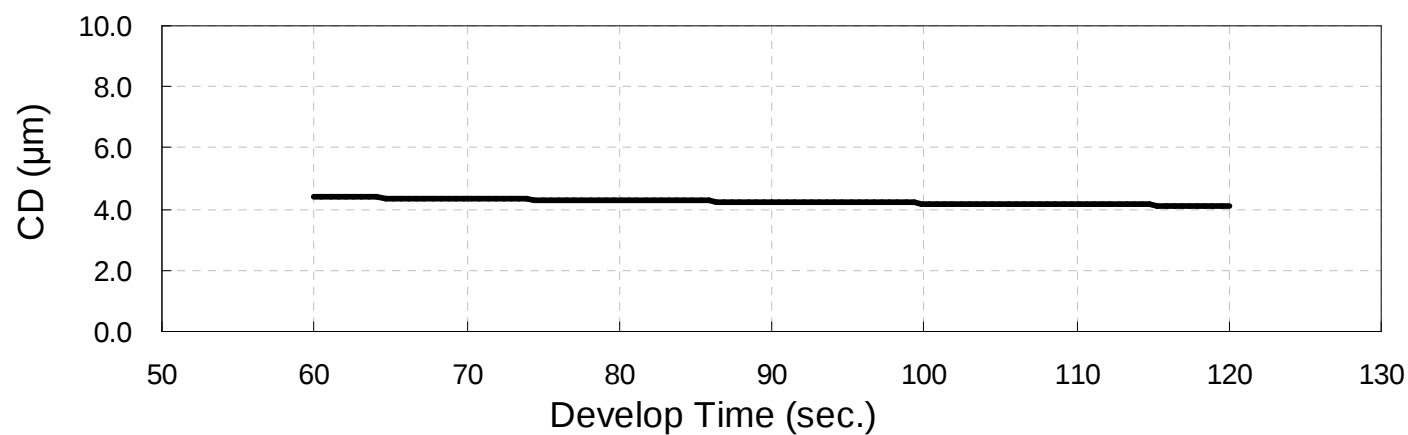
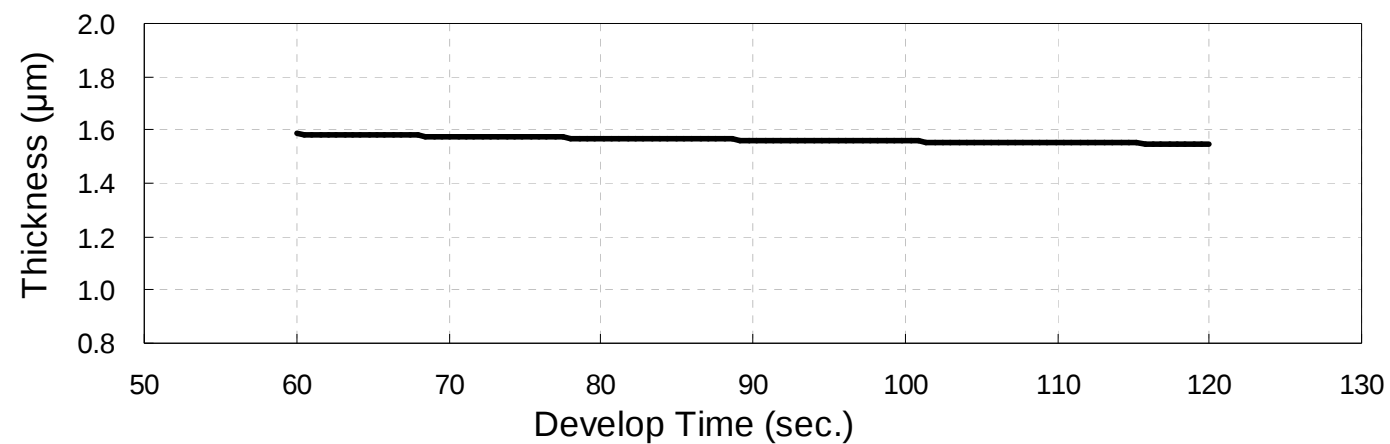
Spin Curve



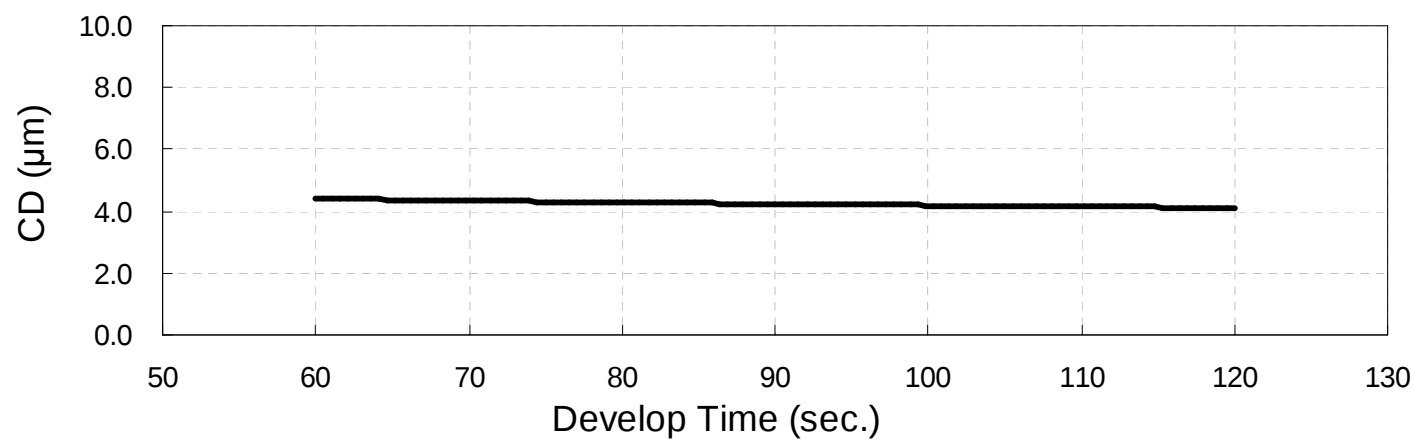
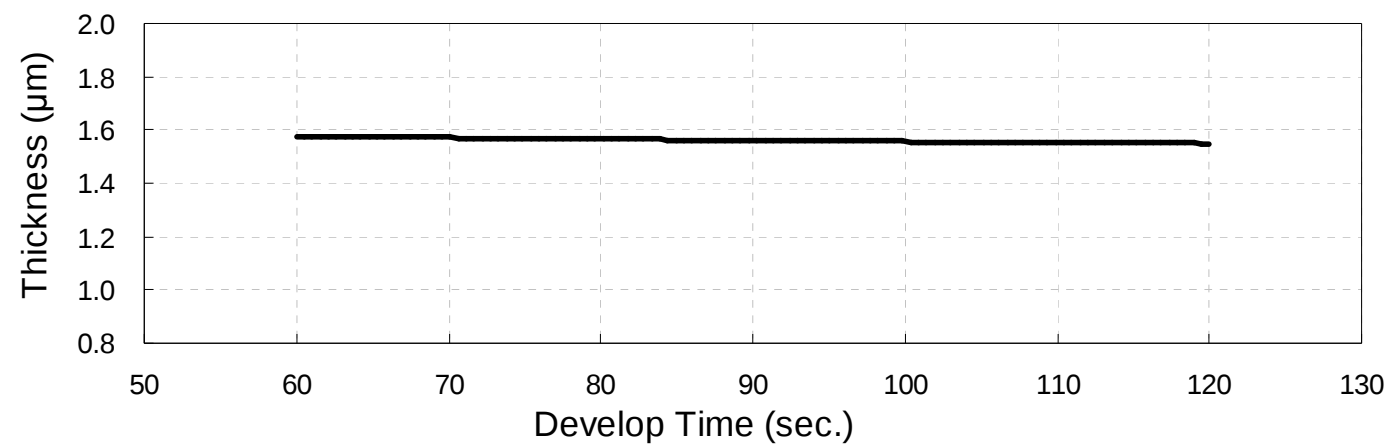
Exposure Window



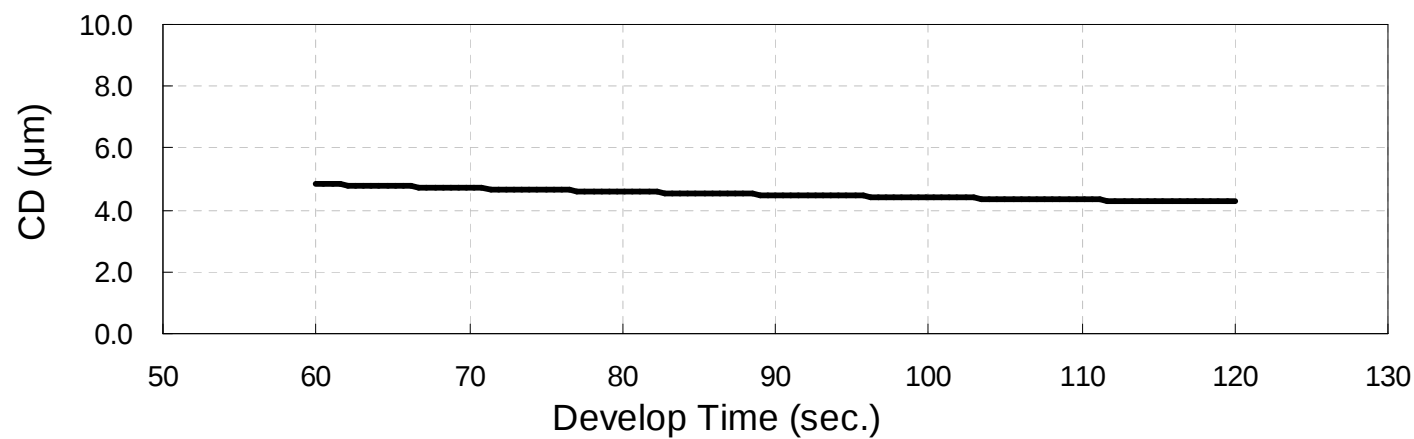
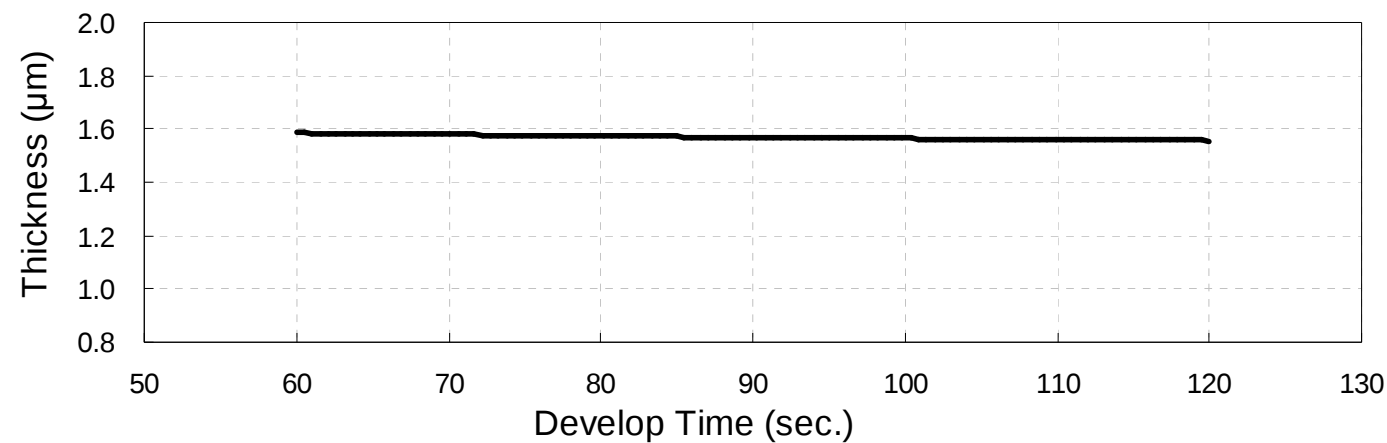
Development Window - TMAH 2.38wt.%



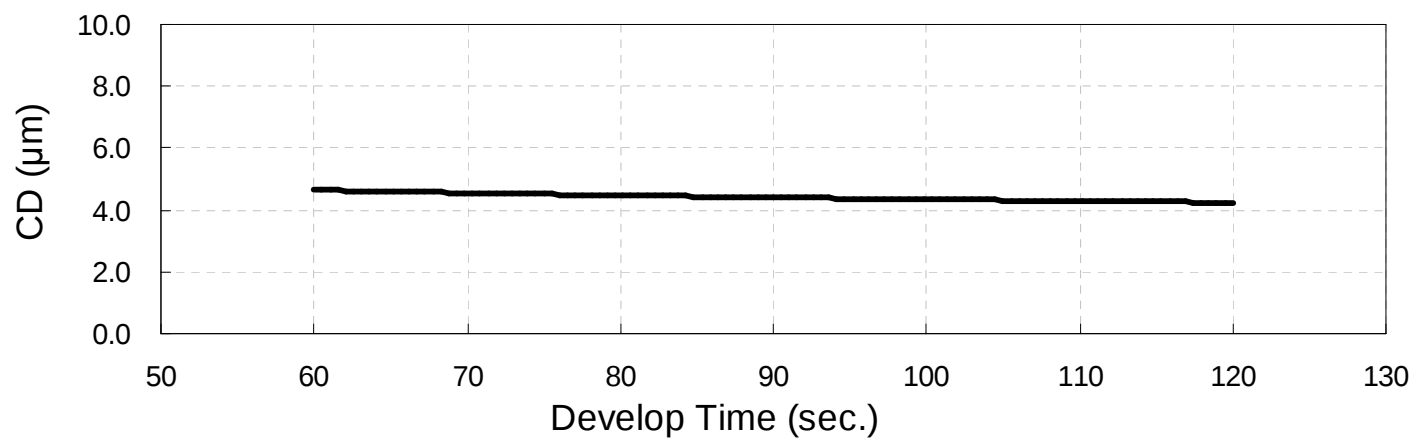
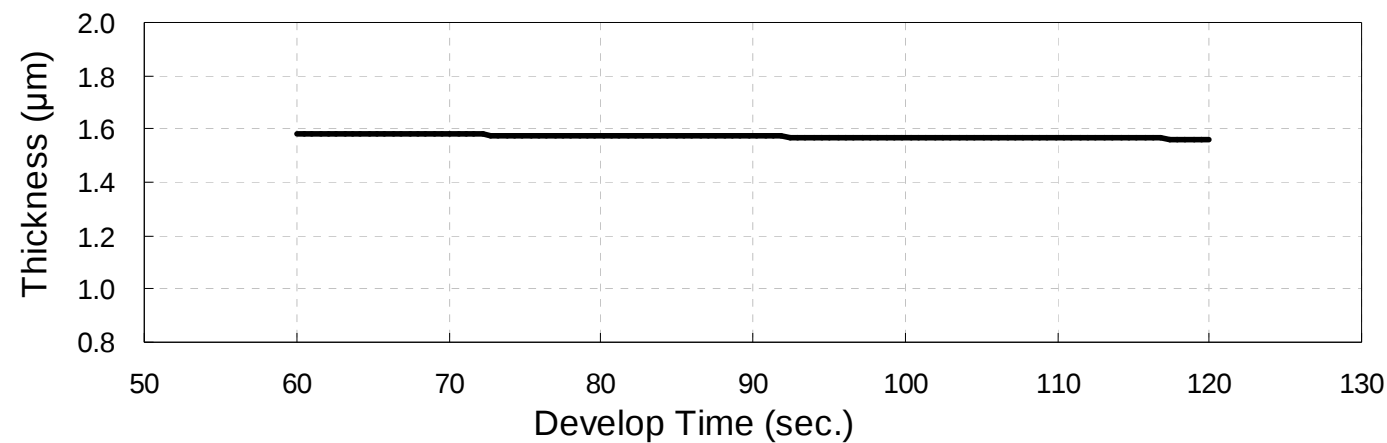
Development Window - ENPD 80 (Buffer Type)



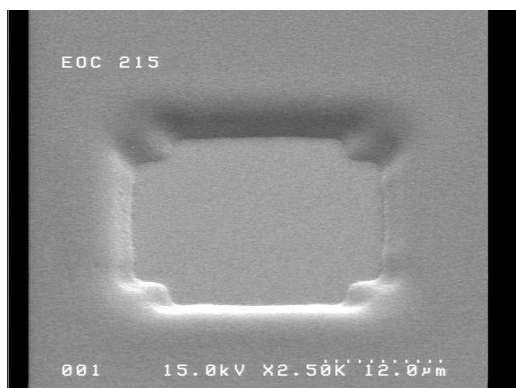
Development Window - ENPD 22 (KOH Type)



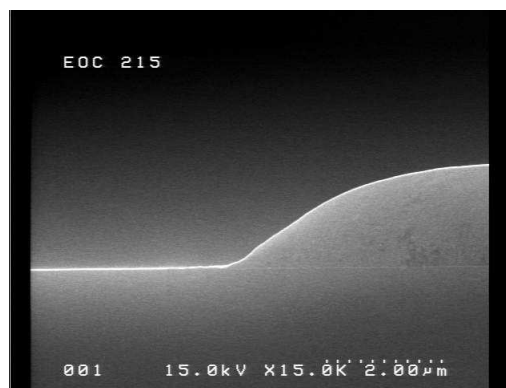
Development Window - ENPD 23 (KOH Type)



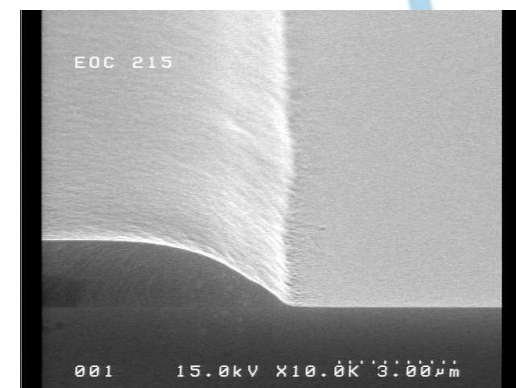
SEM



30 μm hole



Taper angle



Pattern

Thickness: 1.5 μm

Pre-bake: 90 °C × 5 min. (hot plate)

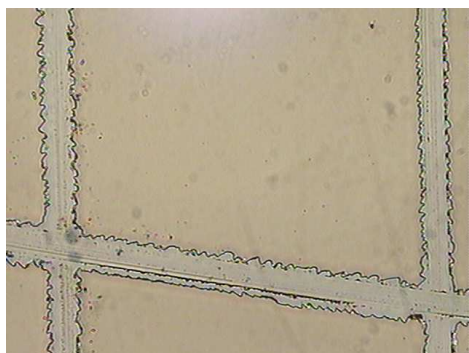
Exposure: 150 mJ/cm² (H line)

Development: TMAH 2.38 wt%, 22.5°C, 80 sec. (spray)

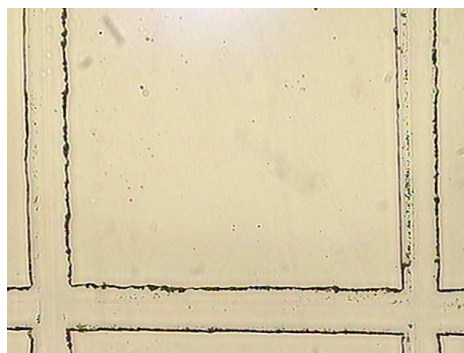
Post-bake: 230 °C × 30 min. (oven)

Adhesion on Various Substrates

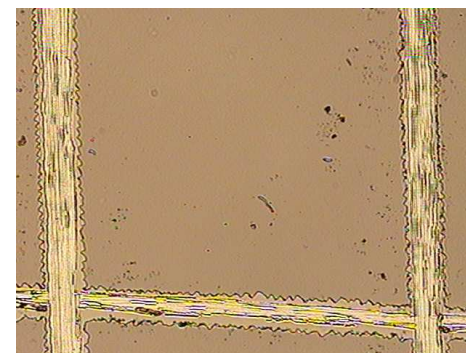
ITO	TNCS	Mo-Al-Mo
$\geq 4B$	$\geq 4B$	$\geq 4B$



ITO



TNCS



Mo-Al-Mo

Process: Coating → Pre-bake → Exposure → Development → Post-bake →
Cross-Cut Tester and taped.

Reliability Test

	FeCl ₃ ag test	10 % Aqua Regia test	Ultrasonic test	H/H, H/T test	PCT test
ITO	≥4B	≥4B	≥4B	≥4B	≥4B
TNCS	≥4B	≥4B	≥4B	≥4B	≥4B

1. FeCl₃ test : 40 °C, 90 sec.

FeCl₃ : 26 mL 37 wt.% HCl_(aq.) + 10 mL H₂O + 0.8 mL 42 % FeCl₃ (aq.).

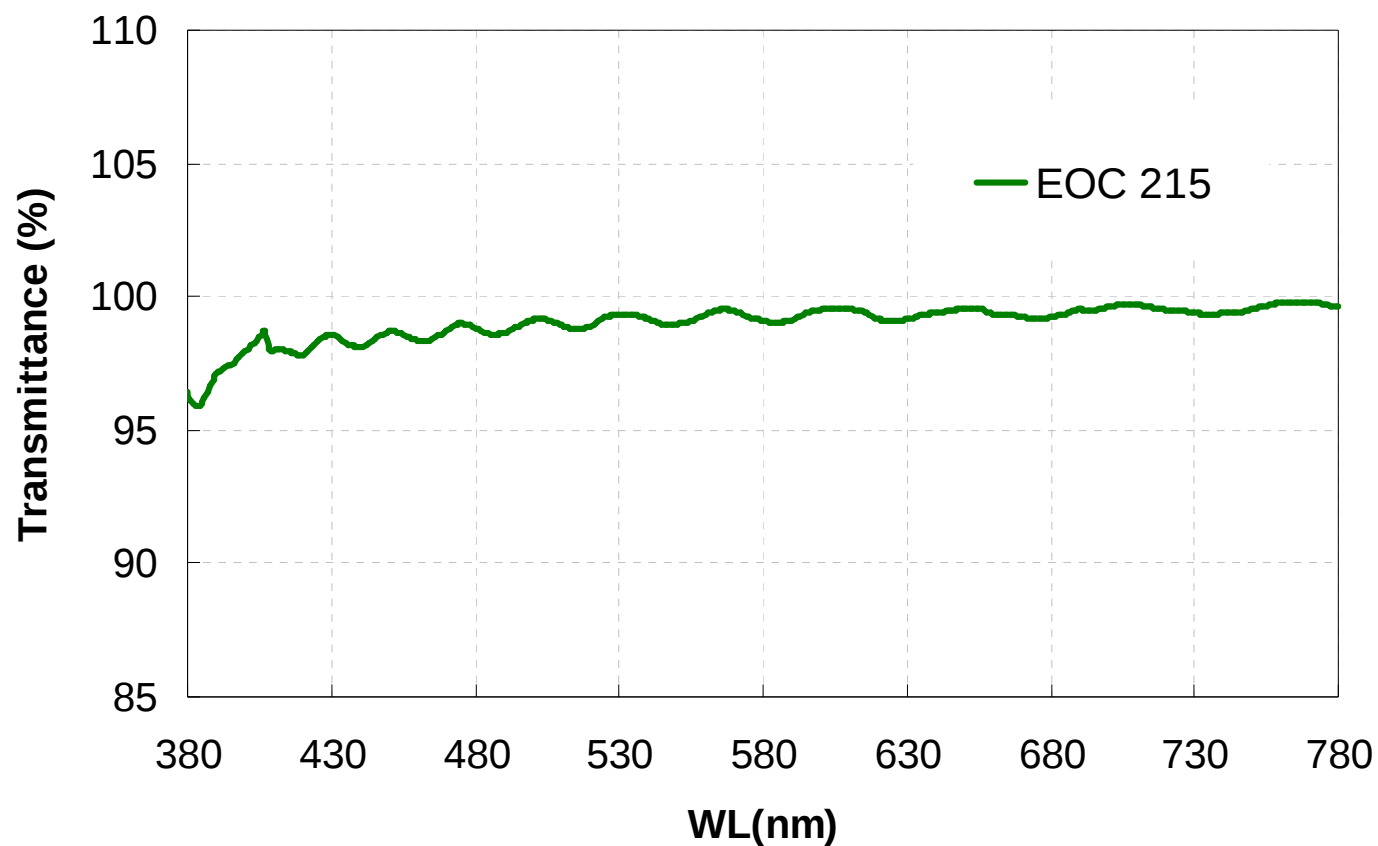
2. 10 % Aqua Regia test: 40°C, 90 sec.

3. Ultrasonic test: 25°C, 20min.

4. H/H, H/T test : 60 °C, 90 %, 240 hr.

5. PCT (pressure cook test) : 121 °C, 2 atm, 24 hr.

Transmittance Spectrum



* Thickness at 1.5 μ m

電化事業處

Thank YOU


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