

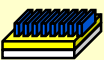


KM-1100

Pattern property: B.P 50%

Item		KM-1150	KM-1140
Min. development time (sec.)		35.5	27
Sensitivity (sst/41sst)	Exposure (mJ/cm ²)	Sensitivity(/41sst)	
	28	16.4	16.6
	40	19.1	19.5
	56	22	22.2
	78	24.8	25
Resolution (μm) Resolution 	Exposure (mJ/cm ²)	Value (μm)	
	28	28	28
	40	32	32
	56	36	36
	78	42	44
Adhesion(μm) Adhesion 	28	36	30
	40	32	26
	56	28	24
	78	26	22
1/1 Resolution (μm) 1/1 Resolution 	28	36	30
	40	32	32
	56	36	36
	78	42	44

Test condition

- Test Artwork : KOLON test pattern
- Substrate : 0.4T FR-4 1Oz
- Pretreatment
 - Brush : 3M #600 2ea+#800 2ea
 - S/E : H₂SO₄ + H₂O₂ + Stabilizer
- Lamination
 - Model : Hakuto 610i
 - Temperature : 110 °C
 - Pressure : 4kg/cm²
 - Speed : 2.0m/min
- Exposure
 - Model: Philoptics PHILEX-MC10
 - Type : collimated light
- Development
 - Developing solution : 1.0wt% Na₂CO₃
 - Temperature : 30 °C
 - spray pressure : 1.5kgf
 - Break Point : 50%

Stripping TEST

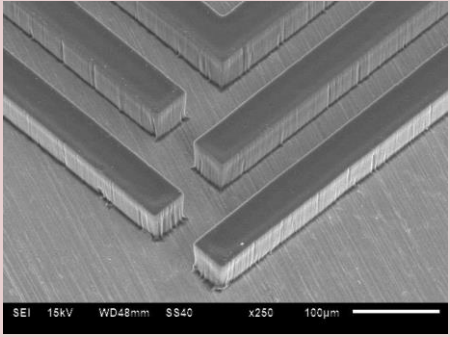
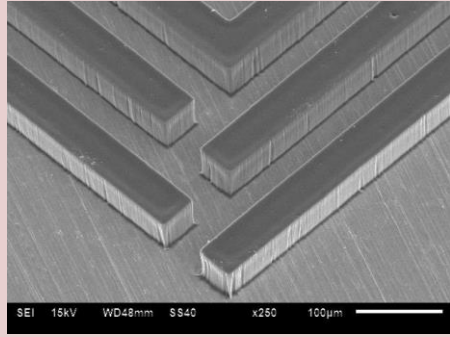
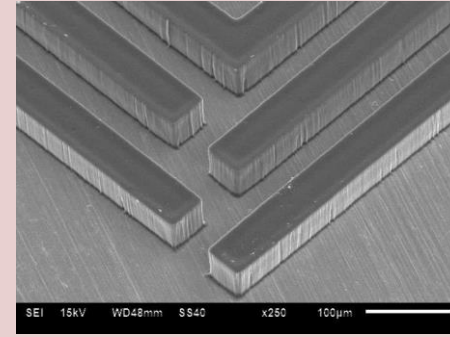
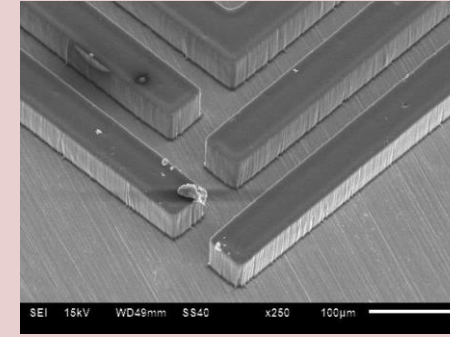
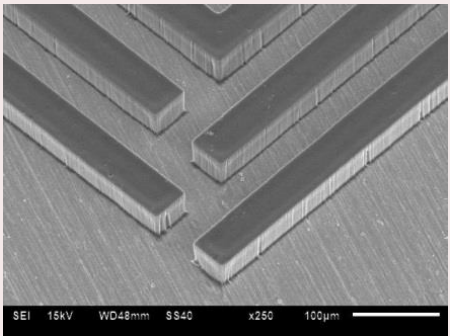
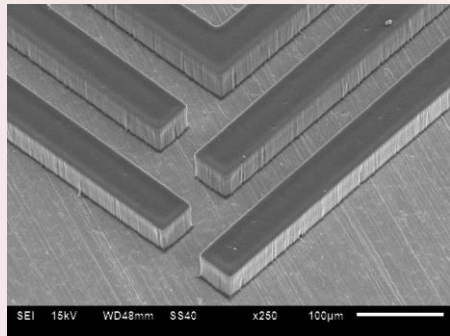
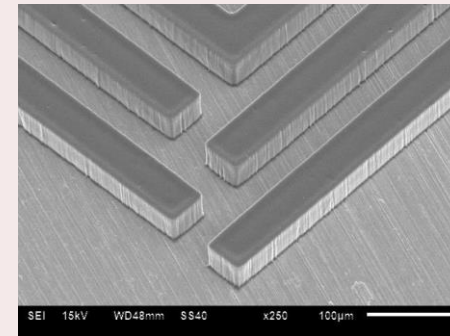
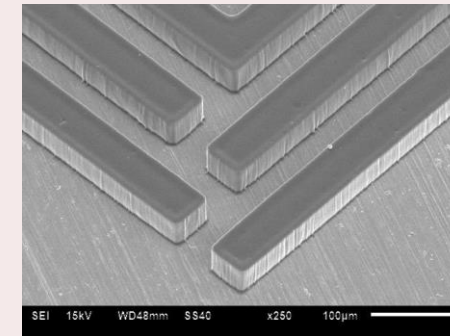
NaOH concentration		Exposure(mJ/cm ²)			
		2.5 wt%	3 wt%	4 wt%	5 wt%
KM-1150	28	74 S	60 MS	51 L	50 LL
	40	83 MS	69 MS	56 L	55 LL
	56	87 MS	73 M	60 L	57 LL
	78	92 MS	76 M	63 L	59 LL
KM-1140	28	53 MS	44 M	38 L	38 LL
	40	59 MS	48 ML	42 L	40 LL
	56	63 M	52 ML	43 L	41 LL
	78	63 M	52 ML	44 LL	41 LL

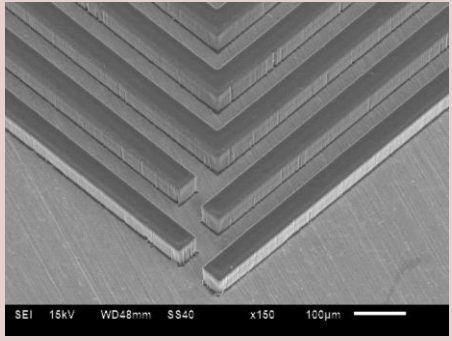
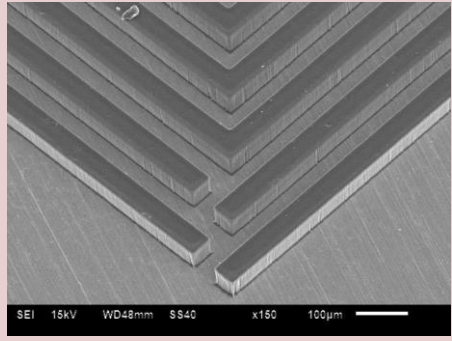
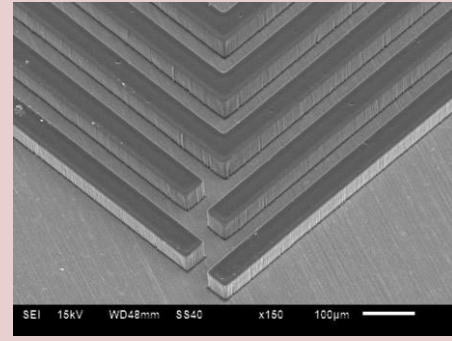
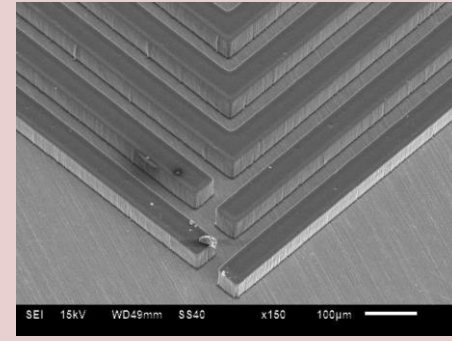
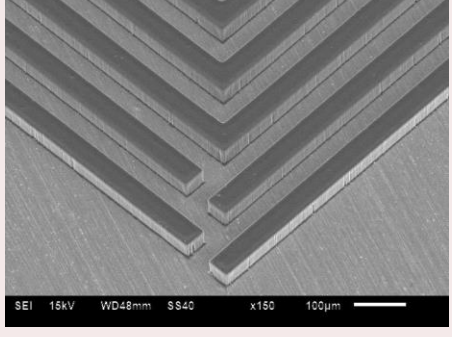
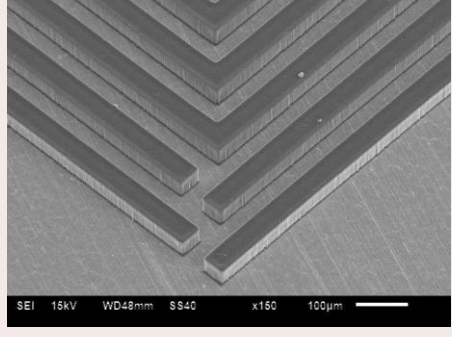
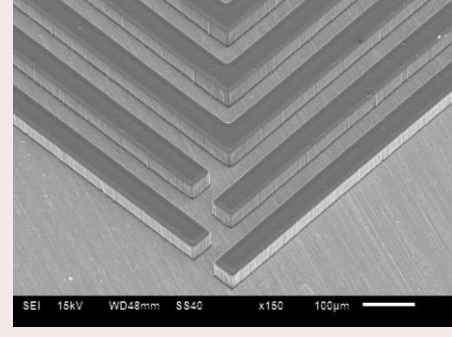
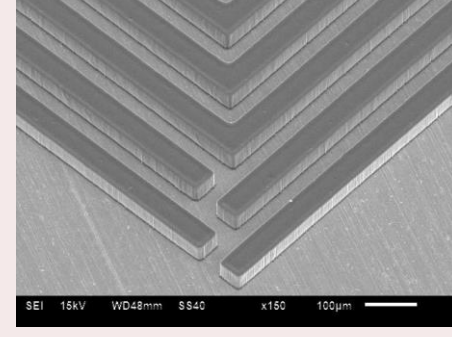
Test condition (Test Conditions)

- Pretreatment→Lamination→Exposure
→ Developing→ Strip
- Temperature : 50 °C
- Concentration : NaOH 2.5 wt%
- Test Method : Dipping Method

Stripped Particle Size

- S – Small (Lower than 0.5cm)
- M –Medium (0.5-2cm)
- L – Large (2-5cm)
- LL – Extra Large (over 5cm)

41step	16sst	19sst	22sst	25sst
KM1150				
KM1140				

41step	16sst	19sst	22sst	25sst
KM1150				
KM1140				

Foam TEST

1. Test purpose

: Form TEST

2. Developing solution Test condition

- ① Test film : KM-1150, KM-1140(0.5m²/ℓ)
- ② Nozzle spray pressure 1.0~0.8kg.f / test temperature 30°C

Foam Test Image



3. Foam Test result

	KM-1150	KM-1140
Time	Height(cm)	
10minutes	5.9	5.9
20minutes	7.5	7.8
30minutes	8.7	8.4
40minutes	8.9	8.9
50minutes	9.0	9.2
60minutes	9.0	9.5
70minutes	9.0	9.5
80minutes	9.0	9.5
90minutes	9.0	9.5
	Keep form	Keep form

Scum & Sludge TEST

1. Test purpose

- 현상 sludge TEST

2. Test condition

- Na_2CO_3 1.0 wt% , Film $1\text{m}^2/\text{L}$, 30°C , 2500rpm 4h.

3. TEST METHOD

Immerse $1\text{m}^2/\text{L}$ of DFR to 1.0 wt% of developing solution(Na_2CO_3)

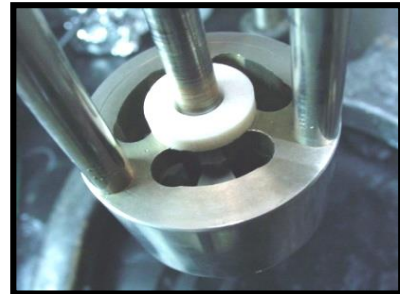
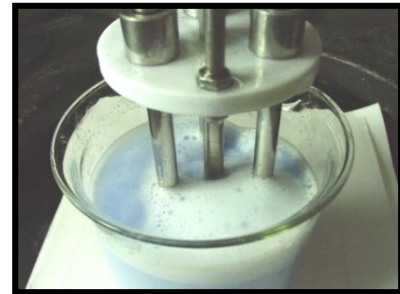
Mechanical Stirring for 1 hr
Under yellow room

Homo-mixer Stirring for 4 hrs
(RPM : 2500, Temp : 30°C)

After holding 1day,
Check the sludge
Occurred & Filtering test

4. Result

- * Filter Time : refer to next page
- * Sludge Weight : refer to next page
- * Scum : No



Scum & Sludge TEST

Film scum & sludge test data

Item	Filtering Time (50ml)	Filtering Time (100ml)	Sludge Weight (400ml filtering)	Scum
KM-1150	42 sec	86 sec	0.28 g	無
KM-1140	30 sec	64 sec	0.26 g	無

<Filtering time / Sludge test condition>

Filter paper : ADVANTEC-5A

Filtering Time : Measure after being filtered 50ml, 100ml

Sludge Weight : Measure sludge weight after being filtered 400ml

General Process Guideline of KM-1100

Process		Best Condition	Recommendation	Specification
Lamination	Roll Temp. (°C)	110	110 ± 10	Exit Temp.: 50 ± 10 °C
	Speed (m/min)	2.0	2.0 ± 1.0	
	Roll Pressure (Kgf/cm ²)	4.0	4.0 ± 1.5	
Holding Time	Time (min)	20min~4hrs	15min – 8hrs	Under Yellow Light
Exposure (355nm)	Exposure Energy (mJ/cm ²)	40mJ (19/41 ST)	40~56mJ (17~20/41 ST)	Collimated Light
Holding Time	Time (min)	1hrs	20min – 24hrs	Under Yellow Light
Development	Chemical	1.0wt%	1.0 ± 0.2wt% Na ₂ CO ₃	
	Temp. (°C)	30	30 ± 2	
	Break Point	50%	40~60%	
	Spray Pressure (Kgf/cm ²)	2.0	2.0 ± 0.5	
Stripping	Chemical	3	2.5 – 4.0wt% NaOH	
	Temp. (°C)	50	45-55	
	Break Point	50	40~60%	

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