

Ultra High Resolution Black Resist SEBK-101

Product	Vis. (cps)	S.C. (%)	OD (μm^{-1})	BT (sec)	Dev. Time (sec)	Adhesion (μm)	THK after PB (at 650rpm) (μm)	OD
101	4.0	23.5	4.0	30	50	1	0.7	2.8

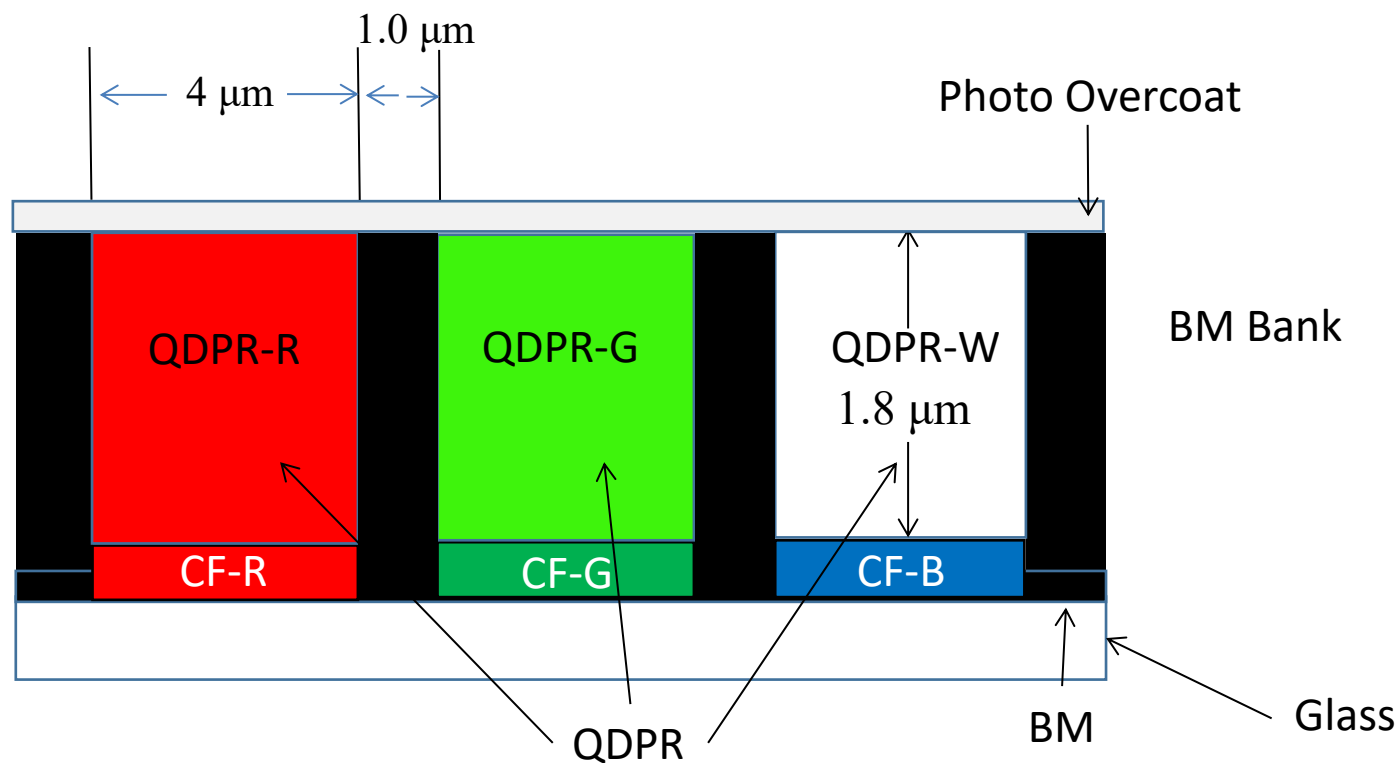
Characteristic

1. High Resolution (1 μm line & 1.5 μm hole)
2. High Optical Density (OD=4.0/ μm)
3. Low Tape-Angle(<90°)
4. Good Leveling
5. Low Transmittance at 1100nm

Applications

Black Matrix for 2500PPI AR/ VR Micro LED

High Resolution Structure of QDCF For 2500PPI Micro LED AR/ VR Application



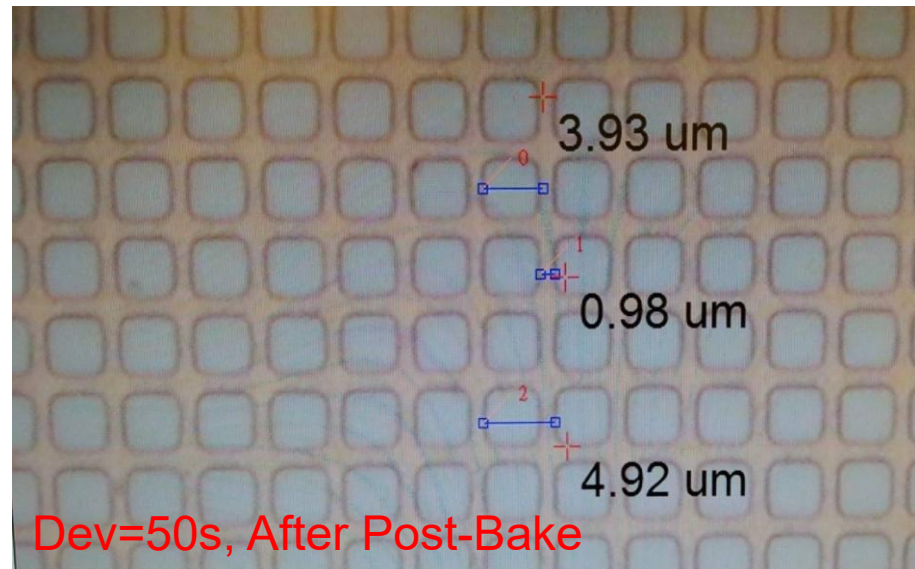
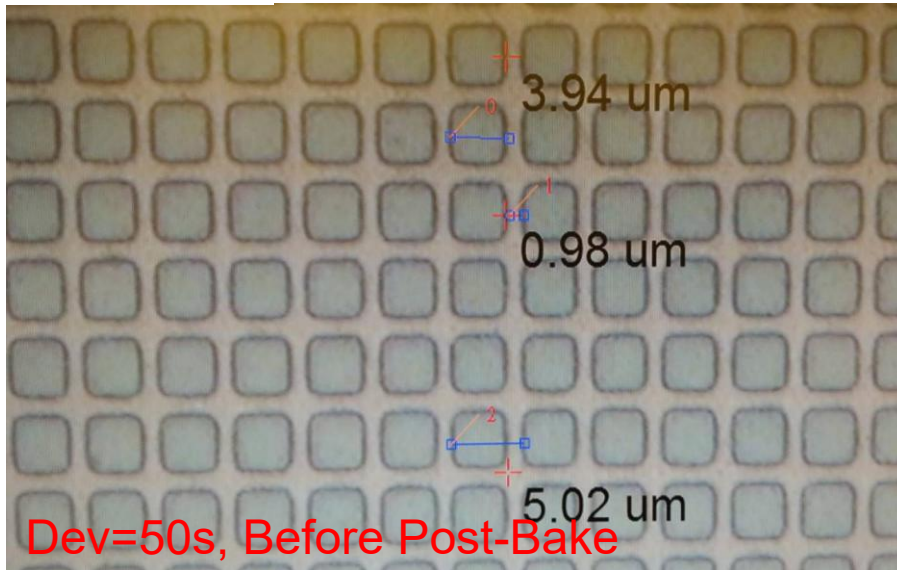
BM → CF-R → CF-G → CF-B → GR → QDPR-R → QDPR-G → QDPR-W → POC

BM : Suppress Ambient Light Reflection & Color Crosstalk

CF-RGB : Prevent Ambient Light Excitation & Blue Light Leakage

<u>Process Parameter</u>	
Spin Speed	650 rpm on 0.5mm EXG
THK	Control at 0.8μm before Post-bake
Pre-bake	100°C*2.5min, directly
Power	80mJ/ cm² & 0μm @25mW
Dev.	50~60 sec in 1:99 SEDR-5 / 0.15MPa & 25 °C
Rinse	20sec/ 0.15MPa & 25 °C
HPMJ	10sec/ 0.4MPa & 25 °C
Post-bake	230 °C*30min clean oven

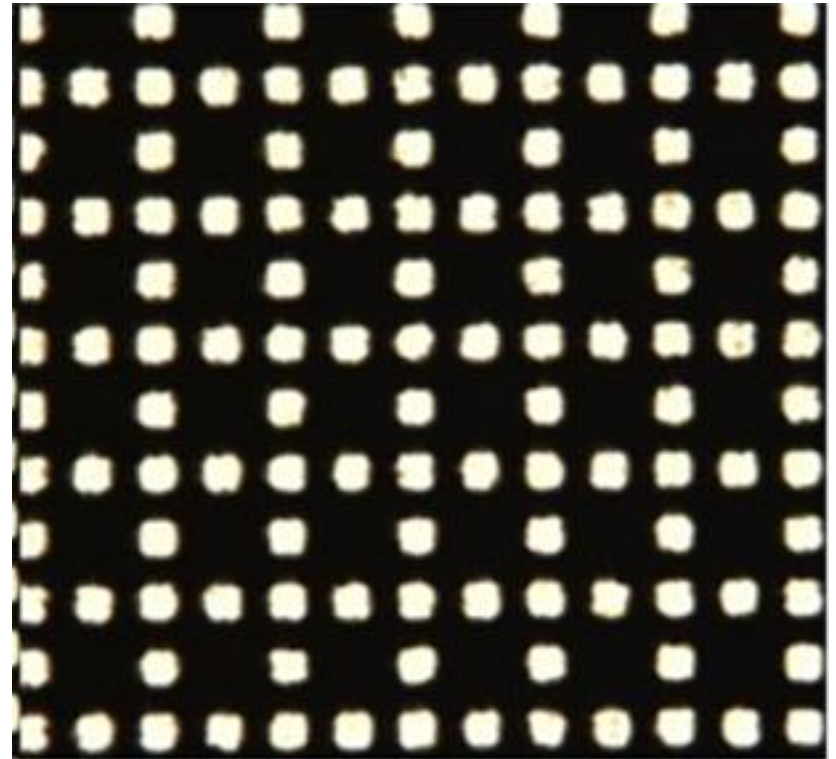
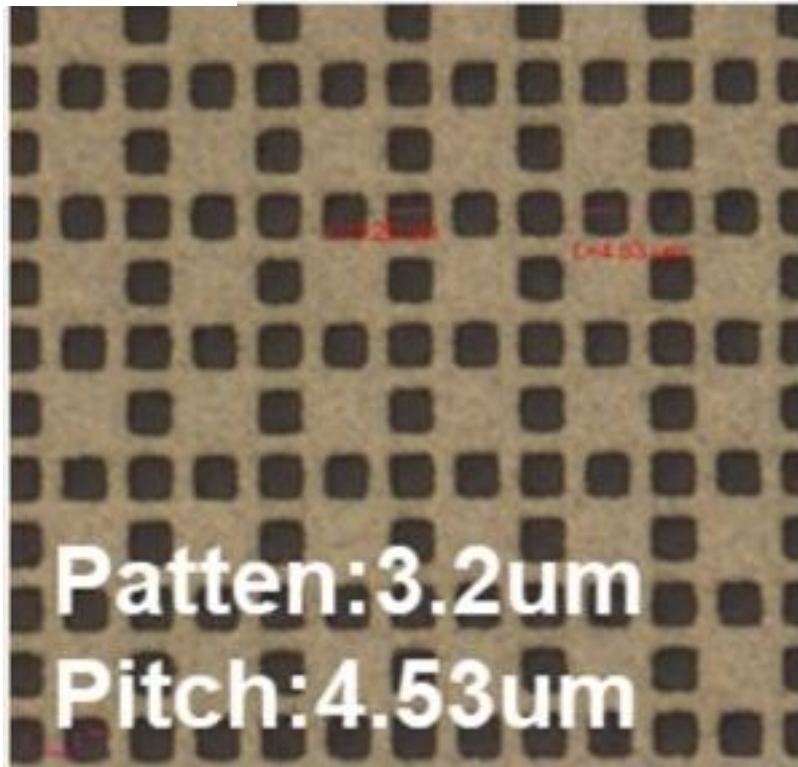
1 μ m Pattern OM



THK=0.7 μ m, Exp. Dose=80mJ/cm², Gap=0 μ m, Postbake=230 $^{\circ}$ C *30min

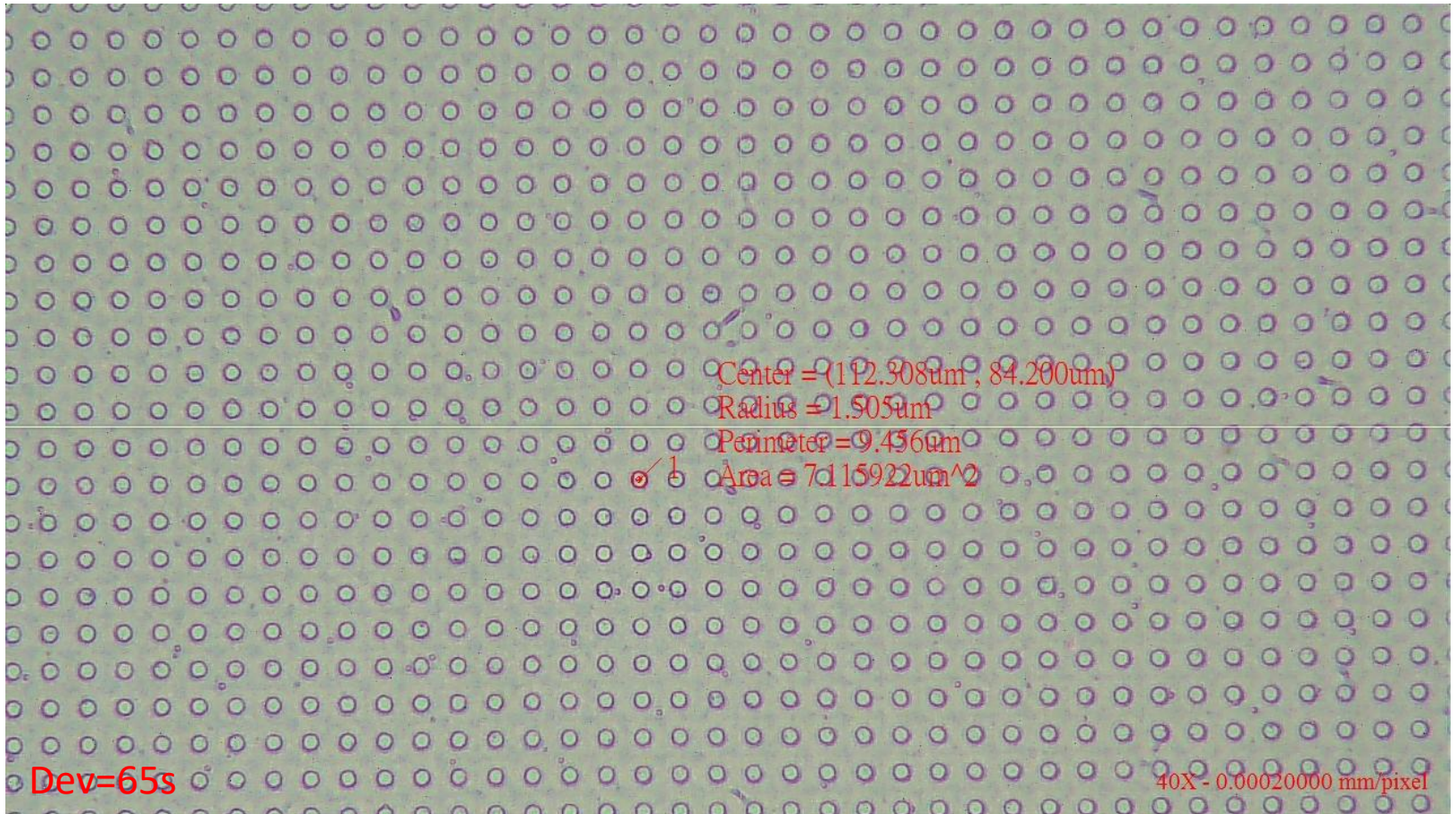
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1 μ m Pattern OM



THK=1.1 μ m, Exp. Dose=80mJ/cm², Gap=0 μ m, Dev. Time=45sec Post-bake=230 $^{\circ}$ C *30min

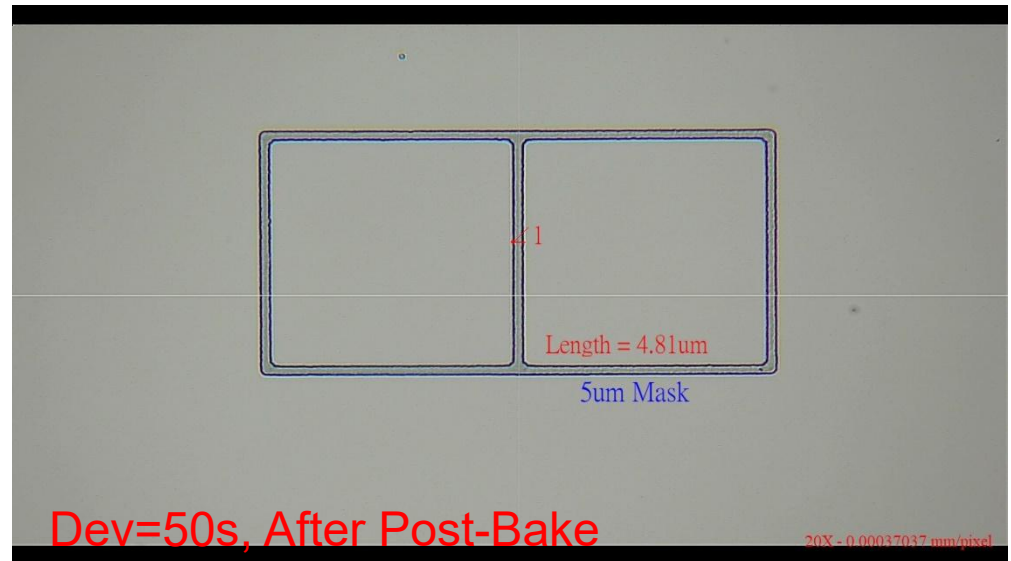
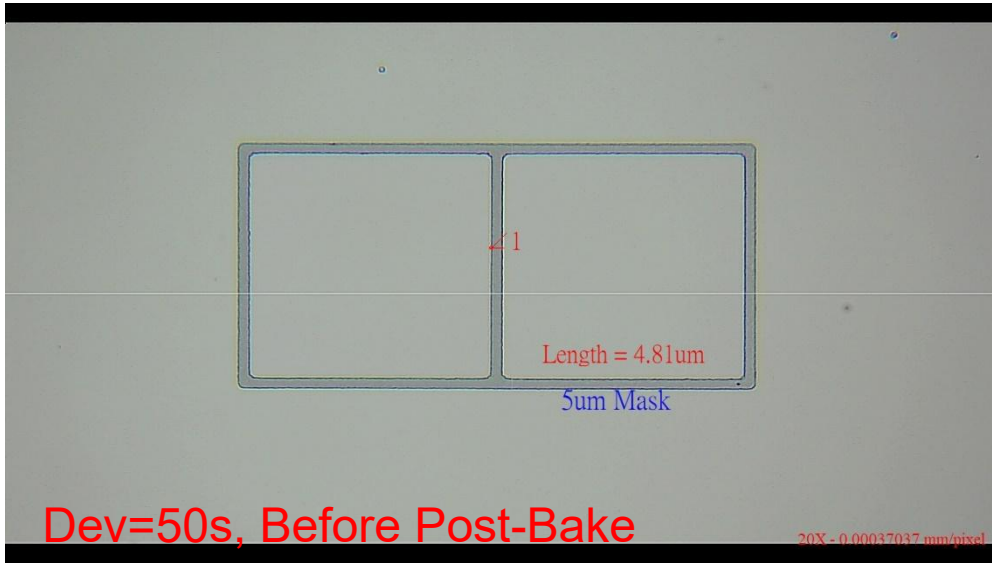
1.5 μ m Hole OM



THK=1.06 μ m, Exp. Dose=80mJ/cm², Gap=0 μ m, Postbake=230°C *30min

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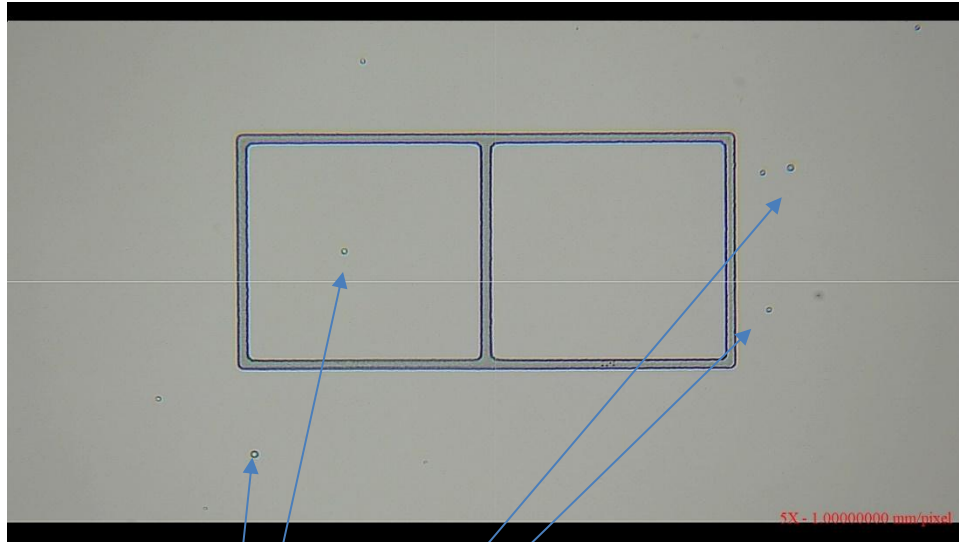
BM on 12 μ m PI Glass(with Gas Barrier) OM



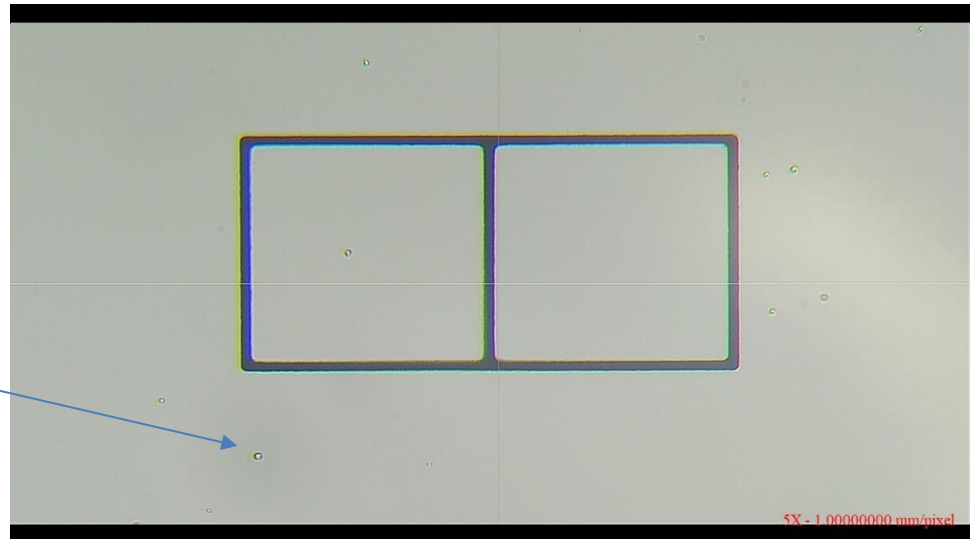
THK=1.05 μ m, Exp. Dose=80mJ/cm², Gap=30 μ m, Postbake=230 $^{\circ}$ C *30min

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BM on 12 μ m PI Glass(with Gas Barrier) OM ~ Residuals Check



Defect of PI film



THK=1.05 μ m, Exp. Dose=80mJ/cm², Gap=30 μ m, Postbake=230 $^{\circ}$ C *30min

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