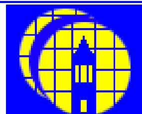
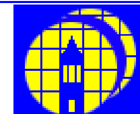


Lab Manual



Chapter 4.4

Standard g-line Photoresist Processes

Standardized g-Line Photoresists at the Marvell Nanofabrication Laboratory		
	Dow Chemical S1818	**FujiFilm OCG 825 35CS**
Thickness Range:	1.5 – 2.2 µm	1 – 2.2 µm
Spin Coat Spin Speed (RPM): Time: Dispense:	(headway1 & 2) 5500 30 sec. Static or Dynamic	(svgcoat1 & 2) 5000, 2200 30 sec. Dynamic - 500RPM
Thickness:	1.65 µm	1.3, 2.0 µm
Prebake (soft bake) Temp: Time:	Manual Hotplate 110 ºC 45 sec. Or vwr2 or Oven 95 ºC 30 min.	(hotplate on svgcoat1, 2 & 3) 90 ºC 60 sec. Or vwr2 or Oven 95 ºC 25 min.
Exposure Energy: Exp time:	(ksaligner, quintel, cannon) ~ 150 mJ/cm2 ~ 2 sec	(gcaws2) 55- 65 mJ/ cm2 ~ 0.54 sec. g-line ~ 0.65 sec. i-line
Post Exposure Bake (PEB) Program: Bake Temp: Bake Time: Chill Time:	N/A	(hotplate on svgdev1 & 2) Program 2 (PEB) 120ºC 60 sec. 6 sec.
Develop Developer: Program: Method: Temp: Time:	(msink1&2) Microposit MF-319 N/A Manual Immersion 20 ºC 60 sec.	(svgdev1 & 2) OCG 934 3:2 (premixed) Program 2 Puddle 20 ºC 50 sec. (2x25 sec.)
Rinse Method: Time:	(msink1 & 2) Manual Immersion 60 sec.	(svgdev1 & 2) Automated 40 sec.

Dry **Method:** **Time:**	(srdmsink1) Automated Rinse /Dry 5 min.	(svgdev1 & 2) Automated 20 sec.
Hard Bake **Method:** **Temp:** **Time:** **or** **UV Bake** **Method:** **Temp:** **Time:**	(vwr2 or oven) Oven 115 ºC 30 min. or Refer to UV bake System recipes (Chapter 4.34) (Chapter 4.35)	(vwr2 or oven) Oven 120 ºC 30 min. or Refer to UV bake System recipes (Chapter 4.34) (Chapter 4.35)
Strip **Stripper:** **Method:** **Temp:** **Time:**	(msink1) PRS-3000 Bath 80 ºC 5 min.	(msink1) PRS-3000 Bath 80 ºC 5 min.
Post Strip Rinse/Dry **Method:** **Time:**	(srdmsink1) Standard recipe Rinse /Dry 5 min.	(srdmsink1) Standard recipe Rinse /Dry 5 min.