Chapter 4.2

Standard DUV Photoresist Processes

Standardized DUV Photoresists at the Marvell Nanofabrication Laboratory		
	Dow Chemical **UV210-0.6**	**Dow Chemical** **UV26-3.0**
Thickness Range:	0.4 - 1.0 µm	2.6 – 5.3 µm
Spin Coat **Spin Speed (RPM):** **Time:** **Dispense:**	(svgcoat6) 7000, 1480 30 sec. Dynamic – 500 RPM	(svgcoat6) 5000, 1500 30 sec. Dynamic – 300 RPM
Thickness:	0.42, 0.90 µm	3.30, 4.70 µm
Prebake (soft bake) **Temp:** **Time:**	(proximity hotplate on svgcoat6) 130 ºC 1 min.	(proximity hotplate on svgcoat6) 130 ºC 1 min.
Exposure **Energy:**	(asml300) 15-20 mJ/cm2	(asml300) 30 - 40 mJ/cm2
Post Exposure Bake (PEB) **Program:** **Bake Temp:** **Bake Time:** **Chill Time:**	(Hotplate on svgcoat6) Program 1 130ºC 60 sec.	(Hotplate on svgcoat6) Program 1 110ºC 60 sec.
Develop **Developer:** **Program:** **Method:** **Temp:** **Time:**	(svgdev6) Rohm Haas MF-26A Program 1 spray/puddle 20 ºC 1 min.	(svgdev6) Rohm Haas MF-26A Program 1 spray/puddle 20 ºC 1 min.
Rinse **Method:** **Time:**	(svgdev6) Automated 30 sec.	(svgdev6) Automated 30 sec.
Dry **Method:** **Time:**	(svgdev6) Automated 20 sec.	(svgdev6) Automated 20 sec.

Hard Bake **Method:** **Temp:** **Time:** **or** **UV Bake** **Method:** **Temp:** **Time:**	 VWR Oven 120ºC 30 min. or Refer to UV bake System recipes (Chapter 4.34) (Chapter 4.35)	 VWR Oven 120ºC 30 min. or Refer to UV bake System recipes (Chapter 4.34) (Chapter 4.35)
Strip **Stripper:** **Method:** **Temp:** **Time:**	(msink1) PRS-3000 Bath 80ºC 5 min. Or (matrix) Plasma 2 min. 30 sec.	(msink1) PRS-3000 Bath 80ºC 10 min. Or (matrix) Plasma 2 min. 30 sec.
Post Strip Rinse/Dry **Method:** **Time:**	(srdmsink1) Standard recipe Rinse /Dry 5 min.	(srdmsink1) Standard recipe Rinse /Dry 5 min.