

ENSC Batch No. _____ Wafers Started _____ Date _____
 Material _____ Orientation _____ Size _____ Thickness _____
 Resistivity _____ Type _____
 Wafer Vendor _____ Vendor Batch # _____ SFU P.O. _____

Process Step	Process Conditions	Oper & Wafer #	Comments
___A	Prebake (Optional) 100C/ 20 min (oven). Cool to room temp before spinning photoresist.		<u>Optional</u> , depending on recent history of wafers.
___B	Spin Primer, Back Side (Optional) ShIPLEY Microposit. Flood surface. 4000 RPM. 30 seconds. Be sure chuck is clean, to avoid contaminating front of wafer.		<u>Optional Steps, Back Side Processing</u> : Back side processing, consisting of steps B(optional), C and D, is normally performed only for micromachining applications where the back of the wafer is to be processed or protected. <u>Optional Step</u> : HMDS (hexamethyldisilazane) is an adhesion promoter. Normally used only on wafers that have already been processed in EDP. Occasionally used on other wafers if resist adhesion is a problem.
___C	Spin Photoresist, Back Side (Optional) Rohm & Haas S1813. Flood surface (2-3 droppers). 4000 RPM. 30 seconds. Chuck must be clean.		<u>Optional Step, Back Side Processing</u>
___D	Soft Bake, Back Side (Optional) 100C/5min in oven OR 110C/1 min on hot plate		<u>Optional Step, Back Side Processing</u>
___E	Spin Primer, Front Side (Optional) ShIPLEY Microposit. Flood surface. 4000 RPM. 30 sec		<u>Optional Step</u> : As in Step B, primer is used only if required because of actual or potential adhesion problems. Be careful not to scratch coating on back side, if present.
___F	Spin Photoresist, Front Side Rohm & Haas S1813. Flood surface (2-3 droppers). 4000 RPM. 30 seconds.		Be careful not to scratch resist on back side, if present.
___G	Soft Bake 100C/20min in oven or 110C/1 min on hot plate		
___H	Inspect (Optional) Microscope with yellow light		<u>Optional</u> inspection for obvious resist problems
___I	Exposure Tests (Optional) If correct exposure not known.		Exposure varies with surface and mask type. An Al surface might require 8 seconds with a chrome mask and about 15 seconds with an emulsion mask. An oxide surface might require about 30 seconds with an emulsion mask. Exposure will also vary as lamp output changes with age.
___J	Align and Expose Use test results or experience.		

___K	Develop to endpoint MF319, undiluted. Room temp. Slight agitation until no more resist is being removed. About 60 seconds is typical time.		
___L	Rinse Running DI H2O for > 3 min		
___M	Dry Do not spin, unless instructor so directs. Resist contaminates chuck. Blow dry with dry N2 and bake briefly in soft bake oven if necessary.		
___N	Inspect Microscope with yellow light. Look for complete development and/or damage.		Undeveloped resist may show as deposits in corners of developed areas.
___O	Hard Bake 120C/20 min in oven OR 110C/ 90 sec on hot plate		Excessive hard bake can compromise resist strip. Too little hard bake can reduce resistance to etchants.
___P	Inspect Microscope with yellow light and measurement capability. Be sure that resist is properly exposed and developed and is in suitable condition to carry out your subsequent process steps. Measure resist critical dimensions and/or thickness, if required.		<u>Measurement optional.</u> Check lab requirements.