



Process flow title AZ nLOF 2020 on SiO₂			Revision 1.2
DTU Danchip National Center for Micro- and Nanofabrication	Contact email taran@danchip.dtu.dk		Contact person Thomas Anhøj
	Labmanager group Lithography	Batch name Litho TPT alignment	Date of creation 20160314
			Contact phone 4525 6421
			Date of revision 20210813

Objective

Batch name: Litho TPT alignment

This process flow is a guideline on how to prime, spin coat, expose, develop, and inspect 2 μm AZ MiR 701 on oxidized Si substrates using Spin Coater: Gamma UV, Aligner: MA6-2, and Developer: TMAH UV-lithography.

Step Header	Equipment	Comments
1 Spin coating of AZ nLOF 2020 with HMDS priming		
1.1 Coat wafers	Spin Coater: Gamma UV	Resist: AZ nLOF 2020 (Resist 2) HMDS priming: 15 s @ 120°C (contact angle ~70°) Spin: 30 s @ 3300 rpm (~2 μm) Softbake: 60 s @ 110 °C Sequence: (2421) DCH 100mm nLOF 2020 2um HMDS
		Substrates: Processed Si with GreenBelt N+ and GreenBelt CONTACTS layers. The surface is etched SiO ₂ (~90 nm).
2 UV Exposure		
2.1 Exposure	Aligner: MA6 – 2 or KS Aligner	Mask: GreenBelt METAL Exposure mode: Hard contact HC wait time: 10 s Alignment gap: 20 μm Exposure dose: 112 mJ/cm ² for MA6 – 2 Alignment marks: X=±43mm; Y=0mm mask:
		Exposure time: 10,2s @ 11mW/cm ² for MA6-2
		 substrate:
		
3 Development with PEB		
3.1 Develop	Developer: TMAH UV-lithography	Post Exposure Bake: 60 s @ 110°C Development in AZ 726 MIF: single puddle, 60 s Sequence: (3001) DCH 100mm PEB60s@110C+SP60s
		PEB and development is done sequentially
4 Inspection		
4.1 Inspection	Optical microscope	Inspect: Verniers (X and Y) for alignment accuracy (possible also monitor structures for resolution)
		