|  |
| --- |
| Objective |
| Batch name: Process template |
| This process flows is a guideline on how to spin coat, expose, and develop AZ nLOF 2020 on 4” substrates such as Si, SiO2 and Borofloat, using Spin Coater: Gamma UV, KS Aligner and Developer: TMAH UV-lithography.  |

|  |  |  |  |
| --- | --- | --- | --- |
| Step Heading | Equipment |  | Comments |
| 1. Pretreatment
 |  |
| * 1. Pretreatment
 | BHF dip*or*Oven: HMDS – 2 | BHF dip for Si substrates (30 s, H2O 5 min)HMDS treatment for Si, SiO2, and Borofloat**Recipe:** 01 | For Si, choose BHF or HMDS.HMDS priming can also be performed on Gamma spin coater. |
| 1. Spin coat of AZ nLOF 2020
 |  |
| * 1. Coat wafers
 | Spin Coater: Gamma UV | **Resist:** AZ nLOF 2020 (line 2)**Spin:** 30 s @ 3300 rpm (for 2µm)**Softbake:** 60 s @ 110 °C**Sequence:**(2420) DCH 100mm AZ5214E 1.5um | Use (2421) for in-line HMDS priming.Resist thickness can be measured on FilmTek |
| 1. UV Exposure
 |  |
| * 1. Exposure
 | KS AlignerorAligner: MA6 – 2 | **Mask:** your mask**Exposure mode:** Soft contact**Exposure dose:**98 mJ/cm2 for KS112 mJ/cm2 for MA6 – 2**Exposure time:**14 s @ 7 mW/cm2 for KS8.6 s @ 13 mW/cm2 for MA6 – 2 | Information on exposure dose for other thickness or aligner: http://labadviser.danchip.dtu.dk/index.php/Specific\_Process\_Knowledge/Lithography/UVExposure\_Dose |
| 1. Post Exposure Bake
 |  |
| * 1. Post Exposure Bake
 | Developer: TMAH UV-lithography | **Post Exposure Bake:** 60 s @ 110 °C**Sequences:** DCH PEB 110C 60s orDCH 100mm PEB60s@110C+SP30sDCH 100mm PEB60s@110C+SP60s | PEB and development is typically done simultaneously |
| 1. Development, Rinse, and Dry
 |  |
| * 1. Develop
 | Developer: TMAH UV-lithography | **Development in TMAH:** single puddle, 30 s or 60 s**Sequences:**DCH 100mm SP 30s DCH 100mm SP 60s orDCH 100mm PEB60s@110C+SP30sDCH 100mm PEB60s@110C+SP60s | Choose 60 s development for extra undercut (lift-off).PEB and development is typically done simultaneously |
| 1. Inspection
 |  |
| * 1. Inspection
 | Optical microscope | Inspect pattern / alignment mark / process monitor |  |