|  |
| --- |
| Objective |
| Batch name: Process template |
| This process flows is a guideline on how to spin, develop and rinse CSAR6100 on non-conducting substrates such as SiO2 and quartz. |

|  |  |  |  |
| --- | --- | --- | --- |
| Step Heading | Equipment |  | Comments |
| 1. Pretreatment | | |  |
| * 1. Surface treatment | BHF dip  *or*  HMDS | BHF dip for Si substrates (30 sec, H2O 5 min)  HMDS treatment for SiO2 and III-V substrates | Generally, pre-treatment is not recommended. |
| 1. Spin coat of ZEP | | |  |
| * 1. Coat wafers | Spin Coater | **Resist:** CSAR 6200  **Spin:** 60 sec @ 4000 rpm (~180 nm)  **Softbake:**  1 min @ 150 °C (hotplate) | Use syringe with filter or disposable pipette (cleaned by N2 gun). Softbake is not a crucial step according to AllResist |
| 1. Coat with Thermal Aluminum (only for non-conductive substrates) | | |  |
| * 1. Coat with Al | Wordentec | Thickness: 20 nm  Rate: 15 Å/S |  |
| 1. E-beam exposure | | |  |
| * 1. E-beam exposure | E-beam writer | Dose: 200 - 350 µC/cm2; a dose-test is required. See e-beam logbook for inspiration. | Dose depends strongly on substrate material, thickness of resist, critical dimension and load of pattern. |
| 1. Removal of Thermal Aluminum | | |  |
| * 1. Removal of Al | Petribowl, fumehood in D-4 | Dip in AZ 726 MIF, 60 sec.  Rinse in H2O, 5-15 sec  Blow dry with N2. | AZ 726 MIF is 2.38% TMAH in water. It is very important to rinse the wafer in water afterwards, and **not** IPA. AZ 726 MIF goes to TMAH waste bottle after use. AZ 726 MIF attacks the resists; the time of the dip should be as short as possible but not less than 50 s. |
| 1. Development & Rinse | | |  |
| * 1. Develop-ment | Petribowl, fumehood in D-4 | Develop with AR 600-546, 60 sec  Rinse in IPA, 60 sec  blow dry with N2 |  |
| 1. Lift-off and Strip | | |  |
| * 1. Lift-off | Petribowl, fumehood in D-4 | Remover AR 600-71 | USE REMOVER AR 600-71 ONLY AT ROOM TEMPERATURE |