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| Objective |
| Batch name: Process template |
| This process flows is a guideline on how to spin, develop and rinse ZEP520A on substrates as Si, SiO2 and SOI. If you have a non-conducting substrate, you should add a dissipating charge layer on top of your resist, e.g. a thin layer of Al. See LabAdviser for help. |

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| Step Heading | Equipment | **ZEP spinning on Si, SiO2, SOI** | 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 by ZEON. |
| 1. Spin coat of ZEP | | |  |
| * 1. Coat wafers | Spin Coater | **Resist:** ZEP520A  **Spin:** 60 sec @ 4000 rpm (~100 nm)  **Softbake:**  Si, SiO2, III-V: 2 min @ 180 °C (hotplate)  Pyrex: 5 min @ 180 °C (hotplate) | Use filter on syringe when dispensing the resist.  Modify the spin parameters to get a thinner/thicker resist. |
| 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. Development & Rinse | | |  |
| * 1. Develop-ment | Petribowl, fumehood in D-4 | Develop with N50, 60 sec, use agitation (by hand).  Rinse in IPA.  Blow dry with N2. | Dose depends on how you develop; make sure you develop in same manner as after dose-test. |
| 1. De-scum | | |  |
| * 1. De-scum | BHF dip | BHF dip for Si substrates (30 sec, H2O 5 min).  (Never use plasma ash as de-scum, as such a process could generate particles on substrate). | De-scum generally not recommended. If residues appear, optimize dose, development and rinse process. |
| 1. Postbake (in case of wet etching) | | |  |
| * 1. Postbake | Hotplate | Postbake: 2 - 3 min @ 100 - 140 °C |  |
| 1. Lift-off and Strip | | |  |
| * 1. Lift-off | Petribowl, fumehood in D-4 | Remover 1165 in petribowl. |  |