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| Objective |
| Batch name: Process template |
| This process is a guideline on how to spin, develop and rinse CSAR62 on substrates as Si, SiO2 and SOI.  CSAR is a semi chemically amplified e-beam resist. The resist has been approved to carry into DTU Danchip cleanroom, but this flow has not been tested or optimized. |

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| 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 CSAR | | |  |
| * 1. Coat wafers | Manual Spinner 1, or Spin coater LabSpin | **Resist:** CSAR (AR-P 6200, AllResist)  **Spin:** 60 sec @ 4000 rpm (for appr. 180 nm)  **Softbake:** 1-2 min @ 150 oC | Use syringe with filter or disposable pipette (cleaned by N2 gun). Softbake not a crucial step according to AllResist |
| 1. E-beam exposure | | |  |
| * 1. E-beam exposure | E-beam writer | Dose: 250 - 350 µC/cm2; a dose-test is required. See e-beam logbook and LabAdviser for inspiration. | Dose depends strongly on substrate material, thickness of resist, critical dimension and load of pattern. |
| 1. Development & Rinse | | |  |
| * 1. Develop-ment | Developer (E-beam fumehood) | Develop with X AR 600-546, 30-60 sec  Rinse in IPA, 60 sec  blow dry with N2  (alternative developer MIBK:IPA (1:3)) | 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. Lift-off and Strip | | |  |
| * 1. Lift-off | Petribowl, E-beam  Fumehood | Remover AR 600-71 | Dioxolane based remover – USE REMOVER ONLY AT ROOM TEMPERATURE |