

Process for creating 4" carrier wafer (for pieces) for use in the PT HDP-CVD:

1. Deposit 500 loops of ALD Al₂O₃ (200C, plasma) on a 4" Si wafer.
2. Spin nLOF 2020 in the class 1 spinner room, at 3000 RPM, 50 RPM/s, 50s. Soft bake at 115C for 60s.
3. Put wafer onto a contact aligner (e.g., ABM) with a 3-inch wafer on top, centered on the 4" wafer.
4. Expose for 2s.
5. Remove 3" wafer.
6. Do a post-exposure bake of the 4" wafer at 115C for 60s.
7. Develop in MIF 726 for 60s.
8. Perform a wet etch in 6:1 BOE for 60s. This will clear aluminum oxide from the center of the wafer.
9. Strip resist by sonicating in acetone for 10 minutes, followed by an IPA and DI rinse.
10. On the HDP-CVD, run an endpoint clean on the 4" wafer for 60 minutes. This will etch the center of the wafer to a depth of about 80 um, sufficient to handle pieces.
11. Perform a wet etch in 6:1 BOE for 60s to remove the remaining aluminum oxide.