

**Recipes:**

A. Resist Type: PMMA (+ve) e-beam resist

Supplier order code: NANO 950 PMMA A4 (4% solid contents)

Molecular weight: 950 K

Solvent: in Anisole

Dehydration bake: 1 minutes at 170 deg.

Spinning: Program G on PMMA spinner

Speed: 4000rpm, Speed: 3000 rpm (for lift-off) [Please check the data sheet if one needs some other resist thickness]

Pre bake: 90 sec at 180 deg.

Exposure:

Acc voltage: 10KV

Dose: 80uC/cm<sup>2</sup>

Write field: 100um

Developer: IPA: MIBK::3:1, developing time: 30 s

Stopper: 2-propanol (IPA) pure, Stopping time: 15 s

Dry: with a low-nitrogen flow

PMMA thickness vs RPM

| Speed (rpm) | Thickness (nm) |
|-------------|----------------|
| 1500        | 754.75         |
| 2000        | 517.685        |
| 2500        | 275.0025       |
| 3000        | 247.435        |
| 3500        | 232.66         |
| 4000        | 212.62         |

B. Resist Type: HSQ (-ve) e-beam resist

Supplier order code: Dow Corning XR -1541 - 6%

Solvent: MIBK

Dehydration bake: 15 minutes at 170 deg.

Spinning: Program H on spinner 2

Speed: 4000rpm

Pre bake: 2 min at 250 deg.

Exposure:

Acc voltage: 10KV

Dose: 200uC/cm<sup>2</sup>

Write field: 100um

Developer: 25% TMAH , Developing time: 15s

Rinse: Flowing DI-Water, Rinsing time: 30s

Dry: with a low-nitrogen flow.