Futurrex NR9-3000PY Lift-Off Photoresist
Exposure Characterization
Negative Resist NR9-3000PY is a negative tone photoresist designed for 365 nm wavelength exposure, using tools such as wafer steppers, scanning projection aligners, proximity printers and contact printers.

After resist development NR9-3000PY exhibits a negative-sloping resist sidewall profile, which facilitates a simple resist lift-off process.

These are advantages of NR9-3000PY over other resists:
- superior resolution capability
- fast develop time
- easy adjustment of the degree of resist undercut as a function of exposure energy
- temperature resistance of up to 100°C
- easy resist removal in Resist Remover RR5
- shelf life exceeding 3 years at room temperature storage

The formulation and processing of NR9-3000PY were designed with regard to occupational and environmental safety. The principal solvent in NR9-3000PY is cyclohexanone and development of NR9-3000PY is accomplished in a basic water solution.
application(s)

- Futurrex NR9-3000PY is used for lift-off purposes for any metallization deposition process below 100°C.
- The following SEM image is of NR9-3000PY geared for thicker lift-off applications at approximately 5µm thickness:
characterization test conditions

- Futurrex Negative Lift-Off Photoresist NR9-3000PY
  - 3 µm thickness
  - Spin Coat at 3000 rpm
  - Post Coat Bake 120°C / 60 s
- ASML / 80 i-line Stepper at 0.48 NA
  - Energy – 0 to 1000 mJ, steps 100 mJ
  - Focus – 0.0 µm, constant
- Futurrex RD6 Developer
  - Post Exposure Bake 120°C / 60 s
  - Develop time 30 s, immersion with mild agitation
  - DI rinse & air dry
- Bare Silicon Wafers
NR9-3000PY exposure matrix

220mj

240mj

260mj

280mj

300mj

320mj

340mj

360mj

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linewidth control

- Futurrex Negative Lift-Off Photoresist NR9-3000PY
- Linewidth Control: 360mJ/cm² to 280mJ/cm²