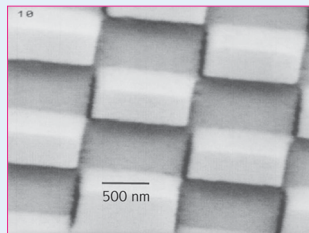
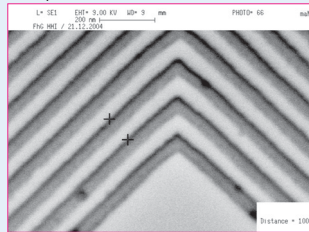


ma-N 2400 — Negative Tone Photoresist Series

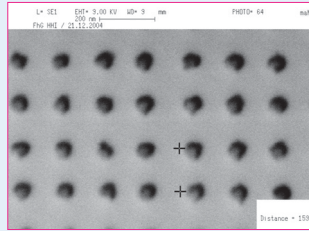
E-Beam and Deep UV Sensitive



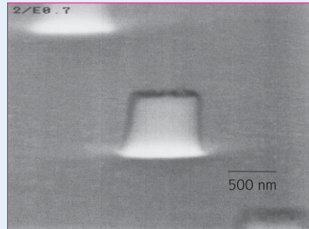
Chess pattern, 300 nm thickness, e-beam



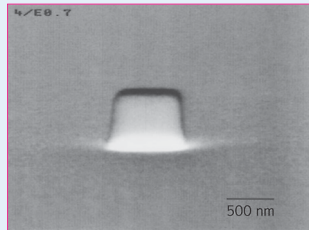
50 nm L&S, 100 nm thickness, e-beam



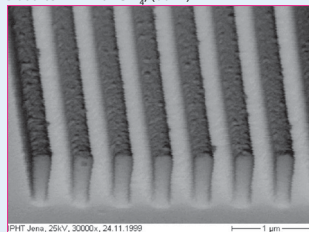
50 nm dots, 100 nm thickness, e-beam



800 nm dots, 750 nm thickness, e-beam



Dot after RIE with CF₄ (60 W)



250 nm L&S, 800 nm thickness

(Courtesy of FHG - HHI / IPHT Jena)

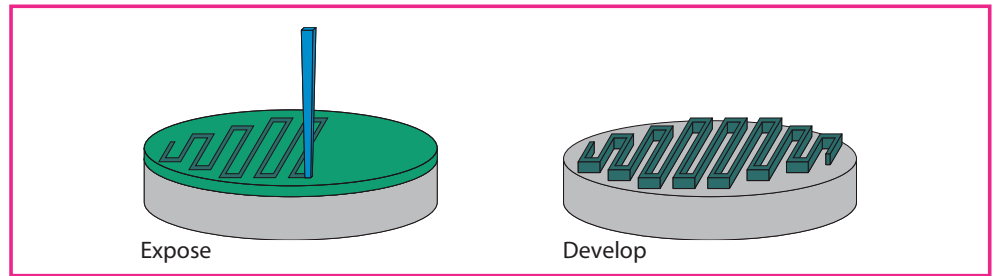
Unique features

- High wet and dry etch resistance
- Good thermal stability
- Excellent pattern resolution - down to 30 nm
- Aqueous alkaline development
- Easy to remove
- Resists available in a variety of viscosities

Applications

- Manufacturing of semiconductor devices
- Use in micro- and nanoelectronics
- Mask for etching, e.g. Si, SiO₂, Si₃N₄ or metals
- Mask for ion implantation
- Stamp fabrication for NIL

ma-N 2400 is well suited for e-beam exposure



Technical data

Resist		ma-N 2401	ma-N 2403	ma-N 2405	ma-N 2410
Film thickness	nm	100	300	500	1000
Spin coating	rpm/ s	3000/ 30			
Exposure dose - E-beam 20 keV ¹	μC cm ⁻²	120 - 200	170 - 235	170 - 250	- (D ₀ = 80) ³
Exposure dose - E-beam 50 keV ¹	μC cm ⁻²	120 - 260	120 - 300	150 - 350	-
Exposure dose - Deep UV ²	mJ cm ⁻²	-	260	330	420
Pattern resolution	E-beam	nm	50	100	150
	Deep UV	nm	< 50	200	300

¹ exposure dose depends on the pattern size/ resolution

² broadband exposure, intensity measured at 260nm

³ clearing dose

