



PerMX3000 series

Multi Purpose High Resolution Permanent Photoresist

Photoimageable Permanent Dry Film Resist

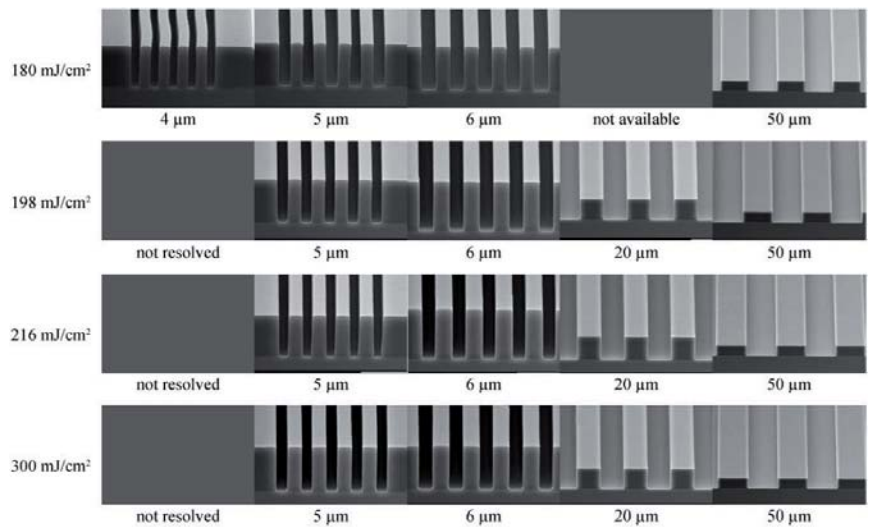
- Epoxy based
- Thickness 20 μm , 50 μm

Process

- Solvent developable
- i-line (365nm) exposure
- Low temperature curing system

Performance

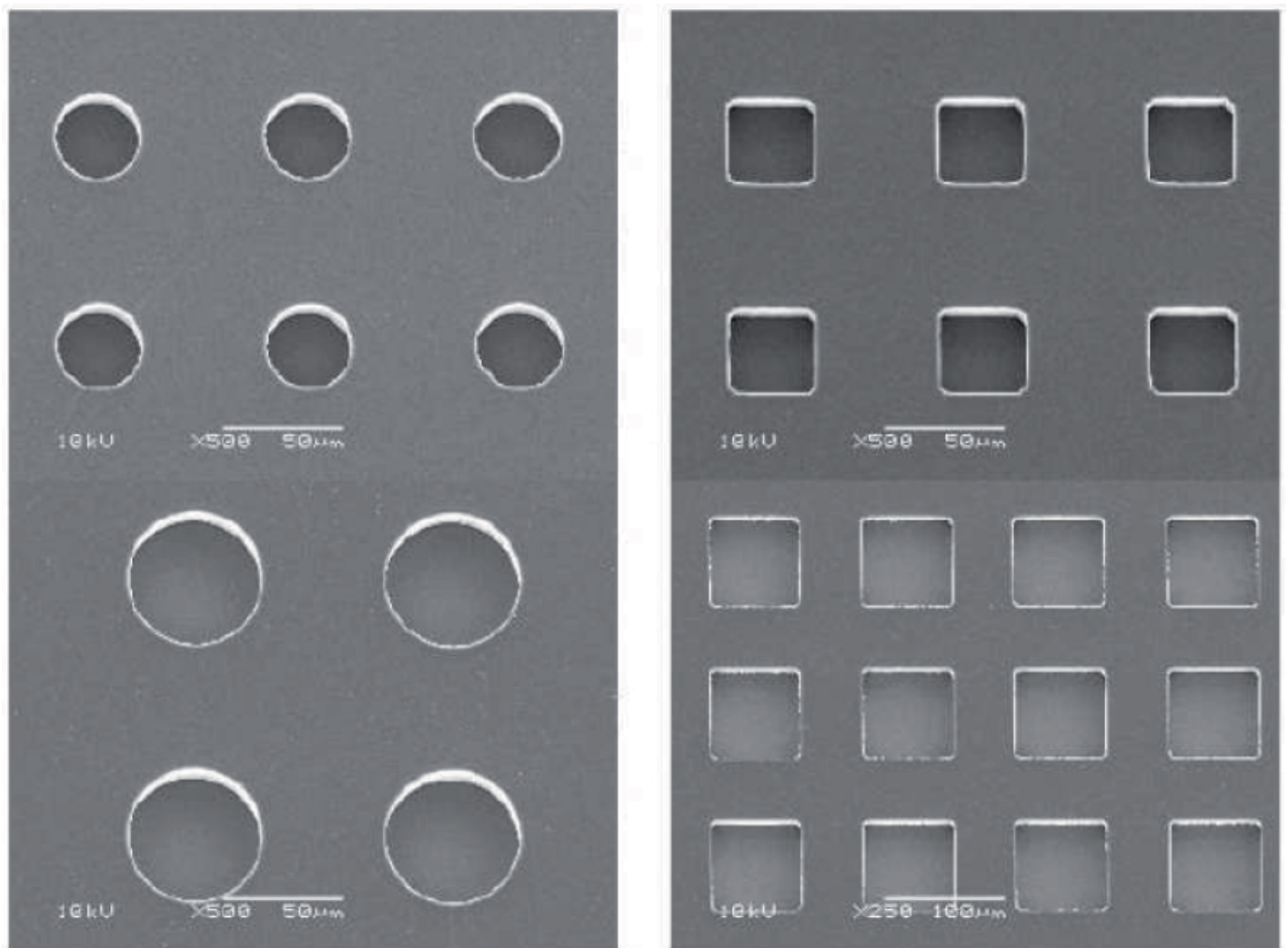
- High resolution
- Good adhesion on several surface
- Good Bonding Capability
- Chlorine free



		PerMX3000
Base Material		Epoxy
Process	Lamination	Hot roll 50 ~ 90 °C with 100 °C Blade
	Expose	i-line is preferred for high resolution and good side wall shape
	Post Exposure Bake	60 °C, 10 min
	Development	<ul style="list-style-type: none"> • PGMEA • IPA rinse • Dipping or Puddle
	Post Dev Bake	150 °C 30 min
	Hardbake	250 °C 60 min

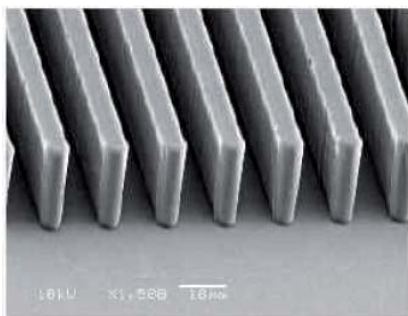
- Innovative corrosion-free, negative tone, photoimageable epoxy resist for cavity and wafer bonding applications
- High resolution, high performance vertical sidewalls and excellent thermal resistance
- Very low total chlorine content providing excellent corrosion resistance to sensitive surfaces such as aluminium and copper
- Excellent adhesion, high tensile strength, toughness and flexibility as well as reduced stress and low mobile ion content

Circular and square cavity arrays in 20 μm thick PerMX3020 film

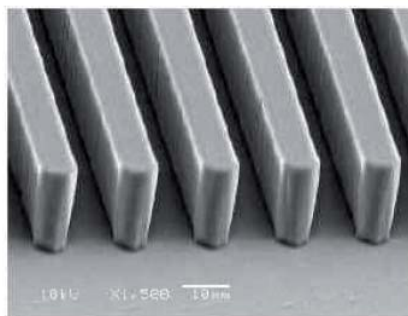


Resolution of 20 μm thick PerMX3020 film

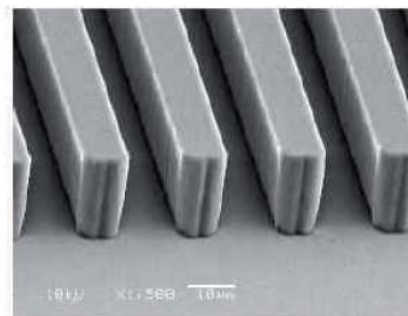
5μm L&S



8μm L&S



10μm L&S



Key Physical Properties

Table 1. Mechanical, Electrical and Environmental Performance Specs (after cure at 150 °C, 30 min)

	PerMX3000	Measuring Method
T _g , max tan δ	120°C	DMA
T _g , TMA inflection	105°C	TMA
5% wt loss temp	346°C	TGA
CTE, ppm	72	TGA
Shrinkage X/Y, Z, %	< 1 %	CD, FT loss
Residual stress, MPa	3.3	Wafer bow
Adhesion, MPa		ASTM, shear
Si	42	
Cu	40	
Al/Cu	39	
Au	30	
Glass, borosilicate	44	

Key Electrical and Film Properties

Table 2. Mechanical, Electrical and Environmental Performance Specs (after cure at 150 °C, 30 min)

	PerMX3000	Measuring Method
Dielectric Constant	3.2	ASTM D150-98
Dielectric Loss, Tan δ	0.0032	ASTM D150-98
Dielectric Strength, KV/mm	220	ASTM D149-97A/ JIS C2 110
Volume Resistivity, Ω cm	2.8 x 10 ¹⁶	ASTM D150-98 D257-07
Surface Resistivity, Ω / square	7.5 x 10 ¹⁶	ASTM D150-98 D257-07
Corrosion, HAST 85 %/ 85 %/ 100 h		JEDEC
Cu	pass	
Al/ 1 % Cu	pass	
Total Chlorine, ppm	<100	carbitorl
Mobile Metal ions, ppm		ICP-AES
Na, Fe, Ni, Cr	<100 ppb detection limit	
Al, B, Ca, cu, Pb, K, Li	<200 ppb detection limit	