

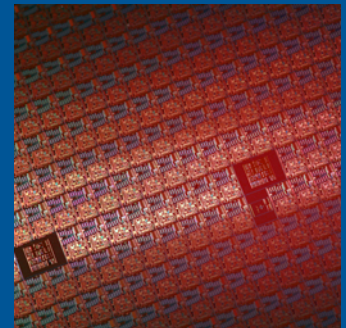


Accelerating the next technology revolution

Outgas round robin test

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Background

- During IEUVI Resist TWG meeting at SPIE, it was noted by one of the chip manufacturers that there are some materials that are failing outgas testing on one testing tool, yet the same material passes on another tool.
- Proposed action items
 - Round robin outgas testing
 - A comparison study of outgas testing on all of the available tools
 - Materials that failed at one site, yet passed at another

Process and certification status

- Wafer processing is under control
 - no adhesion issues
 - hot plates are uniform and controlled
- HMDS during processing
- Data that shows the following 3 items:
 1. chamber and cleaner background is ok
 2. dose uniformity is in spec
 3. CG repro is in spec
- Test material distribution from the same batch

First Round Robin Test Result



	E0			CG		
Site	Resist 1	Resist 2	<i>units</i>	Resist 1	Resist 2	<i>units</i>
1	4.18	2.72	mJ/cm ²	1.9	1.81	nm
2	4.16	5.75	mJ/cm ²	2.82	2.41	nm
3	0.98	1.04	μC/cm ²	2.58	2.75	nm
4	2.24	1.93	μC/cm ²	3.72	1.85	nm
5	4.4	4.7	mJ/cm ²	2.5	NA	nm

Proposed action items



- More round robin test data
 - Suggested by resist suppliers, including calibration materials (requested participation)
- Data analysis with participated tool sites
 - Resolve non-matching results
 - Possible variable items comparison on each site
 - Provide follow-up data and results at the next TWG meeting