

Thin Film Deposition

Noble Metal

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Material class:	Silicon X	Polymer	Metal	Ceramic	Glass X	Organic	Other
Short technology description:	<p>Because of the noble character of Pt and Au these materials are not easy to etch. We have the capability of ion beam etching with SIMS end-point detector. Homogeneous thin films are key for successful ion beam etching and can be obtained in a high-end deposition system with 12" sputter targets. For structuring an ASML i-line stepper is available, with the option of back-side alignment enabling double-sided processing.</p> <p>Within this installation the following additional technologies are included</p> <ul style="list-style-type: none"> - Contact aligner lithography - PAS5000/100 Stepper, including back-side alignment option - Veeco Nexus Cluster Tool, targets are Cr, Ti, Ta, W, TiW, Al, ZnO/Al, AlSi, C, Si, Mo, Cu, Pt, Au. This also includes reactive sputtering of TiN, AlN, Al₂O₃, SiO₂ and Ta₂O₅. <p>Applications:</p> <ul style="list-style-type: none"> - Healthcare applications require that fluids and tissue are in contact with non-corrosive materials. - Heating elements, Pt electrodes for high-temperature materials, temperature sensors (TCR). 						
Typical structures and designs:				<p>Thin film deposition: 10-1000 nm</p> <ul style="list-style-type: none"> - Minimum features size (Litho and Etch): 0.02 um (e-beam), 0.4 um i-line (stepper) 			
Special features:	- End-point detection, 3D align						
Limitations, constraints:	- 150mm wafers						
Material examples:	- Pt, Au						