

LGA Thin Films[®], Inc.

Vacuum Deposition Specialists

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LGA Thin Films[®] provides custom sputtering and e-gun evaporation services.

R&D and production serving these industries:

Biomedical, biotechnology

Ultrasound

DNA sequencing

Medical devices and implants

Diagnostics and therapeutics

MEMS, instrumentation, sensors, microelectronics, displays

Energy storage and conversion

Solar, optical

Aerospace

Government labs, universities

Customer-furnished substrates that we have coated:

Silicon

Compound semiconductors

Glass, including fused silica, borosilicate, and soda-lime

Ceramics, including alumina and aluminum nitride

Sapphire

Plastics and polymers, including foils

Metal foils and plates

PZT

Wafers patterned with lift-off photoresist

Wafers with cantilevers and deep-etched topographies

Available Materials and Processes

	Sputtered Films	Evaporated Films
Conductive metals	Al, Au, Ag, Cu	Al, Au, Ag, Cu
Aluminum alloys	Al-1%Si, Al-.5%Si, Al-1%Cu, Al-1%Cu- 1%Si, Al-1%Cu-.5%Si	
Adhesion metals	Cr, Ti, Ti-90%W	Cr, Ti
Refractory metals	Mo, Nb, Ta, W, Hf	Mo, W
Platinum group metals	Pt	Pt, Pd, Ir, Ru
Magnetic metals	Ni, Fe, Co, Co-20%Cr	Ni, Fe, Co
Non-magnetic alloys	Ni-20%Cr, Ni-7%V	Ni-20%Cr
Other alloys	Ti-50%Ni, CoCrAlY	
Soft metals		In, Sn
Semiconductors	Si, Ge	Si, Ge
Nitrides (reactively sputtered)	SiN, TiN, TaN, TaSi ₂ N, Ta ₅ Si ₃ N, BN	
Oxides	SiO ₂ , Al ₂ O ₃ , TiO ₂ CrSiO, AZO, GITO, YSZ, Borosilicate	SiO ₂ , Al ₂ O ₃ , TiO ₂ , HfO ₂ , Ta ₂ O ₅ , Y ₂ O ₃ , In ₂ O ₃ , SnO ₂ , Ga ₂ O ₃ , SiO, MgO, CeO ₂
TCO	ITO	ITO
Carbon, Carbide	C, SiC	
Silicides	TaSi ₂ , Ta ₅ Si ₃	
Fluorides		CaF ₂ , MgF ₂ , BaF ₂ , LaF ₃ , YF ₃
Chalcogenide	Ge ₂ Sb ₂ Te ₅	

New materials may be added upon request.

Physical Vapor Deposition Equipment

4 sputtering systems with load locks (for R&D and production). All systems have 3 target positions and provide in-situ argon sputter etch.

2 E-gun evaporation systems with 4-pocket or 8-pocket hearths.

All systems are cryo-pumped.

Stylus profiler for film thickness measurements (100Å minimum).

Four-point probe for sheet resistance measurements.

Film stress measurement system (3" or 100mm dia wafers).

UV-VIS spectrometer for 220 to 1,100nm wavelength range.