



EN-A1 and AQ Synthetic Quartz for Life Science Applications

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GLASS

AGC's EN-A1 material is formulated for high-transmissivity and with a highly polished surface, allowing for highly sensitive photo detection techniques. EN-A1 exhibits minimum interaction with diagnostic chemicals when used for micro reactors, micro arrays, detectors and Micro Total Analysis (MicroTAS).

EN-A1 is an excellent substrate for micro pumps, micro reactors and cover glass for diagnostic micro arrays. It utilizes a variety of photonic and electrical detection techniques of biological targets, DNA and proteins.

Because EN-A1 is highly transmissive in the region between 400-800 nm, it exhibits an excellent signal-to-noise ratio. EN-A1 is the ideal choice for detection techniques which utilize fluorescing marker molecules. EN-A1 can be drilled and wet etched using congenital tools to provide extremely accurate micro features.

EN-A1 is available in a variety of surface polishes for applications ranging from micro arrays to micro pumps. The highly polished surface allows for nano reactions at the pico level with a minimum of turbulence and tribological friction.

SYNTHETIC QUARTZ

AGC's AQ Synthetic Quartz is formulated to exacting purity standards and is highly inert to all biological and process chemicals in the Life Science industry. Coupled with a 2 angstrom surface roughness and high transmissive properties, AQ provides for a very stable substrate for all Lab on a Chip (LOAC) applications.



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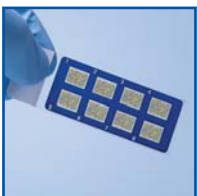
MATERIAL PROPERTIES

		Measurement	EN-A1	AQ
Mechanical	Density	g/cm ³	2.51	2.20
	Young's Modulus	GPa	77	74
	Shear Modulus	GPa		
	Poisson's Ratio		0.22	
	Vickers Hardness			
	Surface Roughness	nm	0.5	2
Thermal	CTE	(50-250°C) x 10 ⁻⁷ / °C	38	5
	Glass Transition	°C	720	1200
	Softening Point	°C	950	1600
	Annealing Point	°C		
	Strain Point	°C		1000
Optical	Refractive Index	Nd	1.52	1.46
	Photoelastic Constant	nm/cm Mpa		
Electrical	Volume resistivity	log (Ω • cm)	13.6	12.5

WAFER AVAILABILITY

	EN-A1	AQ
Diameter Available ¹	100, 150, 200	100, 150, 200
Standard Thickness	0.3, 0.4, 0.5, 0.7	0.3, 0.725, 1.040
Surface Roughness Å	10	0.2 nm

Notes: ¹Custom Diameter available. Please call the factory.



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