

Substrate Types and Specifications

Substrate Types	"A" Surface (CLA)	"B" Surface (CLA)
Asfired Alumina (Al ₂ O ₃) 99.6%	< 3μ" (76nm)	< 4μ" (100nm)
Polished Alumina (Al ₂ O ₃) 99.6%	< 1.0μ" (25nm)	< 1.0μ" (25nm)
Superstrate TPS (Al ₂ O ₃)	< 1.0μ" (25nm)	< 1.0μ" (25nm)
Aluminum Nitride (AlN)	< 4.0μ" (100nm)	< 4.0μ" (100nm)
Beryllium Oxide (BeO)	< 4.0μ" (100nm)	< 4.0μ" (100nm)
Fused Silica, Quartz (SiO ₂), Z-Cut Quartz	60/40 optical polish	60/40 optical polish
Sapphire (a/c plane-Al ₂ O ₃)	< 1.0μ" (25nm)	< 1.0μ" (25nm)
Ferrites and Garnets	< 16.0μ" (406nm)	< 16.0μ" (406nm)
Polished Titanates	< 4μ" (100nm)	< 4μ" (100nm)

Material Thicknesses and Tolerances available and in stock.

Other materials and thicknesses are available upon request. Please contact our sales department for more information. Some materials may only be available in certain panel sizes and may not represent large volume pricing.

Alumina Asfired (Al₂O₃) 99.6%

0.005" (0.127mm)	±0.0005" (0.0127mm)
0.008" (0.203mm)	±0.0010" (0.0254mm)
0.010" (0.254mm)	±0.0010" (0.0254mm)
0.012" (0.305mm)	±0.0012" (0.0309mm)
0.015" (0.381mm)	±0.0015" (0.0381mm)
0.020" (0.508mm)	±0.0020" (0.0508mm)
0.025" (0.635mm)	±0.0025" (0.0635mm)
0.030" (0.762mm)	±0.0030" (0.0762mm)
0.040" (1.016mm)	±0.0040" (0.1016mm)
0.050" (1.270mm)	±0.0050" (0.1270mm)

While standard thickness tolerance is ±10%, ATP does stock some premium tolerances that are much tighter than 10%.

Beryllium Oxide (BeO)

270 Watts/m²K

0.005" (0.127mm)	±0.0005" (0.0127mm)
0.010" (0.254mm)	±0.0005" (0.0127mm)
0.015" (0.381mm)	±0.0005" (0.0127mm)
0.020" (0.508mm)	±0.0005" (0.0127mm)
0.025" (0.635mm)	±0.0005" (0.0127mm)
0.030" (0.762mm)	±0.0005" (0.0127mm)
0.0394" (1.000mm)	±0.0005" (0.0127mm)
0.060" (1.524mm)	±0.001" (0.0254mm)
0.085" (2.159mm)	±0.001" (0.0254mm)
0.103" (2.616mm)	±0.001" (0.0254mm)
0.125" (3.175mm)	±0.001" (0.0254mm)

325 Watts/m²K

0.010" (0.254mm)	±0.0005" (0.0127mm)
0.015" (0.381mm)	±0.0005" (0.0127mm)
0.098" (2.489mm)	±0.0005" (0.0127mm)

Z-Cut Quartz (SiO₂)

0.005" (0.127mm)	±0.0005" (0.0127mm)
0.010" (0.254mm)	±0.0005" (0.0127mm)
0.015" (0.381mm)	±0.0005" (0.0127mm)

Alumina Polished (Al₂O₃) 99.6%

0.002" (0.051mm)	±0.0005" (0.0127mm)
0.003" (0.076mm)	±0.0005" (0.0127mm)
0.0035" (0.089mm)	±0.0005" (0.0127mm)
0.004" (0.101mm)	±0.0005" (0.0127mm)
0.005" (0.127mm)	±0.0005" (0.0127mm)
0.006" (0.152mm)	±0.0005" (0.0127mm)
0.007" (0.178mm)	±0.0005" (0.0127mm)
0.008" (0.203mm)	±0.0005" (0.0127mm)
0.009" (0.229mm)	±0.0005" (0.0127mm)
0.010" (0.254mm)	±0.0005" (0.0127mm)
0.011" (0.279mm)	±0.0005" (0.0127mm)
0.012" (0.305mm)	±0.0005" (0.0127mm)
0.015" (0.381mm)	±0.0005" (0.0127mm)
0.016" (0.406mm)	±0.0005" (0.0127mm)
0.020" (0.508mm)	±0.0005" (0.0127mm)
0.025" (0.635mm)	±0.0005" (0.0127mm)
0.030" (0.762mm)	±0.0005" (0.0127mm)
0.031" (0.787mm)	±0.0005" (0.0127mm)
0.035" (0.889mm)	±0.0005" (0.0127mm)
0.040" (1.016mm)	±0.0005" (0.0127mm)
0.042" (1.067mm)	±0.0005" (0.0127mm)
0.045" (1.143mm)	±0.0005" (0.0127mm)
0.0492" (1.250mm)	±0.0005" (0.0127mm)
0.050" (1.270mm)	±0.0005" (0.0127mm)
0.0512" (1.300mm)	±0.0005" (0.0127mm)
0.060" (1.524mm)	±0.0005" (0.0127mm)
0.0787" (1.999mm)	±0.0005" (0.0127mm)

Hi-K Dielectric

36 Zirconium Tin Titanate

0.010" (0.254mm)	±0.0005" (0.0127mm)
0.015" (0.381mm)	±0.0005" (0.0127mm)

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0.010" (0.254mm)	±0.0004" (0.0102mm)
0.015" (0.381mm)	±0.0004" (0.0102mm)

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0.005" (0.127mm)	±0.0004" (0.0102mm)
0.010" (0.254mm)	±0.0004" (0.0102mm)

Fused Silica, Quartz (SiO₂)

0.002" (0.051mm)	±0.0005" (0.0025mm)
0.003" (0.076mm)	±0.0005" (0.0127mm)
0.004" (0.101mm)	±0.0005" (0.0127mm)
0.005" (0.127mm)	±0.0005" (0.0127mm)
0.007" (0.178mm)	±0.0005" (0.0127mm)
0.010" (0.254mm)	±0.0005" (0.0127mm)
0.012" (0.305mm)	±0.0005" (0.0127mm)
0.015" (0.381mm)	±0.0005" (0.0127mm)
0.018" (0.457mm)	±0.0005" (0.0127mm)
0.020" (0.508mm)	±0.0005" (0.0127mm)
0.025" (0.635mm)	±0.0005" (0.0127mm)
0.030" (0.762mm)	±0.0010" (0.0254mm)
0.035" (0.889mm)	±0.0010" (0.0254mm)
0.040" (1.016mm)	±0.0010" (0.0254mm)
0.048" (1.219mm)	±0.0010" (0.0254mm)
0.060" (1.524mm)	±0.0010" (0.0254mm)
0.075" (1.905mm)	±0.0010" (0.0254mm)

Sapphire (a/c plane-Al₂O₃)

0.005" (0.127mm)	±0.0005" (0.0127mm) [a]
0.015" (0.381mm)	±0.0005" (0.0127mm) [c]
0.025" (0.635mm)	±0.0005" (0.0127mm) [c]

Superstrate TPS (Al₂O₃)

0.010" (0.254mm)	±0.0005" (0.0127mm)
0.015" (0.381mm)	±0.0005" (0.0127mm)

Ferrites and Garnets

Ask Sales Department for more information.

0.015" (0.381mm)	±0.0005" (0.0127mm)
0.025" (0.635mm)	±0.0005" (0.0127mm)

Substrate Types and Specifications (Continued)

Aluminum Nitride (AlN)

170 Watts/m²K

0.004"	(0.101mm)	±0.0005"	(0.0127mm)	0.0472"	(1.199mm)	±0.0005"	(0.0127mm)
0.005"	(0.127mm)	±0.0005"	(0.0127mm)	0.0492"	(1.250mm)	±0.0005"	(0.0127mm)
0.006"	(0.152mm)	±0.0005"	(0.0127mm)	0.050"	(1.270mm)	±0.0005"	(0.0127mm)
0.007"	(0.178mm)	±0.0005"	(0.0127mm)	0.0511"	(1.298mm)	±0.0005"	(0.0127mm)
0.007086"	(0.180mm)	±0.0005"	(0.0127mm)	0.05118"	(1.300mm)	±0.0005"	(0.0127mm)
0.008"	(0.203mm)	±0.0005"	(0.0127mm)	0.053"	(1.346mm)	±0.0005"	(0.0127mm)
0.009"	(0.229mm)	±0.0005"	(0.0127mm)	0.0571"	(1.450mm)	±0.0005"	(0.0127mm)
0.010"	(0.254mm)	±0.0005"	(0.0127mm)	0.0581"	(1.476mm)	±0.0005"	(0.0127mm)
0.0118"	(0.299mm)	±0.0005"	(0.0127mm)	0.0594"	(1.508mm)	±0.0005"	(0.0127mm)
0.014"	(0.356mm)	±0.0005"	(0.0127mm)	0.060"	(1.524mm)	±0.0005"	(0.0127mm)
0.015"	(0.381mm)	±0.0005"	(0.0127mm)	0.065"	(1.651mm)	±0.0005"	(0.0127mm)
0.017"	(0.432mm)	±0.0005"	(0.0127mm)	0.069"	(1.753mm)	±0.0005"	(0.0127mm)
0.018"	(0.457mm)	±0.0005"	(0.0127mm)	0.080"	(2.032mm)	±0.0005"	(0.0127mm)
0.020"	(0.508mm)	±0.0005"	(0.0127mm)	0.084"	(2.134mm)	±0.0005"	(0.0127mm)
0.025"	(0.635mm)	±0.0005"	(0.0127mm)	0.085"	(2.159mm)	±0.0005"	(0.0127mm)
0.0275"	(0.699mm)	±0.0005"	(0.0127mm)	0.090"	(2.286mm)	±0.0005"	(0.0127mm)
0.030"	(0.762mm)	±0.0005"	(0.0127mm)	200 Watts/m²K			
0.031"	(0.787mm)	±0.0005"	(0.0127mm)	0.005"	(0.127mm)	±0.0005"	(0.0127mm)
0.035"	(0.889mm)	±0.0005"	(0.0127mm)	0.010"	(0.254mm)	±0.0005"	(0.0127mm)
0.0362"	(0.919mm)	±0.0005"	(0.0127mm)	0.015"	(0.381mm)	±0.0005"	(0.0127mm)
0.040"	(1.016mm)	±0.0005"	(0.0127mm)	0.0155"	(0.394mm)	±0.0005"	(0.0127mm)
0.0468"	(1.189mm)	±0.0005"	(0.0127mm)	0.020"	(0.508mm)	±0.0005"	(0.0127mm)
				0.025"	(0.635mm)	±0.0005"	(0.0127mm)



Common Sizes

Sizes below are squares. Common sizes may only be available in certain materials and certain thicknesses. Please contact your ATP sales representative for unlisted sizes and availability.

