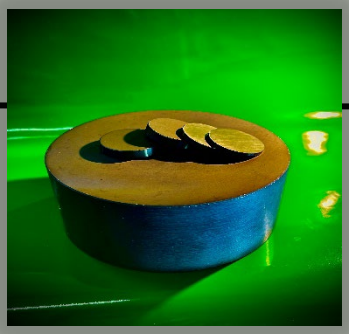
MATERIAL PROPERTIES & SPECIFICATIONS



Silicon (Si) Windows

Fairfield Crystal's silicon windows (Si) are manufactured from optical grade silicon and are designed to be used in precision optical systems for the 1.2 - 7µm spectral region. Due to its low cost and low-density silicon is ideal for weight sensitive applications. The optical transmission is high with little or no distortion of the transmitted signal. Circumference is ground and both edges are beveled. Windows do not have an anti-reflection coating. It is a material of choice for infrared optical elements in a variety of applications from infrared night vision to infrared thermal imaging systems. It is commonly used as a substrate material for infrared reflectors and silicon is frequently used for laser mirrors because of its high thermal conductivity.

	Silicon	
Physical properties		
Density	**2.3296gm/cc**	
Melting Point	**1410 deg C**	
Thermal Expansion	**2.5 x 10-6K-1 @ 293K**	
Youngs Modulus (E)	**Up to 188 GPa**	
Hardness	**11270 N/mm2**	
Crystal Structure	**Diamond- cubic**	
Refractive Index	**3.4223 @ 5 µm**	
Thermal Conductivity	**500 W/mK**	

Substance	Form	Diameter Range	Thickness Range	Transmission Range (µm)	Finish
Silicon	Single Crystal	10 to 75mm	1 to 10 mm*	1.2 to 7.00	40/20 S/D**

* Special orders available **
Standard finish – other finish available upon request

8 SOUTH END PLAZA ● NEW MILFORD, CT ● 06776-4200
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