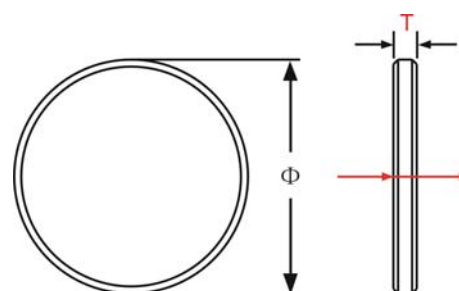
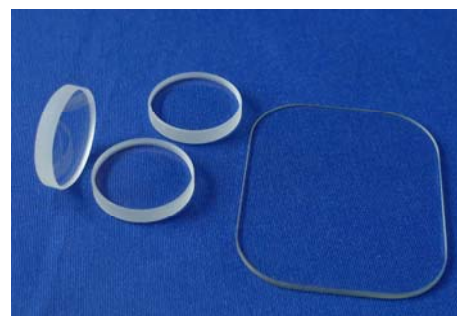


Optical Windows

● Windows

Windows are applied to isolate different physical environments while allowing light to pass. When selecting windows, it's important to consider materials, transmission, scattering, wavefront distortion, parallelism and resistance to certain environment. WTS offers all kinds of windows, which are made from different materials. Windows of special sizes and materials are available upon requirement.

Single layer or multiplayer anti-reflecting or high-reflecting coating on optical windows are available upon customer's requirement.



Windows Materials Properties

Material	Properties	Application
N-BK7	Transmission range:330-2100nm Refractive index:1.5168@588nm	Good performance over visible and near IR spectrum for most application.
Fused Silica	Transmission range:185-2500nm Refractive index: 1.45847@589.3nm Low thermal expansion coefficient	Better performance from UV to IR spectrum.Also,it's the best choice for resistance thermal application.
Sapphire	Transmission range:180-4500nm Refractive index: 1.755@1000nm Strong hardness	Suit for scratch resistance application with better transmission.
CaF2	Transmission range:170-7800nm Refractive index: 1.399@5000nm Little hygroscopic susceptibility High thermal expansion coefficient	It is applicable for wide rang spectrumand it's particularly useful for IR laser application.
MgF2	Transmission range:120-7000nm Refractive index: 1.376@700nm	It is applicable for wide range spectrum, and it is particularly useful for Excimer laser application.
Silicon	Transmission range: 1.2-100um Refractive index: 3.422@5um	It is widely used in IR sensors, thermal image, medical, and optical measurement systems.
Germanium	Transmission range: 1.9-17um Refractive index: 4.004@10um	Mainly are used in semiconductor etc IR optics.

Note: Other window materials: Pyrex, Float glass, B270, Borofloat, ZnSe ,etc.

<http://www.wts-photonics.com>

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Optical Windows

● All Surfaces Polished Glass Cube

Our company offers the glass cube with all the surfaces polished by advanced polishing technic. The high surface quality as 20-10 (scratch –dig), flatness as better than $\lambda/10$ are achievable.



Single Plate Window

Specifications	Standard	High precision
Material	BK7, B270, Float Glass , CaF2, Ge, Si, Sapphire, Fused Silica, etc.	
Dimension Tolerance	+0.0, -0.15mm	+0.0, -0.05mm
Thickness Tolerance	±0.2mm	±0.05mm
Surface Quality	60-40 (scratch –dig)	20-10 (scratch –dig)
Flatness	$\lambda/2$ per 25mm @ 632.8nm	$\lambda/10$ per 25mm @ 632.8nm
Parallelism	<1 arc mins	<10 arc secs
Clear Aperture	>85%	>90%
Bevel	<0.25mmx45deg.	
Coating	Upon requirement	

All Surfaces Polished Glass Cube

Specifications	Standard	High precision
Material	BK7, Fused Silica ,Sapphire, etc.	
Dimension Tolerance	+0.0, -0.10mm	+0.0, -0.02mm
Surface Quality	60-40 (scratch –dig)	20-10 (scratch –dig)
Flatness	$\lambda/2$ per 25mm @ 632.8nm	$\lambda/10$ per 25mm @ 632.8nm
Parallelism	<1 arc mins	<10 arc secs
Clear Aperture	>90%	>95%
Beve	<0.25mmx45deg.	No Bevel
Chip	<0.2mm	<0.05mm
Coating	Upon requirement	