

Categories:

- ▶ Prisms
- ▶ Windows
- ▶ Lenses
- ▶ Beamsplitters
- ▶ Waveplates
- ▶ Polarizers
- ▶ Mirrors
- ▶ Filters

Prisms

Prisms come in many shapes and sizes though the most commonly used is a triangular geometric prism. Made from a single block of optical material, Prisms are designed to deflect, deviate or disperse light. Prisms can be made from a range of materials such as glass, plastic and fluorite. The design, in other words, the geometry of the prism determines how light will react after it enters the component and therefore is very important when choosing the right prism.

Sinoptix offers various optical Prisms solutions and provides custom manufacturing to meet individual requirements.



(Optical components according to ISO-10110 or your own local drawings)

Specifications:

- Material: N-BK7, UV Fused silica, Borofloat, Pyrex, Ge, ZnSe, Other optical glasses from Schott or CDGM.
- Dimension Tolerance: $\pm 0.05\text{mm}$
- Thickness Tolerance: $\pm 0.005\text{mm}$
- Clear Aperture: 90% of central circular dimension
- Surface Flatness: $\lambda/10@633\text{nm}$ over clear aperture
- Surface Quality: 20/10
- Bevel: $0.3\text{mm} \times 45^\circ$
- Chamfer: min $0.10\text{mm} \times 45^\circ$ (angle is optional)
- Size (ϕ): 3mm and up

Type:

- Right angle Prisms
- Corner retroreflectors
- Wedge Prisms
- Penta Prisms
- Rhomboid Prisms
- Dove Prisms
- Equilateral Dispersing Prisms
- Anamorphic Prisms
- Roof Prisms
- Light Pipes or Homogenizing Rods
- Mounted Prisms
- Porro Prisms

Coatings:

- Antireflection:
 - single wavelength band
 - Dual wavelength band
 - Broadband wavelength
 - Wide-angle AR

Windows

Windows are applied as a barrier to retain various physical environments such as rain, wind, water and more. Used as isolators they prevent environments from mixing. Whilst being strong and resistant the optical beam must be able to pass the optical window with little hindrance and therefore have a low wavefront, distortion and scatter rate. The ideal window allows the optical beam to pass unimpeded and unchanged with high durability.

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Specifications:

- Material: N-BK7, Fused silica, Borosilicate, Pyrex, zero-expansion glass, Al, Silicon, Ge, Other optical glasses from Schott or CDGM.
- Dimension Tolerance: $\pm 0.05\text{mm}$
- Thickness Tolerance: $\pm 0.02\text{mm}$
- Clear Aperture: $>90\%$ of central diameter
- Surface Flatness: $\lambda/10@633\text{nm}$
- Surface Quality: 20/10
- Bevel: $0.30\text{mm} \times 45^\circ$ (angle is optional)
- Size (ϕ): 3 to 200mm or larger

Type:

- Square Windows
- Circle Windows
- Elips Windows
- Rectangular Windows

Coatings:

- | | |
|--|---|
| • Antireflection:
single wavelength band
Dual wavelength band
Broadband wavelength
Wide-angle AR | • Beamsplitter:
Laser Line Polarization Beamsplitter
Metal Beamsplitter
Dielectric film Beamsplitter |
| • Partial Reflection:
Narrow Band pass filter
Broadband pass filter | • Reflection:
Dielectric High Reflective Coatings
Metallic High Reflective Coatings |

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Lenses

Optical Lenses are optical components designed to focus or diverge light through the means of various available shapes (Biconvex, plano convex, biconcave, etc). Given the various shapes it is important to take into consideration features such as the lens shape according to the desired wave-front distortion, the material, transmission, scatter rate and the coating in order to acquire the desired result.

Sinoptix offers various optical Lenses solutions and provides custom manufacturing to meet individual requirements.



(Optical components according to ISO-10110 or your own local drawings)

Specifications:

- Material: N-BK7, SK9, BaF53, K7, BK3, Other optical glasses from Schott or CDGM.
- Dimension Tolerance: +/-0.10 mm
- Thickness Tolerance: +/-0.10 mm
- Centration: ± 3 arc min
- Clear Aperture: >85%
- Surface Flatness: N=2, N=0.5
- Surface Quality: 20/10
- Chamfer: 0.25mmx45°
- Size (ϕ): 3 to 260mm or larger

Coatings:

- Antireflection:
 - MgF2
 - VIS
 - UV-AR
 - UV-VIS
 - UV-NIR
- Protected metal coating:
 - Protected coating
 - Hard carbon coating
 - UV hard AL coating
 - Protected golden coating

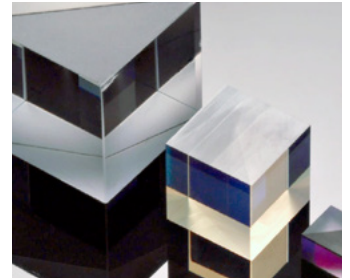
Type:

- Plano-Convex Lenses
- Plano-Concave Lenses
- Double-Convex Lenses
- Double-Concave Lenses
- Convex-Concave Lenses
- Plano-Convex Cylindrical Lenses
- Plano-Concave Cylindrical Lenses
- Achromatic Lenses (Doublets)
- Triplet Lenses
- Rods (light pipes)
- Ball Lenses
- Powell Lenses
- Fresnel Lenses
- Plastic Lenses

Beamsplitters

An Optical Beamsplitter as its name clearly points out is used in order to split a beam of light in two distinct beams yet sharing the same attributes. Cube Beamsplitters are high quality splitters with the internal diagonal face being the splitter. Beamsplitters have various advantages including their easier mounting process as well as their splitting face being protected inside the cube. The light can be split by percentage of overall intensity, wavelength, or polarization state depending on its usage.

Sinoptix offers various optical Beamsplitter solutions and provides custom manufacturing to meet individual requirements.



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Specifications:

- Material: N-BK7, N-SF5, N-SF11, Fused silica, CaF₂, ZnSe, Other optical glasses from Schott, CDGM.
- Dimension Tolerance: +/-0.05mm
- Thickness Tolerance: +/-0.01mm-0.1mm
- Clear Aperture: >90%
- Surface Flatness: $\lambda/4$, @632.8nm
- Surface Quality: 40/20
- Beam Deviation: ± 3 arc mins
- Bevel: 0.3mmx45
- Size (ϕ): 3mm and up

Type:

- Beamsplitters Cube
- Beamsplitters Plate
- Dichroic Beamsplitters
- Polarization Beamsplitters
- Non-Polarizing Beamsplitters
- Polarization Beamsplitter + Waveplate
- Displacement Beamsplitters

Coatings:

- Antireflection:
 - MgF₂
 - UV-VIS
 - UV-NIR
 - VIS - IR
 - R/T



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Waveplates

Waveplates transmit light and modify its polarization state without attenuating, deviating, or displacing the beam. This is performed by delaying one component of polarization with respect to its orthogonal component. Waveplates can be used in a number of application including Polarization, Measurement & Control, Laser Research, Spectroscopy, Nonlinear Optics, OPO, Femtosecond Lasers and more.

Sinoptix offers various optical Waveplates solutions and provides custom manufacturing to meet individual requirements.



(Optical components according to ISO-10110 or your own local drawings)

Specifications:

- Material: Quartz, B270 or other upon request.
- Dimension Tolerance: +/-0.10 mm
- Thickness Tolerance: +/-0.10 mm
- Diameter tolerance $\pm 2.5\mu\text{m}$
- Parallelism: <1 arc second
- Clear Aperture: >90%
- Surface Flatness: $\lambda/8@633\text{nm}$
- Surface Quality: 20/10
- Chamfer: 0.25mmx45°
- Size (ϕ): 3 to 200mm or larger

Type:

- Zero order Waveplates
- Multiple order Waveplates
- True Zero order Waveplates
- Dual wavelength Waveplates
- Achromatic Waveplates

Coatings:

- Antireflection:
 - single wavelength band
 - Dual wavelength band
 - Broadband wavelength
 - Wide-angle AR

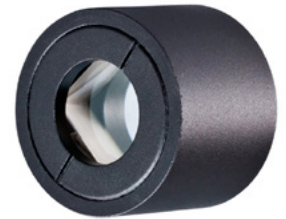
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Polarizers

A polarizer changes electromagnetic energy, such as visible light, from a mixed, or unpolarized beam into a single polarized beam. There are two types of polarizers, absorptive and beam splitting. An absorptive polarizer filters out the unwanted beams by absorbing them, and leaves behind just the desirable ones. On the other hand a beam-splitting polarizer as its name suggests splits a beam into two opposing polarizations.

Sinoptix offers various optical Polarizers solutions and provides custom manufacturing to meet individual requirements.



(Optical components according to ISO-10110 or your own local drawings)

Specifications:

- Material: Calcit, YVO4, BK7, CaF2, BaF2, ZnSe, Ge, Fused silica, B270, Other optical glasses from Schott or CDGM.
- Dimension Tolerance: +0.0,-0.1
- Thickness Tolerance:
- Beam Deviation <3 arc minutes
- Clear Aperture: Central 90%
- Damage Threshold: >500 MW/cm2
- Surface Flatness: $\lambda/4@632.8\text{nm}$
- Surface Quality: 20/10
- Mount Black Anodized Aluminium

Type:

- Glan-Taylor Polarizers
- Glan-Thompson Polarizers
- Glan Laser Polarizer
- Wollaston Polarizers
- Rochon Polarizers
- Dichroic polarizers
- Crystal polarizers
- Linear polarizers

Coatings:

- Antireflection:
 - single wavelength band
 - Dual wavelength band
 - Broadband wavelength
 - Wide-angle AR

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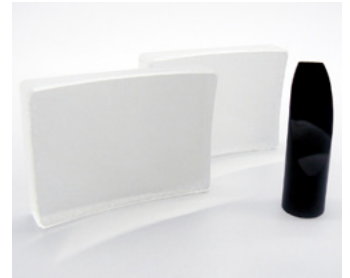
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Mirrors

Mirrors are commonly used to redirect, image and focus light. They come in various shapes and sizes and can be manufactured from a wide range of materials. Their reflective properties depend on the wavelength, angle of incidence and polarization of the incident light. Sinoptix provides a great deal of optical mirror solutions for various applications. If you are looking for specific customizations please contact us directly.

Sinoptix offers various optical Mirrors solutions and provides custom manufacturing to meet individual requirements.



(Optical components according to ISO-10110 or your own local drawings)

Specifications:

- Materials: N-BK7, Fused silica, Borofloat 33, Pyrex, CaF₂, BaF₂, Sapphire, B270, Other optical glasses from Schott and CDGM.
- Dimension Tolerance: $\pm 0.05\text{mm}$
- Thickness Tolerance: $\pm 0.02\text{mm}$
- Parallelism best: 0.01mm
- Clear Aperture: $>90\%$ of central diameter
- Surface Flatness: $\lambda/10@633\text{nm}$
- Surface Quality: 20/10
- Bevel: $0.30\text{mm} \times 45^\circ$ (angle is optional)
- Size (ϕ): 3 to 200mm or larger
- Chamfer: min $0.10\text{mm} \times 45^\circ$ (angle is optional)

Type:

- Flat Mirrors
- Laser Mirrors
- IR Mirrors
- Focusing concave Mirrors
- Specialty mirrors

Coatings:

- Reflection Coating:
 - Protected Aluminum
 - Enhanced Aluminum
 - Protected Silver
 - Protected Gold
 - Dielectric
 - Hard carbon

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Filters

Filters have the simple yet important property of altering the beam of light that enters it. Filters can either change the overall intensity of the beam without affecting its spectral content or they can equally change or separate the spectral content of the beam through wavelength-selective absorption or reflection. To achieve the desired optical performance, optical filters are designed with one or more thin film layers where each layer consists of a specific material and thickness to acquire the desired results.

Sinoptix offers various optical Filters solutions and provides custom manufacturing to meet individual requirements.



(Optical components according to ISO-10110 or your own local drawings)

Specifications:

- Material: BK7, B270, Fused silica, Color glass from Schott or CDGM.
- Dimension Tolerance: +/-0.05mm
- Thickness Tolerance: +/-0.01mm-0.1mm
- Parallelism: 3 arcmin
- Clear Aperture: >90%
- Surface Flatness: $\lambda/4@632.8\text{nm}$
- Surface Quality: 20-10
- Chamfer: 0.25x45
- Size (ϕ): 3mm and up

Type:

- Colored glass Filters
- Interference Filters
- Bandpass Filters
- Longpass Edge Filters
- Shortpass Edge Filters
- Notch Filters
- Dichroic Filters

Coatings:

- | | |
|--|--|
| <ul style="list-style-type: none"> • Antireflection:
single wavelength band
Dual wavelength band
Broadband wavelength
Wide-angle AR | <ul style="list-style-type: none"> • Beamsplitter:
Laser Line Polarization Beamsplitter
Metal Beamsplitter
Dielectric film Beamsplitter |
| <ul style="list-style-type: none"> • Partial Reflection:
Narrow Band pass filter
Broadband pass filter | <ul style="list-style-type: none"> • Reflection:
Dielectric High Reflective Coatings
Metallic High Reflective Coatings |