



Located in Fuzhou, a coastal city in South East China, FOCtek has become one of China's leading manufacturers of optical components, crystal components and optical assemblies, lens assemblies. Founded in 2002, FOCtek has had a strong and steady growth that has lead us to today's staff of over 1300 comprised of a very skilled team of fabricators, mechanical engineers, process engineers, optical engineers and coating designers.

Our manufacturing capabilities consist of all types of custom manufactured lens, Beam Splitters, Polarizing Optics, Prisms, Filters, Laser Crystals, NLO Crystals, Coatings, Optical Assemblies, Optical Systems, and Optical Systems Solutions. The products are widely used in non-contact inspection, medical, automation, precision instruments, Automotive, Military, Semiconductor, Micro-measuring systems, Biometric Systems, Surveying Equipment, Security, CCTV, and Machine Vision.

Sales have been global since the first year in operation. Europe, North America, Japan and Korea are most of the current customers base areas we supply. Dependable quality, delivery and competitive pricing has partnered FOCtek with many well establish World Famous Enterprises such as, TRUMPF, Magna Mirror, Thorlabs, ABB, EXFO Electro-Optical Engineering Inc., Nova Measuring Instruments Limited, Litron Laser, Renishaw and so on.

FOCtek owns facility of 17,500 square meters in Fuzhou which is included a 2,000 square meters clean room for our coating center, metrology lab, lens assembly and special fabrication needs. Since 2012, FOCtek has invested 50 million USD to establish a wholly owned subsidiary which owns factory building area of 100K square meters designed to meet our present and future needs in Sanming. The Phase I has been finished in May 2014, and now can reach capacity of 5 million lens components and 800K pieces lens assemblies per month.

FOCtek always pay highest attention on product quality and production capacity. Our advanced fabricating equipments include Spherical Milling Machines, CNC Plano Milling Machines, Precision Polishing Machines, High Speed Polishing Machine, CNC Profiling Machines, LEYBOLD Vacuum Coaters, Optron Coaters and Ultrasonic Cleaning Lines.

Quality is first for FOCtek and always the key to our success. Foctek has the most advanced metrology instruments, include ZYGO GPI Interferometers, 3D digital CMM, Trioptics OptoSpheric Lens measurement system, Trioptics Prism Master 0.5" Angle measurer, Lambda 950 Spectrophotometer, Trioptics Image Master MTF Measurer. With these advanced metrology instrument and impeccable quality assurance system, FOCtek was ISO9001, ISO14001 and ISO/TS:16949 certified with SGS.

As a company, Foctek is committed to growth and development. Our cooperative relationship with Local Universities and research centers, such as Fujian Normal University, Fuzhou University and Fujian Optical technology research Institute, enhances our Engineering and R&D techniques.



Continue >>>

The co-established Joint Laboratory of optical technology between FOCtek and Fujian Normal University supports FOCtek with new project and development. Foctek was awarded the “Hi-tech Manufacturer” by the Fujian province. FOCtek also owns several patents in Polarization Optics, Optical technologies and Optical system.

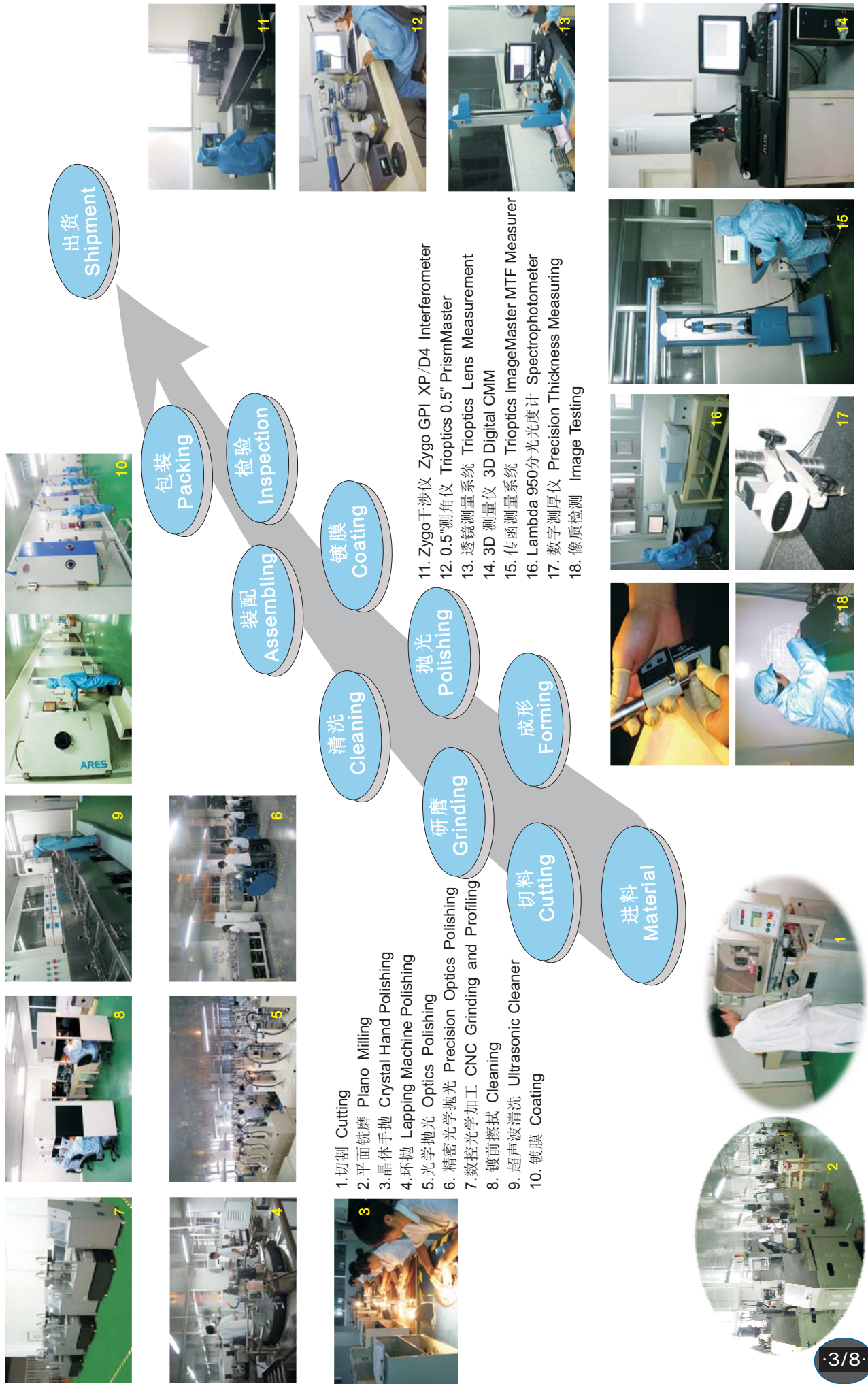
With the concept of “Strict Management, Continuous Innovation, Continuous Improvement, Customer Satisfaction”, FOCtek is committed to deliver customers with Quality Products, On-time Delivery, Competitive Pricing. Foctek focuses on producing high precision optical components; The goal at FOCtek is to be your first choice of partner supplier of optical components.

Quality Products

Competitive Price

On-time Delivery

Value the Optics to Customers



PART 1 OPTICAL COMPONENTS

1.1	Optical Material -----	1
1.2	Window -----	2
1.21	N-BK7 Window -----	2
1.22	Fused Silica Window -----	3
1.23	Sapphire Window-----	3
1.24	CaF ₂ Window -----	4
1.25	Silicon Window -----	4
1.26	Borofloat Window -----	5
1.27	Borosilicate(Pyrex) Window -----	5
1.3	Prism -----	6
1.31	Right Angle Prism -----	6
1.32	Penta Prism -----	8
1.33	Corner Cube Retroreflector -----	10
1.34	Dove Prism -----	11
1.35	Reflection Prism -----	12
1.36	Dispersion Prism -----	14
1.37	Anamorphic Prism -----	16
1.38	RGB(Philips) Prism-----	17
1.4	Beamsplitter -----	18
1.41	Beamsplitter Plate -----	18
1.42	Cube Beamsplitter -----	19
1.43	Non-Polarization Cube Beamsplitter-----	20
1.44	Other Beamsplitter-----	21
1.5	Lens -----	22
1.51	Spheric Lens -----	22
1.52	Achromatic Lens -----	24
1.53	Cylindrical Lens-----	25
1.6	Mirror -----	26
1.7	Filter -----	27
1.71	Color Glass Filter -----	27
1.72	Interference Filter -----	28
1.73	Neutral Density Filter -----	29
1.74	Dielectric Coating Filter-----	30
1.8	IPL Product -----	31
1.81	IPL Filter -----	31
1.82	IPL Light Guide -----	31

1.9 Special Shape Optics -----	32
1.10 Optical Cemented Components-----	33

PART 2 OPTICAL ASSEMBLIES

2.1 Precision Optical Assemblies-----	37
---------------------------------------	----

PART 3 POLARIZATION OPTICS

3.1 Birefringent Crystal Material -----	41
3.2 Optical Polarizer -----	42
3.21 Glan Taylor Polarizer -----	44
3.22 Glan Laser Polarizer -----	47
3.23 High Transmission Glan Polarizer -----	49
3.24 Glan Thompson Polarizer -----	50
3.25 Broadband DUV Polarizer(200-3300nm) -----	52
3.26 Glan Thompson PBS -----	53
3.27 Wollaston Polarizer -----	54
3.28 Rochon Polarizer -----	57
3.29 Broadband Polarization Beam Combiner -----	60
3.3 Polarization Beamsplitter Cube -----	61
3.31 High Extinction Polarization Beamsplitter Cube-----	62
3.32 High Power Polarization Beamsplitter Cube-----	63
3.4 Depolarizer -----	64
3.41 Quartz Silica Wedge Depolarizer -----	64
3.42 Advanced Quartz Lyot Depolarizer -----	65
3.5 Babinet Compensator -----	66
3.6 Rotator -----	68
3.61 Variable Rotator -----	68
3.62 Polarization Rotator -----	69
3.7 Waveplate -----	70
3.71 Zero order Waveplate -----	71
3.72 Low(Multi) order Waveplate -----	75
3.73 Dual Wavelength Waveplate -----	77
3.74 Achromatic Waveplate -----	78

PART 4 CRYSTAL COMPONENTS

4.1 Laser Material -----	80
4.11 Nd:GdVO ₄ -----	80
4.12 Nd:YVO ₄ -----	82
4.13 Nd:YAG -----	85
4.14 Ti:Sapphire -----	87
4.15 Er:Phosphate Glass -----	88
4.16 Nd:Phosphate Glass -----	89
4.2 Passive Crystal -----	90
4.21 Cr ⁴⁺ :YAG -----	90
4.3 NLO Crystal -----	91
4.31 BBO -----	93
4.32 KTP -----	96
4.33 LiNbO ₃ -----	99
4.4 Birefringent Crystal -----	100
4.41 YVO ₄ -----	101
4.42 α-BBO -----	102
4.43 Calcite -----	103
4.5 Electro-Optics Crystal -----	104
4.51 BBO, KTP -----	105

PART 5 OPTICAL COATING

5.1 Anti Reflection Coating -----	109
5.2 Polarization Beamsplitter Coating -----	111
5.3 Partial Reflection Coating -----	112
5.4 High Reflection Coating -----	113
5.41 Dielectric HR Coating -----	113
5.42 Metallic Reflective Coating -----	113
5.5 Diode Pump Laser Optics Coating -----	114

PART 6 HOLDER

6.1 Beamsplitter Holder -----	117
6.2 Waveplate Holder -----	118
6.3 Crystal Holder -----	119

PART 1

OPTICAL COMPONENTS

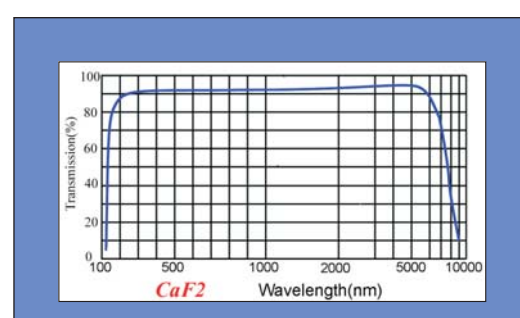
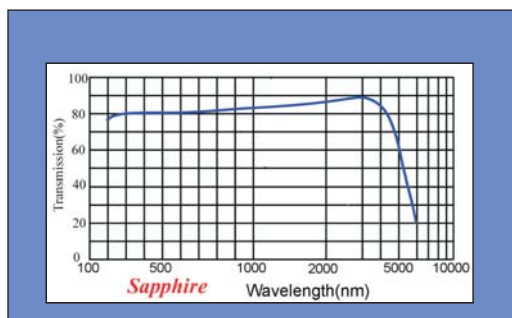
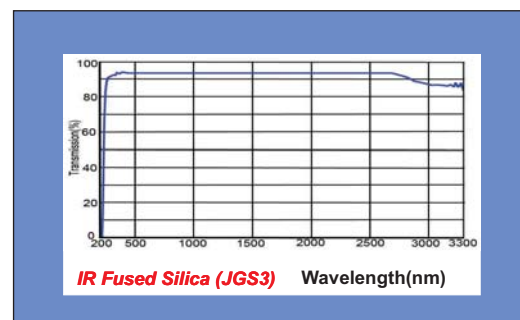
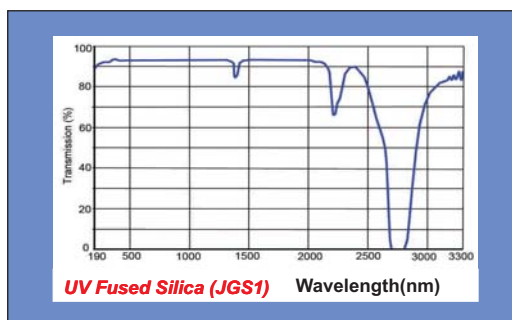
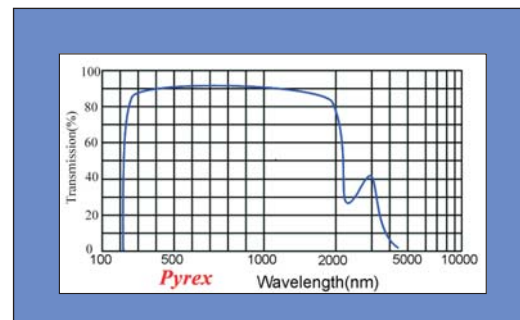
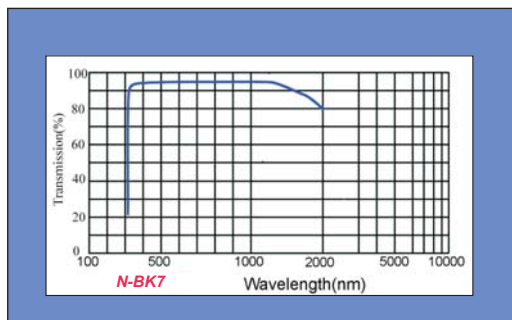


FOCtek has capability in manufacturing various optical components with a wide variety of optical materials. Selecting an optical material is important since each material has different optical characteristics, such as transmission versus wavelength, index of refraction, thermal, mechanical, chemical characteristics and so on.

Many glass manufacturers offer the same material characteristics under different trade names. Based on availability, we reserve the right to substitute an equivalent glass in our production runs.

Herewith, the most common materials FOCtek used:

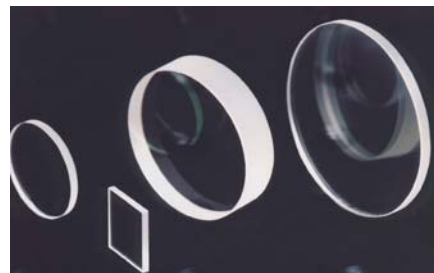
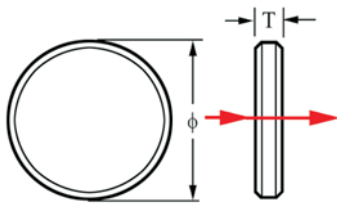
Materials	Refractive Index (nd)	Abbe Number (Vd)	Density (g/cm ³)	Transmission Range (μm)	Thermal Expansion Coefficient (10 ⁻⁶ /K)
N-BK7	1.5168	64.2	2.52	0.33 - 2.10	7.5
N-SF5	1.6726	32.17	4.08	0.33 - 2.50	8.2
N-SF11	1.78472	25.76	4.87	0.37 - 2.50	6.8
Fused Silica	1.45847	67.82	2.2	0.185 - 2.50	0.54
Pyrex	1.474009	65.38	2.23	0.23 - 2.70	3.25
CaF2	1.433849	94.99	3.18	0.17 - 7.80	18.85
Sapphire	1.768234	72.24	3.99	0.18 - 4.50	5.8
Silicon	3.47		2.33	1.5 - 8.0	2.6
Borofloat	1.47140	65.41	2.23	0.33 - 2.60	3.25



Window

Besides standard windows, Foctek offers all kinds of custom-made windows according to customers' requirement:

- Windows made from materials such as N-BK7, Fused Silica, Sapphire, CaF_2 , Silicon, Borofloat, Pyrex, or other optical glass supplied by Schott and Chinese CDGM are available upon request.
- Windows at any size is available upon request.
- Windows at shape of round, quadrate, triangular or other polygonal are available upon request.
- Windows with single-layer or multi-layer AR, HR, PR coatings are available upon request.



N-BK7 Window

Attribute	Specification
Typical Diameter (Φ mm) ⁽¹⁾	10.0, 12.7, 15.0, 20.0, 25.4, 30.0, 38.1, 50.8
Typical Thickness (mm) ⁽²⁾	2.0, 3.0, 6.0, 6.35
Diameter Tolerance (mm)	+0.0/-0.2 (General), +0.0/-0.02 (High Precision)
Thickness Tolerance (mm)	± 0.2 (General), ± 0.005 (High Precision)
Clear Aperture ⁽³⁾	>80% (Small Size), >95% (Large Size)
Parallelism	3 min. (General), 3 sec. (High Precision)
Surface Quality	60/40 (General), 10/5 (High Precision)
Flatness (per 25mm@633nm)	$\lambda/2$ (General), $\lambda/10$ (High Precision)
Bevel (face width x 45°) ⁽⁴⁾	<0.25mm
Coating ⁽⁵⁾	Uncoated, AR, HR, PR, Coating, etc.

Note for N-BK7 Window:

- (1). Custom-made N-BK7 windows at any size from $\Phi 2.0\text{mm}$ to $\Phi 350\text{mm}$ clear aperture are available.
Besides round, N-BK7 windows at shape of quadrate, triangular, or other polygonal are available.
- (2). Thickness from 1.0mm to 50.0 mm is available upon request.
- (3). 100% clear aperture is available upon request.
- (4). Better bevel is available upon request.
- (5). N-BK7 Windows with Anti-Reflective(AR), High-Reflective(HR), Partial-Reflective(PR) coating are available.

Fused Silica Window

Attribute	Specification
Typical Diameter (Φ mm) ⁽¹⁾	10.0, 12.7, 15.0, 20.0, 25.4, 30.0, 38.1, 50.8
Typical Thickness (mm) ⁽²⁾	2.0, 3.0, 6.0, 6.35
Diameter Tolerance (mm)	+0.0/-0.2 (General), +0.0/-0.02 (High Precision)
Thickness Tolerance (mm)	± 0.2 (General), ± 0.005 (High Precision)
Clear Aperture ⁽³⁾	>80% (Small Size), >95% (Large Size)
Parallelism	3 min. (General), 3 sec. (High Precision)
Surface Quality	60/40 (General), 10/5 (High Precision)
Flatness (per 25mm@633nm)	$\lambda/2$ (General), $\lambda/10$ (High Precision)
Bevel (face width x 45°) ⁽⁴⁾	<0.25mm
Coating ⁽⁵⁾	Uncoated, AR, HR, PR, Coating, etc.

Note for Fused Silica Window:

- (1). Custom-made Fused Silica windows at any size from $\Phi 2.0$ mm to $\Phi 350$ mm clear aperture are available.
Besides round, Fused Silica windows at shape of quadrate, triangular, or other polygonal are available
- (2). Thickness from 1.0 mm to 50.0 mm is available upon request.
- (3). 100% clear aperture is available upon request.
- (4). Better bevel is available upon request.
- (5). Windows with Anti-Reflective(AR), High-Reflective(HR), Partial-Reflective(PR) coating are available.

Sapphire Window

Attribute	Specification
Typical Diameter (Φ mm) ⁽¹⁾	8.0, 10.0, 12.7, 15.0, 20.0, 25.4, 30.0
Typical Thickness (mm) ⁽²⁾	0.5, 1.0, 2.0
Diameter Tolerance (mm)	+0.0/-0.2 (General), +0.0/-0.1 (High Precision)
Thickness Tolerance (mm)	± 0.2 (General), ± 0.05 (High Precision)
Clear Aperture	>75% (Small Size), >90% (Large Size)
Parallelism	3 min. (General), 10 sec. (High Precision)
Surface Quality	80/50 (General), 40/20 (High Precision)
Flatness (per 25mm@633nm)	λ (General), $\lambda/4$ (High Precision)
Bevel (face width x 45°) ⁽³⁾	<0.25mm
Coating ⁽⁴⁾	Uncoated, AR, HR, PR, Coating, etc.

Note for Sapphire Window:

- (1). Custom-made Sapphire windows at any size are available.
Besides round, Sapphire windows at shape of quadrate, triangular, or other polygonal are available
- (2). Other thickness from 0.5mm to 50.0 mm is available upon request.
- (3). Better bevel is available upon request.
- (4). Windows with Anti-Reflective(AR), High-Reflective(HR), Partial-Reflective(PR) coating are available.

CaF₂ Window

Attribute	Specification
Typical Diameter (Φmm) ⁽¹⁾	8.0, 10.0, 12.7, 15.0, 20.0, 25.4, 30.0
Typical Thickness (mm) ⁽²⁾	1.0, 2.0, 3.0, 4.0
Diameter Tolerance (mm)	+0.0/-0.2 (General), +0.0/-0.1 (High Precision)
Thickness Tolerance (mm)	±0.2 (General), ±0.05 (High Precision)
Clear Aperture	>80% (Small Size), >90% (Large Size)
Parallelism	3 min. (General), 10 sec. (High Precision)
Surface Quality	80/50 (General), 40/20 (High Precision)
Flatness (per 25mm@633nm)	λ (General), λ/4 (High Precision)
Bevel (face width x 45°) ⁽³⁾	<0.25mm
Coating ⁽⁴⁾	Uncoated, AR, HR, PR, Coating, etc.

Note for CaF₂ Window:

(1). Custom-made CaF₂ windows at any size are available.

Besides round, CaF₂ windows at shape of quadrate, triangular, or other polygonal are available.

(2). Typical thickness is 2mm, 3mm, 4mm, other thickness from 1.0mm to 20.0 mm is available.

(3). Better bevel is available upon request.

(4). CaF₂ Windows with Anti-Reflective(AR), High-Reflective(HR), Partial-Reflective(PR) coating are available.

Silicon Window

Attribute	Specification
Typical Diameter (Φmm) ⁽¹⁾	8.0, 10.0, 12.7, 15.0, 20.0, 25.4, 30.0
Typical Thickness (mm) ⁽²⁾	1.0 ~ 20.0
Diameter Tolerance (mm)	+0.0/-0.2 (General), +0.0/-0.1 (High Precision)
Thickness Tolerance (mm)	±0.2 (General), ±0.05 (High Precision)
Clear Aperture	>80% (Small Size), >90% (Large Size)
Parallelism	3 min. (General), 10 sec. (High Precision)
Surface Quality	60/40 (General), 10/5 (High Precision)
Flatness (per 25mm@633nm)	λ (General), λ/4 (High Precision)
Bevel (face width x 45°) ⁽³⁾	<0.25mm
Coating ⁽⁴⁾	Uncoated, AR, HR, PR, Coating, etc.

Note for Silicon Window:

(1). Custom-made Silicon windows at any size are available.

Besides round, shape of quadrate, triangular, or other polygonal are available.

(2). Thickness from 1.0mm to 20.0 mm is available upon request.

(3). Better bevel is available upon request.

(4). Si Windows with Anti-Reflective(AR), High-Reflective(HR), Partial-Reflective(PR) coating are available.



Borofloat Window

Attribute	Specification
Typical Diameter (Φ mm) ⁽¹⁾	8.0, 10.0, 12.7, 15.0, 20.0, 25.4, 30.0
Typical Thickness (mm) ⁽²⁾	1.0 ~ 50.0
Diameter Tolerance (mm)	+0.0/-0.2 (General), +0.0/-0.02 (High Precision)
Thickness Tolerance (mm)	±0.2 (General), ±0.005 (High Precision)
Clear Aperture	>80% (Small Size), >95% (Large Size)
Parallelism	3 min. (General), 3 sec. (High Precision)
Surface Quality	60/40 (General), 10/5 (High Precision)
Flatness (per 25mm@633nm)	$\lambda/2$ (General), $\lambda/10$ (High Precision)
Bevel (face width x 45°) ⁽³⁾	<0.25mm
Coating ⁽⁴⁾	Uncoated, AR, HR, PR, Coating, etc.

Note for Borofloat Window:

- (1). Custom-made Borofloat windows at any size are available.
Besides round, Borofloat windows at shape of quadrate, triangular, or other polygonal are available
- (2). Thickness from 1.0mm to 50.0 mm is available upon request.
- (3). Better bevel is available upon request.
- (4). Windows with Anti-Reflective(AR), High-Reflective(HR), Partial-Reflective(PR) coating are available.

Borosilicate (Pyrex) Window

Attribute	Specification
Typical Diameter (Φ mm) ⁽¹⁾	8.0, 10.0, 12.7, 15.0, 20.0, 25.4, 30.0
Typical Thickness (mm) ⁽²⁾	1.0 ~ 50.0
Diameter Tolerance (mm)	+0.0/-0.2 (General), +0.0/-0.02 (High Precision)
Thickness Tolerance (mm)	±0.2 (General), ±0.005 (High Precision)
Clear Aperture	>80% (Small Size), >95% (Large Size)
Parallelism	3 min. (General), 3 sec. (High Precision)
Surface Quality	60/40 (General), 10/5 (High Precision)
Flatness (per 25mm@633nm)	$\lambda/2$ (General), $\lambda/10$ (High Precision)
Bevel (face width x 45°) ⁽³⁾	<0.25mm
Coating ⁽⁴⁾	Uncoated, AR, HR, PR, Coating, etc.

Note for Borosilicate Window:

- (1). Custom-made Borosilicate windows at any size are available.
Besides round, Borosilicate windows at shape of quadrate, triangular, or other polygonal are available
- (2). Thickness from 1.0mm to 50.0 mm is available upon request.
- (3). Better bevel is available upon request.
- (4). Windows with Anti-Reflective(AR), High-Reflective(HR), Partial-Reflective(PR) coating are available.

Prism

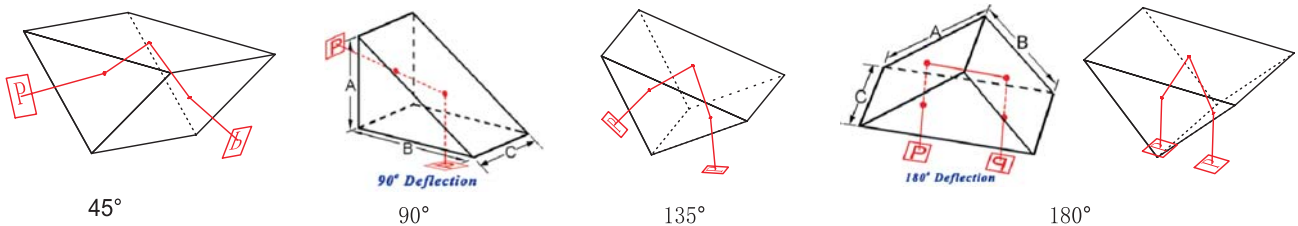
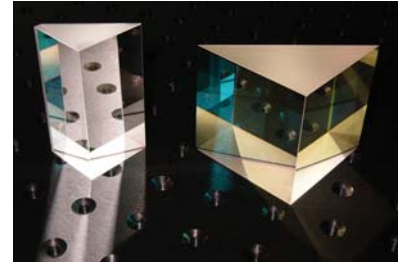
FOCtek provides many kinds of high precision prisms, including Penta Prism, Beamsplitter Penta Prism, Right Angle Prism, Corner Cube, Dove Prism, Other prisms such as Reflection Prism, Dispersion, Beamsplitter and so on.

Right Angle Prism

Right angle prism is also called half cube prism or isosceles.

Besides standard Right Angle Prisms made of N-BK7 or Fused Silica, Foctek also offers custom-made Right Angle Prisms:

- Materials such as H-ZF1, H-ZF13, N-SF11, Pyrex, Sapphire and other optical glass and crystals are available.
- Size from 1.0x1.0x1.0mm to 300.0x300.0x300.0mm are available.
- Angle tolerance such as 3 min., 1min., 30sec., 10sec., 5sec. is available.
- AR, HR, PR coating are available.



N-BK7 Right Angle Prism

Attribute	Specification
Material	N-BK7 Grade A optical glass
Dimension (mm) ⁽¹⁾	1.0x1.0x1.0 ~ 300.0x300.0x300.0
Dimension Tolerance (mm)	+0.0/-0.2 (General), +0.0/-0.05 (High Precision)
Clear Aperture	>80% (Small Size), >95% (Large Size)
Angle Tolerance (degree) ⁽²⁾	<3 min. (General), <3 sec. (High Precision)
Flatness @633nm	$\lambda/2$ (General), $\lambda/4$ (High Precision)
Surface Quality	60/40 (General), 10/5 (High Precision)
Bevel (mm) ⁽³⁾	0.1 ~ 0.5
Coating ⁽⁴⁾	uncoated, AR, PR, HR Coating, etc.

Note for N-BK7 Right Angle Prism:

- (1). Typical dimension is 2.0mm, 3.2mm, 5.0mm, 10.0mm, 12.7mm, 15.0mm, 20.0mm, 25.4mm, 30.0mm, dimension from 1.0x1.0x1.0 mm to 300x300x300 mm is available.
- (2). Better precision such as 1 min., 30sec., 15sec., 10sec., and 5sec. is available.
- (3). Typical bevel is 0.25x45°, other bevel from 0.1x45° to 0.5x45° is available upon request.
- (4). Anti-Reflective(AR), High-Reflective(HR), Partial-Reflective(PR) coating is available.

Fused Silica Right Angle Prism

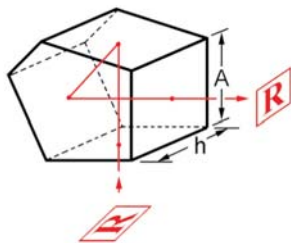
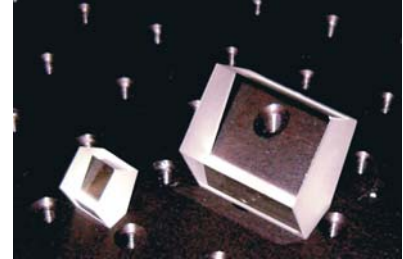
Attribute	Specification
Material ⁽¹⁾	UV Fused Silica
Dimension (mm) ⁽²⁾	1.0x1.0x1.0 ~ 300.0x300.0x300.0
Dimension Tolerance (mm)	+0.0/-0.2 (General), +0.0/-0.05 (High Precision)
Clear Aperture	>80% (Small Size), >95% (Large Size)
Angle Tolerance (degree) ⁽³⁾	<3 min. (General), <3 sec. (High Precision)
Flatness @633nm	$\lambda/2$ (General), $\lambda/4$ (High Precision)
Surface Quality	60/40 (General), 10/5 (High Precision)
Bevel (mm) ⁽⁴⁾	0.1 ~ 0.5
Coating ⁽⁵⁾	uncoated, AR, PR, HR Coating, etc.

Note for Fused Silica Right Angle Prism:

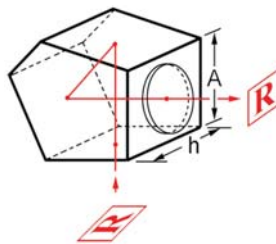
- (1). Besides Fused Silica, custom-made Right Angle Prisms, which are made of other optical materials, such as N-BK7, N-SF11, Pyrex, etc. are available.
- (2). Typical dimension is 5.0mm, 10.0mm, 12.7mm, 15.0mm, 20.0mm, 25.4mm, 30.0mm, dimension from 1.0x1.0x1.0 mm to 300.0x300.0x300.0 mm is available.
- (3). Better precision such as 1 min., 30sec., 15sec., 10sec., and 5sec. is available.
- (4). Typical bevel is 0.25mmx45°, other bevel from 0.1mmx45° to 0.5mmx45° is available upon request.
- (5). Anti-Reflective(AR), High-Reflective(HR), Partial-Reflective(PR) coating prisms are available.

Penta Prism

Penta prism can deviate an incident beam without inverting or reversing to 90° . The deviation angle of 90° is independent of any rotation of the prism about an axis parallel to the line of intersection of the two reflecting faces. It is commonly used in Plumb Level, Surveying, Alignment, Range finding and Optical Tooling. The reflecting surfaces of this Prism must be coated with a metallic or dielectric coating. The standard Penta Prism reflecting surfaces are coated with aluminum or enhanced aluminum.



Typical Penta Prism



High Precision Penta Prism

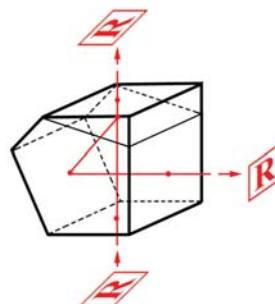
Attribute	Specification
Material ⁽¹⁾	N-BK7 Grade A optical glass
Dimension Axh (mm) ⁽²⁾	2.5x2.5 ~ 100.0x100.0
Dimension Tolerance (mm)	± 0.2 (General), ± 0.05 (High Precision)
90° Deviation Tolerance ⁽³⁾	<1 min. (General), <3 sec. (High Precision)
Flatness @633nm	$\lambda/2$ (General), $\lambda/4$ (High Precision)
Reflection (per face@400-700nm) ⁽⁴⁾	R>90%
Surface Quality	60/40 (General), 20/10 (High Precision)
Coating on input and output sides ⁽⁵⁾	uncoated, AR Coating, etc.

Note for Penta Prism:

- (1). Besides N-BK7 glass, other optical glass is available for custom-made Penta Prisms.
- (2). Penta Prism at bigger size is available.
- (3). Typical deviation tolerance is 1 minute, better precision such as 30 sec, 10 sec, 5 sec or 3 sec is available.
- (4). Typical reflection is >90% by Al coating, other metal coating such as Ag, Cu, or High Reflection Dielectric Coating is available.
- (5). Besides uncoating, Anti-Reflective(AR) coating is available upon request.

Beamsplitter Penta Prism

By adding a wedge and with partial reflective coating on first reflective surface, Penta Prism can be used as a Beamsplitter. We supply Beamsplitter Penta Prism with standard transmission/reflection (T/R) ratio of 20/80, 50/50. Other T/R ratio is available upon request.



Beamsplitter Penta Prism

Attribute	Specification
Material ⁽¹⁾	N-BK7 Grade A optical glass
Dimension A x h (mm ²) ⁽²⁾	2.5x2.5 ~ 100.0x100.0
Dimension Tolerance (mm)	±0.2 (General), ±0.05 (High Precision)
90° Deviation Tolerance ⁽³⁾	<1 min. (General), <3 sec. (High Precision)
Flatness @633nm	λ/2 (General), λ/4 (High Precision)
Reflection (per face@400-700nm) ⁽⁴⁾	R>90%
Surface Quality	60/40 (General), 20/10 (High Precision)
Beamsplitter Ratio Transmission/Reflection ⁽⁵⁾	20/80 ± 5 or 50/50 ± 5
Coating on input and output sides ⁽⁶⁾	uncoated, AR Coating, etc.

Note for Beamsplitter Penta Prism:

- (1). Besides N-BK7 glass, other optical glass is available for custom-made Penta Prisms.
- (2). Typical dimension A x h is from 2.5x2.5-100.0x100.0 mm.
- (3). Typical deviation tolerance is 1 minute, better precision such as 30 seconds, 10 seconds, 5 seconds, 3 seconds is available.
- (4). Typical reflection is >90% by Al coating, other metal coating such as Ag, Cu, or High Reflection Dielectric Coating is available.
- (5). Typical Beamsplitter Ratio Transmission/Reflection is 20/80±5 or 50/50±5, other Ratio is available.
- (6). Besides uncoating, Anti-Reflective(AR) coating is available upon request.

Corner Cube Retroreflector

Corner Cube Prism is also called Retroreflector or Trihedral Prism. In the Corner Cube Prism, three reflecting surfaces are perpendicular to each other, like the side wall of the cube. The input surface is perpendicular to the cube diagonal. Disregarding the angle of incidence, the output beam is parallel to the input one, but it is of opposite direction. Inset of the several corner prisms, for better matching, their entrance-exit surface is often hexagonal. In case of this prism the phenomenon of full internal reflection occurs so it is not necessary, (however it is possible) to put mirror coating on the reflecting faces. Normally the reflection surfaces are Al reflection coating, and then covered with Cu and Black Painting.

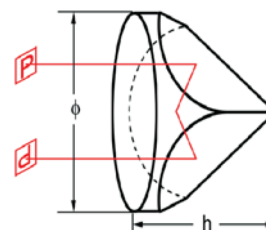


Standard Specifications

Attribute	Specification
Material ⁽¹⁾	N-BK7 Grade A optical glass
Dimension Tolerance (mm)	+0.0/-0.2
Clear Aperture	80%
Deviation ⁽²⁾	180 ⁰ ±3 arc seconds.
Flatness (@633nm)	λ/4 on big surface, λ/8 on reflection surfaces
Surface Quality ⁽³⁾	60/40
Bevel (mm)	0.2-0.5
Reflection coating on reflection surfaces ⁽⁴⁾	upon request
Coating on input and output sides ⁽⁵⁾	upon request

Standard Series ⁽⁶⁾

Part No.	Φ (mm)	h(mm)
FCC1101	15.0	11.3
FCC1102	25.4	19.0
FCC1103	38.0	28.5
FCC1104	50.8	37.5



Note for corner cube retroreflector:

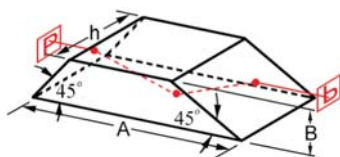
- (1). Besides N-BK7, custom-made corner cube Prisms made of other optical materials are available.
- (2). Corner Cube Prisms with lower deviation tolerance, such as 1', 30", or 10", are available.
- (3). Corner Cube Prisms with better surface Quality (better than 40/20 or 20/10) are available.
- (4). HR or Metal reflection coating(Al, Ag, Cu, etc.) on reflection surfaces is available.
- (5). AR coating on input/output surface is available upon request.
- (6).Custom-made non-standard Corner Cube Prisms at any other size are available upon request.

Dove Prism

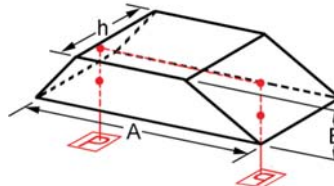
The Dove Prism is also called Image Rotator. The prism rotates the image without changing the direction of the input beam, which is parallel to hypotenuse. Rotation of the prisms in relation to the subject causes double rotations of the image. Dove Prism should be used in the parallel beam.

Standard Specifications

Attribute	Specification
Material ⁽¹⁾	N-BK7 Grade A optical glass
Dimension Tolerance (mm) ⁽²⁾	+0.0/-0.2
Clear Aperture	>80% (Small Size), >95% (Large Size)
Deviation ⁽³⁾	±3 arc min., etc.
Flatness (@633nm) ⁽⁴⁾	$\lambda/2$
Surface Quality ⁽⁵⁾	60/40
Bevel (mm)	0.2 ~ 0.5
Coating ⁽⁶⁾	uncoated



90° Deflection



180° Deflection

Standard series ⁽⁷⁾

Part No.	A(mm)	B(mm)	h(mm)
FDP1101	21.1	5.0	5.0
FDP1102	42.3	10.0	10.0
FDP1103	63.4	15.0	15.0

Note for Dove Prism:

- (1). Dove Prisms made of any other optical material are available upon request.
- (2). High precision tolerance at better than +0.0/-0.05mm is available.
- (3). Angle tolerance better than 10 arc sec. is available upon request.
- (4). Flatness better than $\lambda/4$ is available.
- (5). Surface quality better than 20/10 is available.
- (6). Dielectric HR coating or Metal reflection coating on reflection surfaces is available.
AR coating on input/output surface is available.
- (7). Custom-made non-standard Dove Prisms at any other size are available upon request.