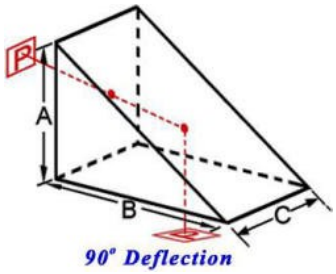
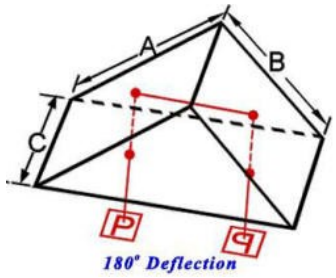
Prisms

There are many types of prism, each having a particular geometry to achieve the desired reflections necessary to perform a specific imaging task. Reflecting prisms may invert, rotate, deviate or displace a beam. Dispersing prisms produce spectral separation for spectroscopic applications or for tuning a laser output.
We provides many kinds of high precision prisms, including Penta-prism, Beam splitter Penta-prism, Right Angle Prism, and Corner Cube. Our micro Penta-prism and Right Angle Prism are widely used in optical communication, such as optical switches. Dove Prism and Roof Prism are also available upon request.

Specifications	
Materials	BK 7, fine annealed
Surface Flatness	λ/4
Angle	45°, 90°± 3' or ± 30"
Clear Aperture Diameter	90%
Surface Quality	60-40 scratch and dig



90° Deflection



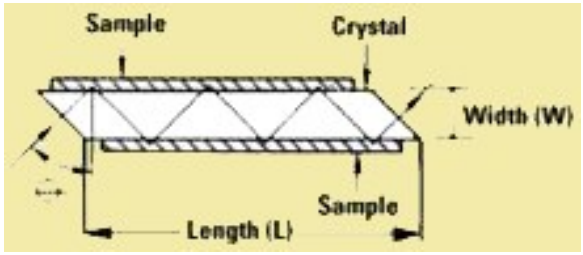
180° Deflection

Dimension (mm) A=B=C	Part No. ± 3'	Part No. ± 30"
5.0	WCL-030104	WCL-030104A
10.0	WCL-030105	WCL-030105A
12.7	WCL-030101	WCL-030101A
20.0	WCL-030106	WCL-030106A
25.4	WCL-030102	WCL-030102A
30.0	WCL-030107	WCL-030107A
40.0	WCL-030108	WCL-030108A
50.8	WCL-030103	WCL-030103A

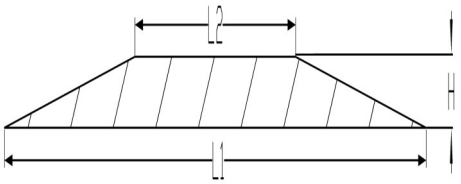
ATR Prism

ATR Prisms for Infrared Spectroscopy

The criteria for selection of prism material to obtain a good FT-IR ATR spectrum is outlined below. For a good spectrum, it is essential to select conditions to achieve optimum depth of penetration (dp).



- The useful wave number (cm-1)/wavelength (l) range of the material. The wider the useful transmission wavelength range, the better the material for general purpose uses. The depth of penetration increases with decreasing wave number/ increasing wavelength.
- Refractive index of material (h 1). This determines the critical angle (q c) of the material at which total internal reflection phenomena begins to occur. The higher the material refractive index, the lower the critical angle. It is desirable for the angle of incidence to far exceed the critical angle to avoid spectrum distortion when working with high refractive index (h 2) samples.
- Angle of incidence (q i). Increasing angle of incidence will decrease the depth of penetration and number of reflections. These will decrease effective path length and therefore decrease the absorbance intensity of the spectrum.
- Effective sample contact. It is important to achieve a good sample contact all over the ATR prism sample contact area to obtain a good spectrum. In solid samples it is important to choose an ATR material that will permit sufficient pressure to be applied without causing damage to the prism or sample in order to obtain a good spectrum. The hardness of the material is important.
- Material reactivity. When dealing with liquid samples, careful attention should be paid to solubility in water, the reactivity of the ATR materials to acids, bases, oxidising and reducing agents and complexes.



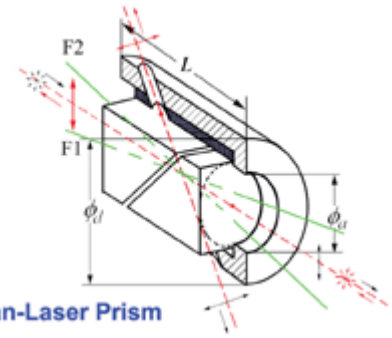
Part No.	Material	L1 (mm)	L2 (mm)	H (mm)
ATRZ-52.5x20x2	ZnSe	52.5	20.0	2.0

Glan-Laser Prisms

Glan-Laser Prisms

Specifications

Wavelength Range:
190-3500nm(a-BBO),
350-2300nm(Calcite),
Surface Quality: 20-10 Scratch and Dig
Dimensions Tolerance: ±0.1 mm
Beam Deviation: < 3 arc minutes
Transmission Wavefront Distortion:
<λ/4 @632.8nm for a-BBO
<λ/2 @632.8nm for Calcite
Escape Window: Double
Coating: Single Layer MgF2 on Input and Output Surface
Damage Threshold: >1GW/cm2 at 1064nm for a-BBO
Housing: Black Anodized Aluminum



Glan-Laser Prism

- **High Power Applications**
- **Wide Wavelength Range**
- **High UV Transmission**
- **High Polarization Purity**

Part No.	Materi-al	Wave-length Range (nm)	Extinction Ratio	Angu-lar Field	Clear Aper-ture f_a (mm)	Outside Diame-ter f_d (mm)	L±0.1 (mm)
GLP8-25.4a	a -BBO	200-270	<1x10^{-6}	6.0°	f 8	25.4	30.6
GLP10-25.4a					f10	25.4	31.0
GLP15-30.0a					f15	30.0	38.6
GLP20-38.0a					f20	38.0	48.9
GLP8-25.4b		400-700	<1x10^{-6}	6.0°	f 8	25.4	25.0
GLP10-25.4b					f10	25.4	26.0
GLP15-30.0b					f15	30.0	33.4
GLP20-38.0b					f20	38.0	41.7
GLP8-25.4c		700-3000	<1x10^{-6}	6.0°	f 8	25.4	24.7
GLP10-25.4c					f10	25.4	25.9
GLP15-30.0c					f15	30.0	33.0
GLP20.38.0c					f20	38.0	43.6
GLP8-25.4d	Calcite	350-2300	<5x10^{-5}	7.7°	f 8	25.4	24.5
GLP10-25.4d					f10	25.4	26.2
GLP15-30.0d					f15	30.0	33.3

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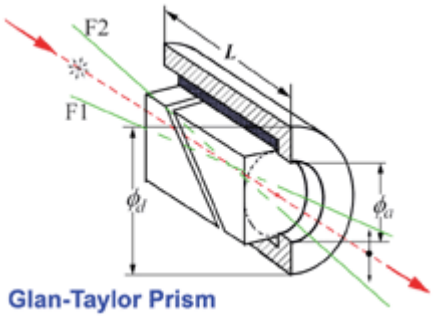
Glan-Taylor Prisms

Glan-Taylor Prisms

Specifications

Wavelength Range:
190-3500nm(a-BBO),
350-2300nm(Calcite),
450-5000nm(YVO4)
Surface Quality: 20-10 scratch and dig
Dimensions Tolerance: ±0.1 mm
Beam Deviation: < 3 arc minutes
Coating: Single layer MgF2 on Input and output surface
Housing: Black Anodized Aluminum



Glan-Taylor Prism

- **High Polarization Purity**
- **High Total Transmission**
- **Wide Wavelength Range**

Part No.	Material	Wavelength Range (nm)	Extinction Ratio	Angular Field	Clear Aperture f_a (mm)	Outside Diameter f_d (mm)	L±0.1 (mm)
GTP8-25.4a	a -BBO	200-270	<1x10^{-6}	6.0°	f 8	25.4	17.0
GTP10-25.4a					f10	25.4	18.5
GTP15-30.0a					f15	30.0	23.0
GTP20-38.0a					f20	38.0	27.0
GTP8-25.4b		400-700	<1x10^{-6}	6.0°	f 8	25.4	17.0
GTP10-25.4b					f10	25.4	18.5
GTP15-30.0b					f15	30.0	23.0
GTP20-38.0b					f20	38.0	23.0
GTP8-25.4c		700-3000	<1x10^{-6}	6.0°	f 8	25.4	17.0
GTP10-25.4c					f10	25.4	18.5
GTP15-30.0c					f15	30.0	23.0
GTP20-38.0c					f20	38.0	27.0
GTP8-25.4d	Calcite	350-2300	<5x10^{-5}	7.7°	f 8	25.4	17.0
GTP10-25.4d					f10	25.4	18.5
GTP15-30.0d					f15	30.0	23.0