

Equilateral Dispersing Prisms

EDP/EDSP

RoHS

Application Systems

Machine Vision

Manual Positions

Motion Control Products

Optical & Mirror Holder

FA Parts

Measurement & Control

FA Electrical Parts

Tool & Measure

Cleanroom & AntiStatic

Index

Mirrors

Beamsplitters

Filters

Polarizers

Lenses

Multi-Element Optics

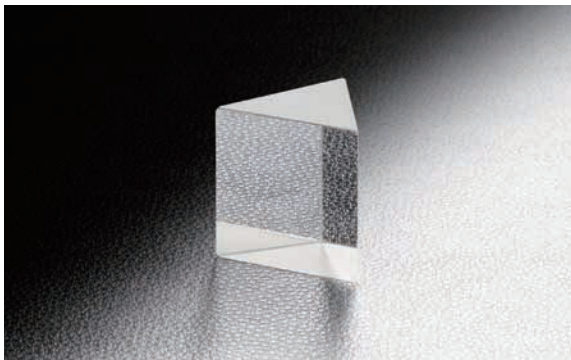
Prisms

Substrates & Windows

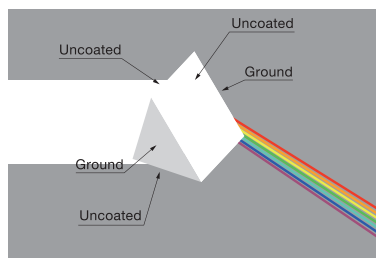
Holder & Vibration isolator

Equilateral dispersing prisms disperse a light into its different colors and are used for spectrum analyzing experiments and instruments. Each colors in the light incident at an oblique angle to the first face is bent in different angle by the difference of refractive index of the glass according to wavelength and emerges as a spectrum from the opposite face.

- The roof angle of 60 degrees causes the best combination of wide dispersion and low reflection losses. A glass with large dispersive power or small Abbe's number leads to large angular dispersion.
- We offer both BK7 and fused silica for a selection of wavelength range from UV to near IR. We recommend a prism of BK7 if the light is not UV, because the angular dispersion of BK7 is larger than that of fused silica.

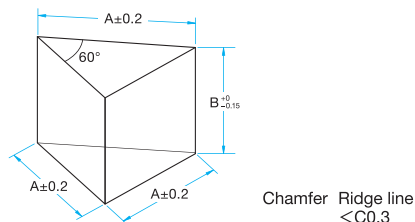


Schematic



Outline Drawing

(in mm)



BK7

Part Number	A = B [mm]
EDP-20-10H	20
EDP-25-10H	25
EDP-30-10H	30

Specifications

Part Number	EDP	EDSP
Material	BK7	Synthetic fused silica
Refractive index n_d	1.517	1.458
Minimum deviation	49.3°	46.8°
Abbe number v_d^*	64.1	67.8
Angle	60° ± 3'	
Surface flatness of substrate	λ/10	
Surface Quality (Scratch-Dig)	20-10	
Clear aperture	Circle or ellipse inscribed in a rectangular of 90% of the dimensions A and B	

* Abbe number $v_d = \frac{n_d - 1}{n_F - n_C}$ n_d : Refractivity of 587.6nm wavelength n_F : Refractivity of 486.1nm wavelength n_C : Refractivity of 656.3nm wavelength

Guide

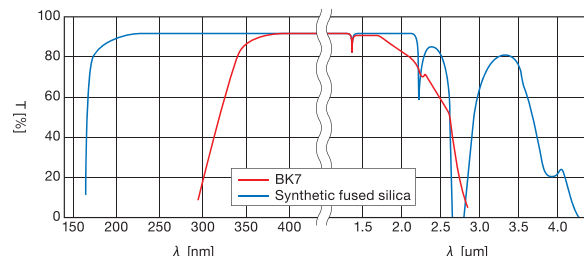
- ▶ Fixed to the prism, Prism Holder (PLH) are available. [Reference](#) D035
- ▶ Other sizes are available upon production of the catalog.

Attention

- ▶ Every edge of these prisms is chamfered (beveled) for chipping prevention. The dimensions of these prisms are values not including chamfer.
- ▶ Be sure to wear laser safety goggles when checking optical path and adjusting optical axis.

Typical Transmittance Data

T: Transmission



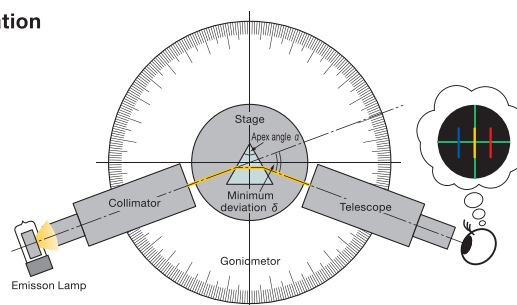
Synthetic fused silica

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■ Glass refractive index measurement method of minimum deviation

The refractive index of optical glass is accurately measured by the angle measuring device called a goniometer. Accurately measuring the refractive index for each wavelength with the known wavelength of the emission spectrum of the lamp is emitted. Wavelength dispersion of the refractive index is determined by the results of this measurement.

$$n = \frac{\sin\left(\frac{\alpha + \delta}{2}\right)}{\sin\left(\frac{\alpha}{2}\right)}$$



Compatible Optic Mounts

PH / SH