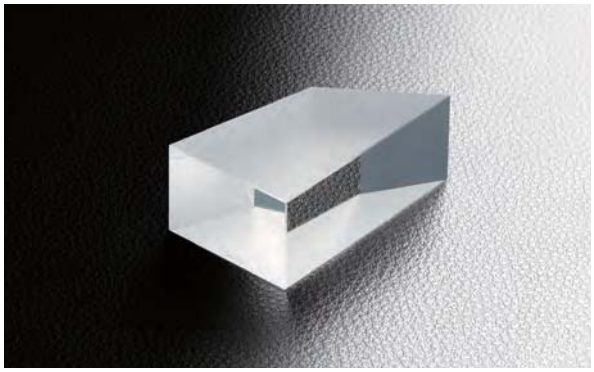
Pellin Broca Prism | PBPQ

RoHS

Pellin Broca prism is a dispersing Brewster prism and is designed to emit in the direction of perpendicular to the incident beam. When the incident beam from a YAG laser is at Brewster angle it is possible to separate the second harmonic generation beam (532nm) and the fundamental harmonic generation beam (1064nm).

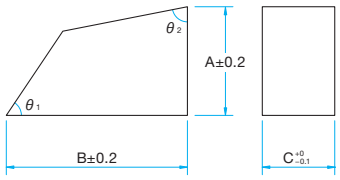
- The Pellin Broca prism is using Brewster angle and the critical angle to reduce reflection losses and obtain high transmittance.
- There is no coating on the surface of the Pellin Broca prism so it can be used with high energy pulsed laser.
- This prism is used at the (Brewster angle) angle of light intensity of the beam of light (invisible) of the YAG fundamental harmonic generation and second harmonic generation beam to minimize reflection by the prism incident surface.
- Make sure to use polarization direction of laser beam parallel to the bottom surface of the prism.
- It can also be used for multi-wavelength oscillation laser spectroscopy of an Argon laser.



Specifications

Material	Synthetic fused silica
Design wavelength	706nm (intermediate of 532nm and 1063nm)
Angle tolerance	<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 dimension size

Outline Drawing (in mm)



Chamfer Ridge line about C0.3 (No chamfer obtuse angle)

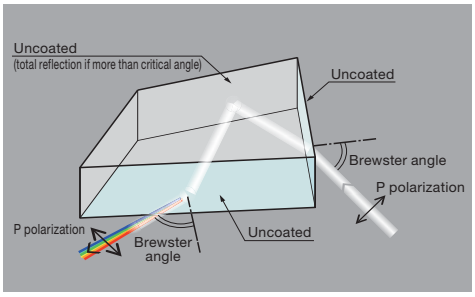
Guide

- We can provide Pellin broca prisms custom to the wavelength of your laser upon request.
- Other sizes are available, please contact our Sales Division with your request.

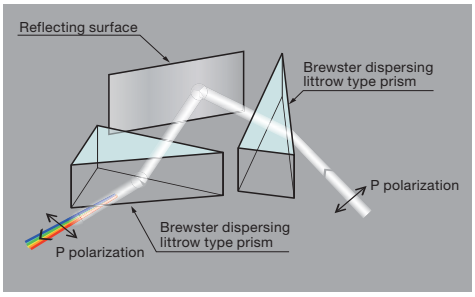
Attention

- Because it deviates from the Brewster angle, the beam emitted from the ultraviolet wavelength is not a non-reflective.
- Although it can also be used as a dispersing prism of non-polarized light, and not allowed to enter in the Brewster angle, it is not emitted at right angles to the incident angle.
- It can also be dispersed incident S polarized laser beam, reflection loss occurs in the incident surface and the exit surface.
- Fingerprints and dirt adhering to the uncoated surface will effect of the total reflection. Please use without touching anything on the uncoated surface.
- A and B dimension is slightly shorter than the actual catalog because it contains chamfer dimension. Dimensional tolerances are defined at the intersection of each side that does not include a chamfer.

Schematic



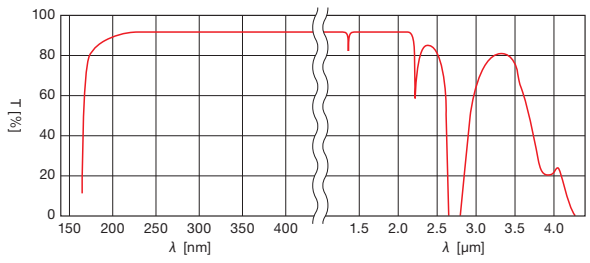
Equivalent optical system



Angular dispersion of YAG Laser

Brewster wavelength		1064nm	532nm
Incident angle (Brewster angle) [°]		55.39	55.61
Output angle [°]	1064nm	54.93	54.71
	532nm	56.30	56.08
	355nm	58.09	57.86
	266nm	61.01	60.76

Typical Transmittance Data T: Transmission



Specifications

Part Number	A [mm]	B [mm]	C [mm]	θ1 [°]	θ2 [°]
PBPQ-30L20-10	30	50	20	56.13	79.50