Penta Prisms
Brewster Dispersing Littrow Prism

PPB
Custom-made

RoHS
RoHS

PPB

Penta prisms deviate an input beam by 270 degrees (-90 degrees) independently of the angle of incidence on the first surface. They are therefore useful as precise right angle mirrors which are insensitive to alignment. These penta prisms find many metrological applications.

- These penta prisms are Anti-Reflection coated on the entrance and exit faces as well as being coated with an aluminum coating and black paint on the internal reflection faces.

Specifications

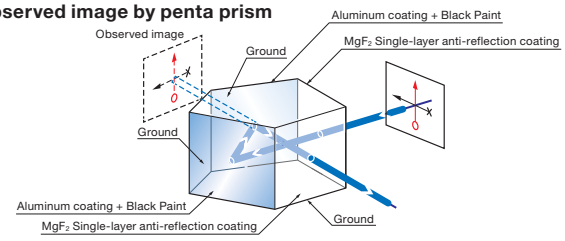
Material	BK7
Surface flatness of substrate	λ/4
Angle tolerance	±3′
Surface Quality (Scratch–Dig)	40–20
Coating	Aluminum coating + Black Paint MgF_2 Single-layer anti-reflection coating
Clear aperture	Circle inscribed in a square of 90% of the dimensions A

Attention

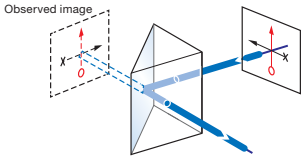
- Caution should be taken with cleaning to not use strong solvents on the black painted surface.
- There is a loss with Aluminum coating of about 12% in the single side, and 23% in both side internal reflection of prism resulting in input and output efficiency of about 77%.

Schematic

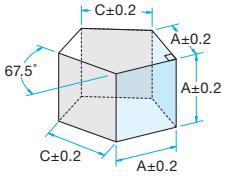
Observed image by penta prism



Observed image by right-angle prism (mirror symmetry)



Outline Drawing (in mm)



Chamfer Ridge line
C0.2 – C0.3
(No chamfer obtuse angle)

Specifications

Part Number	A [mm]	C [mm]
PPB-10-4	10	10.8
PPB-15-4	15	16.0
PPB-20-4	20	23.0
PPB-25-4	25	27.1

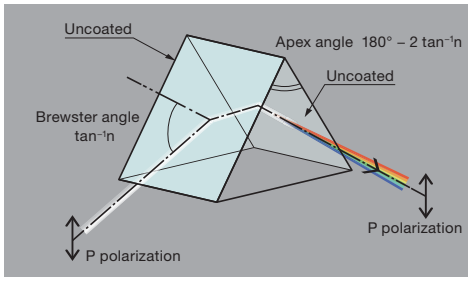
Custom-made

Brewster dispersing littrow prism incident angle of the prism can be adjusted so that the dispersion Brewster angle p-polarized light reflection angle is zero. It can be used as the wavelength selection prism used in the tunable laser resonator.

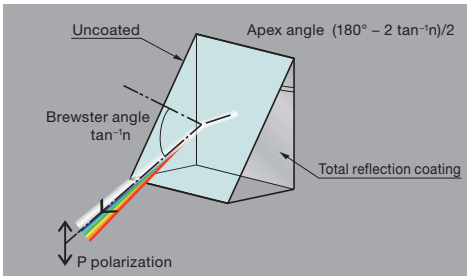
- If linearly polarized light (polarized light P), reflection loss is reduced for both the incident surface and the exit surface then high transmission efficiency can be obtained.
- Brewster angle is computed from the refractive index with wavelength of the glass material.
- When ordering, please use the Contact our Sales Division with your custom reques.

Schematic

Transparent type



Littrow type



Compatible Optic Mounts

PLH / KKD / SHA