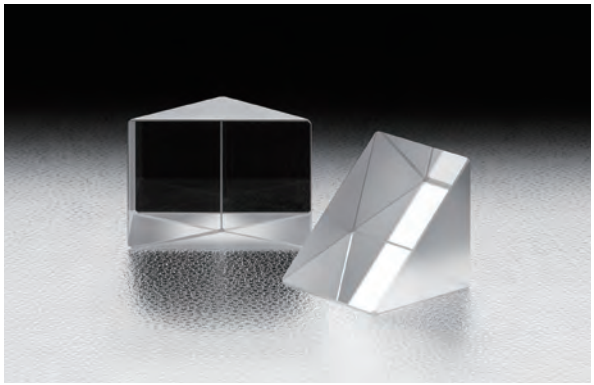
Coated Right Angle Prisms | RPB1 – 5

RoHS

Right-angle prism can be used as a substitute for the mirror.
Independent even without a special holder, and since the choice of a variety of installation methods, it is useful if you want to reduce the size of the device.
In addition, with very high accuracy and precision angle of the prism surface, it can also be used by directly bonding it to machined parts.

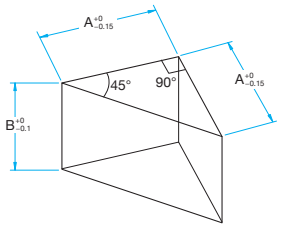
- RPB1 to 3 are used as a substitute for the mirror reflection of the slope.
  RPB1 is coated with anti-reflection coating with two surfaces which the light is incident and emitted by using the critical angle prism reflection of the slope and the surface.
  RPB2 are coated with reflective coating (Al+MgF_2) on the surface of slope.
  RPB3 is the product which does not pass through the light reflected by the inclined surface of the interior of the prism, and there are three types.
- RPB4 can be used when you want to use the reflection of the two surfaces sandwiching the apex angle (right angle).
  RPB4 can be used as to when observe two opposite directions at the same time, or as a prototype orthogonal basis and so on.
- RPB5 are used in applications where light back at the same angle as the incident light with respect to the horizontal direction.
  And double pass interferometer is used in (such as self-correlator) auto correlator.



Specifications

Material	BK7 (Refractive index n_d=1.517)
Surface flatness of substrate	λ/4
Angle tolerance	±1′ (90° or 45°)
Coating	Broadband multi-layer AR coating Visible Protected Aluminum (Al+MgF_2)
Wavelength Range	400 – 700nm
Surface Quality (Scratch–Dig)	40–20
Clear aperture	90% of Circle or Ellipse to Actual dimension for entrance and exit surface

Outline Drawing (in mm)



Chamfer Ridge line
<C0.2 (A≦15)
<C0.3 (20≦A)

Guide

- For custom sizes and wavelengths not listed on-line or in our catalog please contact our Sales Division with your requests.
- Prisms are also available uncoated. Reference B268

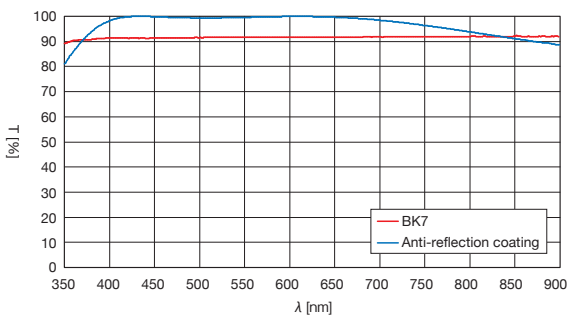
Attention

- A dimension measured is slightly shorter than the catalog size because it contains chamfer dimension. Dimensional tolerances are defined by the sides of the triangle with the slope and two bottom surface.
- If the light is incident on the slope from the air side, most of the light through the prism side and it reflects only part of the light.
- If the incident light at an incident angle of 41 degrees or less (less than the critical angle) from the side of the glass which is no coating on the surface, will not be total reflection but part of the light is transmitted through the air side.
- Sometimes when dirt or fingerprints on the surface with no coating, total reflection will not happen any more than the critical angle. Do not contact anything on the no coated surface.
- Please use RPB5 in the range of 0±5.7 degrees for the slope. Beyond this range, it will not be totally reflected.
- RPB2 are also reflected at an angle smaller than the critical angle by Al coating, but the reflectance will be lower to 12% less than the RPB1.

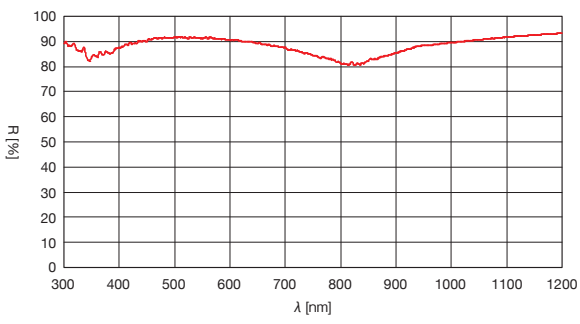
Typical Transmittance Data & Typical Reflectance Data

T: Transmission R: Reflectance

The transmittane and the Anti-reflection effect of BK7



Al+MgF_2

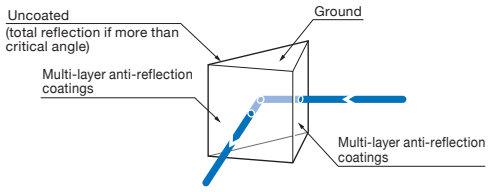


Compatible Optic Mounts

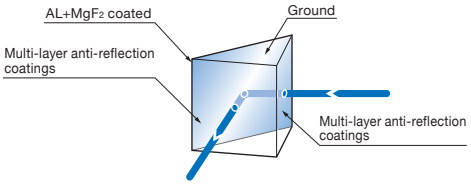
PLH / KKD / SHA

Schematic

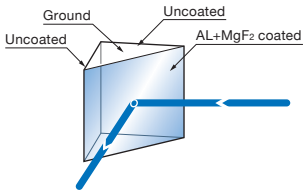
RPB1



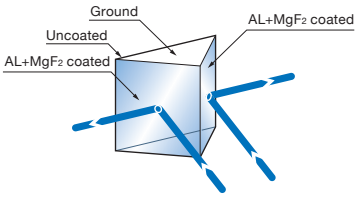
RPB2



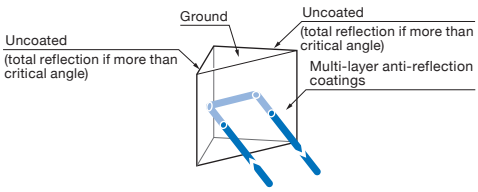
RPB3



RPB4



RPB5



45° with a coat

Part Number	A = B [mm]	Laser Damage Threshold* [J/cm²]
RPB1-05-550	5	4
RPB1-07-550	7	4
RPB1-10-550	10	4
RPB1-12.7-550	12.7	4
RPB1-15-550	15	4
RPB1-20-550	20	4
RPB1-25-550	25	4
RPB1-25.4-550	25.4	4
RPB1-30-550	30	4
RPB2-05-550	5	0.25
RPB2-07-550	7	0.25
RPB2-10-550	10	0.25
RPB2-12.7-550	12.7	0.25
RPB2-15-550	15	0.25
RPB2-20-550	20	0.25
RPB2-25-550	25	0.25
RPB2-25.4-550	25.4	0.25
RPB2-30-550	30	0.25
RPB3-05-550	5	0.25
RPB3-07-550	7	0.25
RPB3-10-550	10	0.25
RPB3-12.7-550	12.7	0.25
RPB3-15-550	15	0.25
RPB3-20-550	20	0.25
RPB3-25-550	25	0.25
RPB3-25.4-550	25.4	0.25
RPB3-30-550	30	0.25
RPB4-05-550	5	0.25
RPB4-07-550	7	0.25
RPB4-10-550	10	0.25
RPB4-12.7-550	12.7	0.25
RPB4-15-550	15	0.25
RPB4-20-550	20	0.25
RPB4-25-550	25	0.25
RPB4-25.4-550	25.4	0.25
RPB4-30-550	30	0.25
RPB5-05-550	5	4
RPB5-07-550	7	4
RPB5-10-550	10	4
RPB5-12.7-550	12.7	4
RPB5-15-550	15	4
RPB5-20-550	20	4
RPB5-25-550	25	4
RPB5-25.4-550	25.4	4
RPB5-30-550	30	4

* Laser pulse width 10ns, repetition frequency 20Hz