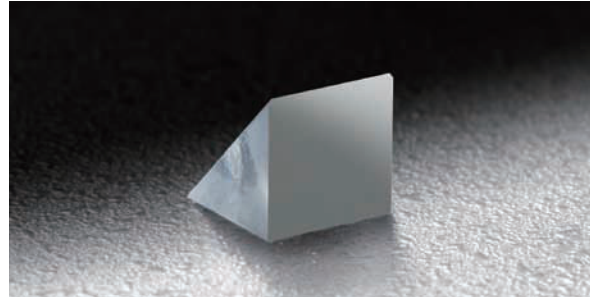
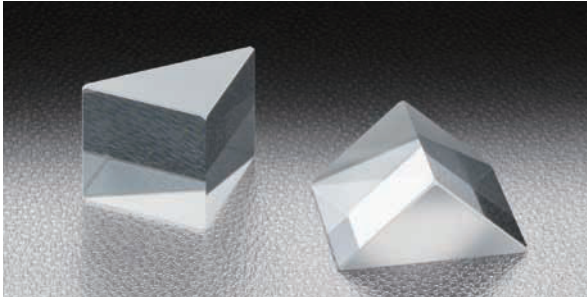


Knife Edge Right Angle Prisms | KERAP/KERAP4

RoHS

Observing a reflected image can be seamless natural because it does not have chamfered edges at right angles, and it is perpendicular to the line of the ridge. When viewed from the side of the slope of the ridge line at right angles it is very thin. The width of the ridge is a straight line at right angles very thin, so that it is used as the reference line of the observation system.

- With a No coat type (KERAP), when using light in the range of 0 ± 5.7 degrees angle of incidence to the slope surface, the total reflection critical angle is obtained.
- With a coat type (KERAP4), it can be used such as divergent light or light incident angle wider than ± 5.7 degrees, the observation system is suitable for a wide field of view.



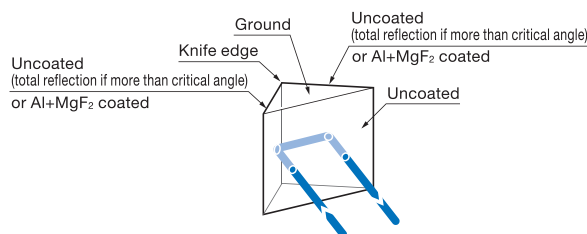
Specifications

| | |
|------------------------|---|
| Material | BK7 (Refractive Index $n_d = 1.517$) |
| Ridge Processing | Right-angle ridge: Knife edge (Not chamfered) Other ridge: Chamfered |
| Coating | KRPB 3-surface: Uncoating KRPB4 2-surface that make up the right angle: Al+MgF ₂ (Protected Aluminum), Obliquity: Uncoating |
| Laser Damage Threshold | KRPB4 0.25J/cm ² (Laser pulse with 10ns, repetition frequency 20Hz) |
| Clear aperture | 90% of Circle or Ellipse to Actual dimension for entrance and exit surface |

Guide

- ▶ It is available other than the products which listed in the catalog.
- ▶ Production of high-precision prism and high angle accuracy are also available.

Schematic

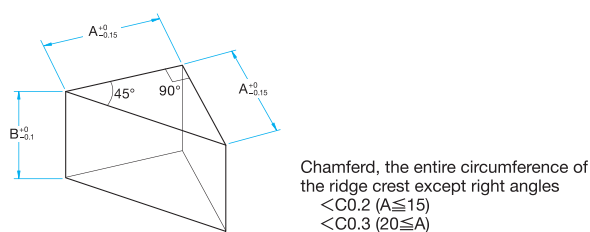


Attention

- ▶ Knife-edge ridge right angle is very easy missing. So please carefully handled so as not to come into contact with others.
- ▶ Part of the knife edge will not be able to wipe the lens, such as paper. Use an air blower for the small dusts.
- ▶ 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.
- ▶ KRPB (with a no coat), the reflectance of the reflection above the critical angle is nearly 100%, there is a loss of about 8% in the reflection of the input and the exit surface of the prism.
- ▶ 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.
- ▶ KRPB4 is reflected in a wide angle than the degree of ± 5.7 by Al coat, however, its reflectivity (about 12% surface 1) is lower than 23% or more KERAP.

Outline Drawing

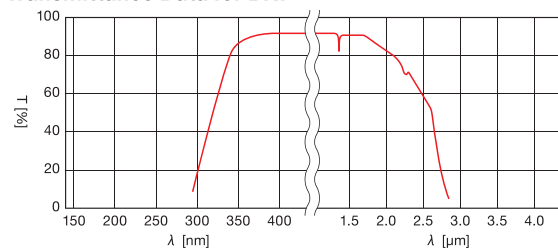
(in mm)



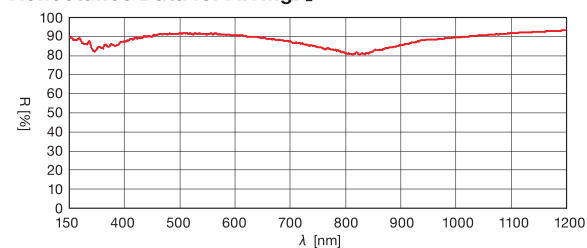
Typical Transmittance Data & Typical Reflectance Data

T: Transmission R: Reflectance

Transmittance Data for BK7



Reflectance Data for Al+MgF₂



Uncoated

| Part Number | A = B [mm] | Surface flatness of substrate | Angle accuracy 90° | 45° | Surface Quality (Scratch-Dig) |
|--------------|------------|-------------------------------|--------------------|------------|-------------------------------|
| KERAP-10-4M | 10 | $\lambda/4$ | $\pm 1'$ | $\pm 1'$ | 10-5 |
| KERAP-15-4M | 15 | $\lambda/4$ | $\pm 1'$ | $\pm 1'$ | 10-5 |
| KERAP-20-4M | 20 | $\lambda/4$ | $\pm 1'$ | $\pm 1'$ | 10-5 |
| KERAP-25-4M | 25 | $\lambda/4$ | $\pm 1'$ | $\pm 1'$ | 10-5 |
| KERAP-30-4M | 30 | $\lambda/4$ | $\pm 1'$ | $\pm 1'$ | 10-5 |
| KERAP-10-10H | 10 | $\lambda/10$ | $\pm 5''$ | $\pm 30''$ | 10-5 |
| KERAP-15-10H | 15 | $\lambda/10$ | $\pm 5''$ | $\pm 30''$ | 10-5 |
| KERAP-20-10H | 20 | $\lambda/10$ | $\pm 5''$ | $\pm 30''$ | 10-5 |
| KERAP-25-10H | 25 | $\lambda/10$ | $\pm 5''$ | $\pm 30''$ | 10-5 |
| KERAP-30-10H | 30 | $\lambda/10$ | $\pm 5''$ | $\pm 30''$ | 10-5 |

Al+MgF₂

| Part Number | A = B [mm] | Surface flatness of substrate | Angle accuracy 90° | 45° | Surface Quality (Scratch-Dig) |
|---------------|------------|-------------------------------|--------------------|----------|-------------------------------|
| KERAP4-10-550 | 10 | $\lambda/4$ | $\pm 1'$ | $\pm 1'$ | 40-20 |
| KERAP4-15-550 | 15 | $\lambda/4$ | $\pm 1'$ | $\pm 1'$ | 40-20 |
| KERAP4-20-550 | 20 | $\lambda/4$ | $\pm 1'$ | $\pm 1'$ | 40-20 |
| KERAP4-25-550 | 25 | $\lambda/4$ | $\pm 1'$ | $\pm 1'$ | 40-20 |
| KERAP4-30-550 | 30 | $\lambda/4$ | $\pm 1'$ | $\pm 1'$ | 40-20 |

Compatible Optic Mounts

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