

Corner Cube Prisms | CCB

RoHS

Catalog Code

W3126

Application Systems

Optics & Optical Coatings

Opto-Mechanics

Bases

Manual Stages

Actuators & Adjusters

Motorized Stages

Light Sources & Laser Safety

Index

Guide

Mirrors

Beamsplitters

Polarizers

Lenses

Multi-Element Optics

Filters

Prisms

Substrates/Windows

Optical Data

Maintenance

Selection Guide

45 Degrees Angle

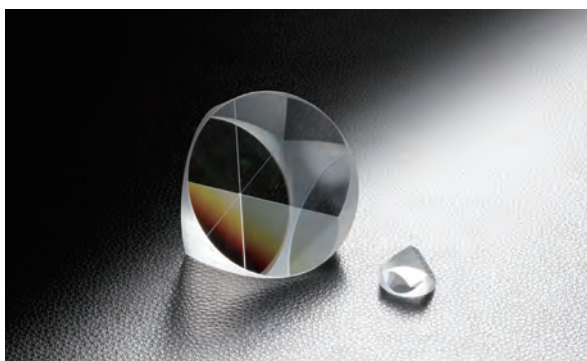
Retro-reflectors

Equilateral Dispersing Prisms

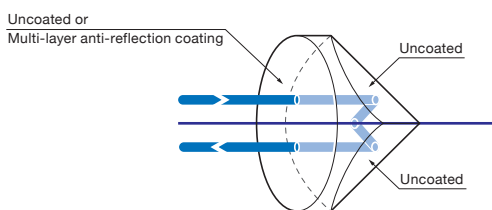
Others

Retro-reflectors, or corner cubes as they are sometimes called, have the property that light incident on the face of the prism is deviated by 180 degrees independently of its angle of incidence. This means that any light incident on the surface will be reflected back along the same path that it came from. These retro-reflectors are extremely precise providing an exact 180 degree deviation within a 5arcsec tolerances. This enables them to be used for high precision applications or with lasers over very long distances. These angle insensitive; mirrors have numerous uses in alignment and metrology. Our retro-reflectors are available uncoated or with a visible broadband AR coating on the face.

- The corner cube is fabricated under high precision process to assure the reflection of high accuracy light.
- Light entering the corner cube reflects off each of the three surfaces and the emerging light is parallel to the entrance beam.
- We also offer CCB-M option with an anti-reflection coating to minimize light power loss.

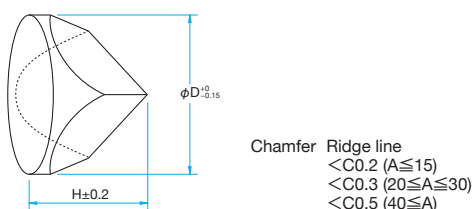


Schematic



Outline Drawing

(in mm)



Uncoated

Part Number	Diameter ϕD [mm]	Height H [mm]
CCB-10	$\phi 10$	8.6
CCB-15	$\phi 15$	11.4
CCB-20	$\phi 20$	15.6
CCB-25	$\phi 25$	19.0
CCB-30	$\phi 30$	22.7
CCB-50	$\phi 50$	36.5

Specifications

Material	BK7
Wavefront distortion on the side of the aperture	$\lambda/4$
Angular deviation of beam	$<5''$
Coating	CCB: Uncoated CCB-M: Broadband multi-layer AR coating for Visible (BMAR)
Incident angle	$\pm 20^\circ$ (Range obtained by Total reflection Critical Angle)
Surface Quality (Scratch-Dig)	40-20
Clear aperture	90% of actual aperture

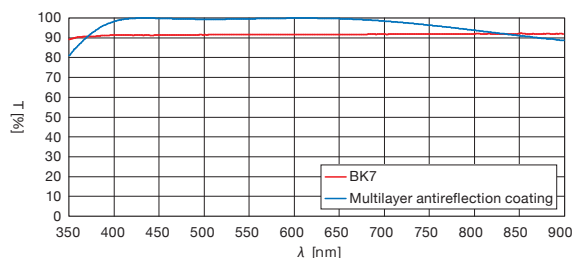
Guide

- We also offer hollow retro-reflector (RCCB) which can assure incident angle of 20 degrees without change in reflection light power. [Reference](#) B273

Attention

- Light entering the corner cube reflects off each of the three surfaces and the emerging light is parallel to the entrance beam.
- To reduce the affects of polarizaton, we recommend the use of a hollow retroreflector (RCCB). [Reference](#) B273

Typical Transmittance Data T: Transmission



Multi-layer anti-reflection coating

Part Number	Diameter ϕD [mm]	Height H [mm]	Laser Damage Threshold* [J/cm ²]
CCB-10M	$\phi 10$	8.6	4
CCB-15M	$\phi 15$	11.4	4
CCB-20M	$\phi 20$	15.6	4
CCB-25M	$\phi 25$	19.0	4
CCB-30M	$\phi 30$	22.7	4
CCB-50M	$\phi 50$	36.5	4

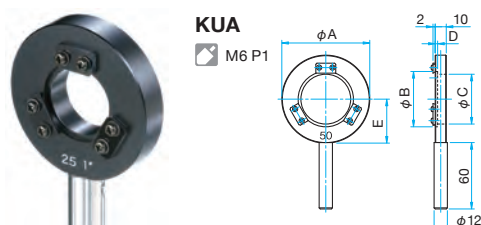
* Laser pulse width 10ns, repetition frequency 20Hz

Corner Cube Prism Holders | KUA

Catalog Code

W3127

We offer holders to mount each of our catalog corner cubes, consult our Sales Division for assistance in your selection.



Specifications

Part Number	Parts of assembled optics	Diameter ϕA [mm]	Optics aperture ϕB [mm]	Clear aperture ϕC [mm]	D [mm]	E [mm]	Weight [kg]
KUA-10	CCB-10	$\phi 42$	$\phi 10$	$\phi 8$	1.0	20	0.07
KUA-15	CCB-15	$\phi 42$	$\phi 15$	$\phi 12$	1.2	20	0.08
KUA-20	CCB-20	$\phi 52$	$\phi 20$	$\phi 17$	1.5	25	0.09
KUA-25	CCB-25	$\phi 52$	$\phi 25$	$\phi 22$	1.4	25	0.10
KUA-30	CCB-30	$\phi 62$	$\phi 30$	$\phi 27$	2.0	30	0.12
KUA-50	CCB-50	$\phi 82$	$\phi 50$	$\phi 45$	2.0	40	0.14