Corner Cube Prisms | CCB

RoHS Catalog Code W3126

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Retro-reflectoes
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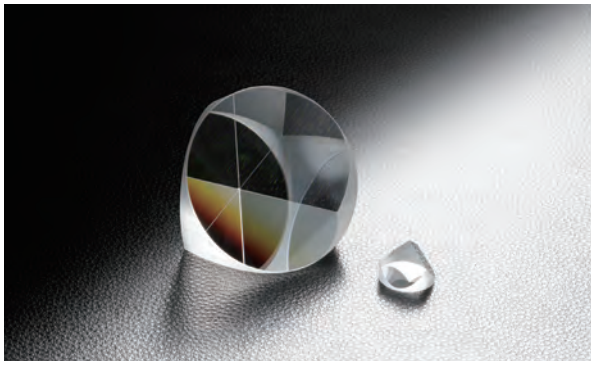
Retro-reflectors, or corner cubes as they are sometimes called, have the property that light incident on the face of the prism is deviated by 180 degrees independently of its angle of incidence. This means that any light incident on the surface will be reflected back along the same path that it came 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 visable 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.



Specifications

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

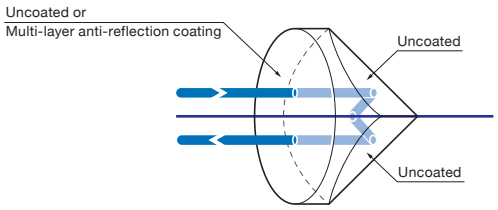
Guide

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

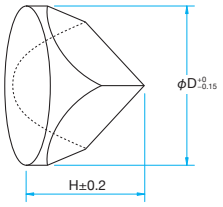
Attention

▶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 recommand the use of a hollow retroreflector (RCCB). Reference B273

Schematic

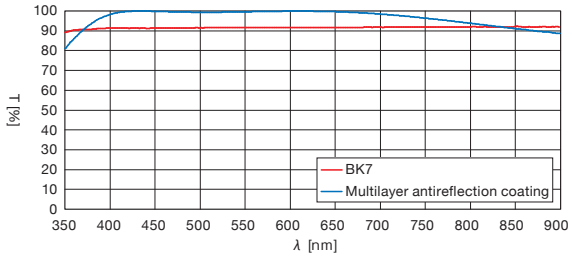


Outline Drawing (in mm)



Chamfer Ridge line
<C0.2 (A≦15)
<C0.3 (20≦A≦30)
<C0.5 (40≦A)

Typical Transmittance Data T: Transmission



Uncoated

Part Number	Diameter ϕD [mm]	Height H [mm]
CCB-10	ϕ10	8.6
CCB-15	ϕ15	11.4
CCB-20	ϕ20	15.6
CCB-25	ϕ25	19.0
CCB-30	ϕ30	22.7
CCB-50	ϕ50	36.5

Multi-layer anti-reflection coating

Part Number	Diameter ϕD [mm]	Height H [mm]	Laser Damage Threshold* [J/cm²]
CCB-10M	ϕ10	8.6	4
CCB-15M	ϕ15	11.4	4
CCB-20M	ϕ20	15.6	4
CCB-25M	ϕ25	19.0	4
CCB-30M	ϕ30	22.7	4
CCB-50M	ϕ50	36.5	4

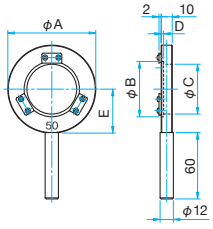
* Laser pulse width 10ns, repetition frequency 20Hz

Corner Cube Prism Holders | KUA

Catalog Code W3127

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

KUA
M6 P1



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	ϕ42	ϕ10	ϕ8	1.0	20	0.07
KUA-15	CCB-15	ϕ42	ϕ15	ϕ12	1.2	20	0.08
KUA-20	CCB-20	ϕ52	ϕ20	ϕ17	1.5	25	0.09
KUA-25	CCB-25	ϕ52	ϕ25	ϕ22	1.4	25	0.10
KUA-30	CCB-30	ϕ62	ϕ30	ϕ27	2.0	30	0.12
KUA-50	CCB-50	ϕ82	ϕ50	ϕ45	2.0	40	0.14