Hybrid Cube Half Mirrors | HCHB

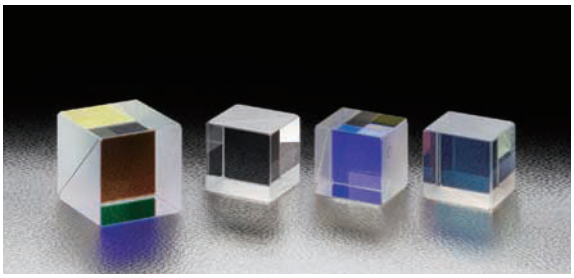
RoHS

- Application Systems
- Machine Vision
- Manual Positions
- Motion Control Products
- Optical & Mirror Holder
- F A Parts
- Measurement &Control
- FA Electrical Parts
- Tool & Measure
- Cleanroom & AntiStatic
- Index

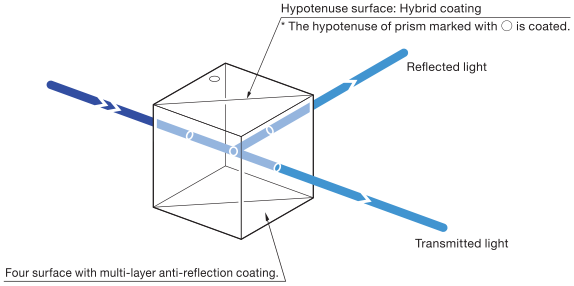
Mirrors
Beamsplitters
Filters
Polarizers
Lenses
Multi-Element Optics
Prisms
Substrates & Windows
Holder & Vibration isolator

Low polarizing cube half mirrors that can be used for broadband visible and infrared light. Applicable for polarizing systems and lasers with multiple wavelength or visible light.

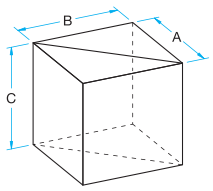
- This hybrid coating is composite based consisting of dielectric multi-layer and metallic coatings. The result is low polarizing and broadband.
- As it is cube shaped, there will not be any lateral shift of the optical axis when a normal incident beam is applied. During transmission and reflection of lights, the aperture remains unchanged.
- Even when the orientation of linear polarization has been changed, beams are equally divided as reflected (R) : transmitted (T) (ratio is 1:1)



Schematic



Outline Drawing (in mm)



●Tolerance
A ±0.2
B ±0.2
C ±0.2

Specifications

Material	BK7
Surface flatness of substrate	λ/4
Beam Deviation	<5′
Coating	Hypotenuse surface: Hybrid coating (dielectric multi-layer coating and metallic coating) Four surfaces: Multi-layer anti-reflection coating
Incident angle	0°
Divergence ratio (reflectance : transmittance)	1 : 1
Laser Damage Threshold	0.3J/cm² (Laser pulse width 10ns, repetition frequency 20Hz)
Surface Quality (Scratch–Dig)	40–20
Clear aperture	85% of actual dimension

Guide

- ▶Please contact our International Sales Division for customized products. (Customized on size, wavelength or R:T, etc.) Reference C063
- ▶For a guarantee in reflected wavefront error or transmitted wavefront error, please contact our International Sales Division.

Attention

- ▶Input beam from the prism side is indicated by a ○. Reflection and refraction over wavelength will differ when light input is applied from the opposite side of the prism.
- ▶Approximately 10% to 15% of absorption occurs in hybrid coating due to the properties in metallic coating. Hence, any additional transmitted or reflected light will not achieve 100%.
- ▶Phase retardation of light input will not be preserved. Use a waveplate for phase compensation.
- ▶Wavelength dispersion on transmitted and reflected light derives from refraction index and glass thickness. And also, when diverging or introducing a focusing beam, chromatic aberration or spherical aberration may occur.

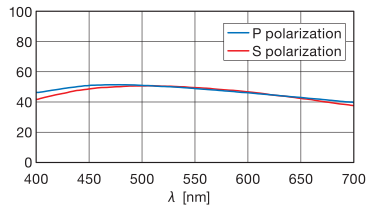
Specifications

Part Number	Wavelength Range [nm]	A=B=C [mm]	Transmittance [%]	Polarization dependency | Tp-Ts | [%]
HCHB-10-550	400 – 700	10	45±10 (550nm)	<10
HCHB-15-550	400 – 700	15	45±10 (550nm)	<10
HCHB-20-550	400 – 700	20	45±10 (550nm)	<10
HCHB-10-NIR	700 – 1100	10	47±10 (900nm)	<20 (<10: 800 – 1100nm)
HCHB-15-NIR	700 – 1100	15	47±10 (900nm)	<20 (<10: 800 – 1100nm)
HCHB-20-NIR	700 – 1100	20	47±10 (900nm)	<20 (<10: 800 – 1100nm)
HCHB-10-IR	1300 – 1550	10	45±10 (1400nm)	<10
HCHB-15-IR	1300 – 1550	15	45±10 (1400nm)	<10
HCHB-20-IR	1300 – 1550	20	45±10 (1400nm)	<10

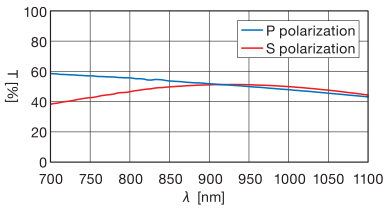
Typical Transmittance Data

T: Transmission

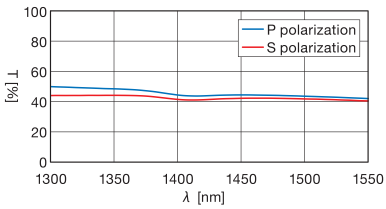
HCHB-550



HCHB-NIR



HCHB-IR



Compatible Optic Mounts

PH-25, -40 / PH-25PHRO, -40PHRO