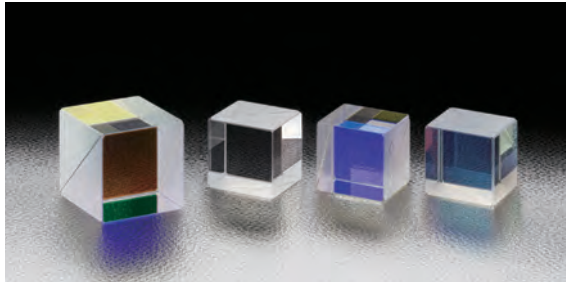


Hybrid Cube Half Mirrors | HBCH

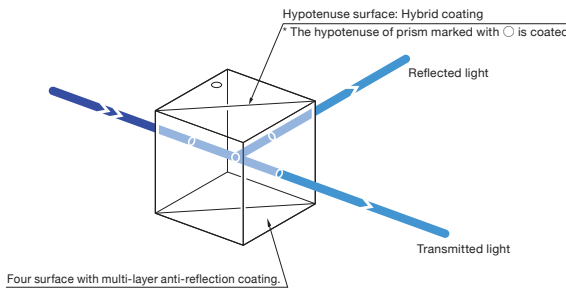
RoHS Catalog Code W3013

Low polarizing cube half mirrors can be used for broadband visible and infrared light. Cubes are applicable for use in polarizing systems and lasers with multiple wavelength or visible light.

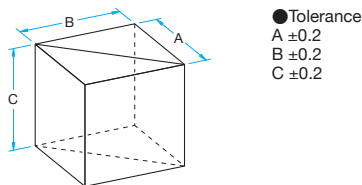
- This hybrid coating is a special combination of metallic and dielectric multi-layers that result in low polarizing and broadband coating.
- As it is cube shaped, there will not be any lateral shift of the optical axis when a normal incident beam is applied. During transmission and reflection of lights, 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



Specifications

Material	BK7
Surface flatness of substrate	$\lambda/4$
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/cm ² (Laser pulse width 10ns, repetition frequency 20Hz)
Surface Quality (Scratch-Dig)	40-20
Clear aperture	85% of actual dimension

Guide

- ▶ Please contact our Sales Team for customized products. (Customized on size, wavelength or R:T, etc.) [Reference](#) B068
- ▶ For a guarantee in reflected wavefront error or transmitted wavefront error, please contact our Sales Division.

Attention

- ▶ Input beam from the prism side is indicated by a "O". 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 reducing the transmitted or reflected light.
- ▶ Phase retardation of light input will not be preserved. Use a wave-plate for phase compensation.
- ▶ Wavelength dispersion of transmitted and reflected light is derived from refractive index and glass thickness and when diverging or introducing a focusing beam, chromatic aberration or spherical aberration may occur.

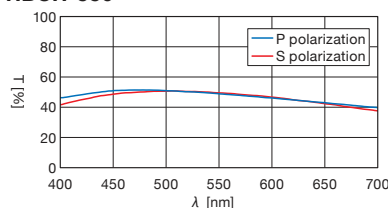
Specifications

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

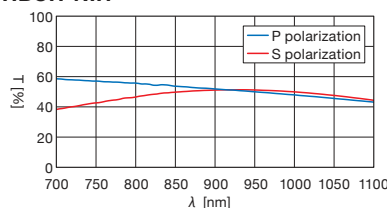
Typical Transmittance Data

T: Transmission

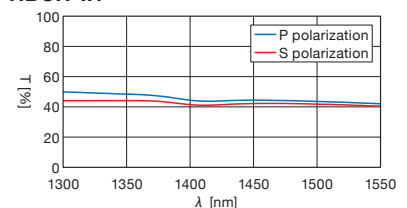
HBCH-550



HBCH-NIR



HBCH-IR



Compatible Optic Mounts

PLH-25, -40 / KKD-25PHRO, -40PHRO

Application Systems

Optics & Optical Coatings

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Half Mirror Plate

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Harmonic Separator

Beam Samplers

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