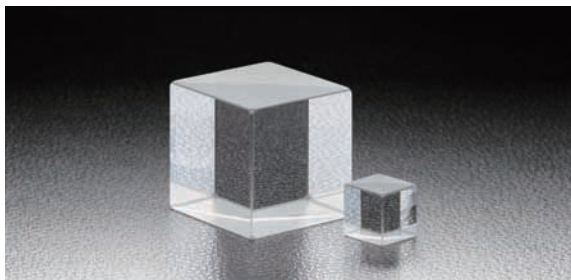


Chromium Cube Half Mirrors | CCHB

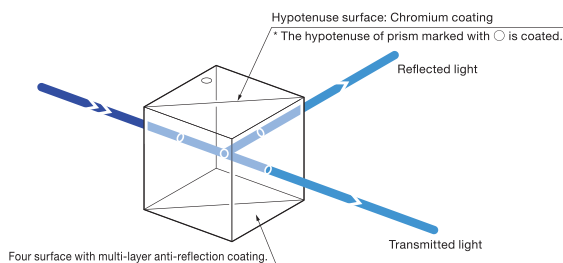


Chromium cube half mirrors consist of two right angle prisms. One of them is coated with chromium (Cr) on the hypotenuse face. Half mirror divides input beam to reflectance and transmittance in 1:1. A beamsplitter of R:T=1:1 is called "Half Mirror".

- Four surfaces of the cube are coated with multi-layer anti-reflection coatings
- Approximately one third of the input beam is lost because of absorption of chromium. However these beamsplitters do not depend on wavelength, polarization and incident angle of the input beam, and provide a highly neutral reflectivity.
- For cube beamsplitters, unlike plate beamsplitters, beam deviations at transmission and ghosts rarely occur.

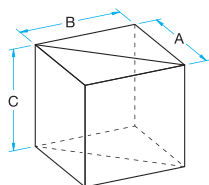


Schematic



Outline Drawing

(in mm)



- Tolerance
- A ±0.2
- B ±0.2
- C ±0.1

Specifications

Part Number	Wavelength Range [nm]	A=B=C [mm]
CCHB-10-550	400 - 700	10
CCHB-15-550	400 - 700	15
CCHB-20-550	400 - 700	20
CCHB-25-550	400 - 700	25
CCHB-30-550	400 - 700	30
CCHB-40-550	400 - 700	40
CCHB-50-550	400 - 700	50
CCHB-10-800	750 - 850	10
CCHB-15-800	750 - 850	15
CCHB-20-800	750 - 850	20

Specifications

Material	BK7
Surface flatness of substrate	$\lambda/4$
Beam Deviation	$<5'$
Coating	Hypotenuse surface: Chromium Four surfaces: Multi-layer anti-reflection coating
Incident angle	0°
Transmittance	Average 28±5% (The average value of the P-Polarization and the S-Polarization)
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 aperture

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.

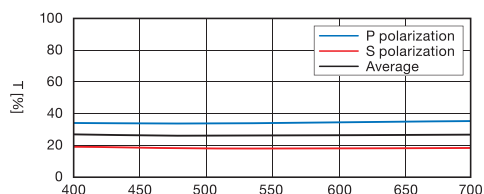
Attention

- ▶ Input beam from the prism side is indicated by a ○.
- ▶ 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.
- ▶ The transmittance curves are based on actual measurements and may be different with manufacturing lots.
- ▶ The surface flatness is the reflected wavefront distortion of the surface before coating.
- ▶ Be sure to wear laser safety goggles when checking optical path and adjusting optical axis.

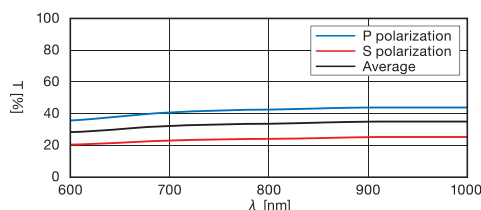
Typical Reflectance Data

T: Transmission

CCHB-550



CCHB-800



Compatible Optic Mounts

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

Application Systems

Machine Vision

Manual Positions

Motion Control Products

Optical & Mirror Holder

FA Parts

Measurement & Control

FA Electrical Parts

Tool & Measure

Cleanroom & AntiStatic

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Mirrors

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Prisms

Substrates & Windows

Holder & Vibration isolator