

Non-polarizing Cube Half Mirrors | NPCH

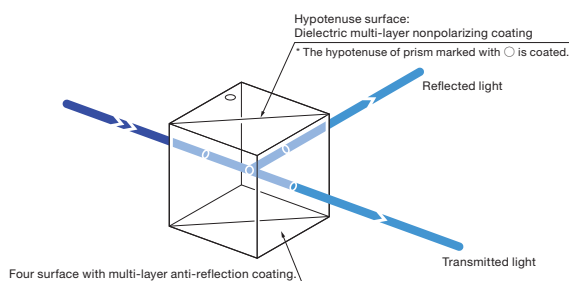
RoHS

Half mirrors have an even 1:1 ratio of reflection and transmission in both linear polarized light and normal light source.

- The reflection to transmission ratio is 1:1 regardless of the polarization condition from the input beam.
- Depending on polarization, the reflection to transmission ratio of these products does not vary.
- The laser lines listed correspond to various laser wavelengths.
- Narrowband multi-layer AR coatings are applied to the four surfaces of the cube.
- These cubes are designed for a single wavelength because the effective bandwidth of a non-polarizing coating is narrow.

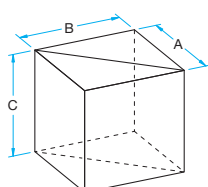


Schematic



Outline Drawing

(in mm)



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

Specifications

Material	BK7, Synthetic fused silica
Surface flatness of substrate	$\lambda/4$
Beam Deviation	$<5'$
Coating	Hypotenuse Surface: Dielectric multi-layer nonpolarizing 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)	20-10
Clear aperture	85% of Circle to actual dimension (80% of actual aperture for 5 and 7mm dimension (A=B=C) products.)

Guide

- ▶ Please contact our Sales Team for customized products. (Customized on size, wavelength or R:T, etc.)
- ▶ Non-polarizing beam splitter (plate type) is also possible.
- ▶ 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".
- ▶ 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.

266 – 532nm

Part Number	Wavelength Range [nm]	A=B=C [mm]	Material	Transmittance [%]
NPCH-10-2660	266	10	Synthetic fused silica	50 \pm 10
NPCH-15-2660	266	15	Synthetic fused silica	50 \pm 10
NPCH-20-2660	266	20	Synthetic fused silica	50 \pm 10
NPCH-10-3550	355	10	Synthetic fused silica	50 \pm 7
NPCH-15-3550	355	15	Synthetic fused silica	50 \pm 7
NPCH-20-3550	355	20	Synthetic fused silica	50 \pm 7
NPCH-10-4050	405	10	BK7	50 \pm 7
NPCH-15-4050	405	15	BK7	50 \pm 7
NPCH-20-4050	405	20	BK7	50 \pm 7
NPCH-10-4880	488	10	BK7	50 \pm 5
NPCH-15-4880	488	15	BK7	50 \pm 5
NPCH-20-4880	488	20	BK7	50 \pm 5
NPCH-10-5145	514.5	10	BK7	50 \pm 5
NPCH-15-5145	514.5	15	BK7	50 \pm 5
NPCH-20-5145	514.5	20	BK7	50 \pm 5
NPCH-10-5320	532	10	BK7	50 \pm 5
NPCH-15-5320	532	15	BK7	50 \pm 5
NPCH-20-5320	532	20	BK7	50 \pm 5

Compatible Optic Mounts

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

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Application Note

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Harmonic Separator

Beam Samplers

Others



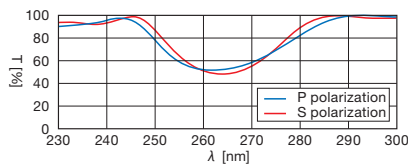
Cube Type: Nonpolarizing 632.8 – 1550nm

Part Number	Wavelength Range [nm]	A=B=C [mm]	Material	Transmittance [%]
NPCH-05-6328	632.8	5	BK7	50±5
NPCH-10-6328	632.8	10	BK7	50±5
NPCH-15-6328	632.8	15	BK7	50±5
NPCH-20-6328	632.8	20	BK7	50±5
NPCH-10-6700	670	10	BK7	50±5
NPCH-15-6700	670	15	BK7	50±5
NPCH-20-6700	670	20	BK7	50±5
NPCH-10-7800	780	10	BK7	50±5
NPCH-15-7800	780	15	BK7	50±5
NPCH-20-7800	780	20	BK7	50±5
NPCH-10-8300	830	10	BK7	50±5
NPCH-15-8300	830	15	BK7	50±5
NPCH-20-8300	830	20	BK7	50±5
NPCH-10-10640	1064	10	BK7	50±5
NPCH-15-10640	1064	15	BK7	50±5
NPCH-20-10640	1064	20	BK7	50±5
NPCH-10-13000	1300	10	BK7	50±5
NPCH-15-13000	1300	15	BK7	50±5
NPCH-20-13000	1300	20	BK7	50±5
NPCH-10-15500	1550	10	BK7	50±5
NPCH-15-15500	1550	15	BK7	50±5
NPCH-20-15500	1550	20	BK7	50±5

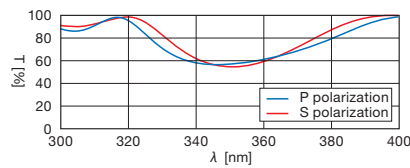
Typical Transmittance Data

T: Transmission

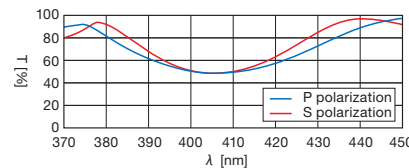
NPCH-2660



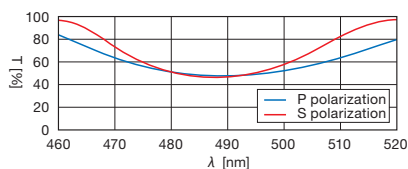
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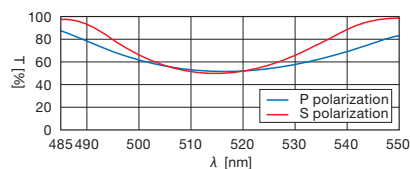
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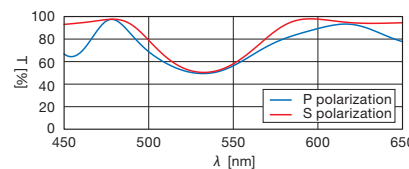
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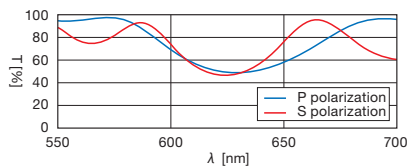
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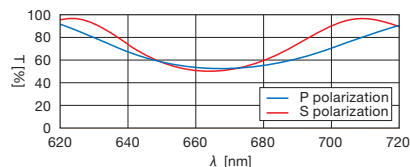
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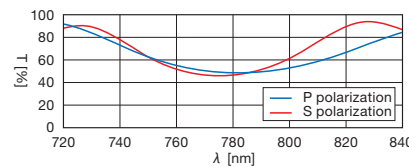
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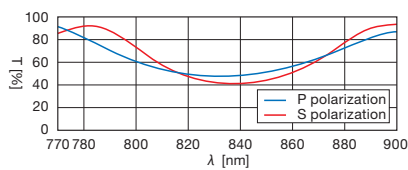
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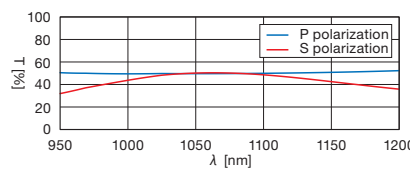
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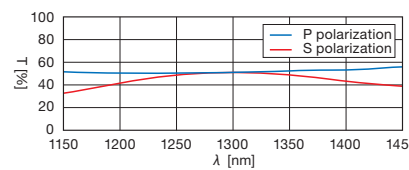
NPCH-8300



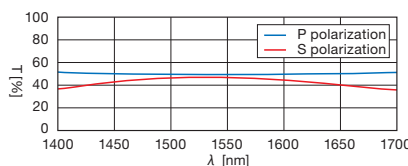
NPCH-10640



NPCH-13000



NPCH-15500



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