

# 50:50 Polarization-Insensitive Beamsplitter Cubes (Page 1 of 2)

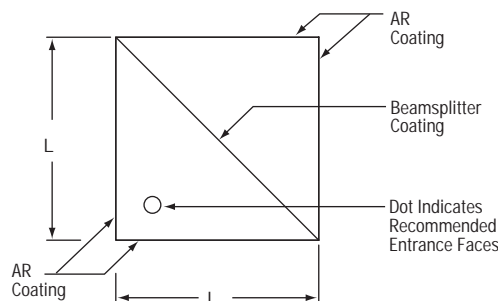
**NEW**  
versions

## Specifications

- **Four Cube Sizes:** 5 mm, 10 mm, 20 mm, and 25.4 mm
- **Dimensional Tolerance:** +0.0/-0.2 mm
- **Three Wavelength Ranges:** 400 - 700 nm, 700 - 1100 nm, and 1100 - 1600 nm
- **Broadband AR Coating:** All Four Input/Output Faces
- **Material:** N-BK7
- **Clear Aperture:**
  - >70% of Cube Face (5 mm)
  - >80% of Cube Face (10 mm, 20 mm, and 25.4 mm Versions)
- **Splitter Ratio Tolerance:** <15% Over Entire Wavelength Range
- **Polarization Dependence:** |Ts-Tp|<15% and |Rs-Rp|<15%
- **Surface Flatness:** λ/10 at 633 nm
- **Surface Quality:** 40-20 Scratch-Dig
- **Transmitted Beam Deviation:** <5 arcmin (Max)
- **Reflected Beam Deviation:** 90° ± 5 arcmin
- **Durability:** MIL-M-13508C, MIL-C-675C, MIL-C-14806

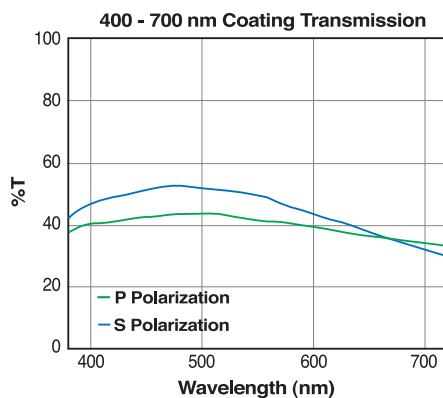
Thorlabs' BS Series of non-polarizing beamsplitting cubes are offered in 5 mm, 10 mm, 20 mm, and 25.4 mm sizes, each of which is available with coatings designed for the 400 to 700 nm, 700 to 1100 nm, or 1100 to 1600 nm spectral range. These cubes provide a 50:50 splitting ratio that is nearly independent of the polarization of the incident light; the small polarization-dependent effect that does exist can be seen on the transmission plots, but for all wavelength ranges, the S- and P-polarized components are matched to within 15% of each other.

Each cube is fabricated from N-BK7 and designed such that the transmitted beam propagation direction is slightly offset from the incident light's propagation direction. In addition, the entrance and exit faces of the cube have antireflection coatings to minimize back reflections, and the internal diagonal surface has a broadband beamsplitting coating. Since there is only one reflecting surface, this design inherently avoids ghost images.



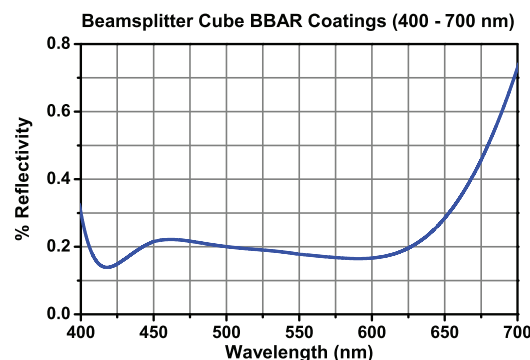
**Mechanical**  
Drawings Available on the  
**WEB**

## 400 - 700 nm Beamsplitter Cubes



## Specifications

- **Four Cube Sizes:** 5 mm, 10 mm, 20 mm, and 25.4 mm
- **Wavelength Range:** 400 - 700 nm
- **Material:** N-BK7
- **Splitter Ratio:** 50:50
- **Surface Flatness:** λ/10 at 633 nm
- **Surface Quality:** 40-20 Scratch-Dig



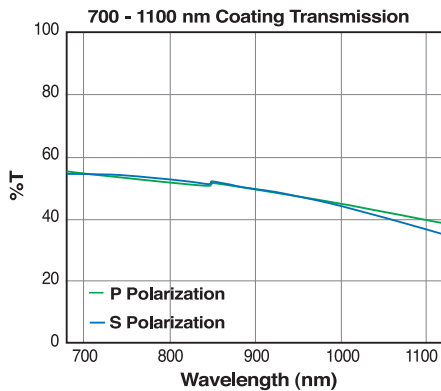
Please contact your local Thorlabs office for custom optical scans.

NEW

ITEM#	\$	£	€	RMB	SIZE (L)	DESCRIPTION
BS007	\$ 140.00	£ 97.10	€ 124,30	¥ 1,182.20	5 mm	400 - 700 nm AR-Coated 50:50 Beamsplitter Cube
BS010	\$ 153.00	£ 106.10	€ 135,90	¥ 1,292.00	10 mm	400 - 700 nm AR-Coated 50:50 Beamsplitter Cube
BS016	\$ 178.50	£ 123.80	€ 158,50	¥ 1,507.30	20 mm	400 - 700 nm AR-Coated 50:50 Beamsplitter Cube
BS013	\$ 193.80	£ 134.40	€ 172,10	¥ 1,636.50	25.4 mm	400 - 700 nm AR-Coated 50:50 Beamsplitter Cube

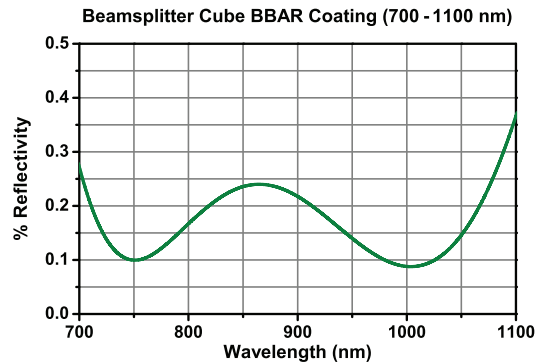
# 50:50 Polarization-Insensitive Beamsplitter Cubes (Page 2 of 2)

## 700 - 1100 nm Beamsplitter Cubes



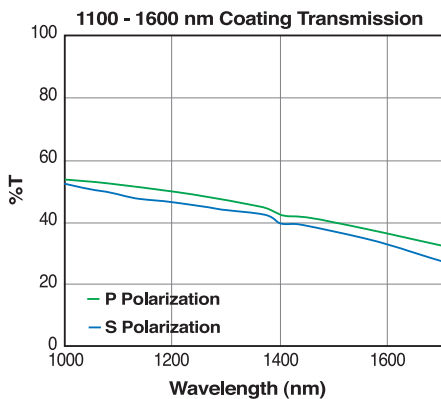
### Specifications

- **Four Cube Sizes:** 5 mm, 10 mm, 20 mm, and 25.4 mm
- **Wavelength Range:** 700 - 1100 nm
- **Material:** N-BK7
- **Splitter Ratio:** 50:50
- **Surface Flatness:**  $\lambda/10$  at 633 nm
- **Surface Quality:** 40-20 Scratch-Dig



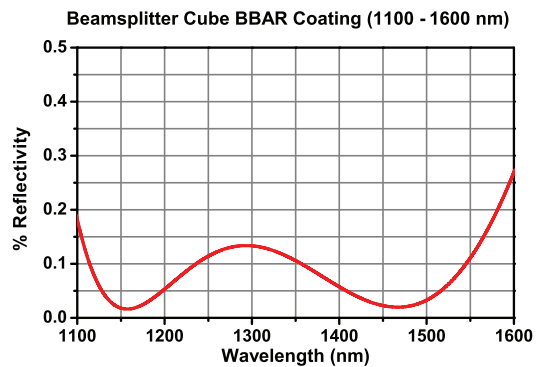
ITEM#	\$	£	€	RMB	SIZE (L)	DESCRIPTION
BS008	\$ 140.00	£ 97.10	€ 124.30	¥ 1,182.20	5 mm	700 - 1100 nm AR-Coated 50:50 Beamsplitter Cube
BS011	\$ 161.20	£ 111.80	€ 143.20	¥ 1,361.20	10 mm	700 - 1100 nm AR-Coated 50:50 Beamsplitter Cube
BS017	\$ 181.60	£ 125.90	€ 161.30	¥ 1,533.50	20 mm	700 - 1100 nm AR-Coated 50:50 Beamsplitter Cube
BS014	\$ 197.90	£ 137.20	€ 175.70	¥ 1,671.10	25.4 mm	700 - 1100 nm AR-Coated 50:50 Beamsplitter Cube

## 1100 - 1600 nm Beamsplitter Cubes



### Specifications

- **Four Cube Sizes:** 5 mm, 10 mm, 20 mm, and 25.4 mm
- **Wavelength Range:** 1100 - 1600 nm
- **Material:** N-BK7
- **Splitter Ratio:** 50:50
- **Surface Flatness:**  $\lambda/10$  at 633 nm
- **Surface Quality:** 40-20 Scratch-Dig



Please contact your local Thorlabs office for custom optical scans.

ITEM#	\$	£	€	RMB	SIZE (L)	DESCRIPTION
BS009	\$ 140.00	£ 97.10	€ 124.30	¥ 1,182.20	5 mm	1100 - 1600 nm AR-Coated 50:50 Beamsplitter Cube
BS012	\$ 161.20	£ 111.80	€ 143.20	¥ 1,361.20	10 mm	1100 - 1600 nm AR-Coated 50:50 Beamsplitter Cube
BS018	\$ 181.60	£ 125.90	€ 161.30	¥ 1,533.50	20 mm	1100 - 1600 nm AR-Coated 50:50 Beamsplitter Cube
BS015	\$ 197.90	£ 137.20	€ 175.70	¥ 1,671.10	25.4 mm	1100 - 1600 nm AR-Coated 50:50 Beamsplitter Cube

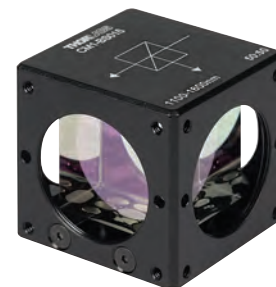
**NEW**

## Mounted Version of our Beamsplitter Cubes

- Saves Time in Optical Setups
- Keeps Optics Clean by Removing the Need to Handle the Glass
- Ideally Suited for Quick Prototyping

Thorlabs offers mounted versions of our beamsplitter cubes, which are directly compatible with our 30 mm cage systems.

**See Page 726 for More Details.**



Polarization-Insensitive, Cube-Mounted Beamsplitter, 1100 - 1600 nm