Beam Splitters

Beamsplitter Plates

Beamsplitter plates are primarily used to split or re-combine beam of light, especial, in high power lasers. When using beamsplitter plates, it is important to bear in mind that the two partial beams travel different optical paths. And the optical paths depend on the incident angle and the thickness of plates. The beam can be shifted.

Specifications:
Material: BK7 grade A optical glass
Dimension: ±0.2mm
Flatness: λ/4@ 632.8nm per 25mm
Surface quality: 60/40 scratch and dig
Parallelism: 1 arc minute
T/R: 50/50±5%, for random polarization, $T=(T_s+T_p)/2$

Coating on surface 1 and surface 2: (Incidence angle: 45 degree)
Broadband Beamsplitter:
S1: Broadband partial reflectance; S2: BBAR-coatings
Single wavelength Beamsplitter:
S1: Single wavelength partial reflectance; S2: "V" AR-coatings

Broadband Beamsplitter Plate

Wavelength(nm)	450-650	650-900	900-1200	1200-1550
Size(mm)	Part No.	Part No.	Part No.	Part No.
12.7x12.7x3	BBP0001	BBP0101	BBP0201	BBP0301
25.4x25.4x3	BBP0002	BBP0102	BBP0202	BBP0302
Φ25.4x3	BBP0003	BBP0103	BBP0203	BBP0303
50.8x50.8x3	BBP0004	BBP0104	BBP0204	BBP0304

Single wavelength Beamsplitter Plate

Size(mm)	12.7x12.7x3	25.4x325.4x3	Φ25.4x3	50.8x50.8x3
Part No.	SWP0001	SWP0002	SWP0003	SWP0004
Wavelength(nm)	488,514.5,532,632.8,635,670,780,850,980,1064,1300,1550nm			

Beamsplitter Cube

Compared with beamsplitter plate, *DELFA* beamsplitter cube has the following advantages:

1. **Identical path lengths for both the reflected and the transmitted beams.**
2. **The transmitted beam is neither displaced nor deflected.**
3. **Stable and compact.**
4. **Easy operation.**

Specifications:

Material: BK7 grade A optical glass

Dimension: ±0.2mm

Flatness: λ/4@ 632.8nm

Surface quality: 60/40 scratch and dig

Beam Deviation: <3 arc minutes

T/R: 50/50±5%, $T=(T_s+T_p)/2$

Broadband Beamsplitter Cube Coating:

Broadband partial reflectance: on hypotenuse face

BBAR-coatings: on all input and output face

Narrow band Beamsplitter cube Coatings:

Single wavelength partial reflectance: on hypotenuse face

"V"AR-coatings: on all input and output face

Broadband Beamsplitter Cube

Wavelength(nm)	450-650	650-900	900-1200	1200-1550
Size(mm)	Part No.	Part No.	Part No.	Part No.
10x10	BBC0001	BBC0101	BBC0201	BBC0301
12.7x12.7	BBC0002	BBC0102	BBC0202	BBC0302
15x15	BBC0003	BBC0103	BBC0203	BBC0303
20x20	BBC0004	BBC0104	BBC0204	BBC0304

Narrow band Beamsplitter Cube

Size(mm)	10x10	12.7x12.7	15x15	20x20
Part No.	SWC0001	SWC0002	SWC0003	SWC0004
Wavelength(nm)	488,514.5,532,632.8,635,670,780,850,980,1064,1300,1550nm			

Notes: Other T/R, wavelength ranges and only for S-polarization are available upon request.

Polarization Beamsplitter

Specification:
Material: BK7 grade A optical glass
Dimension: ±0.2mm
Surface quality: 60/40 scratch and dig
Beam Deviation: 3 arc minutes
Extinction ratio: >100:1
Principal transmittance: T_p >95% and T_s <1%
Principal reflectance: R_s>99% and R_p<5%
Coatings:
Polarization Beamsplitter coating: on hypotenuse
AR coating: R<0.25% per face for 4 faces
Wavelength: see the table

Aperture(mm)	5x5	10x10	12.7x12.7	15x15	20x20
Part No.	PB0001	PB0002	PB0003	PB0004	PB0005
Wavelength(nm)	488,514.5,532,632.8,635,670,780,850,980,1064,1300,1550nm				

Broadband Polarization Beamsplitter

Material: SF5 optical glass
Dimension: ±0.2mm
Surface quality: 60/40 scratch and dig
Beam Deviation: 3 arc minutes
Extinction ratio: >100:1
Principal transmittance: T_p >95% and T_s <1%
Principal reflectance: R_s>99% and R_p<5%
Coatings:
Broadband Polarization Beamsplitter coating: on hypotenuse
BBAR coating: on all input and output face
Wavelength: see the table

Aperture (mm)	450-680 Part No.	650-850 Part No.	900-1200 Part No.	1200-1550 Part No.
10x10	BPB0001	BPB0101	BPB0201	BPB0301
12.7x12.7	BPB0002	BPB0102	BPB0202	BPB0302
15x15	BPB0003	BPB0103	BPB0203	BPB0303
20x20	BPB0004	BPB0104	BPB0204	BPB0304

Notes: Other wavelength ranges are available upon request.