Beamsplitters

Beamsplitters are used to split or combine beam of light. The forms are in common use provided by UltiQuest: plate and cubes. Plates are used for most laser applications as they exhibit low absorption. Cubes are a convenient, protected form for low power applications. Pellicles are very thin membranes which do not produce interference from secondary reflections. The performance of beamsplitters is mainly depended on the coating specifications.

In selecting beamsplitters, the forms, coating, transmission and damage threshold should be considered.

Beamsplitters Plates:

Narrow Band Beamsplitter Plate(NBP)

Specifications:

Material: BK7 A grade Optical Glass

Dimension tolerance: ±0.2 mm

Surface Quality: 60 - 40 scratch and dig

Flatness: <λ/4 @632.8nm

Parallelism: <1'

T/R: 50/50±5 %, for random polarization

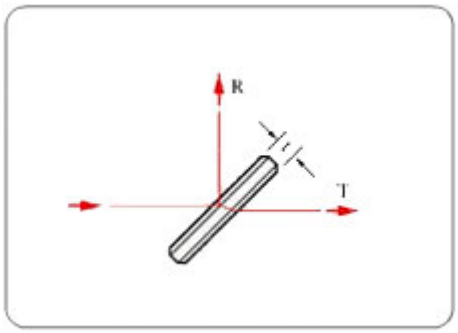
T=(Ts+Tp)/2, R=(Rs+Rp)/2

Chip: <0.200 mm

Coating: (Incident angle: 45°)

S1: Single Wavelength Partial reflectance

S2: "V"AR-coating



Part No.	Dimension(mm)	Standard Wavelength(nm)
NBP0101	12.7 x 12.7 x 3	488, 514.5, 532, 632.8,635, 670, 780, 850, 980, 1064, 1300, 1550
NBP0201	25.4 x 25.4 x 3	
NBP0301	50.8 x 50.8 x 3	
NBP0401	φ25.4 x 3	

Boardband Beamsplitter plate(BBP)

Specifications:

Material: BK7 A grade Optical Glass

Dimension Tolerance: ±0.2 mm

Surface Quality: 60 - 40 scratch and dig

Flatness: <λ/4 @632.8nm

Parallelism: <1'

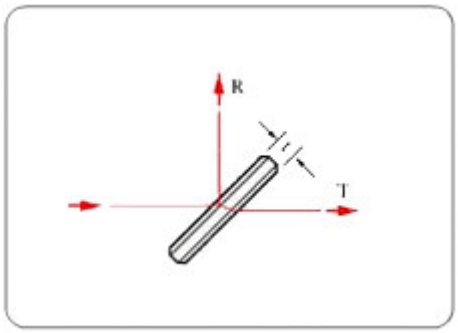
T/R: 50/50±5 %, for random polarization

T=(Ts+Tp)/2, R=(Rs+Rp)/2

Chip: <0.200 mm

Coating: (Incident angle: 45°)

S1: Boardband partial reflectance



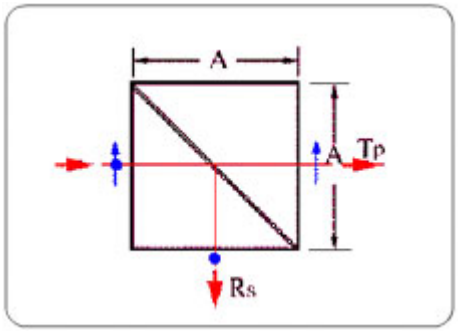
S2: BBAR-coatings

Wavelength(nm)		450~680	650~850	900~1200	1200~1550
Size(mm)	Material	Part No.	Part No.	Part No.	Part No.
12.7 x 12.7 x 3	BK7	BBP0101	BBP0102	BBP0103	BBP0104
25.4 x 25.4 x 3	BK7	BBP0201	BBP0202	BBP0203	BBP0204
50.8 x 50.8 x 3	BK7	BBP0301	BBP0302	BBP0303	BBP0304
φ25.4 x 3	BK7	BBP0401	BBP0402	BBP0403	BBP0404

Polarization Beamsplitter:

Narrow Band Polarizing Beamsplitter Cube(PBS)

Specifications:



Material: BK7 A grade Optical Glass

Dimension tolerance: ±0.2 mm

Surface Quality:

Standard: 60 - 40 scratch and dig

Precision: 40 - 10 scratch and dig

Flatness: <λ/4 @632.8nm

Beam Deviation: <3'

Extinction Ratio: >100:1

Principal Transmittance: Tp>95% and Ts<1%

Principal Reflectance: Rs>99% and Rp<5%

Chip: <0.200 mm

Pyramid error: <0.08

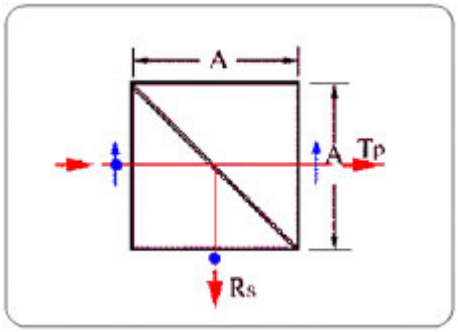
Coating: Polarization Beamsplitter coating on hypotenuse

AR coating R<0.25% on all input and output face

Part No.	Dimension(mm)	Standard Wavelength(nm)
PBS0601	3.2 x 3.2 x 3.2	488, 514.5, 532, 632.8,635, 670, 780, 850, 980, 1064, 1300, 1550
PBS0501	5 x 5 x 5	
PBS0101	10 x 10 x 10	
PBS0201	12.7 x 12.7 x 12.7	
PBS0301	15 x 15 x 15	
PBS0401	20 x 20 x 20	

Boardband Polarizing Beamsplitter Cube(BPS)

Specifications:



Material: SF5 A grade Optical Glass

Dimension tolerance: ±0.2 mm

Surface Quality:

Standard: 60 - 40 scratch and dig

Precision: 40 - 10 scratch and dig

Flatness: <λ/4 @632.8nm

Beam Deviation: <3'

Extinction Ratio: >100:1

Principal Transmittance: Tp>95% and Ts<1%

Principal Reflectance: Rs>99% and Rp<5%

Chip: <0.200 mm

Pyramid error: <0.08

Coating: Boardband polarization Beamsplitter coating on hypotenuse

BBAR coating on all input and output face

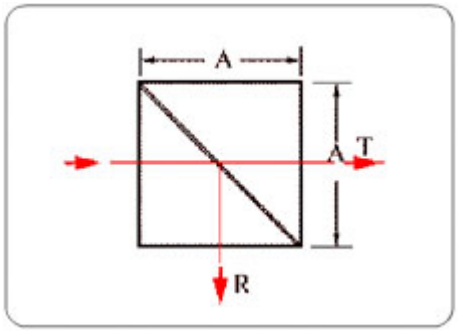
Damage threshold: Can endure 0.5mm Diameter beam with >300mW power

Wavelength(nm)		450~680	650~850	900~1200	1200~1550
Size(mm)	Material	Part No.	Part No.	Part No.	Part No.
3.2 x 3.2 x 3.2	SF5	BPS5601	BPS5602	BPS5603	BPS5604
5 x 5 x 5	SF5	BPS5501	BPS5502	BPS5503	BPS5504
10 x 10 x 10	SF5	BPS5101	BPS5102	BPS5103	BPS5104
12.7 x 12.7 x 12.7	SF5	BPS5201	BPS5202	BPS5203	BPS5204
15 x 15 x 15	SF5	BPS5301	BPS5302	BPS5303	BPS5304
20 x 20 x 20	SF5	BPS5401	BPS5402	BPS5403	BPS5404

Beamsplitter Cube:

Narrow Band Beamsplitter Cube(NBC)

Specifications:



Material: BK7 A grade Optical Glass

Dimension tolerance: ±0.2 mm

Surface Quality:

Standard: 60 - 40 scratch and dig

Precision: 40 - 10 scratch and dig

Flatness: <λ/4 @632.8nm

Beam Deviation: <3'

T/R: 50/50±5 %

T=(Ts+Tp)/2, R=(Rs+Rp)/2

Chip: <0.200 mm

Pyramid Error: <0.08

Coating: Single wavelength Partial reflectance on hypotenuse face

"V"AR-coatings on all input and output surface

Part No.	Dimension(mm)	Standard Wavelength(nm)
NBC0601	3.2 x 3.2 x 3.2	488, 514.5, 532, 632.8,635, 670, 780, 850, 980, 1064, 1300, 1550
NBS0501	5 x 5 x 5	
NBS0101	10 x 10 x 10	
NBS0201	12.7 x 12.7 x 12.7	
NBS0301	15 x 15 x 15	
NBS0401	20 x 20 x 20	

Boardband Beamsplitter Cube(BBC)

Specifications:

Material: BK7 A grade Optical Glass

Dimension tolerance: ±0.2 mm

Surface Quality:

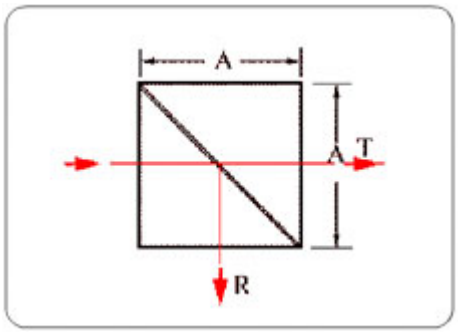
Standard: 60 - 40 scratch and dig

Precision: 40 - 10 scratch and dig

Flatness: <λ/4 @632.8nm

Beam Deviation: <3'

T/R: 50/50±5 %



T=(Ts+Tp)/2, R=(Rs+Rp)/2

Chip: <0.200 mm

Pyramid Error: <0.08

Coating: Broadband Partial reflectance on hypotenuse face

BBAR-coatings on all input and output surface

Wavelength(nm)		450~680	650~850	900~1200	1200~1550
Size(mm)	Material	Part No.	Part No.	Part No.	Part No.
3.2 x 3.2 x 3.2	BK7	BBC0601	BBC0602	BBC0603	BBC0604
5 x 5 x 5	BK7	BBC0501	BBC0502	BBC0503	BBC0504
10 x 10 x 10	BK7	BBC0101	BBC0102	BBC0103	BBC0104
12.7 x 12.7 x 12.7	BK7	BBC0201	BBC0202	BBC0203	BBC0204
15 x 15 x 15	BK7	BBC0301	BBC0302	BBC0303	BBC0304
20 x 20 x 20	BK7	BBC0401	BBC0402	BBC0403	BBC0404