



## Plate Beamsplitters

### High Energy Plate Beamsplitters

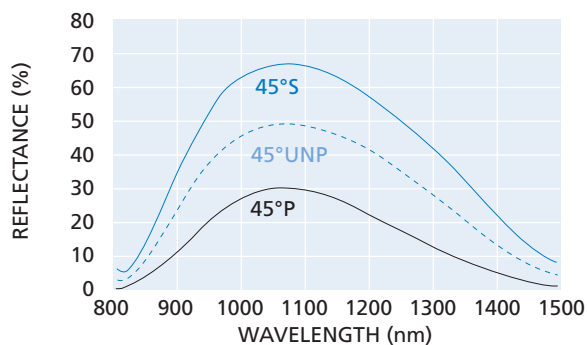
CVI Melles Griot high energy plate beamsplitters are used to separate a laser beam into two separate beams or to combine beams at right angles to each other. The front surface of the beamsplitter reflects a portion of the incoming beam. The BS1 beamsplitters exhibit almost no absorption and are designed specifically for 45° at the wavelength and polarization being used. Standard substrates have an antireflection coating on the second surface and a wedge of less than five arc minutes. However, the beamsplitter coating can be done on any CVI Melles Griot wedged or plane parallel substrate to meet your application requirements.

For pick-off beam samplers see product code W1. For normal incidence beamsplitters, see product code PR1.

- Each face is polished to flatness of  $\lambda/10$  or better.
- Beamsplitters are ideal for beam separation or combination.
- Ultrahard, high-damage-threshold coatings are available for all wavelengths from 193 nm to 2100 nm.
- Internally reflected ghost images are minimized by an antireflection coating on the rear surface.
- Transmission curves are supplied with every component.

#### SPECIFICATIONS: High Energy Plate Beamsplitters

<b>Optical Material</b>	$\lambda < 450$ nm: UV-grade fused silica $\lambda \geq 450$ nm: BK7 glass
<b>Surface Figure</b>	$\lambda/10$ at 633 nm
<b>Surface Quality</b>	10-5 scratch and dig
<b>Diameter</b>	$\phi + 0 / - 0.25$ mm
<b>Thickness</b>	$t \pm 0.25$ mm
<b>Angle of Incidence</b>	45°
<b>Wedge</b>	$\leq 5$ arc min
<b>Chamfer</b>	0.35 mm at 45° (typical)
<b>Adhesion and Durability</b>	Per MIL-C-675C. Insoluble in lab solvents.
<b>Clear Aperture</b>	$\geq 85\%$ of central diameter
<b>Damage Threshold</b>	
Pulsed	10 J/cm <sup>2</sup> , 20 nsec, 20 Hz @ 1064 nm
cw	1 MW/cm <sup>2</sup> @ 1064 nm



BS1-1064-50-45UNP high energy plate beamsplitter

OEM

Windows and Optical Flats

Prisms and Retroreflectors

Spherical Lenses

Cylindrical Lenses

Multielement Lenses

Mirrors

Beamsplitters

Waveplates

Polarization Components

Ultrafast Components

Filters and Etalons

**Build Your Own**

BS1 — 532 — 67 — 1525 — 45P

**Product Code**

BS1

**Center Wavelength nm**

193	308	400	633	800	1047	1090	1850
213	337	488/515	670	830	1053	1100	1900
257	351	510/578	694	850	1064	1235	2010
248	355	527	755	980	1070	1319	2100
266	364	532	780	1030	1080	1550	

**Reflectance %** (for  $\lambda < 230\text{nm}$ , Reflectance is from 10% to 95% only)

10 ± 4.0	33 ± 5.0	67 ± 5.0	90 ± 3.0
20 ± 5.0	40 ± 5.0	70 ± 5.0	95 ± 2.0
25 ± 5.0	50 ± 5.0	75 ± 5.0	98 ± 1.0
30 ± 5.0	60 ± 5.0	80 ± 5.0	99 ± 0.5

Size Code	Diameter	Thickness						
1203M	12.5mm	3.0mm	1012	1.00"	0.125"	2025	2.00"	0.25"
0525	0.50"	0.25"	1025	1.00"	0.25"	2037	2.00"	0.375"
0537	0.50"	0.375"	1037	1.00"	0.375"	3050	3.00"	0.50"
0725	0.75"	0.25"	1525	1.50"	0.25"	4050	4.00"	0.50"
0737	0.75"	0.375"	1537	1.50"	0.375"			
2506M	25.0mm	6.0mm	5010M	50.0mm	10.0mm			

**Angle of Incidence** in degrees with Polarization

45P                      45S                      45UNP

Other dimensions are available.