

Optics

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- Beamsplitters**
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- Gas Cells



These non-polarizing beamsplitters use the same coatings as our non-polarizing beamsplitting cubes. The back surface has a slight wedge of 30arcmin to help eliminate interference fringes. The front surface is coated with the broadband beamsplitter coating, while the back surface has a broadband AR coating ($R < 0.5\%$) to minimize ghosting.

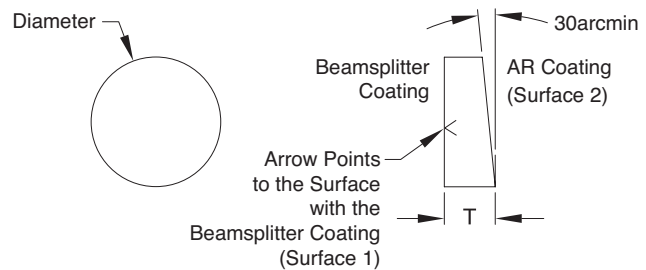
- Available in $\text{Ø}1/2"$ (12.7mm), $\text{Ø}1"$ (25.4mm), and $\text{Ø}2"$ (50.8mm)
- 400-700nm, 700-1100nm, and 1200-1600nm Versions for 45° Incidence
- 0.5° Wedge to Minimize Interference Fringes
- AR Coated to Minimize Ghosting

50:50 Split Ratio See graph on Facing Page

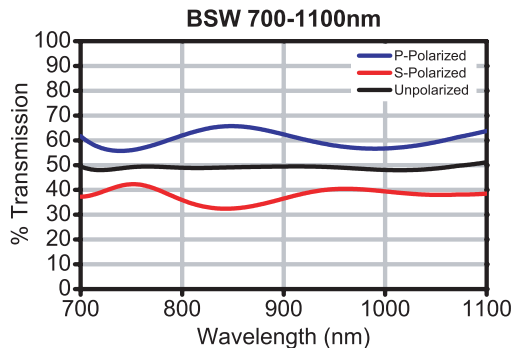
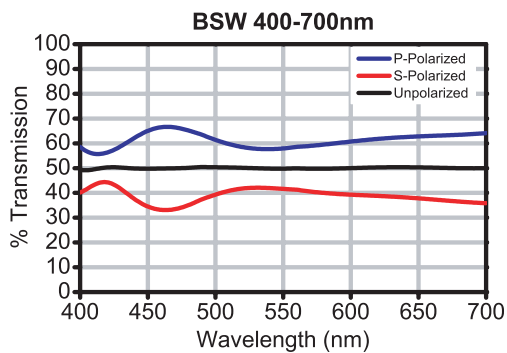
50:50 Broadband Plate Beamsplitters (Page 1 of 2)

Specifications

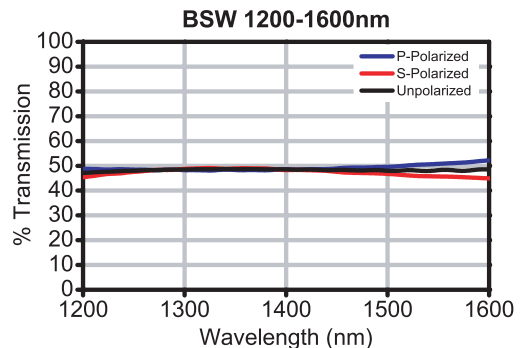
- Material:** BK7 or UV Fused Silica
- Flatness:** $\lambda/10$ @ 635nm Over the Clear Aperture
- Wedge:** 30 ± 10 arcmin
- Diameter Tolerance:** $+0.0/-0.2$ mm
- Center Thickness Tolerance:** ± 0.4 mm
- Wavelength Range:** See Description
- Clear Aperture:** $>90\%$ of Central Diameter
- Coating on Surface 1:** Beamsplitter Coating for 45° Incidence
- Coating on Surface 2:** Broadband AR Coating $R < 0.5\%$ Within Wavelength Range
- Durability:** MIL-M-13508C, MIL-C-675C, MIL-C-14806
- Surface Quality:** 20-10 Scratch-Dig



Theoretical Polarization Dependence



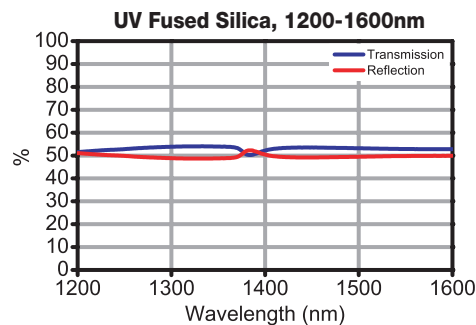
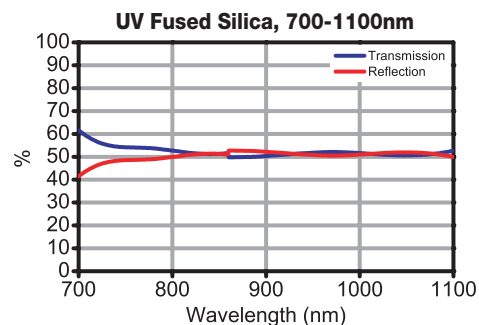
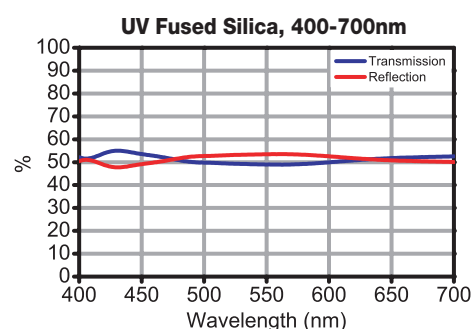
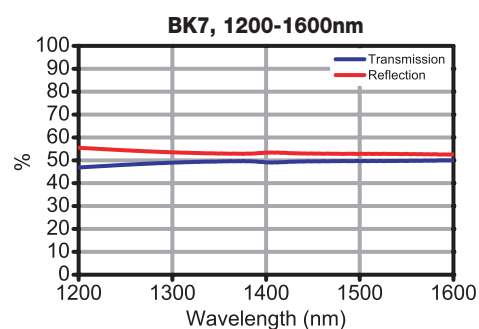
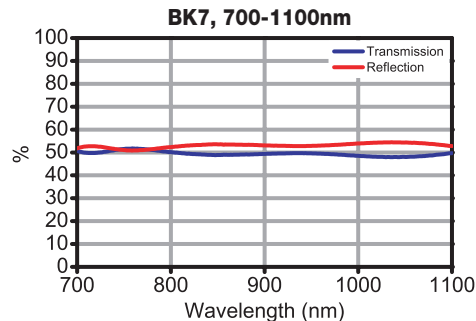
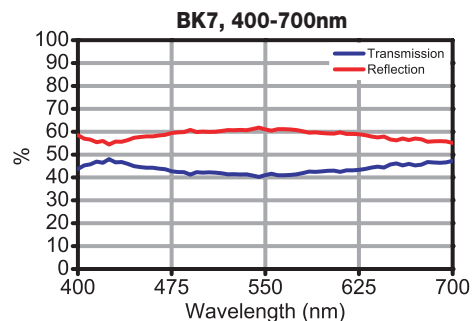
These plate beamsplitters are designed for use with unpolarized light; however, they are often used in applications that use polarized light. Below are three theoretical plots based on the beamsplitter coatings that can be used as a guideline for the behavior of these beamsplitters with polarized light. The information contained in the plots is summarized in the table.



OPERATING RANGE	SPLITTER RATIO TOLERANCE
400-700nm	$<12\%$ Over Entire Wavelength Range $[T_s - T_p] < 35\%$ and $[R_s - R_p] < 35\%$
700-1100nm	$<12\%$ Over Entire Wavelength Range $[T_s - T_p] < 35\%$ and $[R_s - R_p] < 35\%$
1200-1600nm	$<5\%$ Over Entire Wavelength Range $[T_s - T_p] < 15\%$ and $[R_s - R_p] < 15\%$

50:50 Broadband Plate Beamsplitters – Page 2 of 2

Measured Beamsplitter Performance



50:50 Splitting Ratio and AR Coated Back

ITEM#	DIAMETER	AR COATING	MATERIAL	\$	£	€	RMB	T ¹	SUGGESTED MOUNT
BSW01	1/2" (12.7mm)	400-700nm	BK7	\$ 68.30	£ 43.00	€ 63,50	¥ 652.30	3mm	LMR05
BSW02	1/2" (12.7mm)	700-1100nm	BK7	\$ 68.30	£ 43.00	€ 63,50	¥ 652.30	3mm	LMR05
BSW03	1/2" (12.7mm)	1200-1600nm	BK7	\$ 68.30	£ 43.00	€ 63,50	¥ 652.30	3mm	LMR05
BSW04	1/2" (12.7mm)	400-700nm	UV Fused Silica	\$ 74.60	£ 47.00	€ 69,40	¥ 712.40	3mm	LMR05
BSW05	1/2" (12.7mm)	700-1100nm	UV Fused Silica	\$ 74.60	£ 47.00	€ 69,40	¥ 712.40	3mm	LMR05
BSW06	1/2" (12.7mm)	1200-1600nm	UV Fused Silica	\$ 74.60	£ 47.00	€ 69,40	¥ 712.40	3mm	LMR05
BSW07	1" (25.4mm)	400-700nm	BK7	\$ 95.60	£ 60.20	€ 88,90	¥ 913.00	5mm	LMR1
BSW08	1" (25.4mm)	700-1100nm	BK7	\$ 95.60	£ 60.20	€ 88,90	¥ 913.00	5mm	LMR1
BSW09	1" (25.4mm)	1200-1600nm	BK7	\$ 95.60	£ 60.20	€ 88,90	¥ 913.00	5mm	LMR1
BSW10	1" (25.4mm)	400-700nm	UV Fused Silica	\$ 102.00	£ 64.30	€ 94,90	¥ 974.10	5mm	LMR1
BSW11	1" (25.4mm)	700-1100nm	UV Fused Silica	\$ 102.00	£ 64.30	€ 94,90	¥ 974.10	5mm	LMR1
BSW12	1" (25.4mm)	1200-1600nm	UV Fused Silica	\$ 102.00	£ 64.30	€ 94,90	¥ 974.10	5mm	LMR1
BSW13	2" (50.8mm)	400-700nm	BK7	\$ 150.00	£ 94.50	€ 139,50	¥ 1,432.50	8mm	LMR2
BSW14	2" (50.8mm)	700-1100nm	BK7	\$ 150.00	£ 94.50	€ 139,50	¥ 1,432.50	8mm	LMR2
BSW15	2" (50.8mm)	1200-1600nm	BK7	\$ 150.00	£ 94.50	€ 139,50	¥ 1,432.50	8mm	LMR2
BSW16	2" (50.8mm)	400-700nm	UV Fused Silica	\$ 160.00	£ 100.80	€ 148,80	¥ 1,528.00	8mm	LMR2
BSW17	2" (50.8mm)	700-1100nm	UV Fused Silica	\$ 160.00	£ 100.80	€ 148,80	¥ 1,528.00	8mm	LMR2
BSW18	2" (50.8mm)	1200-1600nm	UV Fused Silica	\$ 160.00	£ 100.80	€ 148,80	¥ 1,528.00	8mm	LMR2

¹Maximum edge thickness

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