LASER BEAMSPLITTERS

Beamsplitter splits average polarized laser beam in two beams separated 90° from each other. The standard substrate thickness is 3 mm. If you need thinner substrate, please, choose from chapter Precision Thin Round Windows (page 1.10).

Please contact us for wedged beamsplitters or choose wedged substrates from Wedge Prisms (page 1.50)

Coating

Technology	Electron beam multilayer dielectric
Adhesion and Durability	Per MIL-C-675A. Insoluble in lab solvents
Clear Aperture	Exceeds central 85% of diameter
Angle of Incidence	45±3°
Back side antireflection coated	R<0.5%

Substrate

Material	UV grade Fused Silica
S1 Surface Flatness	λ/10 typical at 633 nm
S1 Surface Quality	20–10 scratch & dig (MIL-PRF-13830B)
S2 Surface Flatness	λ/10 typical at 633 nm
S2 Surface Quality	20–10 scratch & dig (MIL-PRF-13830B)
Diameter Tolerance	+0.00 mm; -0.12 mm
Thickness Tolerance	±0.25 mm
Parallelism	< 30 arcsec
Chamfer	0.3 mm at 45° typical

Designed for average polarization: $R=(R_s+R_p)/2$ and $T=(T_s+T_p)/2$. Laser Damage Threshold: >100 mJ/cm^2, 50 fsec pulse, 50 Hz, 800 nm typical

Wavelength, nm	Reflection, %	Transmission, %	Substrate material	Ø12.7 × 3 mm		Ø25.4 × 3 mm		Ø50.8 × 8 mm	
				Catalogue number	Price, EUR	Catalogue number	Price, EUR	Catalogue number	Price, EUR
1030	20±3	80±3	UV FS	031-7420A	121	032-7420A	144	035-7420A	236
1030	30±3	70±3	UV FS	031-7430A	121	032-7430A	144	035-7430A	236
1030	50±3	50±3	UV FS	031-7450A	121	032-7450A	144	035-7450A	236
1030	70±3	30±3	UV FS	031-7470A	121	032-7470A	144	035-7470A	236
1030	80±3	20±3	UV FS	031-7480A	121	032-7480A	144	035-7480A	236
515	20±3	80±3	UV FS	031-7520A	118	032-7520A	141	035-7520A	230
515	30±3	70±3	UV FS	031-7530A	118	032-7530A	141	035-7530A	230
515	50±3	50±3	UV FS	031-7550A	118	032-7550A	141	035-7550A	230
515	70±3	30±3	UV FS	031-7570A	118	032-7570A	141	035-7570A	230
515	80±3	20±3	UV FS	031-7580A	118	032-7580A	141	035-7580A	230
343	20±3	80±3	UV FS	031-7620A	127	032-7620A	161	035-7620A	282
343	30±3	70±3	UV FS	031-7630A	127	032-7630A	161	035-7630A	282
343	50±3	50±3	UV FS	031-7650A	127	032-7650A	161	035-7650A	282
343	70±3	30±3	UV FS	031-7670A	127	032-7670A	161	035-7670A	282
343	80±3	20±3	UV FS	031-7680A	127	032-7680A	161	035-7680A	282
800	20±3	80±3	UV FS	041-7720A	121	042-7720A	144	045-7720A	236
800	30±3	70±3	UV FS	041-7730A	121	042-7730A	144	045-7730A	236
800	50±3	50±3	UV FS	041-7750A	121	042-7750A	144	045-7750A	236
800	70±3	30±3	UV FS	041-7770A	121	042-7770A	144	045-7770A	236
800	80±3	20±3	UV FS	041-7780A	121	042-7780A	144	045-7780A	236
400	20±3	80±3	UV FS	041-7820A	118	042-7820A	141	045-7820A	230
400	30±3	70±3	UV FS	041-7830A	118	042-7830A	141	045-7830A	230
400	50±3	50±3	UV FS	041-7850A	118	042-7850A	141	045-7850A	230
400	70±3	30±3	UV FS	041-7870A	118	042-7870A	141	045-7870A	230
400	80±3	20±3	UV FS	041-7880A	118	042-7880A	141	045-7880A	230
266	20±3	80±3	UV FS	041-7920A	132	042-7920FA	167	045-7920A	305
266	30±3	70±3	UV FS	041-7930A	132	042-7930FA	167	045-7930A	305
266	50±3	50±3	UV FS	041-7950A	132	042-7950FA	167	045-7950A	305
266	70±3	30±3	UV FS	041-7970A	132	042-7970FA	167	045-7970A	305
266	80±3	20±3	UV FS	041-7980A	132	042-7980FA	167	045-7980A	305

Designed for S- polarization. Laser Damage Threshold: >100 mJ/cm², 50 fsec pulse, 50 Hz, 800 nm typical

Wavelength, nm	Reflection, %	Transmission, %	Substrate material	Ø12.7 × 3 mm		Ø25.4 × 3 mm		Ø50.8 × 8 mm	
				Catalogue number	Price, EUR	Catalogue number	Price, EUR	Catalogue number	Price, EUR
1030	20±3	80±3	UV FS	031-7420S	121	032-7420S	144	035-7420S	236
1030	30±3	70±3	UV FS	031-7430S	121	032-7430S	144	035-7430S	236
1030	50±3	50±3	UV FS	031-7450S	121	032-7450S	144	035-7450S	236
1030	70±3	30±3	UV FS	031-7470S	121	032-7470S	144	035-7470S	236
1030	80±3	20±3	UV FS	031-7480S	121	032-7480S	144	035-7480S	236
515	20±3	80±3	UV FS	031-7520S	118	032-7520S	141	035-7520S	230
515	30±3	70±3	UV FS	031-7530S	118	032-7530S	141	035-7530S	230
515	50±3	50±3	UV FS	031-7550S	118	032-7550S	141	035-7550S	230
515	70±3	30±3	UV FS	031-7570S	118	032-7570S	141	035-7570S	230
515	80±3	20±3	UV FS	031-7580S	118	032-7580S	141	035-7580S	230
343	20±3	80±3	UV FS	031-7620S	127	032-7620S	161	035-7620S	282
343	30±3	70±3	UV FS	031-7630S	127	032-7630S	161	035-7630S	282
343	50±3	50±3	UV FS	031-7650S	127	032-7650S	161	035-7650S	282
343	70±3	30±3	UV FS	031-7670S	127	032-7670S	161	035-7670S	282
343	80±3	20±3	UV FS	031-7680S	127	032-7680S	161	035-7680S	282
800	20±3	80±3	UV FS	041-7720S	121	042-7720S	144	045-7720S	236
800	30±3	70±3	UV FS	041-7730S	121	042-7730S	144	045-7730S	236
800	50±3	50±3	UV FS	041-7750S	121	042-7750S	144	045-7750S	236
800	70±3	30±3	UV FS	041-7770S	121	042-7770S	144	045-7770S	236
800	80±3	20±3	UV FS	041-7780S	121	042-7780S	144	045-7780S	236
400	20±3	80±3	UV FS	041-7820S	118	042-7820S	141	045-7820S	230
400	30±3	70±3	UV FS	041-7830S	118	042-7830S	141	045-7830S	230
400	50±3	50±3	UV FS	041-7850S	118	042-7850S	141	045-7850S	230
400	70±3	30±3	UV FS	041-7870S	118	042-7870S	141	045-7870S	230
400	80±3	20±3	UV FS	041-7880S	118	042-7880S	141	045-7880S	230
266	20±3	80±3	UV FS	041-7920S	132	042-7920FS	167	045-7920S	305
266	30±3	70±3	UV FS	041-7930S	132	042-7930FS	167	045-7930S	305
266	50±3	50±3	UV FS	041-7950S	132	042-7950FS	167	045-7950S	305
266	70±3	30±3	UV FS	041-7970S	132	042-7970FS	167	045-7970S	305
266	80±3	20±3	UV FS	041-7980S	132	042-7980FS	167	045-7980S	305

Designed for P- polarization. Laser Damage Threshold: >100 mJ/cm², 50 fsec pulse, 50 Hz, 800 nm typical

Wavelength, nm	Reflection, %	Transmission, %	Substrate material	Ø12.7 × 3 mm		Ø25.4 × 3 mm		Ø50.8 × 8 mm	
				Catalogue number	Price, EUR	Catalogue number	Price, EUR	Catalogue number	Price, EUR
1030	20±3	80±3	UV FS	031-7420P	121	032-7420P	144	035-7420P	236
1030	30±3	70±3	UV FS	031-7430P	121	032-7430P	144	035-7430P	236
1030	50±3	50±3	UV FS	031-7450P	121	032-7450P	144	035-7450P	236
1030	70±3	30±3	UV FS	031-7470P	121	032-7470P	144	035-7470P	236
1030	80±3	20±3	UV FS	031-7480P	121	032-7480P	144	035-7480P	236
515	20±3	80±3	UV FS	031-7520P	118	032-7520P	141	035-7520P	230
515	30±3	70±3	UV FS	031-7530P	118	032-7530P	141	035-7530P	230
515	50±3	50±3	UV FS	031-7550P	118	032-7550P	141	035-7550P	230
515	70±3	30±3	UV FS	031-7570P	118	032-7570P	141	035-7570P	230
515	80±3	20±3	UV FS	031-7580P	118	032-7580P	141	035-7580P	230
343	20±3	80±3	UV FS	031-7620P	127	032-7620P	161	035-7620P	282
343	30±3	70±3	UV FS	031-7630P	127	032-7630P	161	035-7630P	282
343	50±3	50±3	UV FS	031-7650P	127	032-7650P	161	035-7650P	282
343	70±3	30±3	UV FS	031-7670P	127	032-7670P	161	035-7670P	282
343	80±3	20±3	UV FS	031-7680P	127	032-7680P	161	035-7680P	282
800	20±3	80±3	UV FS	041-7720P	121	042-7720P	144	045-7720P	236
800	30±3	70±3	UV FS	041-7730P	121	042-7730P	144	045-7730P	236
800	50±3	50±3	UV FS	041-7750P	121	042-7750P	144	045-7750P	236
800	70±3	30±3	UV FS	041-7770P	121	042-7770P	144	045-7770P	236
800	80±3	20±3	UV FS	041-7780P	121	042-7780P	144	045-7780P	236
400	20±3	80±3	UV FS	041-7820P	118	042-7820P	141	045-7820P	230
400	30±3	70±3	UV FS	041-7830P	118	042-7830P	141	045-7830P	230
400	50±3	50±3	UV FS	041-7850P	118	042-7850P	141	045-7850P	230
400	70±3	30±3	UV FS	041-7870P	118	042-7870P	141	045-7870P	230
400	80±3	20±3	UV FS	041-7880P	118	042-7880P	141	045-7880P	230
266	20±3	80±3	UV FS	041-7920P	132	042-7920FP	167	045-7920P	305
266	30±3	70±3	UV FS	041-7930P	132	042-7930FP	167	045-7930P	305
266	50±3	50±3	UV FS	041-7950P	132	042-7950FP	167	045-7950P	305
266	70±3	30±3	UV FS	041-7970P	132	042-7970FP	167	045-7970P	305
266	80±3	20±3	UV FS	041-7980P	132	042-7980FP	167	045-7980P	305

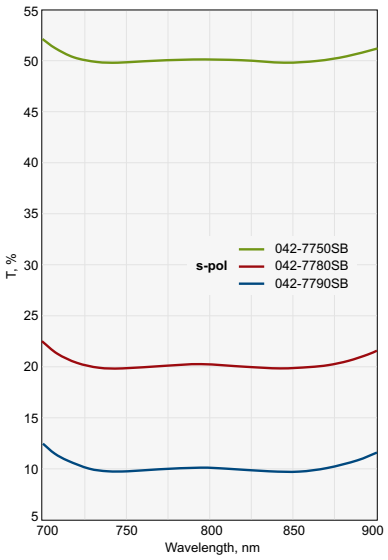
BROADBAND LASER BEAMSPLITTERS

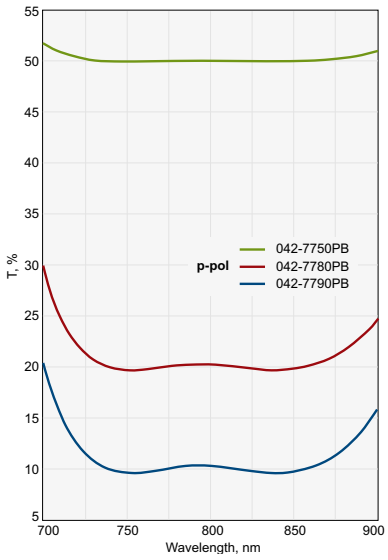
Designed for S- polarization. Laser Damage Threshold: >50 mJ/cm², 50 fsec pulse, 50 Hz, 800 nm typical

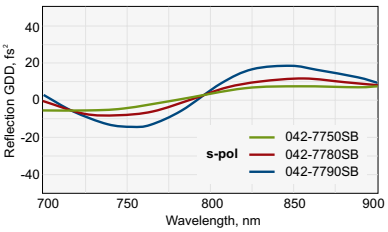
Wavelength, nm	Reflection, %	Transmission, %	Substrate material	Ø25.4 × 3 mm		Ø50.8 × 6 mm	
				Catalogue number	Price, EUR	Catalogue number	Price, EUR
720 – 880	8±1	92±1	UV FS	042-7708SB	127	045-7708SB	213
720 – 880	20±5	80±5	UV FS	042-7720SB	213	045-7720SB	391
720 – 880	30±5	70±5	UV FS	042-7730SB	213	045-7730SB	391
720 – 880	40±5	60±5	UV FS	042-7740SB	213	045-7740SB	391
720 – 880	50±5	50±5	UV FS	042-7750SB	213	045-7750SB	391
720 – 880	60±5	40±5	UV FS	042-7760SB	219	045-7760SB	414
720 – 880	70±5	30±5	UV FS	042-7770SB	224	045-7770SB	449
720 – 880	80±5	20±5	UV FS	042-7780SB	224	045-7780SB	449
720 – 880	90±3	10±3	UV FS	042-7790SB	247	045-7790SB	506
720 – 880	95±2	5±2	UV FS	042-7795SB	259	045-7795SB	541

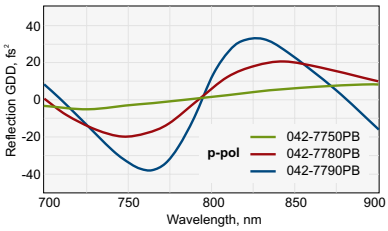
Designed for P- polarization. Laser Damage Threshold: >50 mJ/cm², 50 fsec pulse, 50 Hz, 800 nm typical

Wavelength, nm	Reflection, %	Transmission, %	Substrate material	Ø25.4 × 3 mm		Ø50.8 × 6 mm	
				Catalogue number	Price, EUR	Catalogue number	Price, EUR
750 – 850	10±2	90±2	UV FS	042-7708PB	213	045-7708PB	391
750 – 850	20±5	80±5	UV FS	042-7720PB	213	045-7720PB	391
750 – 850	25±5	75±5	UV FS	042-7725PB	213	045-7725PB	391
750 – 850	30±5	70±5	UV FS	042-7730PB	213	045-7730PB	391
750 – 850	40±5	60±5	UV FS	042-7740PB	213	045-7740PB	391
750 – 850	50±5	50±5	UV FS	042-7750PB	213	045-7750PB	391
750 – 850	60±5	40±5	UV FS	042-7760PB	219	045-7760PB	414
750 – 850	70±5	30±5	UV FS	042-7770PB	224	045-7770PB	449
750 – 850	75±5	25±5	UV FS	042-7775PB	224	045-7775PB	449
750 – 850	80±5	20±5	UV FS	042-7780PB	224	045-7780PB	449
750 – 850	85±3	15±3	UV FS	042-7785PB	236	045-7785PB	483
750 – 850	90±3	10±3	UV FS	042-7790PB	247	045-7790PB	506
750 – 850	95±2	5±2	UV FS	042-7795PB	259	045-7795PB	541









042-7750SB. Rs=50±5% @ 720–880 nm, AOI=45°
042-7780SB. Rp=80±5% @ 720–880 nm, AOI=45°
042-7790SB. Rp=90±3% @ 720–880 nm, AOI=45°

042-7750PB. Rp=50±5% @ 750–850 nm, AOI=45°
042-7780PB. Rp=80±5% @ 750–850 nm, AOI=45°
042-7790PB. Rp=90±3% @ 750–850 nm, AOI=45°

Related Products

Uncoated Elliptical Mirrors
See page 1.8

Kinematic Mirror and Beamsplitter Mount 840-0030-02
Find more at EksmaOptics.com

Adapter for Beamsplitter at 45° 840-0116
Find more at EksmaOptics.com

Flipping Mirror / Beamsplitter Mount 840-0155
Find more at EksmaOptics.com