

## LASER MIRRORS

Laser mirrors are dielectric reflectors providing an optimised performance at stated wavelengths. High polishing quality is important for low wave front distortion, low scattering and high laser damage threshold. Mirrors are designed to work at 0 or 45 degrees.

### Substrate

Material	UV grade fused silica or BK7 glass
S1 Surface Flatness	$\lambda/10$ typical at 633 nm
S1 Surface Quality	20 – 10 scratch & dig (MIL-PRF-13830B)
S2 Surface Quality	Commercial polish
Diameter Tolerance	+0.00 mm / -0.12 mm
Thickness Tolerance	$\pm 0.25$ mm
Wedge	< 3 min
Chamfer	0.3 mm at 45° typical

### Coating

Technology	Electron beam multilayer dielectric or Ion beam sputtering
Adhesion and Durability	Per MIL-C-675A. Insoluble in lab solvents
Clear Aperture	Exceeds central 85% of diameter
Coated Surface Flatness	$\lambda/10$ at 633 nm over 85% of diameter available
Angle of Incidence	0 or 45°

## LASER LINE MIRRORS

**Substrate material: BK7, grade A. AOI = 45°.** Laser damage threshold: 6 J/cm<sup>2</sup>, 8 nsec pulse, 1064 nm typical.

Wavelength, nm	Application	R, % (s+p)/2	Ø12.7 × 3 mm		Price, EUR	Ø25.4 × 6 mm		Ø50.8 × 8 mm	
			Catalogue nr.			Catalogue nr.	Price, EUR	Catalogue nr.	Price, EUR
351 – 361	Nd:YAG 3H	99.5	031-0350	031-0350T6	65	032-0350	99	035-0350	141
380 – 420	Ti: Sa 2H	99.5	031-0400	031-0400T6	63	032-0400	98	035-0400	146
442	HeCd	99.5	031-0442	031-0442T6	63	032-0442	91	035-0442	146
488 – 515	Ar+	99.5	031-0490	031-0490T6	63	032-0490	91	035-0490	146
500 – 530	Yb:KGW/KYW 2H	99.5	031-0515	031-0515T6	62	032-0515	81	035-0515	121
527 – 532	Nd:YAG 2H	99.5	031-0530	031-0530T6	62	032-0530	81	035-0530	121
589	Dye	99.5	031-0590	031-0590T6	62	032-0590	90	035-0590	134
633 – 670	HeNe+Diode	99.5	031-0630	031-0630T6	62	032-0630	83	035-0630	134
694	Ruby	99.5	031-0694	031-0694T6	62	032-0694	83	035-0694	134
760 – 840	Ti:Sa 1H	99.5	031-0800	031-0800T6	67	032-0800	94	035-0800	146
780	Diode	99.5	031-0780	031-0780T6	63	032-0780	91	035-0780	134
852	Diode	99.5	031-0850	031-0850T6	63	032-0850	91	035-0850	146
980	Diode	99.5	031-0980	031-0980T6	63	032-0980	91	035-0980	134
1000 – 1060	Yb:KGW/KYW 1H	99.5	031-1030	031-1030T6	63	032-1030	83	035-1030	121
1047 – 1064	Nd:YAG 1H	99.5	031-1060	031-1060T6	63	032-1060	83	035-1060	121
1300 – 1320	YAG	99.5	031-1300	031-1300T6	67	032-1300	94	035-1300	151
1520 – 1570	Diode	99.5	031-1550	031-1550T6	67	032-1550	99	035-1550	153

Mirrors provided are of AOI=45°. Mirrors with AOI=0° can be ordered by adding -i0 to catalogue number. Reflectivity R (s+p)/2 for AOI=0° is 99.8%.

The examples:  
031-0350-i0, 037-0400-i0.

**BK7 Ø76.2×12.7 mm. AOI = 45°.** Laser damage threshold: 6 J/cm<sup>2</sup>, 8 nsec pulse, 1064 nm typical.

Wavelength, nm	Application	R, % (s+p)/2	Catalogue number	Price, EUR
380 – 420	Ti: Sa 2H	99.5	037-0400	219
500 – 530	Yb:KGW/KYW 2H	99.5	037-0515	204
527 – 532	Nd:YAG 2H	99.5	037-0530	204
760 – 840	Ti: Sa 1H	99.5	037-0800	219
1000 – 1060	Yb:KGW/KYW 3H	99.5	037-1030	204
1047 – 1064	Nd:YAG 1H	99.5	037-1060	204

**Substrate material: UV grade Fused Silica. AOI = 45°.** Laser damage threshold: 6 J/cm<sup>2</sup>, 8 nsec pulse, 1064 nm typical.

Wavelength, nm	Application	R, % (s+p)/2	Ø12.7 × 3 mm	Ø12.7 × 6 mm	Ø12.7	Ø25.4 × 6 mm		Ø50.8 × 8 mm	
			Catalogue nr.		Price, EUR	Catalogue nr.	Price, EUR	Catalogue nr.	Price, EUR
244 – 248	KrF	99.0	041-0240	041-0240T6	78	042-0240	109	045-0240	238
262 – 266	Nd:YAG	99.0	041-0260	041-0260T6	78	042-0260	109	045-0260	228
257 – 275	Ti:Sa 3H	99.0	041-0266	041-0266T6	78	042-0266	109	045-0266	228
308	XeCl	99.2	041-0300	041-0300T6	76	042-0300	107	045-0300	228
325	HeCd	99.5	041-0325	041-0325T6	74	042-0325	105	045-0325	199
333 – 353	Yb:KGW/KYW 3H	99.5	041-0343	041-0343T6	85	042-0343	118	045-0343	206
347	Ruby	99.5	041-0347	041-0347T6	74	042-0347	105	045-0347	199
351 – 361	Nd:YAG 3H	99.5	041-0350	041-0350T6	74	042-0350	105	045-0350	206
380 – 420	Ti:Sa 2H	99.5	041-0400	041-0400T6	74	042-0400	105	045-0400	199
500 – 530	Yb:KGW/KYW 2H	99.5	041-0515	041-0515T6	68	042-0515	99	045-0515	186
527 – 532	Nd:YAG 2H	99.5	041-0530	041-0530T6	68	042-0530	99	045-0530	186
760 – 840	Ti:Sa 1H	99.5	041-0800	041-0800T6	83	042-0800	107	045-0800	199
1000 – 1060	Yb:KGW/KYW 1H	99.5	041-1030	041-1030T6	68	042-1030	99	045-1030	186
1047 – 1064	Nd:YAG 1H	99.5	041-1060	041-1060T6	68	042-1060	99	045-1060	186

Mirrors provided are of AOI=45°. Mirrors with AOI=0° can be ordered by adding -i0 to catalogue number. Reflectivity R (s+p)/2 for AOI=0° is 99.8%.

The examples:  
042-0240-i0, 047-0266-i0.

**Substrate material: UV grade Fused Silica Ø76.2x12.7 mm. AOI = 45°.** Laser damage threshold: 6 J/cm<sup>2</sup>, 8 nsec pulse, 1064 nm typical.

Wavelength, nm	Application	R, % (s+p)/2	Catalogue number	Price, EUR
257 – 275	Ti:Sa 3H	99.0	047-0266	347
333 – 353	Yb:KGW/KYW 3H	99.5	047-0343	347
351 – 361	Nd:YAG 3H	99.5	047-0350	347
380 – 420	Ti:Sa 2H	99.5	047-0400	347
500 – 530	Yb:KGW/KYW 2H	99.5	047-0515	347
527 – 532	Nd:YAG 2H	99.5	047-0530	347
760 – 840	Ti:Sa 1H	99.5	047-0800	347
1000 – 1060	Yb:KGW/KYW 1H	99.5	047-1030	347
1047 – 1064	Nd:YAG 1H	99.5	047-1060	347

## DUAL BAND MIRRORS

**Substrate: BK7, grade A. AOI = 45°.** Laser damage threshold: 3 J/cm<sup>2</sup>, 8 nsec pulse, 1064 nm typical.

Wavelength, nm	Application	R, % (s+p)/2	Ø12.7 × 3 mm	Ø12.7 × 6 mm	Ø12.7	Ø25.4 × 6 mm		Ø50.8 × 8 mm		Ø76.2 × 12.7 mm	
			Catalogue number		Price, EUR	Catalogue number	Price, EUR	Catalogue number	Price, EUR	Catalogue number	Price, EUR
390 – 410 + 780 – 820	Ti:Sa 2H+1H	99.5	051-4080	051-4080T6	94	052-4080	113	055-4080	166	057-4080	250
500 – 530 + 1000 – 1060	Yb:KGW/KYW 2H+1H	99.5	051-5103	051-5103T6	94	052-5103	113	055-5103	166	057-5103	250
532 + 1064	Nd:YAG 2H+1H	99.5	051-5306	051-5306T6	94	052-5306	113	055-5306	166	057-5306	250
633 + 1064	HeNe:Nd:YAG 1H	99.5	051-6306	051-6306T6	94	052-6306	113	055-6306	166	057-6306	250

Mirrors provided are of AOI=45°. Mirrors with AOI=0° can be ordered by adding -i0 to catalogue number. The price remains the same as for AOI=45°. An example: 042-4080-i0.

**Substrate material: UV grade Fused Silica. AOI = 45°.** Laser damage threshold: 5 J/cm<sup>2</sup>, 8 nsec pulse, 1064 nm typical.

Wavelength, nm	Application	R, % (s+p)/2	Ø12.7 × 3 mm	Ø12.7 × 6 mm	Ø12.7	Ø25.4 × 6 mm		Ø50.8 × 8 mm		Ø76.2 × 12.7 mm	
			Catalogue number		Price, EUR	Catalogue number	Price, EUR	Catalogue number	Price, EUR	Catalogue number	Price, EUR
266 + 355	Nd:YAG 4H+3H	99.0	061-2635	061-2635T6	138	062-2635	164	065-2635	253	067-2635	402
266 + 532	Nd:YAG 4H+2H	99.0	061-2653	061-2653T6	138	062-2653	164	065-2653	253	067-2653	402
355 + 532	Nd:YAG 3H+2H	99.5	061-3553	061-3553T6	127	062-3553	153	065-3553	237	067-3553	355
355 + 1064	Nd:YAG 3H+1H	99.0	061-3506	061-3506T6	127	062-3506	153	065-3506	237	067-3506	355
390-410 + 780-820	Ti:Sa 2H+1H	99.5	061-4080	061-4080T6	121	062-4080	141	065-4080	235	067-4080	353
500-530 + 1000-1060	Yb:KGW/KYW 2H+1H	99.5	061-5103	061-5103T6	121	062-5103	141	065-5103	235	067-5103	353
532 + 1064	Nd:YAG 2H+1H	99.5	061-5306	061-5306T6	120	062-5306	147	065-5306	230	067-5306	350
633 + 1064	HeNe:Nd:YAG 1H	99.5	061-6306	061-6306T6	120	062-6306	147	065-6306	230	067-6306	350

Mirrors provided are of AOI=45°. Mirrors with AOI=0° can be ordered by adding -i0 to catalogue number. The price remains the same as for AOI=45°. An example: 062-3553-i0.

## BROADBAND LASER MIRRORS

**Substrate: BK7, grade A. AOI = 45°.** Laser damage threshold: 1 J/cm<sup>2</sup>, 8 nsec pulse, 1064 nm typical.

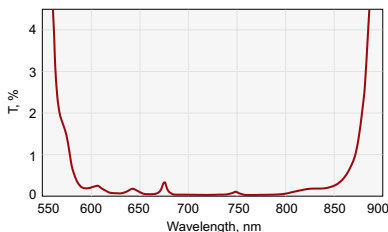
Wavelength, nm	Application	R <sub>r</sub> % (s+p)/2	Ø12.7 × 3 mm	Ø12.7 × 6 mm	Ø12.7	Ø25.4 × 6 mm		Ø50.8 × 8 mm	
			Catalogue number	Catalogue number	Price, EUR	Catalogue nr.	Price, EUR	Catalogue nr.	Price, EUR
360 – 440	Ti:Sa 2H	99	071-3644	071-3644T6	107	072-3644	128	075-3644	181
420 – 540	Dye	99	071-4254	071-4254T6	102	072-4254	124	075-4254	174
520 – 650	Dye	99	071-5265	071-5265T6	102	072-5265	124	075-5265	174
600 – 850	Diode	99	071-6085	071-6085T6	102	072-6085	124	075-6085	174
730 – 950	Ti:Sa	99	071-7395	071-7395T6	103	072-7395	125	075-7395	176
800 – 1100	Diode, YAG	99	071-8011	071-8011T6	103	072-8011	125	075-8011	176

Mirrors provided are of AOI=45°. Mirrors with AOI=0° can be ordered by adding -i0 to catalogue number. The price remains the same as for AOI=45°. An example: **072-3644-i0**.

**Substrate: UV grade Fused Silica. AOI = 45°.** Laser damage threshold: 1 J/cm<sup>2</sup>, 8 nsec pulse, 1064 nm typical.

Wavelength, nm	Application	R <sub>r</sub> % (s+p)/2	Ø12.7 × 3 mm	Ø12.7 × 6 mm	Ø12.7	Ø25.4 × 6 mm		Ø50.8 × 8 mm	
			Catalogue number	Catalogue number	Price, EUR	Catalogue nr.	Price, EUR	Catalogue nr.	Price, EUR
260 – 380	Spectroscopy	99	081-2638	081-2638T6	162	082-2638	186	085-2638	299
360 – 440	Ti:Sa 2H	99	081-3644	081-3644T6	138	082-3644	167	085-3644	258
420 – 540	Dye	99	081-4254	081-4254T6	132	082-4254	154	085-4254	257
520 – 650	Dye	99	081-5265	081-5265T6	132	082-5265	154	085-5265	257
600 – 850	Diode	99	081-6085	081-6085T6	132	082-6085	154	085-6085	257
730 – 950	Ti:Sa	99	081-7395	081-7395T6	156	082-7395	178	085-7395	281
800 – 1100	Diode, YAG	99	081-8011	081-8011T6	144	082-8011	166	085-8011	269

Mirrors provided are of AOI=45°. Mirrors with AOI=0° can be ordered by adding -i0 to catalogue number. The price remains the same as for AOI=45°. An example: **082-2225-i0**.



**071-6085. HR > 99% @ 600-850 nm**

### Related Products

**Broadband Low GDD Ultrafast Laser Mirrors**

See page 4.5

**Kinematic Mirror/Beamsplitter Mounts 840-0056**

Find more at EksmaOptics.com

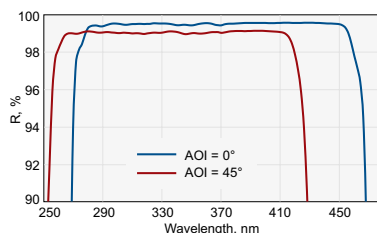


## UV FS BROADBAND AND LASER LINE MIRRORS FOR AOI FROM 0 TO 45°

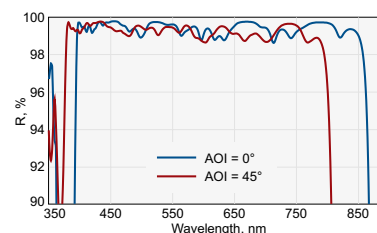
### Features

- R<sub>avg</sub> > 99% for (s+p)/2 polarization that operates at all angles of incidence from 0 to 45°

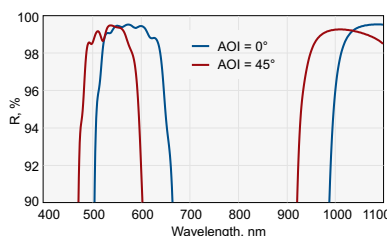
EKSMA OPTICS introduces broadband and laser line dielectric mirrors with high reflectance (greater than 99% over specified range minimum) that operate at all angles of incidence from 0° to 45°. Broadband and laser line mirrors are available for 280-400 nm, 349-355 nm, 400-750 nm, 524-532 nm, 532+1064 nm, 750-1100 nm, 1047-1064 nm wavelength ranges.



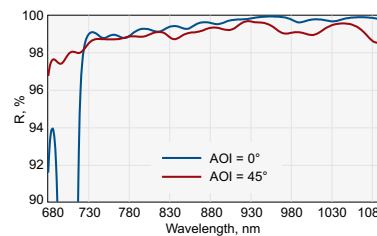
**081-2840-i0-45.**  
HR>99% @ 280-400 nm, AOI from 0 to 45°



**081-4075-i0-45.**  
HR>99% @ 400-750 nm, AOI from 0 to 45°



**062-5306HHR-i0-45.**  
HR>99.7% @ 532+1064 nm, AOI from 0 to 45°



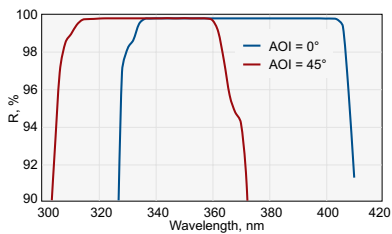
**081-7511-i0-45.**  
HR>99% @ 750-1100 nm, AOI from 0 to 45°

**Substrate: UV grade Fused Silica**

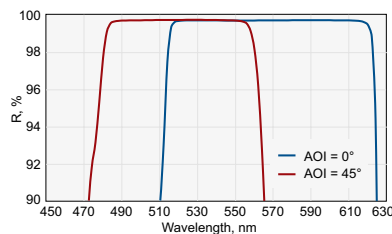
Wavelength, nm	AOI, deg	R, % (s+p)/2	LDT, J/cm <sup>2</sup> 10 ns, 10 Hz	Ø12.7 × 6 mm		Ø25.4 × 6 mm		Ø50.8 × 8 mm	
				Catalogue number	Price, EUR	Catalogue number	Price, EUR	Catalogue number	Price, EUR
257	0-45	99.0	0.5	041-0257-i0-45	130	042-0257-i0-45	165	-	-
280 – 400	0-45	99.0	0.5	086-2840-i0-45	77	082-2840-i0-45	98	-	-
343 – 355	0-45	99.5	1	041-0350-i0-45	99	042-0350-i0-45	121	-	-
400 – 750	0-45	99.0	1	086-4075-i0-45	42	082-4075-i0-45	65	085-4075-i0-45	124
524 – 532	0-45	99.9	10	041-0530HHR-i0-45	90	042-0530HHR-i0-45	120	-	-
532 + 1064	0-45	99.7	3	061-5306HHR-i0-45	95	062-5306HHR-i0-45	125	-	-
750 – 1100	0-45	99.0	1	086-7511-i0-45	42	082-7511-i0-45	65	085-7511-i0-45	124
760 – 840 Low GDD	0-45	99.9	3	041-7684HHR-i0-45	110	042-7684HHR-i0-45	140	-	-
1047 – 1064	0-45	99.7	20	041-1060HHR-i0-45	90	042-1060HHR-i0-45	120	-	-

**Substrate: BK7**

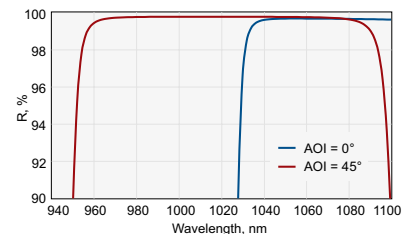
Wavelength, nm	AOI, deg	R, % (s+p)/2	LDT, J/cm <sup>2</sup> 10 ns, 10 Hz	Ø12.7 × 6 mm		Ø25.4 × 6 mm		Ø50.8 × 8 mm	
				Catalogue number	Price, EUR	Catalogue number	Price, EUR	Catalogue number	Price, EUR
400 – 750	0-45	99.0	1	076-4076-i0-45	38	072-4075-i0-45	59	075-4075-i0-45	112
750 – 1100	0-45	99.0	1	076-7511-i0-45	38	072-7511-i0-45	59	075-7511-i0-45	112



**042-0350-i0-45.**  
HR>99.5% @ 343-355 nm, AOI from 0 to 45°



**042-0530HHR-i0-45.**  
HR>99.9% @ 524-532 nm, AOI from 0 to 45°



**042-1060HHR-i0-45.**  
HR>99.7% @ 1047-1064 nm, AOI from 0 to 45°

### Housing accessories

Kinematic Mirror Mount 840-0010  
Find more at EksmaOptics.com



Adapter for Mirror at 45° 840-0115  
Find more at EksmaOptics.com



## HIGH POWER IBS COATED LASER MIRRORS FOR PICOSECOND APPLICATIONS

### Substrate

Material	UV grade fused silica
S1 Surface Flatness	λ/10 at 633 nm
S1 Surface Quality	20 – 10 scratch & dig (MIL-PRF-13830B)
S2 Surface Quality	Commercial polish
Diameter Tolerance	+0.00 mm / -0.12 mm
Thickness Tolerance	±0.25 mm
Wedge	< 3 min
Chamfer	0.3 mm at 45° typical

### Coating

Technology	Ion Beam Sputtering (IBS)
Adhesion and Durability	Per MIL-C-675A, Insoluble in lab solvents
Clear Aperture	Exceeds central 85% of diameter
Coated Surface Flatness	λ/10 at 633 nm over clear aperture