Mirrors

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	λ/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	±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	λ/10 at 633 nm over 85% of diameter available
Angle of Incidence	0 or 45°

Laser Line Mirrors

Substrate material: **BK7, grade A.** Laser damage threshold: 6 J/cm², 8 nsec pulse, 1064 nm typical.

Wavelength, nm	**Application**	**R,** % (s+p)/2	**Catalogue number** (AOI=45°) Ø12.7 × 3 mm	Ø12.7 × 6 mm	Ø25.4 × 6 mm	Ø50.8 × 8 mm	**Price,** EUR Ø12.7 / Ø25.4 / Ø50.8
351-361	Nd:YAG 3H	99.5	**031-0350**	**031-0350T6**	**032-0350**	**035-0350**	59 / 90 / 128
380-420	Ti: Sa 2H	99.5	**031-0400**	**031-0400T6**	**032-0400**	**035-0400**	57 / 89 / 133
442	HeCd	99.5	**031-0442**	**031-0442T6**	**032-0442**	**035-0442**	57 / 83 / 133
488-515	Ar+	99.5	**031-0490**	**031-0490T6**	**032-0490**	**035-0490**	57 / 83 / 133
500-530	Yb:KGW/KYW 2H	99.5	**031-0515**	**031-0515T6**	**032-0515**	**035-0515**	56 / 74 / 110
527-532	Nd:YAG 2H	99.5	**031-0530**	**031-0530T6**	**032-0530**	**035-0530**	56 / 74 / 110
589	Dye	99.5	**031-0590**	**031-0590T6**	**032-0590**	**035-0590**	56 / 82 / 122
633-670	HeNe+Diode	99.5	**031-0630**	**031-0630T6**	**032-0630**	**035-0630**	56 / 75 / 122
694	Ruby	99.5	**031-0694**	**031-0694T6**	**032-0694**	**035-0694**	56 / 75 / 122
760-840	Ti:Sa 1H	99.5	**031-0800**	**031-0800T6**	**032-0800**	**035-0800**	61 / 85 / 133
780	Diode	99.5	**031-0780**	**031-0780T6**	**032-0780**	**035-0780**	57 / 83 / 122
852	Diode	99.5	**031-0850**	**031-0850T6**	**032-0850**	**035-0850**	57 / 83 / 133
980	Diode	99.5	**031-0980**	**031-0980T6**	**032-0980**	**035-0980**	57 / 83 / 122
1000-1060	Yb:KGW/KYW 1H	99.5	**031-1030**	**031-1030T6**	**032-1030**	**035-1030**	57 / 75 / 110
1047-1064	Nd:YAG 1H	99.5	**031-1060**	**031-1060T6**	**032-1060**	**035-1060**	57 / 75 / 110
1300-1320	YAG	99.5	**031-1300**	**031-1300T6**	**032-1300**	**035-1300**	61 / 85 / 137
1520-1570	Diode	99.5	**031-1550**	**031-1550T6**	**032-1550**	**035-1550**	61 / 90 / 139

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 Ø76.2x12.7 mm. Laser damage threshold: 6 J/cm², 8 nsec pulse, 1064 nm typical.

Wavelength, nm	**Application**	**R,** % (s+p)/2	**Catalogue number** (AOI=45°)	**Price,** EUR
380-420	Ti: Sa 2H	99.5	**037-0400**	199
500-530	Yb:KGW/KYW 2H	99.5	**037-0515**	185
527-532	Nd:YAG 2H	99.5	**037-0530**	185
760-840	Ti: Sa 1H	99.5	**037-0800**	199
1000-1060	Yb:KGW/KYW 3H	99.5	**037-1030**	185
1047-1064	Nd:YAG 1H	99.5	**037-1060**	185

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Substrate material: **UV grade Fused Silica.**
Laser damage threshold: 6 J/cm², 8 nsec pulse, 1064 nm typical.

Wavelength, nm	**Application**	**R,** % (s+p)/2	**Catalogue number** (AOI=45°) Ø12.7 × 3 mm	Ø12.7 × 6 mm	Ø25.4 × 6 mm	Ø50.8 × 8 mm	**Price,** EUR Ø12.7 / Ø25.4 / Ø50.8
244-248	KrF	99.0	**041-0240**	**041-0240T6**	**042-0240**	**045-0240**	71 / 99 / 216
262-266	Nd:YAG	99.0	**041-0260**	**041-0260T6**	**042-0260**	**045-0260**	71 / 99 / 207
257-275	Ti:Sa 3H	99.0	**041-0266**	**041-0266T6**	**042-0266**	**045-0266**	71 / 99 / 207
308	XeCl	99.2	**041-0300**	**041-0300T6**	**042-0300**	**045-0300**	69 / 97 / 207
325	HeCd	99.5	**041-0325**	**041-0325T6**	**042-0325**	**045-0325**	67 / 95 / 181
333-353	Yb:KGW/KYW 3H	99.5	**041-0343**	**041-0343T6**	**042-0343**	**045-0343**	77 / 107 / 187
347	Ruby	99.5	**041-0347**	**041-0347T6**	**042-0347**	**045-0347**	67 / 95 / 181
351-361	Nd:YAG 3H	99.5	**041-0350**	**041-0350T6**	**042-0350**	**045-0350**	67 / 95 / 187
		99.9	–	**041-0350T6HHR**	**042-0350HHR**	**045-0350T12HHR***	110 / 130 / 460
380-420	Ti:Sa 2H	99.5	**041-0400**	**041-0400T6**	**042-0400**	**045-0400**	67 / 95 / 181
500-530	Yb:KGW/KYW 2H	99.5	**041-0515**	**041-0515T6**	**042-0515**	**045-0515**	62 / 90 / 169
527-532	Nd:YAG 2H	99.5	**041-0530**	**041-0530T6**	**042-0530**	**045-0530**	62 / 90 / 169
		99.9	–	**041-0530T6HHR**	**042-0530HHR**	**045-0530T12HHR***	75 / 105 / 410
760-840	Ti:Sa 1H	99.5	**041-0800**	**041-0800T6**	**042-0800**	**045-0800**	75 / 97 / 181
		99.9	–	**041-0800T6HHR**	**042-0800HHR**	**045-0800T12HHR***	108 / 130 / 440
1000-1060	Yb:KGW/KYW 1H	99.5	**041-1030**	**041-1030T6**	**042-1030**	**045-1030**	62 / 90 / 169
		99.9	–	**041-1030T6HHR**	**042-1030HHR**	**045-1030T12HHR***	75 / 105 / 410
1047-1064	Nd:YAG 1H	99.5	**041-1060**	**041-1060T6**	**042-1060**	**045-1060**	62 / 90 / 169
		99.9	–	**041-1060T6HHR**	**042-1060HHR**	**045-1060T12HHR***	75 / 105 / 410

** Thickness of Ø50.8 HHR mirrors is 12.0 mm.*

Substrate material: **UV grade Fused Silica Ø76.2x12.7 mm.**
Laser damage threshold: 6 J/cm², 8 nsec pulse, 1064 nm typical.

Wavelength, nm	**Application**	**R,** % (s+p)/2	**Catalogue number** (AOI=45°)	**Price,** EUR
257-275	Ti:Sa 3H	99.0	**047-0266**	290
333-353	Yb:KGW/KYW 3H	99.5	**047-0343**	281
351-361	Nd:YAG 3H	99.5	**047-0350**	281
380-420	Ti:Sa 2H	99.5	**047-0400**	272
500-530	Yb:KGW/KYW 2H	99.5	**047-0515**	258
527-532	Nd:YAG 2H	99.5	**047-0530**	258
760-840	Ti:Sa 1H	99.5	**047-0800**	272
1000-1060	Yb:KGW/KYW 1H	99.5	**047-1030**	258
1047-1064	Nd:YAG 1H	99.5	**047-1060**	258

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.

Dual Band Mirrors

Substrate: **BK7, grade A.** Laser damage threshold: 1 J/cm², 8 nsec pulse, 1064 nm typical.

Wavelength, nm	**Application**	**R,** % (s+p)/2	**Catalogue number** (AOI=45°) Ø12.7 × 3 mm	Ø12.7 × 6 mm	Ø25.4 × 6 mm	Ø50.8 × 8 mm	Ø76.2 × 12.7 mm	Price, EUR Ø12.7 / Ø25.4 / / Ø50.8 / Ø76.2
390-410+780-820	Ti:Sa 2H+1H	99.5	**051-4080**	**051-4080T6**	**052-4080**	**055-4080**	**057-4080**	85 / 103 / 151 / 227
500-530+1000-1060	Yb:KGW/KYW 2H+1H	99.5	**051-5103**	**051-5103T6**	**052-5103**	**055-5103**	**057-5103**	85 / 103 / 151 / 227
532+1064	Nd:YAG 2H+1H	99.5	**051-5306**	**051-5306T6**	**052-5306**	**055-5306**	**057-5306**	85 / 103 / 151 / 227
633+1064	HeNe:Nd:YAG 1H	99.5	**051-6306**	**051-6306T6**	**052-6306**	**055-6306**	**057-6306**	85 / 103 / 151 / 227

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.** Laser damage threshold: 2 J/cm², 8 nsec pulse, 1064 nm typical.

Wavelength, nm	**Application**	**R,** % (s+p)/2	**Catalogue number** (AOI=45°) Ø12.7 × 3 mm	Ø12.7 × 6 mm	Ø25.4 × 6 mm	Ø50.8 × 8 mm	Ø76.2 × 12.7 mm	Price, EUR Ø12.7 / Ø25.4 / / Ø50.8 / Ø76.2
266+355	Nd:YAG 4H+3H	99.0	**061-2635**	**061-2635T6**	**062-2635**	**065-2635**	**067-2635**	125 / 149 / 230 / 365
266+532	Nd:YAG 4H+2H	99.0	**061-2653**	**061-2653T6**	**062-2653**	**065-2653**	**067-2653**	125 / 149 / 230 / 365
355+532	Nd:YAG 3H+2H	99.5	**061-3553**	**061-3553T6**	**062-3553**	**065-3553**	**067-3553**	115 / 139 / 215 / 323
355+1064	Nd:YAG 3H+1H	99.0	**061-3506**	**061-3506T6**	**062-3506**	**065-3506**	**067-3506**	115 / 139 / 215 / 323
390-410+780-820	Ti:Sa 2H+1H	99.5	**061-4080**	**061-4080T6**	**062-4080**	**065-4080**	**067-4080**	110 / 128 / 214 / 321
500-530+1000-1060	Yb:KGW/KYW 2H+1H	99.5	**061-5103**	**061-5103T6**	**062-5103**	**065-5103**	**067-5103**	110 / 128 / 214 / 321
532+1064	Nd:YAG 2H+1H	99.5	**061-5306**	**061-5306T6**	**062-5306**	**065-5306**	**067-5306**	109 / 134 / 209 / 318
		99.9	–	–	**062-5306HHR**	–	–	– / 180 / – / –
633+1064	HeNe:Nd:YAG 1H	99.5	**061-6306**	**061-6306T6**	**062-6306**	**065-6306**	**067-6306**	109 / 134 / 209 / 318

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.***