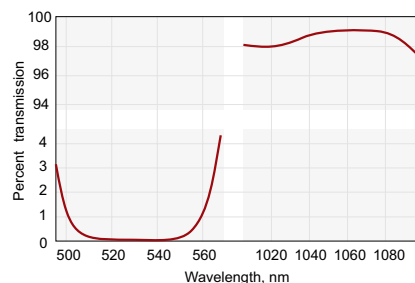


LASER HARMONIC SEPARATORS WITH HIGH TRANSMISSION

Coating

Technology	Ion Beam Sputtering (IBS)
Damage Threshold	>10 J/cm ² , 8 nsec pulse, 1064 nm typical
Back side anti-reflection coated	AOI 45°, R<0.5% AOI 0°, R<0.1%



041-5105HT.

HR > 99.9% @ 532 nm, HT > 99% @ 1064 nm, AOI = 45°

Reflected wavelength, nm	Reflection	Transmission	AOI, deg	Catalogue number	
				Ø12.7x3 mm	Ø25.4x6 mm
266	R _{sp} >99.0%	T _{sp} >98% @ 532 + 1064 nm	0	041-2510HT	042-2510HT
266	R _{sp} >99.0%	T _{sp} >98% @ 532 + 1064 nm	45	041-2515HT	042-2515HT
355	R _{sp} >99.5%	T _{sp} >98% @ 532 nm + T _{sp} >99% @ 1064 nm	0	041-3510HT	042-3510HT
355	R _{sp} >99.5%	T _{sp} >98% @ 532 nm + T _{sp} >99% @ 1064 nm	45	041-3515HT	042-3515HT
532	R _{sp} >99.9%	T _{sp} >99% @ 1064 nm	0	041-5100HT	042-5100HT
532	R _{sp} >99.9%	T _{sp} >99% @ 1064 nm	45	041-5105HT	042-5105HT
1064	R _{sp} >99.5%	T _{sp} >98% @ 532 nm	0	041-6500HT	042-6500HT
1064	R _{sp} >99.5%	T _{sp} >98% @ 532 nm	45	041-6505HT	042-6505HT

STANDARD LASER HARMONIC SEPARATORS

Coating

Technology	Electron beam multilayer dielectric
Adhesion and Durability	Per MIL-C-675A. Insoluble in lab solvents
Damage Threshold: BK7	>2 J/cm ² , 8 nsec pulse, 1064 nm typical
Damage Threshold: UV FS	>5 J/cm ² , 8 nsec pulse, 1064 nm typical

Clear Aperture	Exceeds central 85% of diameter
Coated Surface Flatness	λ/10 at 633 nm over clear aperture
Back side antireflection coated	AOI 45°, R<0.5% AOI 0°, R<0.2%

Reflected wavelength, nm, R > 99.5%	Transmitted wavelength, nm	Transmission, %	AOI, deg	Substrate material	Catalogue number	
					Ø12.7x3 mm	Ø25.4x6 mm
266	355+532+1064	>90	0	UVFS	041-2310	042-2310
266	355+532+1064	>90	45	UVFS	041-2315	042-2315
266	532	>95	0	UVFS	041-2500	042-2500
266	532	>95	45	UVFS	041-2505	042-2505
355	1064	>95	0	UVFS	041-3100	042-3100
355	1064	>95	45	UVFS	041-3105	042-3105
355	532	>95	0	UVFS	041-3500	042-3500
355	532	>95	45	UVFS	041-3505	042-3505
355	532+1064	>95	0	UVFS	041-3510	042-3510
355	532+1064	>95	45	UVFS	041-3515	042-3515
532	1064	>95	0	BK7	031-5100	032-5100
532	1064	>95	45	BK7	031-5105	032-5105
532	1064	>95	0	UVFS	041-5100	042-5100
532	1064	>95	45	UVFS	041-5105	042-5105
532+1064	355	>85	0	UVFS	041-5140	042-5140
532+1064	355	>85	45	UVFS	041-5145	042-5145
1064	532	>93	0	BK7	031-6500	032-6500
1064	532	>93	45	BK7	031-6505	032-6505
1064	532	>93	0	UVFS	041-6500	042-6500
1064	532	>93	45	UVFS	041-6505	042-6505

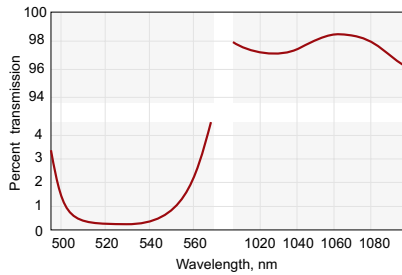
Related Products

Pellin-Broca Prisms
See page 1.52

Housing accessories

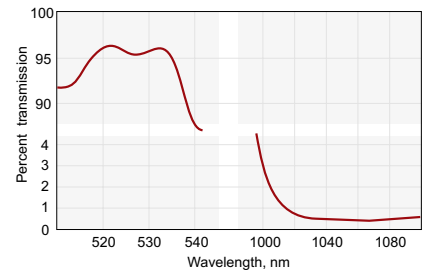
Adapter for Beamsplitter at 45° 840-0116
Find more at EksmaOptics.com

Kinematic Mirror and Beamsplitter Mount 840-0020
Find more at EksmaOptics.com



031-5105.

HR > 99.5% @ 532 nm, HT > 95% @ 1064 nm, AOI = 45°



031-6500.

HR > 99.5% @ 1064 nm, HT > 93% @ 532 nm, AOI = 0°

LASER OUTPUT COUPLERS

An output coupler is a partially reflecting dielectric mirror used in a laser cavity. It transmits a part of the circulating intracavity power for generating a useful output from the laser.

A low transmission output coupler leads to a low laser threshold, but also possibly to poor laser efficiency if the losses due to output coupling do not dominate over other parasitic losses in the laser cavity. The

output coupler transmission is often chosen to maximize the achieved output power, although its optimum value may be lower or higher if there are other design purposes (minimizing the intracavity intensities or suppressing Q-switching instabilities in a passively mode-locked laser).

Substrate

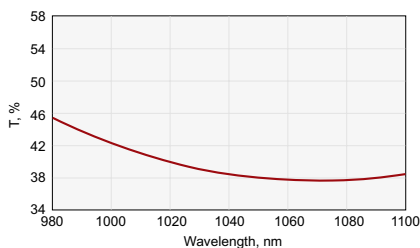
Material	UV grade Fused Silica or BK7 glass
S1 Surface Flatness	$\lambda/10$ typical at 633 nm
S1 Surface Quality	20-10 scratch & dig (MIL-PRF-13830B)
S2 Surface Flatness	$\lambda/10$ typical at 633 nm
S2 Surface Quality	20-10 scratch & dig (MIL-PRF-13830B)
Diameter Tolerance	+0.00 mm; -0.12 mm
Thickness Tolerance	± 0.25 mm
Parallelism	30 arcsec
Chamfer	0.3 mm at 45° typical

Coating

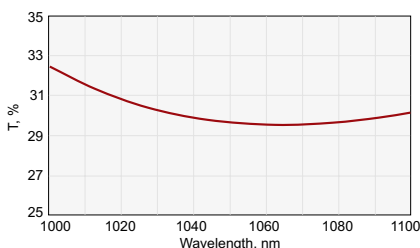
Technology	Electron beam multilayer dielectric
Adhesion and Durability	Per MIL-C-675A. Insoluble in lab solvents
Clear Aperture	Exceeds central 85% of diameter
Damage Threshold:	
BK7	>3 J/cm ² , 8 nsec pulse, 1064 nm typical
UV FS	>6 J/cm ² , 8 nsec pulse, 1064 nm typical
Coated Surface Flatness	$\lambda/10$ at 633 nm over clear aperture
Angle of Incidence	0 - 8° (normal)
Back side antireflection coated	R < 0.2%

LASER OUTPUT COUPLERS

Size - $\varnothing 12.7 \times 3$ mm



R = 60±2% @ 1064 nm, AOI=0°



R = 70±2% @ 1064 nm, AOI=0°

Wavelength, nm	Reflection, %	Transmission, %	Substrate material	Catalogue number
1064	15±3	85±3	BK7	031-0015
1064	20±3	80±3	BK7	031-0020
1064	25±3	75±3	BK7	031-0025
1064	30±3	70±3	BK7	031-0030
1064	40±3	60±3	BK7	031-0040
1064	50±3	50±3	BK7	031-0050
1064	60±3	40±3	BK7	031-0060
1064	65±3	35±3	BK7	031-0065
1064	70±3	30±3	BK7	031-0070
1064	75±3	25±3	BK7	031-0075
1064	80±3	20±3	BK7	031-0080
1064	85±3	15±3	BK7	031-0085
1064	90±2	10±2	BK7	031-0090
1064	95±2	5±2	BK7	031-0095
1064	97±1	3±1	BK7	031-0097
1064	98±1	2±1	BK7	031-0098
1064	99.0±0.5	1.0±0.5	BK7	031-0099



東京インスツルメンツ
TOKYO INSTRUMENTS

本 社：〒134-0088 東京都江戸川区西葛西6-18-14 T.Iビル

Tel. 03-3686-4711

営業所：〒532-0003 大阪府大阪市淀川区宮原4-1-46 新大阪北ビル

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