

LASER HARMONIC SEPARATORS

- Offered on Ø 0.5 or 1 inch UV FS substrates with surface flatness $\lambda/10$

Harmonic separators are dichroic beamsplitters that reflect one wavelength and transmit others. Reflectance is better than 99.5% for the wavelength of interest and transmittance is at least 90% for the rejected wavelengths. The rear surface of har-

monic separators is antireflection coated. If possible use shorter wavelength for reflection and longer wavelengths for transmission in order to have higher reflection/transmission coefficients.

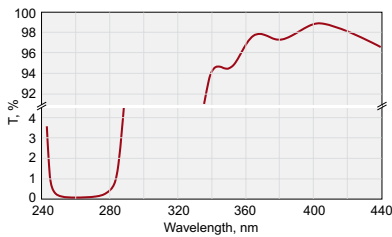
SUBSTRATE

Material	UV grade Fused Silica
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

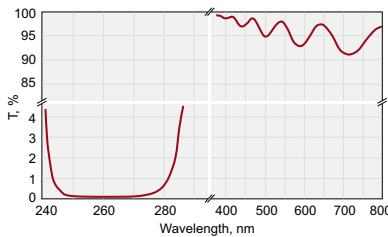
Technology	Electron beam multilayer dielectric
Adhesion and Durability	Per MIL-C-675A. Insoluble in lab solvents
Clear Aperture	Exceeds central 85% of diameter
Coated Surface Flatness	$\lambda/10$ at 633 nm over clear aperture
Back side antireflection coated	AOI 45°, R<0.5% AOI 0°, R<0.25%
Laser Damage Threshold	>100 mJ/cm ² , 50 fsec pulse, 800 nm typical

Reflected wavelength, nm, R > 99.5%	Transmitted wavelength, nm	Transmission, %	AOI	Substrate material	Catalogue number			Price, EUR
					Ø12.7x3 mm	Ø25.4x3 mm	Ø50.8x8 mm	
257-275	780-820	>95	0	UV FS	041-2800	042-2800	045-2800	145 / 175 / 265
257-275	780-820	>95	45	UV FS	041-2805	042-2805	045-2805	145 / 175 / 265
257-275	390-410	>95	0	UV FS	041-2400	042-2400	045-2400	145 / 175 / 265
257-275	390-410	>95	45	UV FS	041-2405	042-2405	045-2405	145 / 175 / 265
257-275	400+800	>90	0	UV FS	041-2480	042-2480	045-2480	145 / 175 / 275
257-275	400+800	>90	45	UV FS	041-2485	042-2485	045-2485	145 / 175 / 275
390-410	780-820	>95	0	UV FS	041-4800	042-4800	045-4800	145 / 175 / 265
390-410	780-820	>95	45	UV FS	041-4805	042-4805	045-4805	145 / 175 / 265
800	400	>93	0	UV FS	041-0840	042-0840	045-0840	140 / 170 / 255
800	400	>93	45	UV FS	041-0845	042-0845	045-0845	140 / 170 / 255
333-353	1000-1060	>95	0	UV FS	041-3130	042-3130	045-3130	135 / 165 / 245
333-353	1000-1060	>95	45	UV FS	041-3135	042-3135	045-3135	135 / 165 / 245
333-353	500-530	>95	0	UV FS	041-3450	042-3450	045-3450	135 / 165 / 245
333-353	500-530	>95	45	UV FS	041-3455	042-3455	045-3455	135 / 165 / 245
333-353	515+1030	>90	0	UV FS	041-3530	042-3530	045-3530	155 / 185 / 275
333-353	515+1030	>90	45	UV FS	041-3535	042-3535	045-3535	155 / 185 / 275
500-530	1000-1060	>95	0	UV FS	041-5130	042-5130	045-5130	135 / 165 / 245
500-530	1000-1060	>95	45	UV FS	041-5135	042-5135	045-5135	135 / 165 / 245
1030	515	>93	0	UV FS	041-6510	042-6510	045-6510	140 / 170 / 255
1030	515	>93	45	UV FS	041-6515	042-6515	045-6515	140 / 170 / 255



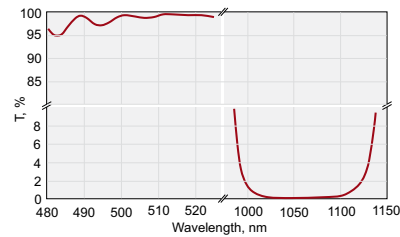
042-2405.

HR>99.5% @ 257-275 nm + HT>95% @ 390-410 nm, AOI=45°



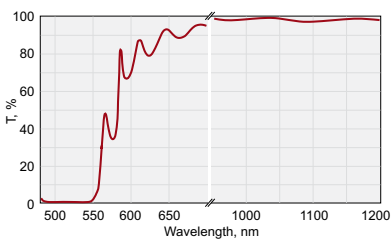
042-2485.

HR>99.5% @ 257-275 nm + HT>90% @ 400+800 nm, AOI=45°



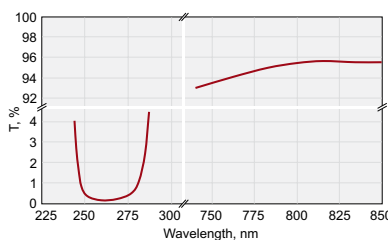
042-6515.

HR>99.5% @ 1030 nm + HT>93% @ 515 nm, AOI=45°



042-5135.

HR>99.5% @ 500-530 nm + HT>95% @ 1000-1060 nm, AOI=45°



042-2805.

HR>99.5% @ 257-275 nm + HT>95% @ 780-820 nm, AOI=45°

RELATED PRODUCTS

Pellin-Broca Prisms. See page 1.40

Adapter for Beamsplitter at 45°
840-0116. See page 8.76

Kinematic Mirror and Beamsplitter
Mount 840-0020. See page 8.58