

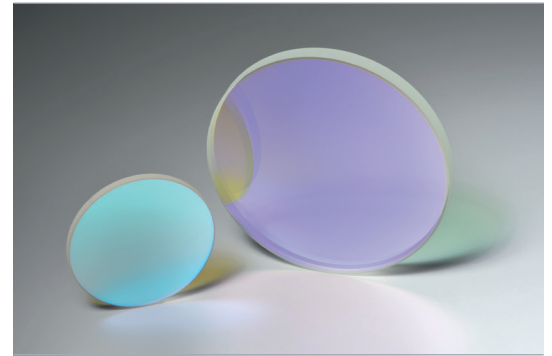
**MATERION**

// BALZERS OPTICS

# Laser-Mirrors for harmonic Wavelength Separation

## Dichroic Mirrors for 2<sup>nd</sup> and 3<sup>rd</sup> harmonic Wavelengths

For separation of the 2<sup>nd</sup> or 3<sup>rd</sup> harmonic wavelength, Materion Balzers Optics provides dichroic mirrors where one wavelength is transmitted while the other one is reflected. Similar to beam-splitters, dichroic mirrors for harmonic separation are basically made for one laser fundamental wavelength. Typically, reflectance is > 99.5%, while transmittance is > 95%. Harmonic separation mirrors are available for 0° and 45° application. Standard dimensions are ½" and 1". Other customized dimensions are available upon request.

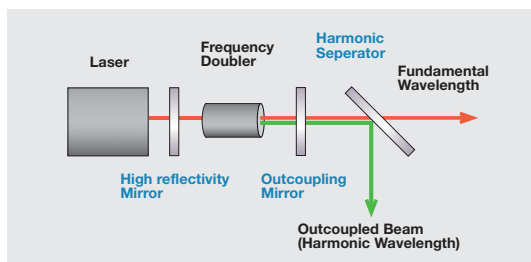


### Benefits

- Various laser lines available – see overview
- Standard reflectance > 99.5% for s- or p-pol
- Standard transmittance: > 95% for s- or p-pol
- High laser damage threshold
- Angle of incidence: 0° and 45°
- Low losses and scattering as RMS < 2 Å
- Excellent long-term stability

### Applications

- Ultra-short pulse laser systems
- Laser material processing
- Beam delivery systems



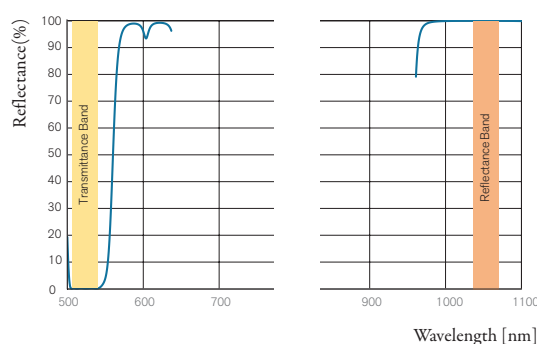
### Technical Data

<b>Transmittance</b>	> 95% for any polarization (customized upon request)
<b>Reflectance</b>	> 99.5% for any polarization
<b>Angle of Incidence</b>	0° or 45°
<b>Flatness</b>	L/10
<b>Surface Quality</b>	10-5
<b>Dimensions</b>	12.7 (0/-0.1) mm x 6.35 (±0.1) mm 25.4 (0/-0.1) mm x 6.35 (±0.1) mm (others upon request)
<b>Substrate</b>	UV fused silica
<b>Parallelism</b>	< 5 arcmin

### Overview

	T > 95%	vs.	R > 99.5%
$\Lambda$ (nm)	390-410		780-820
$\Lambda$ (nm)	500-530		1000-1070
$\Lambda$ (nm)	520-540		1040-1080
$\Lambda$ (nm)	260-275		520-540

Dichroic Laser Line Mirror for Harmonic Separation  
1030 vs. 515nm ; AOI 45°; s-pol



Dichroic Laser Line Mirror for Harmonic Separation  
515nm vs. 1030nm ; AOI 45°; s-pol

