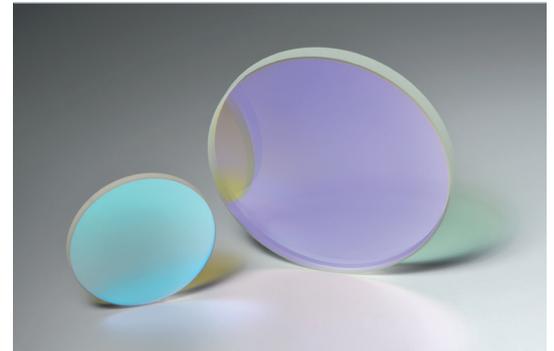




# Laser-Mirrors for harmonic Wavelength Separation

## 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 1/2" and 1". Other customized dimensions are available upon request.

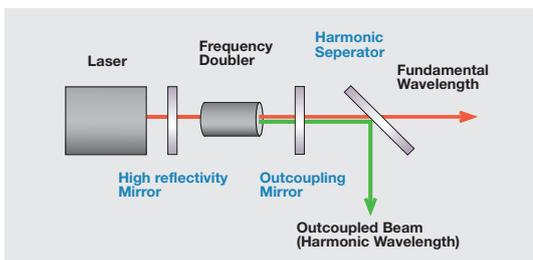


### Benefits

- 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



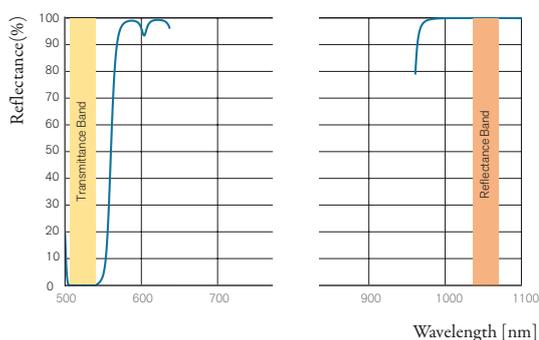
### Technical Data

|                           |   |
|---------------------------|---|
| <b>Transmittance</b>      | > 95% for any polarization<br>(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<br>25.4 (0/-0.1) mm x 6.35 (±0.1) mm<br>(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

