

# Sharp Cut Dichroic Mirror | SDM



Divides sharply the color of wavelength by reflecting the short wavelength and transmitting the long wavelength. Suitable for use in Bio-imaging and flow cytometry applications.

- The short wavelength has high reflectance, fits perfectly for use in excitation light and fluorescence imaging.
- The feature of the structure of this mirror is to maintain the distance of the edges of the P polarization and the S polarization to be close to each other. It narrows the gap of the reflective range and the transmission range to provide a steep rise.
- There is limited absorption due to the dielectric coating.

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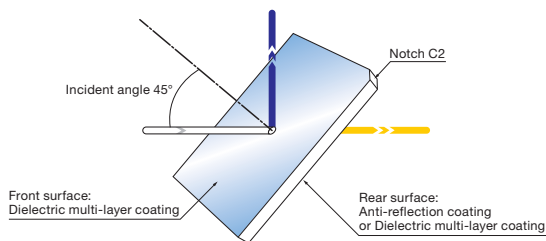
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Dielectric Filters

Etalon

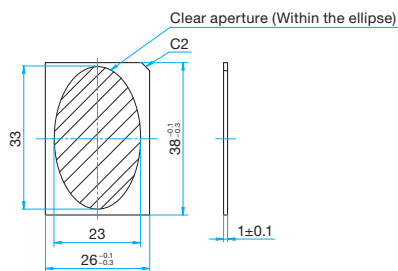


### Schematic



### Outline Drawing

(in mm)



### Specifications

Material	Synthetic fused silica
Incident angle	45°
Surface flatness before coating	5λ (Optical flat)
Parallelism	20"
Polarization condition of incident beam	Unpolarized beam (or linear polarization of 45° azimuth circular polarization)
Surface Quality (Scratch-Dig)	40-20

### Guide

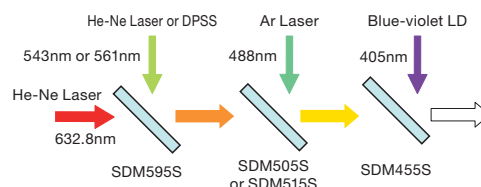
- ▶ Use the SDM mirror with interference filter as a pair for Bio-imaging applications.
- ▶ For specific mirror holder, please contact our Sales Division.
- ▶ Different size, wavelength and deviation ratio not mentioned on-line or in our catalog are available as custom products upon request.
- ▶ For aluminum mirror, dielectric mirror, TIRF Mirror (Total Internal Reflectance Fluorescence), please contact our Sales Division with your request.

### Attention

- ▶ The transmittance characteristic of the mirror is a combination of the coating values of both sides of the mirror.
- ▶ Use the mirror other than at 45 degrees angle of incidence, the transmittance and the reflectance characteristics may be different than specified.
- ▶ The right reflecting surface appears when you see the notch on the upper right side of the mirror.

### Sample of use with multi-wavelength of visible laser

This is a flow cytometry set up with a piling up of different laser beams.



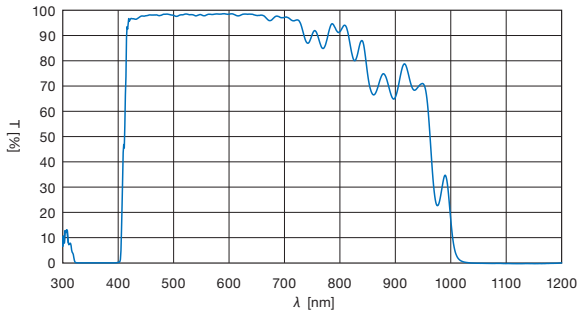
### Specifications

Part Number	Transmission spectral	Transition [nm]	High reflectance range [nm]	Reflectance [%]	High transmittance range [nm]	Transmittance [%]
SDM410S		410	340 – 360 360 – 395	>90 >99	419 – 660 430 – 520	>80 >87
SDM455S		455	390 – 443	>99	465 – 560 560 – 700	> Average 92 > Average 88
SDM490S		490	450 – 482	>99	499 – 630 630 – 655	> Average 90 >75
SDM505S		505	455 – 497	>99	514 – 550 550 – 700	>85 >60
SDM515S		515	462 – 504	>99	522 – 660 660 – 700	> Average 90 >75
SDM570S		570	520 – 558	>99	579 – 620 620 – 700	>85 >60
SDM595S		595	520 – 585	>99	605 – 700 700 – 880	> Average 92 >75

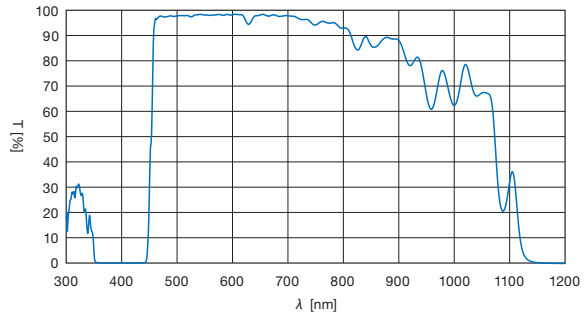
Typical Transmittance Data

T: Transmission

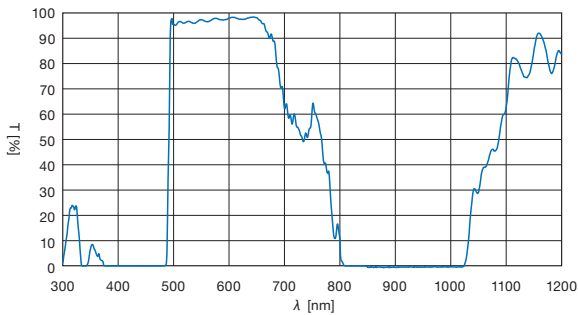
SDM410S



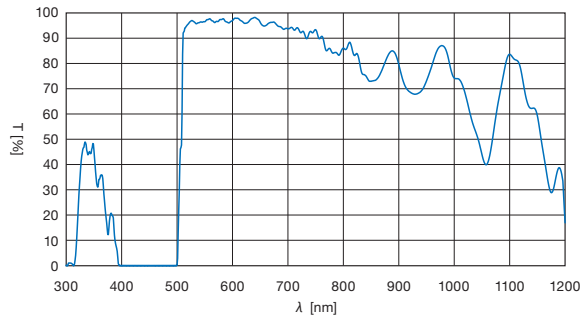
SDM455S



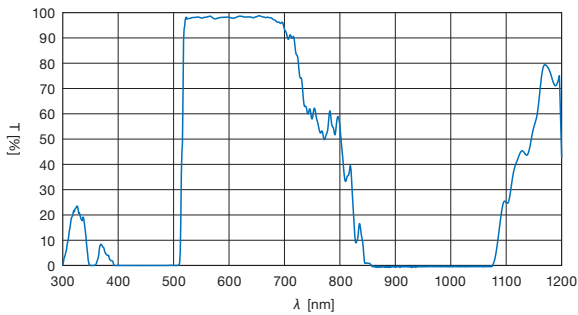
SDM490S



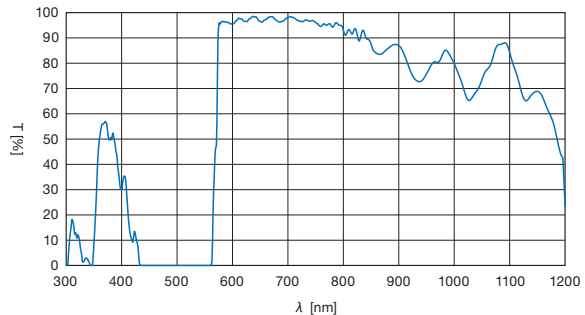
SDM505S



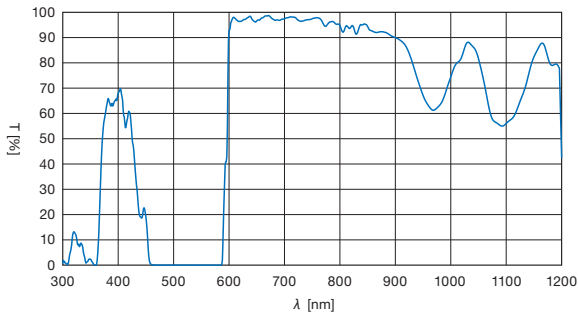
SDM515S



SDM570S



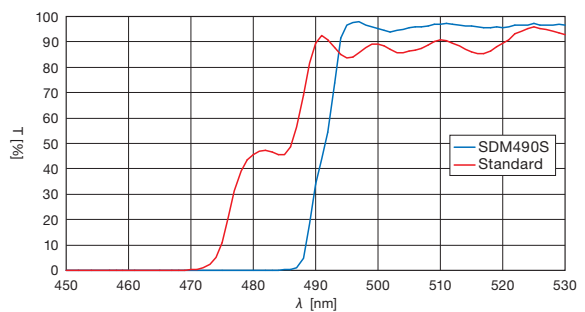
SDM595S



Sharp cutting characteristics value (Reference data)

T: Transmission

The polarization of the SDM mirror was realized with a special coating design to obtain a sharper rise graph than usual. It shows advantage for use in extracting the excitation light for fluorescence imaging application.



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