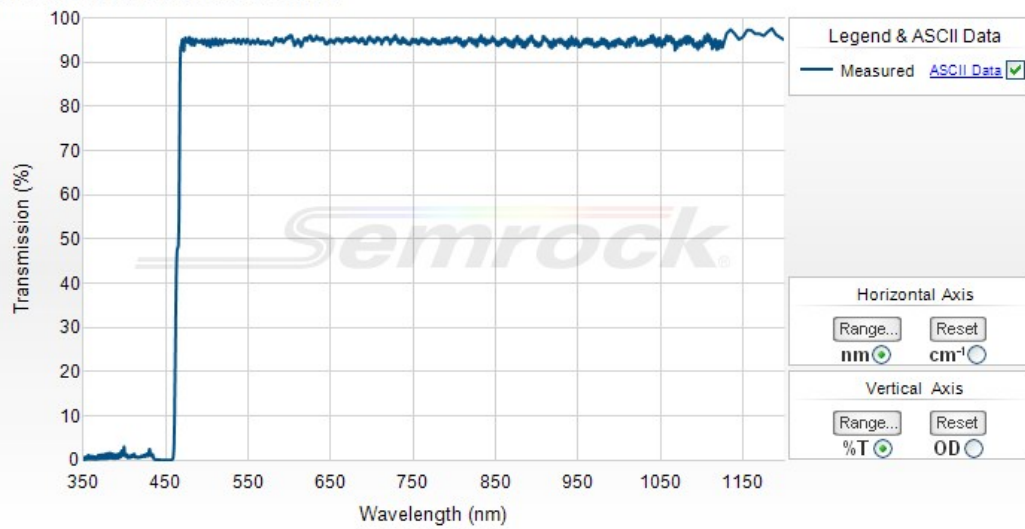


442 nm laser BrightLine® single-edge super-resolution laser dichroic beamsplitter

Part Number: Di03-R442-t1-25x36

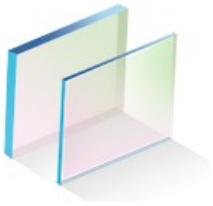


Semrock, Inc

3625 Buffalo Road, Suite 6
 Rochester, New York 14624

Main Phone: +1 585.594.7050 (worldwide)
 Toll Free Phone: 866.736.7625 (866-SEMROCK)
 (within US and Canada)

Your filter spectrum may differ slightly from the typical spectrum above, but is certified to meet the optical specifications noted below.



442 nm laser BrightLine® single-edge super-resolution laser dichroic beamsplitter

The perfect beamsplitters for the most popular lasers used in fluorescence imaging, including all-solid-state lasers. All beamsplitters in this category have exceptional reflectance at the laser wavelengths, wider reflection bands — into UV for photoactivation and super-resolution techniques, and extended transmission regions — into IR to 1200 or 1600 nm, and anti-reflection (AR) coatings to minimize imaging artifacts resulting from the coherent laser light.

Semrock's super-resolution laser dichroics deliver industry-leading flatness for minimal focus shift and optical wavefront aberrations of the laser beam spot to enable popular imaging and Super-resolution techniques such as TIRF, PALM, STORM, Structured-Illumination, and STED.

1λ P-V RWE on 1 mm
 λ/5 P-V RWE on 3 mm

Part Number	Size	Price ¹	Stock Status
Di03-R442-t1-25x36	25.2 mm x 35.6 mm x 1.1 mm (unmounted)	\$445	In Stock
Di03-R442-t3-25x36	25.2 mm x 35.6 mm x 3.0 mm (unmounted)	\$545	In Stock

This part is not available for custom sizing - [contact us](mailto:semrock@idexcorp.com) (semrock@idexcorp.com) for 50.8mm sizes

1) US domestic pricing only. If you are ordering from outside the US, please contact your nearest [regional distributor](#) for the correct list price.

Optical Specifications

Specification	Value
Reflection Band 1	Rabs > 94% 439 – 457.9 nm
Reflection Band 1 (p-pol)	Rabs > 90% 439 – 457.9 nm
Reflection Band 1 (s-pol)	Rabs > 98% 439 – 457.9 nm
Reflection Band 2	Ravg > 90% 350 – 439 nm
Edge Wavelength 1	464.8 nm
Transmission Band 1	Tavg > 93% 466.1 – 1200 nm
Laser Wavelengths 1	440 +3/-1 nm, 442.0 nm & 457.9 nm

General Filter Specifications

Specification	Value
Angle of Incidence	45 degrees with a shift of 0.35%/degree (40 – 50 degrees)
Cone Half-angle	0.5 degrees
Optical Damage Rating	1 J/cm ² @ 532 nm (10 ns pulse width)
Flatness (1 mm thickness)	1λ P-V RWE @ 632.8 nm
Flatness (3 mm thickness)	λ/5 P-V RWE @ 632.8 nm
Steepness	Steep
Effective Index	2.18

Physical Filter Specifications (applies to standard sized parts; contact us regarding other sizes)

Specification	Value
Transverse Dimensions (L x W)	25.2 mm x 35.6 mm
Transverse Tolerance	± 0.1 mm
Filter Thickness (1 mm, unmounted)	1.05 mm
Filter Thickness Tolerance (1 mm, unmounted)	± 0.05 mm
Filter Thickness (3 mm, unmounted)	3.0 mm
Filter Thickness Tolerance (3 mm, unmounted)	± 0.1 mm
Clear Aperture	≥ 80% (elliptical)
Scratch-Dig	60-40
Substrate Type	Fused Silica
Substrate Thickness (1 mm, unmounted)	1.05 mm
Substrate Thickness Tolerance (1 mm, unmounted)	± 0.05 mm
Substrate Thickness (3 mm, unmounted)	3.0 mm
Substrate Thickness Tolerance (3 mm, unmounted)	± 0.1 mm
Orientation	Reflective surface marked with laser dot - Orient in direction of incoming light