



Laser Diode Filters

Visible laser diode filters are made with advanced processes to enhance their physical longevity, as opposed to standard “off-the-shelf” filters. SpectroFilm laser diode filters have an anticipated working life of five years.

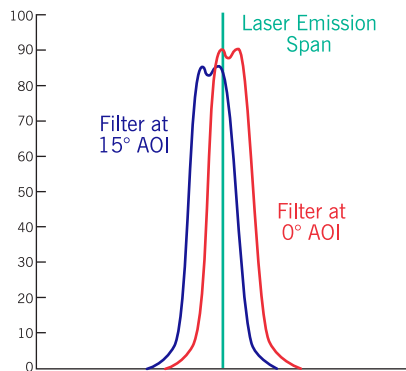
Angle of Incidence and Blue Shifting

The center wavelength of the filter will shift toward shorter (blue) wavelengths as the angle of incidence

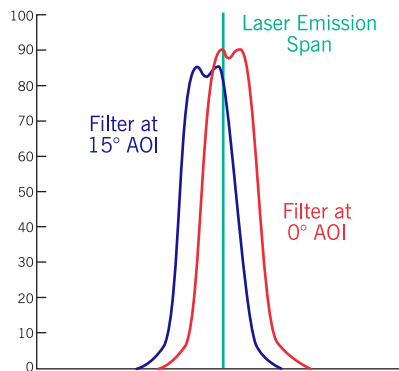
increases. The greater the angle, the greater the shift. This is known as “blue shifting”.

Laser Diode Tolerances

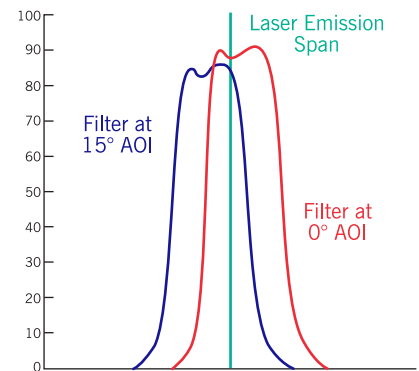
Diodes typically have a wavelength tolerance of +/- 10nm. Corresponding to surrounding temperature decreases and increases, this wavelength (measured at room temperature) will decrease and increase at a rate of 0.25nm/°C.



Narrow Band
0°-15° Angle of Incidence



Intermediate Band
0°-25° Angle of Incidence



Wide Band
0°-35° Angle of Incidence

Laser Diode Filter Specifications

**LASER LINE
WAVELENGTH
(nm)**

**ACTUAL CWL@0° AOI
to compensate
for blue shift**

**0° AOI Application
Narrow Laser 10nm B/W +/-2nm**

532nm	532 +/-2nm
660nm	660 +/-2nm

**0°-15° AOI Application
Narrow Laser 20nm B/W +/-4nm**

635nm	637.5 +/-2nm
656nm	658.5 +/-2nm
660nm	662.5 +/-2nm
670nm	672.5 +/-2nm
680nm	682.5 +/-2nm
685nm	687.5 +/-2nm
780nm	782.5 +/-2nm
830nm	832.5 +/-2nm

**0°-25° AOI Application
Narrow Laser 40nm B/W +/-8nm**

635nm	640 +/-5nm
656nm	661 +/-5nm
670nm	675 +/-5nm
685nm	690 +/-5nm
780nm	785 +/-5nm
810nm	815 +/-5nm
830nm	835 +/-5nm

**0°-35° AOI Application
Wide Laser 70nm B/W +/-14nm**

635nm	644 +/-10nm
656nm	665 +/-10nm
670nm	679 +/-10nm
685nm	694 +/-10nm
780nm	789 +/-10nm
810nm	819 +/-10nm
830nm	839 +/-10nm

Transmission at Laser Line

80% Minimum (85% Typical)

FWHM (Bandwidth)

Narrow 20nm
Intermediate 40nm
Wide 70nm

Out of Band Transmission

.001% (50db attenuation average)

Spectral Range

X-ray to 1150nm

Effective Index

2.1

Operating Temperature

20°C to 80°C

Humidity Resistance

Minimum 40 Cycles (MIL-STD-810E)
Method 507 Procedure 1

Size and Tolerance

Diameter 24.4nm =/-.15
Thickness 3nm +/--.25
Usable Aperature 23nm +/--.40

Pricing

1-3 pieces \$85 each
4-10 pieces \$70 each
Call for other quantities

Custom black anodized rings for 24.4mm diameter are available upon request.

O.D. to 25.4mm (1" diameter)

All laser diode filters are manufactured to be ISO9200-compliant.



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