

# Holographic Notch and SuperNotch® Filters



Our Holographic Notch and SuperNotch® Filters are fabricated by recording interference patterns formed between two mutually coherent laser beams unlike conventional interference filters, which are made by vacuum evaporation techniques. Since all layers are recorded simultaneously within a thick stack, the optical density of the notch filter is high and its spectral bandwidth can be extremely narrow. Also, since the layering profile is sinusoidal instead of squarewave, holographic notch filters are free from extraneous reflection bands and provide significantly higher laser damage thresholds.

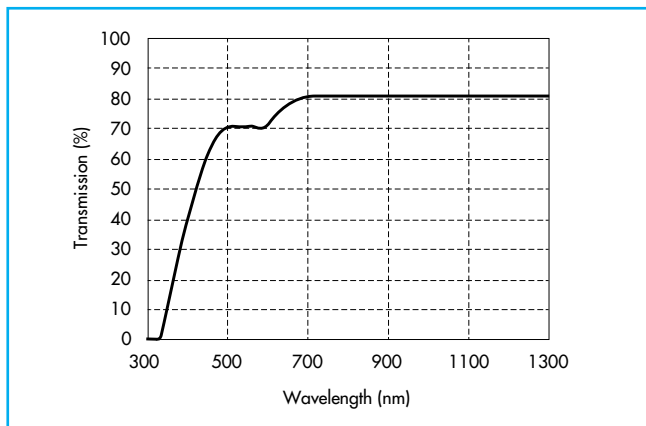
Physical Specifications	All Products
<b>Environmental Stability</b>	No detectable performance change after cycled between -50°C to +80°C and returned to room temperature.
<b>Wavelength Range</b>	Standard Wavelengths (nm): 442, 457, 476, 488, 514, 532, 568, 633, 647, 752, 785, 1064 Custom Wavelengths: In the available wavelength range specified in the preceding table.
<b>Sizes</b>	Standard Diameters: 1.0, 1.5, 2.0, 2.5 inches Standard Thicknesses: 0.23 inches nominal
<b>Filter Clear Aperture</b>	Active Filter Diameter: External diameter less 0.375 inches

## Advantages

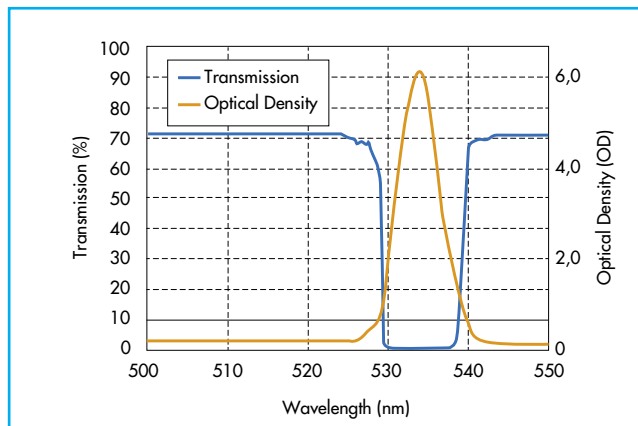
- High Laser Attenuation
- Low Spectral Bandwidth
- High Spectral Edgewidth
- High Transmission beyond Notch Area

Optical Specifications	Notch	Notch-Plus™	SuperNotch®	SuperNotch-Plus™
<b>Laser Attenuation</b> Optical Density (Averaged over entire clear aperture)	>4.0	>6.0	>4.0	>6.0
<b>Spectral Bandwidth</b> Wavenumbers between O.D. 0.3 or 50% transmission points	<700 cm <sup>-1</sup>	<700 cm <sup>-1</sup>	<350 cm <sup>-1</sup>	<350 cm <sup>-1</sup>
<b>Spectral Edgewidth</b> Wavenumbers between O.D. 0.3 and 4.0 points	<300 cm <sup>-1</sup>	<300 cm <sup>-1</sup>	<150 cm <sup>-1</sup>	<150 cm <sup>-1</sup>
<b>Available Wavelength Range</b>	350-1400 nm	350-1400 nm	488-1400 nm	488-1400 nm

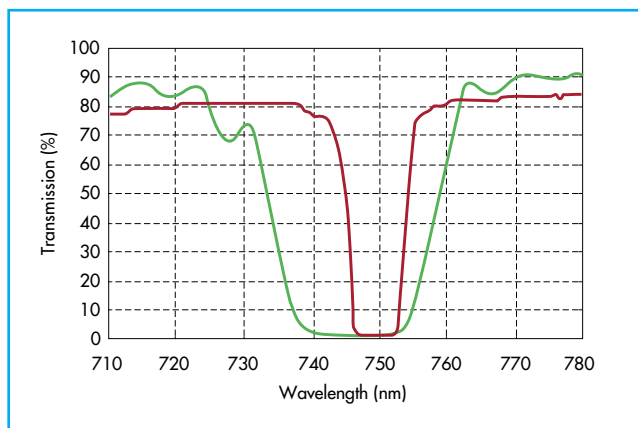
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Transmission vs. Wavelength



Typical Filter Curve



Holographic Notch Filter (red) vs. Dielectric Filter (green)

Notch Filter Holder					
Dimension [mm]	Aperture (C.A.) [mm]	Diameter (H) [mm]	External Diameter		
			(A) [mm]	(B) [mm]	(F) [mm]
25,4	15,75	25,400	41,148	38,10	12,70
38,1	28,45	37,846	62,992	56,89	15,24
50,8	41,15	50,546	62,992	56,89	15,24
63,5	53,85	61,722	76,200	69,85	15,24

