Neutral Density Filters

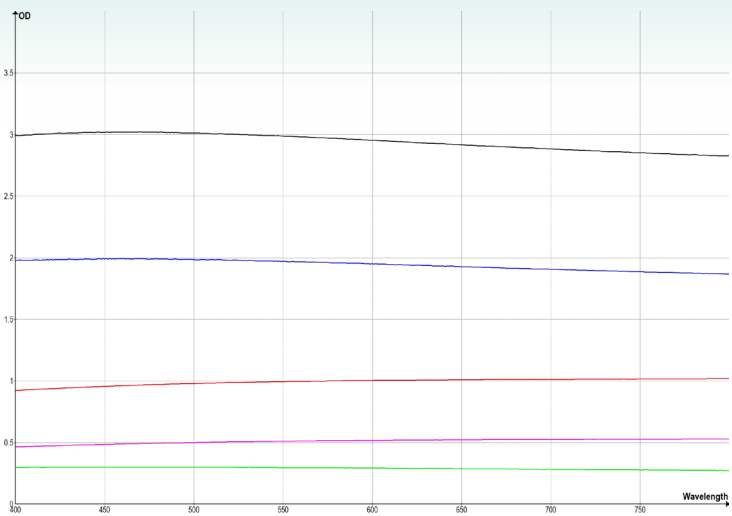
A neutral density filter is used to uniformly attenuate the intensity of light over a broad spectral range. Either absorption or a combination of absorption and reflection can accomplish attenuation. These carefully prepared filters find wide applications for precise attenuation of light. For example, beams can be attenuated to levels where photometers are most accurate and linear, extending their useful range. Calibration of optical equipment is another widely used application and neutral density filters for this purpose can be delivered with a NIST traceable measurement certificate if required.

Optical Density (OD) is the term most used to characterise a neutral density filter and OD is defined as the base 10 logarithms of the reciprocal of transmittance (T):

$$OD = \log(\tfrac{1}{T}) \quad \text{or} \quad T = 10^{-OD}$$

Ferroperm Optics offer neutral density filters with OD values ranging from 0.1 to 6 OD. Common OD values are typically in stock.

Below are shown five different neutral density filters manufactured by Ferroperm Optics measured from 400 nm to 800 nm.



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