

The Most Common Optical Filters and Their Uses

Optical Filters are available in an array of choices and are employed for a wide and diverse range of applications. As a global supplier of stock and custom-made optics, Knight Optical runs through the most popular types and some of their typical functions.

Interference Bandpass Filters

How do Interference Bandpass Filters work?

Used for a broad spectrum of functions and across an assorted variety of industries, Interference Bandpass Filters are handy for applications that require selective transmission of specific wavelengths whilst blocking undesired bands.

What are Interference Bandpass Filters used for?

Popular within imaging applications, you can find Interference Bandpass Filters in all corners of the world, including:

- Food spectroscopy
- Telescopes
- Microscopy
- Medical fluorescence.

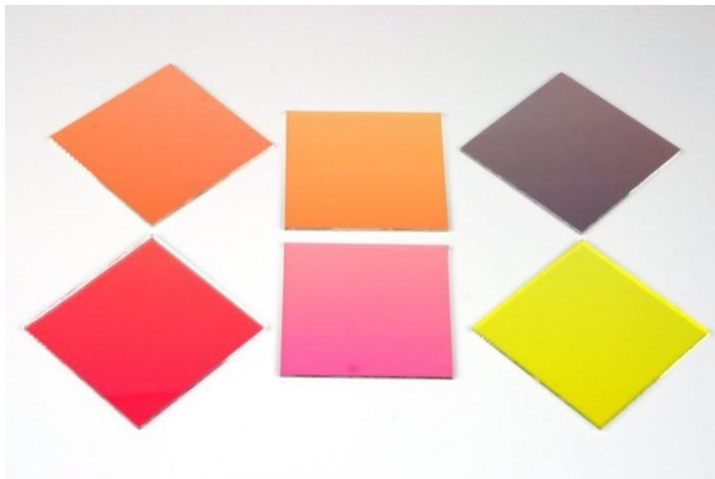


Click [here](#) to learn more about Interference Bandpass Filters.

Dichroic Filters

How do Dichroic Filters work?

Much like Interference Bandpass Filters, these optical filters reflect unwanted wavelengths. With excellent transmission, reflection and absorption characteristics, Bandpass Filters are manufactured using thin film dielectric coatings on glass.



What are Dichroic Filters used for?

You'll commonly find Dichroic Filters in imaging applications, such as:

- CCD imaging devices
- Machine vision
- Fluorescence microscopy.

Find out more about our Dichroic Filters portfolio [here](#).

Colour Glass Filters

How do Colour Glass Filters work?

Colour Glass Filters are manufactured by injecting a coloured dye (typically red, green, orange, blue or yellow) into a glass-based substrate. These colours dictate the spectral performance by absorbing specific wavelengths of light.



What are Colour Glass Filters used for?

Alongside their popularity within the imaging sector, these optical filters are also sought-after optics in a range of other fields, including:

- Cosmetic laser therapy, such as IPL (intense pulsed light) devices
- Lighting
- Photography.

Discover our full range of Colour Glass Filters [here](#).



Neutral-Density (ND) Filters

How do Neutral-Density (ND) Filters work?

Known for their ability to reduce the intensity of wavelengths, Neutral Density Filters also known as ND Filters neutrally block light without altering the colour of the object in focus.

What are Neutral-Density (ND) Filters used for?

Thanks to the above benefits, ND Filters is highly popular among photographers looking to achieve picture-perfect shots. As well as photography, they can also be found in areas such as:

- Aerial imaging
- Imaging machines
- Laser applications.

You can learn more about Neutral-Density ND Filters [here](#).

Heat Glass Filters

How do Heat Glass Filters work?

Thermally toughened to prevent cracking, Heat Glass Filters (such as Schott KG1 Filters) remove the near-infrared (NIR) thermal energy from a light source and transmit the visible spectrum.

What are Heat Glass Filters used for?

These filters' durability against heat means that they're mainly used in lighting applications where they can be integrated near light sources to stand up against high temperatures.



Find out more about our Heat Glass Filters [here](#).



Infrared (IR) Cut Filters

How do Infrared (IR) Cut Filters work?

Effectively blocking unwanted ultraviolet (UV) and visible light, IR Cut Filters, as the name suggests, are used for IR-specific applications, and demonstrate sharp transitions between bands for superior performance.

What are Infrared (IR) Cut Filters used for?

These optical components are typically found in Complementary Metal-Oxide

Semiconductor (CMOS) and Charged Coupled Device (CCD) applications, as well as:

- Overhead projectors
- IP security cameras.

Click [here](#) to view our range of Infrared (IR) Cut Filters.

Why Choose Knight Optical for your Application?

Discerning customers rely on Knight Optical not only for the premium quality of our output and in-house state-of-the-art Metrology Laboratory and QA Department's capabilities. They do so because we also offer our optics as Custom-Made Components, as well as a range of Stock Optics (available for next-day dispatch).

Last year, we celebrated 30 years in business. With over three decades of experience under our belt and a whole host of long-standing world-renowned customers on our books, we are proud to have worked on some of the most ground-breaking innovations.

If you are looking for premium-quality, bespoke optical components, please do not hesitate to get in touch with a member of our Technical Sales Team.

Europe, UK, Asia & RoW:

www.knightoptical.com

info@knightoptical.co.uk

+44 (0)1622 859444

USA & Canada:

usasales@knightoptical.com

+1 401-583-7846