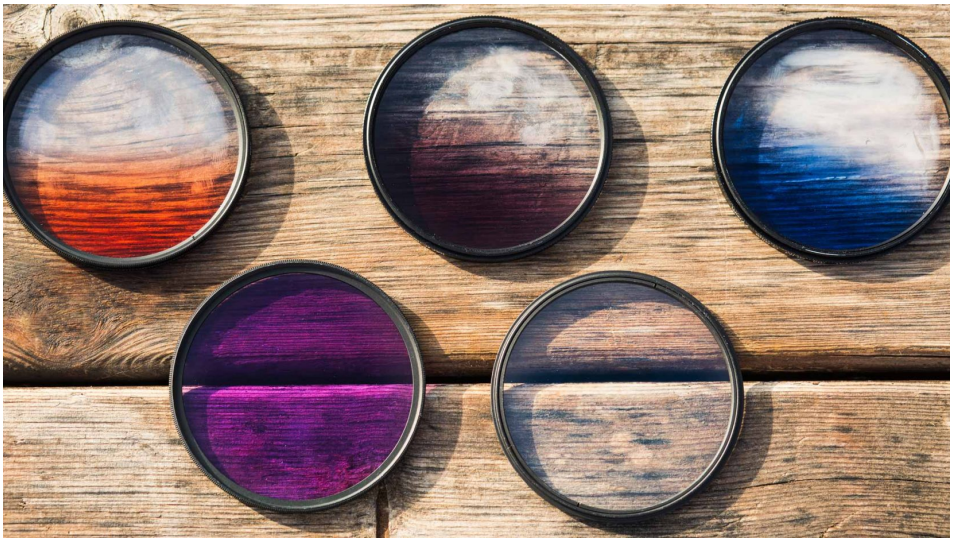
A Beginner’s Guide to Camera Lens Filters



Photographers use these little pieces of glass for a multitude of reasons, but the most common is for managing tricky lighting conditions when shooting.
Filters help minimize glare and reflections, enhance colours, reduce light coming into the lens, and more. Each lens filter serves a specific purpose, as each one is built to deliver a specific effect that can help enhance the final look of an image.

How are Camera Lens Filters Used in Photography?

They Protect Your Lens

The most affordable types of lens filters are those that are clear and simply used for protection. These are great for protecting the front lens element during normal shooting situations, as the clear glass does not affect your images in any way. Protective lens filters eliminate the possibility of scratches, cracks, and dust accumulating on the surface of your lens.

They Can Correct or Enhance Colours

There are certain types of photography filters that can alter or boost the colours in your images. Some have the ability to correct the colour temperature of a scene, while others can enhance colour and contrast for a more vibrant image.

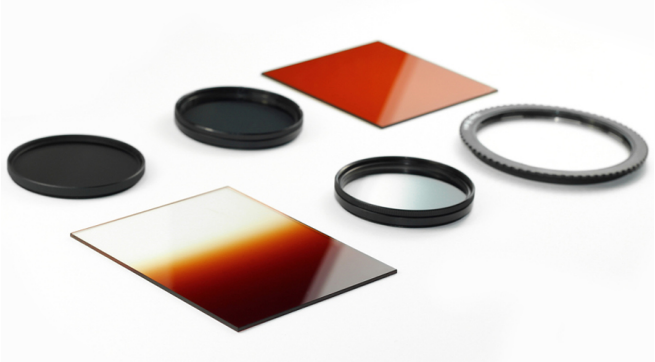
They Help Ensure Accurate Exposure

When working with particularly difficult lighting conditions, filters are a great option for achieving even and accurate exposure across your entire image. They do this by blocking some of the light that enters the lens (in varying degrees). These are particularly helpful when shooting outdoors during daytime, particularly when using fast shutter speeds may not be enough to avoid overexposure.

They Add Impact to Your Images

Camera filters can help improve your images in various ways—they’re useful for increasing contrast in an image, creating more vivid colours, eliminating glare and distracting reflections from water and glassy surfaces, and more. But they can also be used to add a little oomph to an otherwise lacklustre shot by adding some interesting effects, like multi-point “stars” on light sources or softened edges.

Different Kinds of Lens Filters



1. Screw-On Filters

Also called a circular filter, this is any lens filter that is directly mounted and screwed onto the front of a lens. There are different camera filters that fall under this category, including the most commonly used ones like polarizers, ND filters, and colour filters. They usually vary in diameter or thickness, and the thickest ones can sometimes produce vignetting in your images.

2. Drop-in Filters

Drop-in filters are used primarily with telephoto lenses, as they often have larger front elements and cannot always be used with a standard screw-on filter. As its name suggests, a drop-in filter is inserted into a small, specialized compartment near the rear part of the lens.

3. Square Filters

These filters are normally used with a lens filter holder that is attached to the front of the lens. You'll only need to get adapters for your lens filter holder in order to be able to use one or more filters of different sizes. This type of filter is popularly used for landscape photography.

4. Rectangular Filters

Another popular choice for landscape photographers is rectangular filters, which are also mounted with a filter holder. Using a rectangular filter gives the photographer more space to move around the subject without risking uneven spots. Its most popular size is 100mm x 100mm, but there are smaller and larger filters available as well.

Cost

Screw-on filters can be made of Resin or Glass. The best types are glass and especially Schott-Glass, a German-made optically perfect and industry-standard quality glass product. These types of filters can range from mere dollars to hundreds of dollars. Square filters often need holders or mounts and they can range from simple attachments to very specific attachments that only work for one lens (due to the bulbous nature of some wider-angle lenses). These usually start at a much higher price, even hundreds per panel, but work for all your lenses.

Tip: if buying screw-on lenses, it is cheaper to only buy the largest size of your largest lens diameter, e.g. 82mm. Your other lenses can use these by the way of step-up rings which are mere dollars for each step. Good step-up rings are made of anodised aluminium and light-leak free.

7 Types of Camera Lens Filters

Filters are relatively inexpensive as far as camera gear goes, but if you don't know the right ones to buy for your own needs or how you can use them to improve your photos, you may just end up wasting your money.

In the following lens filter guide, we explain the different types of camera filters and their corresponding effects to help you figure out which ones you need.

UV and Skylight Filters

Protective UV and skylight filters are often used to protect the front element of a lens against moisture, dirt, and scratches, which makes them ideal for shooting in wet, dusty, or muddy environments. In the past, UV filters were also used to prevent the UV light from causing haze and fogginess in older photographic films, which were typically more sensitive to UV rays.
On the other hand, skylight filters are every photographer's best friend when shooting under a clear blue sky. They can reduce the excessive blue cast that often appears in photographs taken outdoors. They can also keep skin tones free of colour reflections from objects that are around the subject.

Keep in mind, however, that with a skylight filter as your lens' protection, the image quality of your photos may be compromised as it can intensify lens flares that tend to add a colour tint and reduce image contrast.

Most suitable for: All kinds of photography

Polarising Filters

Polarizing filters, pretty much like sunglasses, add depth to an image by saturating its colour and reducing reflections. These filters have a rotating mount that's easy to attach to a lens. Once a polarizing filter is mounted on your lens and the subject is already framed, you can slowly rotate the filter while watching how the image changes on your camera's viewfinder or live view.

Polarizers are best for shooting landscapes. They darken skies and make colours pop, as well as eliminate glare and reduce reflections on glassy or water surfaces.

Neutral Density Filters

Neutral density (ND) filters are sheets of dark-coloured glasses that reduce the amount of light that enters your lens and hits to the sensor, but without affecting the colour of the resulting image. This includes excess sunlight and powerful light from studio flashes.

An ND filter doesn't need any adjustment at all, and you can still use the metering and focusing system of your camera and lens even with this filter attached to your lens.

By reducing the intensity of incoming light, this filter allows you to shoot with slower shutter speeds without overexposing your image. In that case, if you're going to take a photo of a moving subject like flowing water, make sure to use a tripod for more dramatic motion blur and to ensure that everything else is tack sharp.

Most suitable for:

- Landscape photography
- Flash photography
- Street photography
- Photographing moving bodies of water like rivers and falls

Graduated Neutral Density Filter

Graduated neutral density filters (also known as ND Grad or GND filters) have a vertical transition between dark and clear to balance the exposure between the sunny sky and its darker foreground. They vary in darkness and are measured in “stops”—the number of stops of light determines how much it will darken part of the scene you are trying to capture.
GND filters generally come in three common types: soft-edged, hard-edged, and reverse.

- **Hard-Edge GND Filter** – Has a neutral grey half that sharply transitions to clear at the centre. It is mostly used to balance out high-contrast scenes, such as a flat horizon with bright skies and a dark foreground, to create an evenly exposed image.
- **Soft-Edge GND Filter** – More commonly preferred for its smoother gradient between the dark and clear areas, this filter is best used if the horizon is not perfectly straight or flat; you can also opt for this if the hard-edge filter tends to create a noticeable midline for your chosen scene.
- **Reverse GND Filter** – Special filter that landscape photographers use to shoot beautiful sunrises and sunsets when the sun is much closer to the horizon. Unlike regular GND filters that transition from dark to light in the middle, this type changes from dark (for the sky) to darker (for the sun) on the top half and then all clear on the lower half (for the foreground).

Most suitable for:

- Landscape photography
- Shooting during the golden hours: after sunrise and before sunset

Colour-Correcting Filters (Rarely Used In The Digital Photography-Era)

Colour correcting filters, also known as cooling and warming, colour conversion, or colour compensating filters, are used to correct and/or enhance the colour of your scene. Warming and cooling filters are great for correcting indoor lighting and making your scene look gloomier or sunnier while other coloured filters are great for bringing out certain hues in a scene.
For those who’d rather skip the colour correction in post-production, these are helpful in making your images look more beautiful, accurate, and realistic.

Most suitable for: All kinds of photography

Close-Up Filters

Close-up filters (also known as macro filters or diopters) are used to enable macro photography without having to use a dedicated macro lens. Many photographers resort to purchasing these small pieces of glass than invest in more costly macro lenses, especially when they don't necessarily have to take close-up shots all the time. Then again, these lens filters can't replace the magnifying power of actual macro lenses. Close-up filters are just like reading or magnifying glasses that help regular lenses focus more closely on subjects.

Most suitable for: Macro and still life photography

Special Effect Filters

Special effects filters serve different purposes in improving your images. Perhaps the most popular type of special effects filters is the starburst filter, which effortlessly adds a noticeable twinkle to image highlights and light sources such as street lamps and Christmas lights. You can choose from filters that produce two-, four-, six-, or eight-point stars and light flares. Other special effects filters include infrared filters, multi-vision, centre spot or diffusion filters, and day for night filters. However, most of these have lost their popularity since their effects can now be easily reproduced in Photoshop. What can't be easily replicated, however, are the unique effects of bokeh filters on out-of-focus blur.

What is absolutely essential?

Every time you buy a new lens, you should budget for the purchase of a good quality UV(A) filter. This has two functions: firstly, it protects your lens from scratches, bumps, dust and liquid. The coatings on your lens are essential for quality imagery, protecting the front of the lens is paramount. Secondly, these UV filters reduce the effects of flaring and diffraction of colours at the point of the lens.

A good rule of thumb is; spend 10% of the value of the lens, for the UV filter on the front. I would suggest that even a meagre lens deserves great protection. I humbly suggest that a good Schott-Glass filter is the way to go.

Secondly, a Circular Polarising Filter (CPL), would be considered a necessary item for all photographers. Remember, get one of the largest diameter of lenses you own and purchase step-down/up rings for each other subsequent size lens.

Camera Lens Filter Overview

Lens Filter	Effect	Photography Type
UV & Skylight Filter	• Protects lens glass • Shields old photography film from UV rays	All
Polarizing Filter	• Reduces reflections and glare • Enhances colors and contrast	All
Neutral Density Filter	• Reduces the amount of light entering the lens • Allows the use of slower shutter speeds and wider apertures • Helps create motion blur	Landscape and Flash Photography
Hard-Edge Graduated ND Filter	• Reduces the amount of light entering the lens through the top half of the filter • Provides a sharp transition between dark and clear for flat horizons • Balances exposure and high contrast between bright midday skies and dark foreground	Landscape Photography
Soft-Edge Graduated ND Filter	• Reduces the amount of light entering the lens through the top half of the filter • Provides a smoother transition between dark and clear so use of filter is not evident • Balances exposure and high contrast between bright midday skies and dark foreground	Landscape Photography
Reverse Graduated ND Filter	• Reduces the amount of light entering the lens around the upper midline • Provides a smooth transition from dark to less dark from the middle to the top edge • Properly exposes the sun for clearer sunsets and sunrises	Landscape Photography
Colored Filter	• Corrects colors for accurate white balance • Enhances or blocks one type of color	All
Close-Up Filter	• Allows closer focusing on subjects • Helps capture sharp close-ups	Macro Photography
Special Effects Filters	• Produces multi-point star sparkles • Softens or diffuses edges for dream-like effect with sharp center • Creates multiple copies of a subject or scene • Blocks infrared light and passes visible light • Customizes the shape of bokeh lights	All