

## DON'T MISS OUT! The easiest way to witness and record the Great American Eclipse through your optics.



Effortlessly transform your Phone, Camera, Spotting Scope, or Binoculars into a stellar eclipse viewing tool with Baader AstroSolar® Safety Film OD 5.0.

Are you ready to witness one of nature's most awe-inspiring sights? The 2024 American Solar Eclipse is just around the corner, and there's an incredibly easy and safe way to enjoy this celestial event through your optics – with Baader AstroSolar® Safety Film - and a rubber band.

Baader AstroSolar® Safety Film is a cost-effective approach to viewing the eclipse with unparalleled safety and clarity. It's designed to protect your eyes and equipment from harmful solar radiation while providing a crisp, clear view of the sun. This high-quality dual-layer film filters out harmful ultraviolet and infrared radiation, ensuring a safe viewing experience. *AstroSolar® Safety Film is valid for use with optics only.*

### Easy Set-Up for Everyone

You don't need to be an Astronomer to enjoy the solar eclipse in sharp detail. Our solution is simple and accessible to everyone. We think we can explain the process simply enough with a picture, however, for a few essential safety steps and instructions, please read the steps below.

### Instructions

*(If you want to create a more sophisticated and reusable filter holder, you can also follow the manufacturers guide "How to build your own solar filter" that is included with each film.)*



1. **Get your Baader AstroSolar® Safety Film:** This is your ticket to a safe and stunning solar viewing experience.
2. **Cut the Film to Size:** Measure the diameter of your lens, be it Binoculars (you need to cover both lenses), your camera, or spotting scope. Add some extra so that the film can wrap safely around the edges and be secured appropriately, then cut to size.

**Use a Rubber Band to Attach the Film:** Secure the film to the end of your spotting scope, binoculars, or camera. It doesn't have to be tight, wrinkles in the film are normal. Having it tight could damage the film and reduce longevity, as well as reduce the sharpness. The high optical quality of this film is at its best when the film is held loosely and allowed to wrinkle.

3. **Safety Test:** Inspect & Test! Your new solar viewing tool is easy to test for safety. This is to ensure that no damage or tears have occurred during handling and use. The film is very tough and resistant to damage (it even has coatings on both sides), but when viewing the sun, it is always wise to check first. It doesn't take long for damage to occur to the eye, and this step should never be missed. It's also recommended to keep checking frequently, especially if multiple people are handling your new tool, such as sharing between family and friends to ensure there has been no unwanted adjustments to the filters that could potentially expose unfiltered light. We have more detailed steps on this below, as it warranted its own section.
4. **Enjoy the Eclipse in White Light at Magnification:** Experience the solar eclipse partial phases in stunning detail. The Baader Astro Solar Safety Film allows you to view the sun in True white light (all other common filter methods falsely color the sun in a yellow, orange, or red color):
  - **Partial Eclipse Phases:** Before and after totality, you can observe the gradual covering and uncovering of the sun by the moon.
  - **Baily's Beads:** just before and after totality. These are little spots of light that appear around the moon's edges, caused by sunlight streaming through the valleys and mountains along the moon's irregular surface.
  - **Sunspots:** If present, sunspots can be seen on the surface of the sun. These are cooler, darker spots on the sun's surface, which can vary in size and number. As the sun is very active now, it is very likely that you will see these.
  - **Solar Prominences:** These are large, bright features extending outward from the sun's surface, which can sometimes be seen at the solar limb, or edge, during totality.
  - **Chromosphere:** Just before totality, a thin ring of the sun's chromosphere, a lower layer of the solar atmosphere, might be visible.
  - **Eclipse Totality:** ONLY during the totality phase of the eclipse (when the moon completely covers the sun) the sun can and should be viewed and imaged without any filters whatsoever. The naked eye view of eclipse totality is completely safe and is overwhelmingly awe-inspiring!

**Solar Prominences** and **Chromosphere** are typically observed using specialized filters, such as a Solar Spectrum Hydrogen-alpha (Ha) filter. This is because these solar layers emit light at a specific wavelength that is not part of the visible white light spectrum. However, during a solar eclipse, at totality the moon acts as a natural occulting disk, allowing these fainter structures to be seen against the darkened sky. Without this natural occulting effect, the photosphere's brightness overwhelms these features, making them impossible to see in regular white light conditions.

## Safety First

Prioritizing safety is crucial when preparing for the Great North American Solar Eclipse. Observing the sun without proper protection can lead to serious eye damage, including retinal burns. Using a damaged or improperly maintained solar filter could fail to adequately protect your eyes from harmful solar radiation. Ensuring the integrity and proper use of your Baader AstroSolar® filter is vital for a safe and enjoyable eclipse viewing experience. This includes regular checks for damage, appropriate storage, and understanding the lifespan of your filter. These steps are essential not only for your safety but also to maintain the quality of your solar observation experience.

1. **Check for damage** - Before using your AstroSolar® filter, check it for any mechanical damage, scratches, holes, or significant marks that could affect quality. Small pinholes won't impact safety or image sharpness of AstroSolar® film. Test for serious defects by holding the filter towards the sun at arm's length; pinholes might show but are not dangerous as they scatter light. Replace filters with large scratches, holes, or marks.
2. **Replace filter** - A damaged, aged, frequently cleaned film which shows large areas of scratches, holes, or wipe marks must be discarded and not be used for solar observation. This is the reason why we try by all means to supply a film of the highest optical quality at extremely low price, to enable you to use a fresh piece of film whenever you detect severe scratches or bright zones due to improper handling.
3. **Storing your filter** - Always store your solar filter in a closed container and avoid the film faces rubbing against any other surface during transport or storage.
4. **Expected longevity** - Generally, the filter film can be used with the rubber band 2-3 times with proper handling (when building a permanent solar filter cell, for example with cardboard, it can be used much longer). Follow these steps to know when it's time for a replacement.
5. **More info** - Detailed instructions are provided with every AstroSolar® filter sheet purchased. We highly recommend you review and follow these in full.

## Examples

Baader AstroSolar® Safety Film can be attached to almost all optics. Below we have a few easy examples which should give you an idea on how you can witness and record the total solar eclipse.

### Mobile Phone

Simply tape the Baader AstroSolar® Safety Film to your phone covering all lenses on the camera(s) ensuring no gaps. Always adhere to safety instructions. Tape will damage the Baader AstroSolar® Safety Film so try not to remove until after the event.



### Camera Lens or Spotting Scope

Wrapping the Baader AstroSolar® Safety Film around the end of your camera lens or spotting scope. This could also be done on a compact camera depending on if the lens extends and retracts. Care must be taken and safety first, always check the filter is in place and free from damage per instructions.



## Adapting Spare Binocular Caps

For more Baader AstroSolar® Safety Film longevity, be creative with making your own filter cells. Here we adapted some Celestron Binocular caps to make a permanent cell for the Baader AstroSolar® Safety Film. We're checking these at each use, adhering to the safety instructions.



## Further Information

As the 2024 American Solar Eclipse approaches, make sure you're prepared to capture this magnificent event safely and vividly. With Baader AstroSolar® Safety Film, anyone can turn their phone, camera, binoculars, or spotting scope into an effective, high-quality eclipse viewing device. Remember, safety is paramount. Regularly inspect and maintain your AstroSolar® filter to ensure the best viewing experience. Whether you're a seasoned astronomer or a curious spectator, this eclipse presents a unique opportunity to witness and record one of nature's grand spectacles in stunning detail. Don't let this chance pass you by – equip yourself with the right tool and be part of a memorable astronomical event!

[Eye Safety During Solar Eclipses](#) (External Website)

[Eclipse Safety](#) (External Website)