

 **ML FILTER**

OUTDOOR & SPORT

Relaxed eyes

Improved performance



ML Filter Sunglasses – all about utility

For anyone who spends much time in bright environments Filtersunglasses are your best friend. They protect your eyes from hazardous rays which are a common cause of eye disease. The filter lens has 100% UV protection but also protects against blue light, which also is equally harmful according to recent research.

The high level of comfort is a clear proof of how the lenses perform. When the hazardous and harmful blue light has been filtered out, your eyes can truly relax. This also helps you manage longer periods in bright light without squinting, thereby preventing facial tension or headaches.

Another advantage is improved vision: while the lens filters out the hazardous and disturbing light it allows more of the harmless light to pass through. This means that a filter lens allows more total light compared to traditional sunglasses – without reduced comfort. More light equals more information for the brain to work with, with improved vision as a result (compared to traditional sunglasses).

Filter lenses also enhances contrasts. High depth perception is very helpful for various activities such as golf, skiing, shooting, cycling, fishing and sailing.

We call it 'high vision'.



The more you protect your eyes from harmful light, the better chances you have of a well-functioning vision further on in life.



Never leave home without sunglasses!

Repeated exposure to harmful light wears out and damages the eyes. To enjoy the benefits of good vision throughout your life, give your eyes the best protection available against blue light and UV light – today!

Protect your eyes – They need to last a lifetime!

When we're young we're not very concerned about our vision, or why we should protect our eyes from the harmful light – but exposure can cause long-term damage.

Frequent exposure to sunlight makes us more likely to develop age-related macular degeneration earlier in life. It's a common condition among elderly with typical symptoms being loss of central vision, making it hard to recognize faces, drive and read. Pterygium or 'surfer's eye' is a growth of pink, fleshy tissue on the white of the eye and is a common eye condition that affects people who spend a lot of time with unprotected eyes in extremely bright environments, such as on the beach, close to water. The eyelids and the sensitive skin around the eyes are particularly prone to develop skin cancer.



So, instead of taking our vision for granted we should give our eyes the best possible chance of lasting a lifetime. The best way is to protect them from both hazardous UV rays as well as blue light.

'Snow blindness' is a very painful state that can occur after just 15 minutes of overexposure to UV-light, and comes from the sun burning the cornea. It happens quite commonly to people who don't wear sunglasses, or use sunglasses with insufficient protection in situations with very bright light exposure, such as high altitude, or on snow. Frequent exposure to UV light increases the risk of developing eye diseases and accelerates the development of cataract.

Learn how to avoid the harmful light!

The protection against overexposure of UV light and blue light is naturally particularly important in bright situations like in snow, on the water or at the beach. On top of this, you should keep in mind the following:

- High altitude increases UV intensity and is for example 1.5 times more powerful at 3,000 meters than at sea level.
- On a cloudy day you are still being exposed to hazardous light, even though direct sunlight is blocked.
- When the sun is low in the sky, e.g. during mornings and afternoons, the exposure of harmful light may be higher than you think.
- Even in the shadow, our eyes are exposed to almost 50% of the direct UV radiation from the sun.
- 40% of the UV rays that reach your eyes have been reflected from the surroundings and reach your eyes from the sides, underneath the glasses, from above, from your cheeks and are even reflected from the inside of the lenses of your glasses.
- A hat or a cap does not give enough protection even though it gives a good base protection.



Meet Johan Sundberg, professional trekking guide

“Sunglasses are one of the most important items in my equipment.”

In his work as a trekking guide, Johan Sundberg is exposed to extremely bright sunlight during long periods. He spends the summer season at high altitude in the Alps. Autumn, winter and spring he guides trekking groups along Mediterranean trails, the Atlas Mountains of Morocco and through the Jordanian desert. With 22 years of experience as a professional guide he knows how important it is to protect the eyes.

– Cheap sunglasses that you buy in a gas station can actually do more harm than good. It’s a completely different experience, compared to when you use really good sunglasses. Sunglasses are as important as your hiking boots. It’s very different in the Alps, when you’re up at 3,000 meters, compared to your normal hiking back home.



Johan Sundberg

Profession: Mountain Leader, high alpine trekking guide and expedition leader.

Due to the extensive exposure of UV and bluish light Johan’s filter combination of choice is Filter 450 / Pol 3, which offers a powerful blue light filter and the darkest possible polarisation.

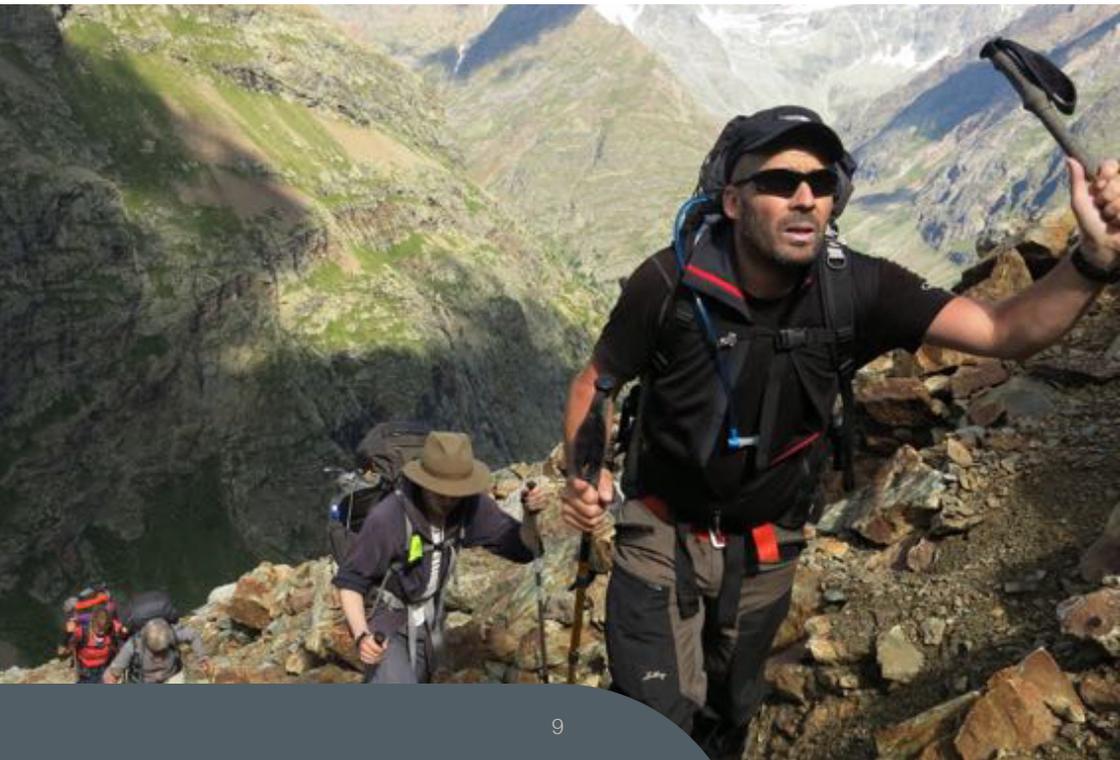
– After 10 hours at high altitude, among ice and snow, I used to suffer from tension headaches, even if I used sunglasses of category 4. But with my sunglasses from Multilens I feel totally relaxed, and I can notice that I haven’t been squinting. I have used many different sunglasses over the years, but although they have been category 4 glasses, I still found myself squinting.

The Filter Sunglasses became quite a new experience for Johan, who instantly noticed the difference the first time he tried them on.

– The lenses are by far the best I have tried. At first when you put them on they can feel too bright. But I felt how my face relaxed, so they obviously did something I had been missing. So it's not true any more to say 'the darker lens the better'. Before, when Johan was driving his car he couldn't use his category 4-glasses, since they were too dark.

– They were almost like welder's goggles. With the Filter sunglasses it's different. While they provide very good protection they are quite bright and never too dark, so I can use them all the time, when it's partly cloudy, when I'm driving the car and even for skiing. So I see it differently now. Johan also appreciates the enhanced contrast sensitivity that the Filter lens provides.

– While trekking in high alpine terrain it's important to get a clear picture of your surroundings, also when it's hazy or cloudy. The Filter lens really brings out the contours, and it's very helpful when you scramble between the rocks because knowing where to put your feet is crucial.



Give your vision a boost

Whether your favourite outdoor activity is extreme skiing, beach volleyball or fly fishing, the ML Filter Sunglasses will enhance your experience through better comfort and contrast. At the same time, they will protect you far beyond what ordinary sunglasses would do.

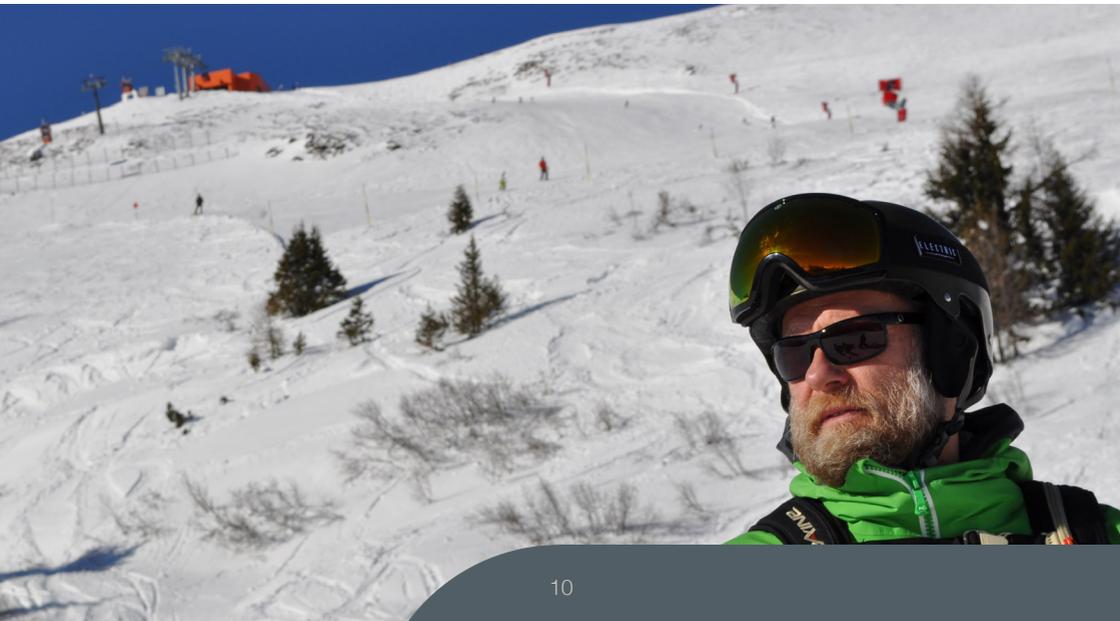
With ML Filter Sunglasses it's possible to spend many hours in very bright sunlight, without ever squinting or suffering from headaches.

Sailing/Kayaking

Due to water's reflection, all kinds of watersports mean exposure to extreme levels of brightness – even on cloudy days. For a sunny day at sea, a lens with dark polarization (Pol 3) combined with ML Filter 500 or 511 is recommended. For less extreme exposure to light, ML Filter C1 combined with a lighter polarization (Pol 1) works fine.

Winter

For all winter sports it's especially important to protect your eyes – since the brightness on a sunny day with fresh snow can be 10 to 15 times more powerful than the level of brightness your eyes can handle. The 450 lens combined with a Pol 3 filter is a suitable combination which provides extensive protection and enhances contrast – very useful when skiing in flat light.



Fishing

Not only does the filter lens protect the eyes – whether from reflecting sunlight or flying hooks, it can also enhance the visual experience. Many fishing enthusiasts who use filter 527 or 511 combined with Pol 1, enjoy being able to see fish beneath the surface that their fellow anglers next to them can't.

Golf

A round of golf can easily mean several hours of exposure to sunlight. Besides protecting against UV and blue light, the filter lens gives better contrast vision, which is crucial for measuring distance and reading irregularities on the ground. The bright orange Filter 500 combined with a Pol 1 provides very good contrast. If you're looking for a more natural colour perception, you can chose Filter C1.

Cycling

Besides providing a solid eye protection the filter lens enhances contrast vision, which allows the cyclist to make quicker decisions. The high level of comfort means fewer problems with squinting and facial tension. For cycling in variable light conditions, both sunlight and shadow, we suggest Filter 500 combined with Pol 1.



Tailored visual experience

To find a pair of filter sunglasses that fits your needs you need to make five choices.

Step 1. Do you need correction?

Ask your optometrist/optician for filter glasses with prescription. All types of glasses are possible: Single vision, progressive or bifocal lenses.

Step 2. Choice of Filter tint

You choose tint of filter lens depending on the activity and environment you will use the filter glasses in. The choice of filter tint improves the contrast vision and the comfort by reducing the amount of blue light that reach your eyes.

Step 3. Polarized and photochromic lenses

The polarization filter enhances vision and protection thanks to a powerful reduction of brightness of reflections from flat surfaces.

Photochromic lenses increases visual comfort by automatically becoming darker when the light intensity gets higher.

Step 4. Anti-reflex treatment

Anti-reflex treatment reduces the amount of light reflecting on the lens surface, thus increasing visual quality. It also provides extra protection against scratches and makes the lens less sensitive to oils, dirt and water.

Step 5. Choosing a frame

The choice of frame is decided by fit, comfort and function. We always recommend trying out the frame.

Besides finding a frame you like based on the design, appearance and look, you also need to focus on function. The frame should cover the eyes well and block unwanted light.

Some activities and situations require extra protection or an extra large wide of vision. Certain performance sports might require extra durability or extra light-weight functionality.

Step 1. Do you need correction?

Whether you need correction or not is tested by an optometrist. Regardless of the powers you need, you can always get them with ML Filter.

On top of that, there is also the possibility to get ML Filter by using a cover frame or a flip up with you existing glasses. Read more about choosing a frame on page 17.



Step 2. Choice of Filter tint

In this section you'll find information about the different ML Filter tints and in which situations they are useful. You will also find illustrations of the filter tints with and without polarization.

Even though we recommend certain filter for certain situations here, you should try filter combination you feel most comfortable with.

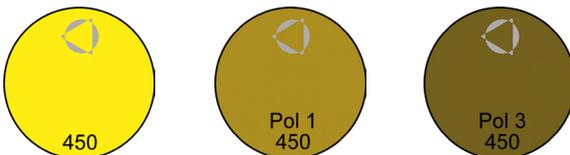
ML Filter C1

A bright yellow colour that blocks all UV light and 80% of the harmful blue light. This is a popular all-round filter with high functionality for many situations. It enhances contrast and allows a normal colour vision.



ML Filter 450

A lemon yellow colour that absorbs 100 % of both the UV light and the harmful blue light. This filter is very suitable for extremely bright environments: at high altitude, on snow and water, where also contrast vision is important.



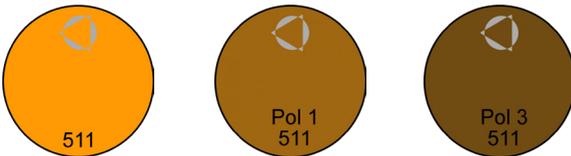
ML Filter 500

A yellow-orange colour that blocks 100% of the UV light and absorbs 95% of the blue light. This is a suitable all-round filter if you also stay in bright environments.



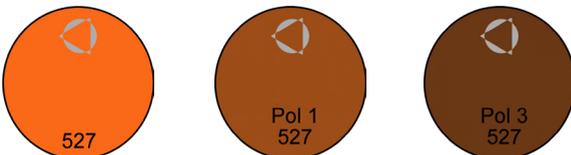
ML Filter 511

This lens colour has an orange tint. It absorbs all blue light while also enhancing contrast vision. Since it offers extensive protection against blue light, Filter 511 is very suitable for sensitive eyes, and for anyone performing activities next to water, like kayaking, where blue light exposure is particularly intensive.



ML Filter 527

An orange-red lens colour that blocks all blue light and provides good contrast vision. Suitable for fishing, kayaking and any boat sports. While the colour perception is significantly affected, the 527 lens is best designed for situations where the filter effect truly enhances the performance, for example when fishing.



For more filter tints visit mlfilter.com.

Step 3. Polarized and photochromic lenses

Polarization layer

While direct light oscillates in all directions, most part of the reflected light from water, snow or a shiny flat surface, oscillates in one direction. With a polarizing layer on a lens, the reflected light waves can be filtered out. Both Pol 1 and Pol 3 eliminates nearly all reflected light (99.8%). The difference between the two is that Pol 3 is darker than Pol 1, which means that the general level of brightness is lower with Pol 3 than with Pol 1.

Photochromic layer

It's also possible to combine ML Filter with a photochromic lens (a glass that darkens in sunlight). This combination is very useful and provides a very comfortable level for everyday life, in bright and dark situations, as it controls both the blue light and general brightness.

Drivewear

The Drivewear lens is both photochromic and polarized. It means that it reduces glare from reflected light AND it darkens in sunlight.

It combines the best from two worlds and if you really want to invest in your vision, this is the lens to choose.

Step 4. Anti-reflex treatment

SunCoat and Prima Sun reduces reflection on the inside of the lens.

Dark lenses in sunglasses and filter sunglasses makes reflexes visible on the inside on the lens, which can be disturbing. Therefore we always recommend anti reflex treatment on ML Filter sunglasses.



Step 5. Choosing a frame

Fit

The fit of the frame is clearly very important. Is the size proportional to your face?

Comfort

The temples should be comfortable and the nose bridge easy to adjust so that a good position of the frame is possible to achieve.

Light transmission

Besides providing a comfortable fit the frame should offer good protection from light. When trying out the frames in front of the mirror you can check to see how much light leaks in from the sides. Some activities and situations, like high alpine sports and sailing, can require extra protection against unwanted light transmission. Large rather than small lenses will better protect the sensitive skin around the eyes.

Suitability for activity

First and foremost: does the frame stay on? Some activities can require extra ventilation or an extra wide field of vision. For cycling and skiing the frame should fit under the helmet. Also the frames should last over time, so take care of your glasses and keep them protected.

How to make a quality check of the frame

Feel the material, look at the hinges and make sure the lens is properly fixed in the frame and that it's not flexing due to a much too thin lens.

Some of our frames...

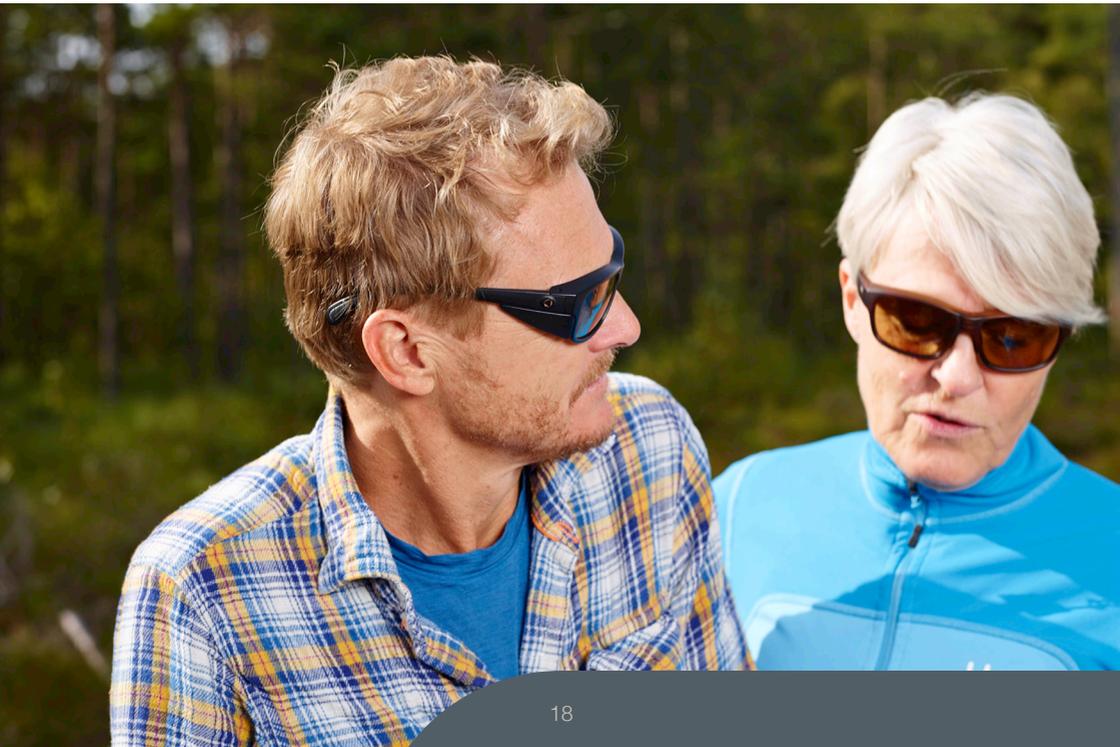
Sun Guard

Designed with enhanced protection in mind for very bright outdoor situations. Besides an adjustable nose bridge and extra large lenses for improved protection around the eyes, Sun Guard has an interior 'roof' on top of the frame which blocks off light transmission from above. Detachable side panels on the temples is another light-blocking feature.



Sun 7

Sporty and durable plastic frame with rounded 'wrap-around' fit, which in most cases limits unwanted light transmission from the sides and from above.



Sun Lady

Sporty and elegant plastic frame with a 'wrap-around' fit that on most wearers sits close to the face and in many cases blocks out unwanted light transmission from the sides.



Sun 6

Robust urban casual. This classic and durable black plastic frame has a straight profile and metal temples.



Filter lenses in your own frames

There is also the option to put filter lenses in your favourite frames. If you want filter lenses in your own frames we advise you to choose a durable frame. For prescription lenses the frame needs to be prepared for somewhat thicker lenses.

For more frames,
visit Multilens.se.



It all started in a garage

Multilens is a world-unique specialist company within the optical sector. We tailor optical solutions for every need. From the beginning, our only goal has been to focus on the eyes, vision and visual function.

Multilens was set up in 1983 by Lars Hellström, who after 30 years in the optical business decided to focus on the most exciting challenge: developing special optic solutions that could solve difficult optical problems. Together with opticians, optometrists, eye care practitioners and eye doctors he created innovative special optics. Within a short space of time the whole Hellström family was committed and Multilens have since become leaders in low vision optics, helping thousands to enjoy a better visual experience.

We see an increased general awareness of eye health. Filter glasses can also be very beneficial to people with good vision.

They give your eyes the best protection against harmful light and the level of comfort is higher, meaning you never have to squint or suffer from sunlight-induced headaches. Another benefit is improved contrast vision.

We call it 'High Vision'.

Try it for yourself!

Multilens AB

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