

## [New Technologies In High Performance Sunglasses](#)

When you reach for your sunglasses on a bright sunny day have you ever really thought about how they work? I'm sure that you haven't but what about when you go to purchase a new pair? Now you might wonder how they work especially with such a wide range of choices and the new high performance sunglasses available. Let's take a closer look at sunglasses so the next time your looking to purchase a new pair you have a better idea of what to look for.

The choices available to you in the high performance eyewear market are seemingly endless. The simple sunglasses of years prior have turned into a complex maze of choices. Probably the most important feature to look for in a good pair of sunglasses is the protection from ultraviolet rays but they should also protect you from light itself. Quality shade can also protect your eyes from glare and eliminate specific frequencies of light. Some of those frequencies of light can actually blur your vision while other enhance contrast.

Today high performance sunglasses use a variety of advanced technologies to control light. These technologies include tinting, polarization, mirroring, anti-reflective coatings, scratch resistant coatings, and UV coatings. The color of the tint used in lenses determines what part of the light spectrum they absorb. Polarized filters are a chemical film applied to the lens to eliminate glare. Mirroring is also an applied coating easily scratches. Anti-reflective coatings are used to reduce the light that hits the back of the lens and bounces into the eyes and UV coatings eliminate harmful UV radiation from reaching your eyes.

Light is polarized when the light waves are aligned into one or more planes of direction. The chemical compounds used in the films which are applied to the lens are composed of molecules that align in parallel relation to one another. When they are applied evenly to a lens, the molecules create a microscopic filter that absorbs light which matches their alignment. When wearing high performance eyewear with polarized lenses you will enjoy a clearer view and eliminate glare.

Most high performance sunglasses now use polycarbonate lenses. This new technology is actually a synthetic plastic which is very strong, lightweight and impact resistant. Another advanced technology is CR-39 that is a plastic made from hard resins that meet optical quality standards. Glass is still used but rarely even though it is the most scratch resistant.

Shy away from cheap sunglasses which commonly have distorted lenses. You can tell if there is distortion in the lens by holding the sunglasses a short distance from your head and moving them slowly up and down and from right to left. Close one eye and look through the other at a straight line. If the line does not stay straight than the lenses are distorted. Glass lenses and polycarbonate lenses are distortion free and colors are evenly distributed across the lens.

To help eliminate lenses getting scratched manufacturers have developed a technology that uses ionization to create a thin but very durable coating on the lens. These coatings are made up of polycrystalline diamond and diamond-like carbon or DLC. Without these coatings your lenses would be covered in scratches in no time.

Visible light or white light is a major concern in the comfort that high performance sunglasses provide. Our sunglasses provide varying levels of protection from visible light. Another technological advancement in eyewear is in the form of the tinting of the lens. Today you will find many choices in tints from smoke which provides true color reproduction to brown for heightened contrast and depth perception. Also you will find yellow lenses to brighten hazy days and even clear sunglass lenses that still provide 100% UV protection.

Remember that your particular situation will determine which pair of sunglasses will be best for you. Your new knowledge in the technology of today's high performance sunglasses shouldn surely help.

### About the Author

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