

Why Prescribe Lenses Made From Trivex™ Material?

Trivex lens material is an excellent tool to aid eyecare professionals in their quest for recommending and prescribing exceptional eyewear products that provide the benefits of superior sharp vision, protection and comfort for their patients. Lenses made from *Trivex* material are Crisp and Clear, Strong and Safe, and Light and Thin.

CRISP & CLEAR ADVANTAGE MEANS “SHARP VISION” FOR YOUR PATIENTS

While cosmetics are one factor eyecare professionals and patients consider in choosing a lens, another equally, if not more important factor is optics that provide exceptional visual acuity.

Abbe Value

Color aberration in lenses is one area

that can impact vision and is usually seen by the patient as color blurring around objects and a reduction in the clarity of the lenses. The chromatism problem becomes potentially more troublesome as prescription powers become stronger.

The way to avoid this problem is to use a lens material that has a high Abbe value. Higher index materials,

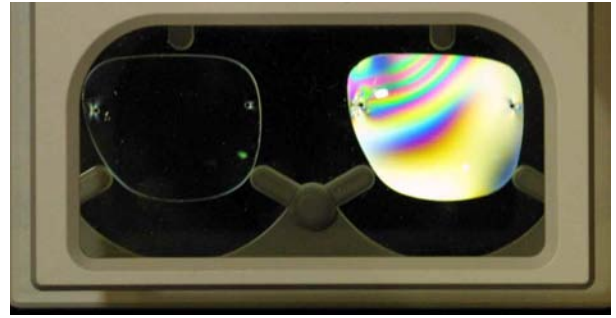
including polycarbonate have Abbe values ranging from 30 to 34. In contrast, lenses made from *Trivex* material have an Abbe value between 43 and 45 and thereby provide clear, sharp vision without distracting colored ghost images around objects that can reduce the quality of vision through the lenses.

Feature	Patient Benefit
High Abbe Value High Light Transmittance	→ Crisp & Clear → Sharp Vision



Internally Stress-Free Lenses

Due to the manner in which lenses made from *Trivex* material are manufactured, they do not have internal stress found in nearly all polycarbonate lenses. Internal stress in a lens can promote lens breakage and create a double refraction phenomenon, known as birefringence, which can also blur vision. The only place one may notice stress



in lenses made from *Trivex* material is around the mounting screws or eyewire screws that hold the lenses in place. This is normal to all lenses due to the pressure delivered by the mounting/eyewire hardware.

Image shows residual stress and drill mount cracks in finished lenses [Trivex material (left) vs. polycarbonate (right)] mounted on a rimless mounting as shown through polarizing film

STRONG & SAFE ADVANTAGE MEANS “PROTECTION” FOR YOUR PATIENTS

Recommending lenses made from *Trivex* material gives eyecare professionals the peace of mind that their patients’ eyes are being protected at all times.

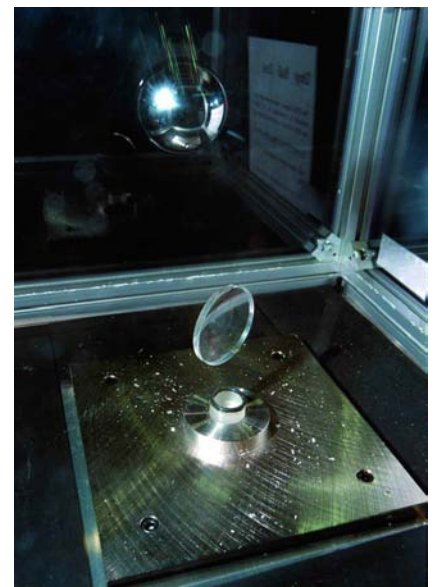
Impact Protection

Lenses made from *Trivex* material are among the most impact-resistant lenses available. Because patients in all demographics maintain some level of activity, impact resistance is an important feature for meeting the lifestyle needs of all of your patients.

Feature	Patient Benefit
Impact Resistant UV Blockage Chemical Resistant	Strong & Safe → Protection

For those eyecare professionals who may have seen demonstrations of lenses made from *Trivex* material in the exhibit hall at trade shows or at local/state professionals meetings, the impact strength is evident. At these events, eyecare professionals can witness various heavy objects being projected onto a lens made from *Trivex* material only to find that the lens bounces back unbroken.

The Optical Laboratory Association’s Duty to Warn program is based on the legal principle of “informed choice.” It requires responsible eyecare professionals to tell patients about the relative impact resistance of lens materials, so that they can make informed decisions about safety. Because liability is a major issue, eyecare professionals should direct patients to high-impact resistant lens materials like *Trivex* material to fulfill performance and safety demands.



UV Protection

Another area of concern for eyecare professionals is the harmful effects of ultraviolet (UV) radiation to the eye. The cornea of the eye blocks certain UV radiations while the crystalline lens absorbs others. As the eye's lens absorbs this energy, it can develop a cataract. Wearing UV absorbing lenses helps protect the wearer from this situation. Because children's eyes have less ability to naturally block UV rays, they are excellent candidates for this type of protection, particularly since they spend a lot of time engaged in outdoor activities. It has been estimated that 80 percent of the total lifetime exposure to UV radiation occurs prior to age 18. Seniors will also benefit from UV protection because of its potential to slow age-related eye diseases such as cataracts. Active adults who spend any amount of time in outdoor activities exposed to UV from sunlight would also benefit from the protection *Trivex* material provides.

It is important to note to every patient that lenses made from *Trivex* material inherently provide 100% UV blockage of both UV-A and UV-B radiation no matter what the lens' options may be – clear, tinted or photochromic. The American Optometric Association (AOA) recognized *Trivex* material as the first category of lens material offered by multiple lens manufacturers to meet the requirements of the organization's Seal of Acceptance for Ultraviolet Absorbers/Blockers.



The *Trivex* Material Advantage for Rimless Eyewear

As a person wears a rimless mounting, the lenses and mounting parts flex. This places stress on the lenses. Because of the flex and stress, the holes of some lens materials tend to stretch out of shape (known as hole elongation) making the lenses loose over time and costly candidates for replacement. Due to the strength of the material, lenses made from *Trivex* material retain their shape.

Chemical Resistance

The chemical resistance of *Trivex* material is another of its remarkable features. The material is unaffected by moderate exposure to commonly utilized household chemicals and optical solvents like alcohol and acetone so eyecare professionals can work with lenses made from *Trivex* material with confidence. This means that while some lenses will craze, crack or show other damage due to exposure to these products, lenses made from *Trivex* material are resistant to the harm from these chemicals under normal conditions due to its superior chemical resistance.

LIGHT AND THIN ADVANTAGE MEANS "COMFORT" FOR YOUR PATIENTS

Patients of all ages and lifestyles want the most comfortable pair of glasses possible, and lenses made from *Trivex* material provide that comfort. Pediatric patients also benefit because their eyewear will sit comfortably in the appropriate place on a still-developing bridge. Presbyopes who are also first-time eyeglass wearers will have an easier adjustment when their lenses are comfortable – not only in weight but also in visual clarity. Older patients will also appreciate the light weight provided by *Trivex* material as the skin on the bridge of their nose becomes thinner and more sensitive to irritations. From an eyecare professional's perspective, lenses made from *Trivex* material are a real patient pleaser.

Light Weight

Another compelling reason for prescribing/recommending lenses made from *Trivex* material is its

light weight. As materials increase in index, they decrease in thickness and weight for a particular power and diameter. While it may sound like the solution for controlling weight is to simply select the highest index material, this may not always be the case. If a lightweight material is not used to begin with, the end result will be just a lighter version of a heavy material. The way to ensure that you start with a lightweight material is by comparing its density to other materials.

Feature	Patient Benefit
Low Density Thin Lens Centers	Light & Thin → Comfort

Trivex material is exceptionally lightweight. In fact, with a specific gravity of 1.11, it is the lightest commonly utilized material on the market. This means you can recommend lenses made from *Trivex* material confidently knowing you are providing one of the most comfortable lens options available.

Thinness

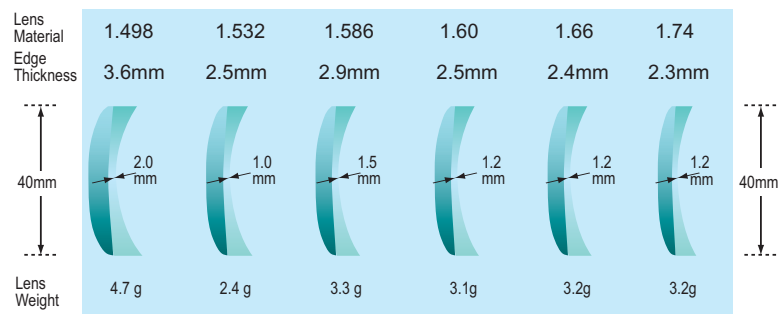
With an index of refraction of 1.53, *Trivex* material falls into the mid-index category – an excellent choice for nearly all patients. Mid-index lenses allow for slimmer, trimmer center thicknesses in plus prescriptions and reduced edge thicknesses in minus prescriptions. Approximately 80% of all prescriptions fall into the $\pm 3.00D$

range. This is an ideal range for the 1.53 index *Trivex* material and results in lenses that are more cosmetically appealing than

a 1.50 index lens. Because lenses made from *Trivex* material can be ground to minimal center thicknesses, they are light and comfortable to wear which is often a strong preference of eyecare professionals and patients.

For a more enhanced thinning affect, *Trivex* material can be teamed with aspheric and atoric lens designs. These designs flatten toward the edges on plus powered lenses and steepen toward the edges on minus lenses creating an even greater thinning effect. Aspheric designs also allow *Trivex* material to remain thin in prescriptions up to approximately $\pm 6.00D$. This power range covers nearly all of the prescriptive powers most eyecare professionals see in a day. For prescriptions higher than this, higher index lens materials should be considered.

Mechanical performance of lenses -4.00D plastics aspheric lenses at 40φ



Availability

When prescribing or recommending lenses, it is important to look for a lens that offers the best balance of properties available in order to provide a desirable combination of sharp vision, protection and comfort for the patient. All of these features and more can be found in lenses made from *Trivex* material.

If you want to start prescribing lenses made from *Trivex* material but fear that lens choices are limited, don't worry – *Trivex* material is available in all of the popular lens styles and types, including single vision, single vision aspherics, bifocals, trifocals, and progressives.

Lenses made from *Trivex* material are also available in Transitions® Lenses. This makes them an ideal recommendation for those patients who desire the comfort and convenience of enhanced automatic UV and glare protection in their everyday lenses. Lenses made from *Trivex* material can be easily tinted and accept hard coatings, anti-reflective, mirror and other surface treatments well, so it is an excellent platform for a good quality pair of sunglasses.

Feature	Patient Benefit
High Abbe Value High Light Transmittance	→ Crisp & Clear → Sharp Vision
Impact Resistant UV Blockage Chemical Resistant	→ Strong & Safe → Protection
Low Density Thin Lens Centers	→ Light & Thin → Comfort

Lenses made from *Trivex* material provide sharp vision, protection and comfort.