

The Smart Buyer's Guide

To Buying Great Glasses.



THE
OPTICAL
SHOP AT
ANDERSEN EYE
ASSOCIATES

Since many people purchase eyeglasses only every few years, it's difficult to stay current on changes in technology, styles and pricing. This guide will help to inform you about the options available for eyewear today.

LENS TYPES

Single vision lenses correct one of the two common types of vision errors, nearsightedness (myopia) or farsightedness (hyperopia) and may also correct for astigmatism.

Multifocal lenses correct for more than one vision error. The most common multifocal lens is the bifocal lens, where the upper portion of the lens is corrected for distance viewing and the lower portion of the lens is corrected for near viewing (14-20 inches). Trifocals add a third segment in the lens for intermediate viewing (20-36 inches). With traditional bifocals and trifocals, the near and intermediate segments are distinct, so they are often referred to as lined bifocals or lined trifocals.

Progressive lenses were developed in 1958 to eliminate the lines on bifocals and trifocals that many patients find bothersome. Progressive lenses also allow both distance, intermediate and near vision, but provide a gradual transition between the different segments. Because there are no lines, progressive lenses are often considered to be more attractive than lined lenses. The Varilux™ company is so confident that patients will like its lenses, that they offer a 60-day patient satisfaction warranty for these lenses.



LENS MATERIALS

While emeralds and crystals were used by the rich as vision aids as early as the Roman era, glass lenses were the most common lens material from 1000 A.D. until the 1980's. Glass lenses continue to be available today, although they are heavier, thicker, less protective and less cosmetically appealing than other types of lenses.

Plastic lenses were first introduced in 1962 and became more popular than glass lenses in the 1980's. Traditional plastic lenses are as thick as glass lenses, but they are much lighter.

In 1983, the **polycarbonate** lens became commercially available. Polycarbonate lenses were lighter, thinner and more impact-resistant than glass or plastic lenses, but the clarity in these lenses was still not as sharp as glass or plastic lenses. In the past twenty years, the optics quality of polycarbonate lenses has improved dramatically and, because they are the most impact-resistant lens available, they are recommended for all children as well as for safety glasses.

Several years later, **high-index plastic** lenses were introduced with great fanfare, since they were light, provided excellent optics, good scratch protection and eliminated the 'Coke-bottle' look for patients with high prescriptions. While high-index lenses are more expensive than regular plastic lenses, high-index lenses are the best option for over half of all patients when considering the weight, thickness and cosmetic appearance of the lenses.

Photochromatic lenses, which darken when exposed to sunlight and become transparent when in dim light, were first introduced by Corning in the 1960's. The most common photochromatic lens today is the lighter weight plastic Transition™ lens. The speed at which these lenses change color has improved dramatically in the past ten years, but their popularity is waning as sunglass clips become popular and more cost effective additions to regular eyeglass frames. In addition, the photochromatic lenses require exposure to sunlight to change, so they are not as effective in a car.

Polarized lenses are available in non-prescription and prescription sunglasses as well as sunglass clips. Polarized lenses reduce the glare coming from objects you are viewing, such as a wet street, windshield, oncoming cars and snow. They are especially popular with fishermen. Polarized lenses have filters that block out reflected light. This filtering of incoming light leads to sharper vision as well as reduced eye strain. Polarized lenses are naturally UV protective and available with scratch resistant coatings.

LENS OPTIONS

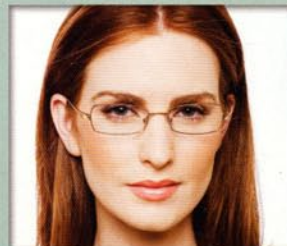
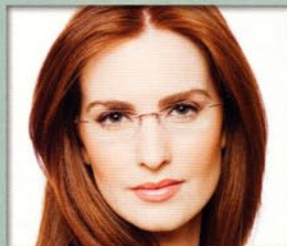
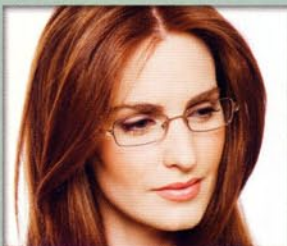
Once you select a lens material, you can also select whether to add the following options:

Scratch-resistant coating can be applied to plastic lenses; it generally is a standard feature on progressive, high-index, photochromatic and polycarbonate lenses. The coating provides a harder finish on the lens, making the lens more scratch resistant. Depending on the store, patients who purchase this coating may receive a no-cost, twelve-month scratch warranty, where each lens will be replaced once if it becomes scratched in the year following the lens purchase.

Anti-reflective coating is a multi-layered coating that reduces lens surface reflection and improves vision by allowing more light to pass through the lens. Without anti-reflective coating, eyeglass lenses have a tendency to produce glare, reflections and halos around lights. Anti-reflective coating reduces these distortions and the lens reflections that other people see on your glasses when they look at you. Early versions of anti-reflective coating wore off easily but current coatings such as Crizal and Zeiss Advantage reduces these problems. A two-year, no cost warranty is provided with the purchase of most anti-reflective coatings.

Ultraviolet coating is an additional lens application that blocks the transmission of ultraviolet A (UVA) and ultraviolet B (UVB) emissions from the sun. Research suggests that UVA and UVB may contribute to early cataract formation, macular degeneration and eyelid damage.

Tinted lenses are an option for patients who are particularly sensitive to bright lights and sunlight. While tinting is an affordable option, it often reduces a patient's vision in dimly lit environments. Many patients now find more success with photochromatic or "transition" lenses, prescription polarized sunglasses or regular glasses fitted with a removable sunglass clip.



OPTICIANS

Opticians play many key responsibilities. They assist patients in selecting the correct style and material for the frame and lenses, as well as the lens options that will be useful. They take key measurements to prepare for the manufacturing of the lenses, and they work with the laboratory to ensure the lenses are made correctly. Most patients find their eyeglasses need adjustments after a few months of wearing, if only from putting them on and taking them off, and performing adjustments without breaking the eyeglass frame which is a true art. Finally, with their strong understanding of optics, the best opticians are expert problem solvers when patients have vision problems with their glasses.

FRAME OPTIONS

Selecting the right eyeglass frame for you can be exciting, particularly if you want a new 'look'. Your optician can help you find the frame material, size, shape and color that best suits you. The list below includes some of the features that you should consider when selecting a frame.

Size- While smaller frames are still the norm for prescription eyeglasses, bifocals and progressive lenses do require a minimum frame size in order for the lens to function properly. Larger frames provide a wider field of vision, but dramatically increase the weight and edge thickness of the lenses.

Shape- Eyeglass frames are quite varied, so lens shapes may be round, oval, rectangular or any combination of shapes. The popularity of lens shapes is subject to fashion trends, and the shape of a person's face may lend itself to a few specific lens shapes.

Material- Frames can be constructed from plastic, stainless steel, titanium, metal alloy, and other derivatives of plastics and metals. Each material varies in terms of weight, flexibility, durability and cost. In addition, rimless frames are also widely available and minimize the cosmetic presence of eyeglasses.

Hinges- In addition to the traditional hinges on eyeglass frames, many frames have spring hinges that bend in both directions. This feature is particularly important for children and active adults who are more likely to have their glasses hit by balls, toys and other people. Without spring hinges, the force of a blow may damage the frames; with spring hinges, the glasses are more likely to flex with the impact and then return to the original shape. Finally, due to flexible materials like titanium, some frames may have no hinges eliminating the opportunity for lost screws and enhancing the durability of the frame.

Nosepieces- Virtually all metal and titanium frames rest on the nose using 'floating' nose pads, while plastic frames often rest directly on the nose.

When nose pads are used, a smaller area of the eyeglasses is in contact with the nose, which may increase comfort. In addition, nose pads are adjustable for those of us with noses that are narrow, broad or slightly askew. Before purchasing a frame without nose pads, be sure the frame properly rests on your nose.

SPECIALTY GLASSES

While less commonly sold than general purpose eyeglasses, the following types of specialty eyeglasses are available:

Computer glasses generally have single-vision lenses corrected to crisply see objects 18-30 inches away. Because the lenses are

corrected for only one distance, the patient can view the entire computer screen from all areas of the lens, reducing distortions, eye fatigue and neck pain.

Reading glasses are similar to computer glasses but are corrected to see objects 14-16 inches away. These glasses are ideal for reading books and newspapers or for hobbies that require fine near vision. Less expensive over-the-counter reading glasses can be used for this purpose if a patient has limited astigmatism and needs the same correction power in both eyes.

Sports glasses and goggles are form-fitting eyepieces with sturdy frames and polycarbonate lenses that can safely withstand the impact of collisions, racquetballs and other traumatic events.

Hunting glasses are made with sturdy frames and polycarbonate lenses that can withstand the rigors of hunting and provide needed eye protection. In addition, the lenses are often corrected to specifically enhance distance vision, and a yellow tint may be utilized to increase vision in dimly lit environments.



EYEGLOSS PRICES

Eyeglasses come in a wide range of prices, from \$50 to well over \$1000 for exclusive brands. Consumer Reports noted in June 2001 that, based on its survey of readers, the average price for a pair of glasses was approximately \$195.

In general, Consumer Reports readers tend to be more cost-conscious than the average shopper. For example, the 2001 Consumer Reports revealed that half of its readers had purchased scratch-resistant coating, while in the Midwest, this percentage is closer to 80%. The market share of progressive lenses and high-index lenses has also grown considerably since 2001, further increasing the average price of eyeglasses.

Economy eyeglasses

You'll undoubtedly see advertisements for "Two pair of glasses and an exam for \$89" from discount retailers. In the Consumer Reports study, the largest discount retailer in the Midwest did provide the lowest costs advertised, but it also was the worst-ranked seller overall in terms of service, quality and speed. Patients using this discounter had almost three times as many problems with their eyeglasses as the average for all sellers.

Discount eyeglass sellers are able to provide these low prices by purchasing discontinued frames and lenses in large lots. Because the manufacturer no longer produces the frames, these frames are essentially disposable; when the frames break, they often cannot be repaired by the seller. Similarly, lens styles that were discontinued over 20 years ago are still being sold by discounters.

These discounters typically do not provide warranties or guarantees on their products. In addition, although the majority of eyeglass sellers will remake lenses for free if the doctor has to refine the eye prescription, discount eyeglass sellers may charge full retail price for the new lenses.

Discount eyeglass sellers serve a useful purpose since not everyone can afford to spend \$200 on a pair of eyeglasses. However, patients should understand that in exchange for low prices, they may be sacrificing the quality of the product and optician, as well as speed and service.

Two-for-one sales, etc.

In the marketing world, savvy advertisers understand that 'two-for-one' sales grab and keep patients' interest. Consequently, for those chain eyeglass retailers that advertise, these offers are much more common than "check out our fairly priced glasses." However, once these special offers are applied to high beginning retail prices, the final price is on average more expensive than prices found at independent retailers, as noted by the 2001 Consumer Reports survey listed above.

National chains are able to purchase eyeglasses and lenses at lower costs than local and regional retailers. However, annual reports for these national chains indicate that the chains spend 7-10% of their receipts on advertising, more than eliminating the purchasing power that they hold over smaller optical shops.

Comparison shopping and brand names

The 2001 Consumer Reports survey evaluated optical sellers in four areas: quality, service, speed and cost. If cost is the patient's primary concern, they should be encouraged to compare prices at different optical sellers. While it may be difficult to compare eyeglass and frame costs unless the same frame is stocked by each seller, the comparison of lenses is quite easy.

As of April 2006, we conducted our own survey and discovered the following price differences of the Varilux™ Comfort progressive lens, the most recognized progressive lens available today.

JC Penney	\$234
Pearl Vision	\$317
WalMart	\$315
DOC	\$325
Sears	\$459
Andersen Eye Optical Shops	\$215

Well over half of the eyeglass frames on the market are designated with the brand name of an optical manufacturer, fashion company or celebrity. In particular, celebrities will allow manufacturers to use their name on frames for a licensing fee, and the popularity of the celebrity may not correlate with the quality of the frame. In evaluating the quality of the frame, look past the brand name and ask the optician to comment on its quality.



Guarantees and warranties

Guarantees and warranties vary widely by optical store with some stores providing these at no charge, while others will provide warranty coverage for a fee of \$30-\$50. Most reputable providers of eyeglasses will provide the following guarantees and warranties at no cost.

- A satisfaction guaranteed policy allows you to return your glasses, for any reason within 30 days of purchase for a full refund.
- A one-year warranty on any scratch coating purchase you make, allows you one free remake per lens.
- A one-year warranty on any anti-reflective coating purchase you make, allows you one free remake per lens.
- Free cleaning, adjustments, hinge screw replacements and nose pad replacements for the life of your glasses.