

How Sunglasses Are Made

Sunglasses are trendy fashion accessories that make you look and feel cool, but have you ever wondered how those cool shades are made? Sunglasses come in many styles, shapes, colors and brands. There are polarized, prescription, clip-on, flexible, men's, women's, unisex, children's, designer, and custom-made sunglasses. There are police, pilot and rescue sunglasses, biker, skier and other sports sunglasses. There are even sunglasses with built-in audio digital players. How are all these different sunglasses made?

Sunglasses have various types of lenses. Glass lenses have better visual quality and are more scratch-resistant than plastic ones. Photo chromic lenses darken in reaction to light. Glass photo chromic lenses are more efficient in the reduction of Ultra Violet light rays. Gradient Lenses are darker on top and gradually become lighter toward the bottom. Materials used for tinting polarized lenses are generally brown or gray. Any color tint can be used for high index, Trivex, and polycarbonate.

Different color lenses give different levels of protection from the UV rays of the sun. For example, amber and brown do a better job of absorbing the UV light. Treatment of clear lenses with anti-reflective coatings will protect the eyes from UV radiation. The best level of protection from UV rays is 100 per cent. The anti-reflective coating has an additional benefit of helping to protect the lenses from some surface scratches.

Before tinting, lenses need to properly fit in the selected previously manufactured frame; therefore, the lens needs to be ground to fit the frame's size and shape. Also, the lens has to be ground according to the prescription in order to solve refractive errors in the customer's vision. Myopic vision is one example of an eye problem that would require a prescription for sunglasses. Other sunglasses prescriptions could be for bifocals, progressive bifocals and trifocals which would require a larger size lens to accommodate the lens progression.

The grinder that is used to grind the lenses to the specifications of the prescription is called an edger. There is a constant source of water running over the lens while it is being ground in order to reduce the heat caused by friction on the glass. The friction heat can cause glass to crack or break. Water also makes the grinding easier and smoother on the edge and prevents scratching of the surface from dry glass grit.

When the grinding is completed and the lenses are cleaned, tint is added to the lens by dipping the lens in a tint solution which is absorbed into the lens.

The longer it is dipped, the darker the tint. The lenses are thoroughly rinsed and dried then are fit into the sunglasses frame and the frame is secured tightly around the lens by tightening the screws on the frame. Sunglasses frames are mass-produced from products like plastic, nylon, carbon fiber and metal.

The process of making sunglasses has come a long way from when Roman Emperor Nero held polished light emerald glass gems up to his eyes and Chinese attached ceramic weights to the ends of ribbons draped over the ears in order to keep on their cool sunglasses.