

Materials

While there is large variety of frame materials, they can be divided into two categories: metal and plastic. Knowing the benefits of each helps the optician recommend eyewear that best meets a patient's lifestyle needs.

Metal



Over 70% of frames sold today are metal. Metal frames provide greater flexibility when fitting to the patient's face. The following are the most common types of metal frames.

- **Monel** – a combination of nickel and copper that produces a very light, rigid frame. Its ability to bond to other metals and coatings allows almost unlimited fashion colors. Monel makes strong joints that produce durable frames. It is the most popular frame material, although some patients are allergic to nickel.
- **Stainless steel** – a non-corrosive alloy that is a combination of iron and chromium that produces a strong but flexible frame. It can take a mild amount of stress and still return to its original shape.
- **Titanium** – a hypoallergenic chemical element that produces a strong, lightweight, non-corrosive frame. Titanium is a good material for patients who have a problem with frames turning green and/or are allergic to nickel.
- **Aluminum** – a chemical element that is less popular for making frames. It scratches easily and is not strong. An aluminum frame must be thick to give satisfactory strength. If aluminum is combined with other metals, it results in a stronger, more durable frame.

Plastic



Plastic frames offer a good value. However, many patients are unaware of the types of plastic frames that are available. Knowing these material options helps an optician counsel a patient about the best frames for their lifestyle needs.

- **Zylonite** – commonly called zyl, zylonite is cellulose acetate. Most plastic frames are made of zyl. It is available in an unlimited variety of colors and levels of quality. However, skin oils and perspiration which contain salt and acids can slowly remove the chemicals that give zyl its flexibility and luster.
- **Polyamide** – a blend of nylon and other plastics. Polyamide frames are typically injection molded, colorfast, hypoallergenic and flexible.
- **Optyl** – an epoxy resin that is injection molded to shape. It is hypo-allergenic, 30% lighter than zyl, fade and scratch resistant, and resistant to salts and acids in perspiration.
- **Cellulose propionate** – commonly called propionate. It's stronger, thinner and lighter than zyl.
- **Carbon fiber** – made by adding carbon to zyl. Carbon produces a lighter, stronger frame that is thinner than regular plastic.