

# SAFETY GLASSES

## SELECTION GUIDE



Functionality, style, fit, comfort, visual performance, and compliance standards are all essential factors when selecting appropriate safety eyewear that fits your individual needs. Key elements to consider when choosing the right safety glasses for your job are VLT and UV/IR, Lens Coating, Lens Color Options, Frame Styles, and Lens Sizing.

### VLT & UV/IR

Visible Light Transmittance (VLT) is expressed as a percentage of available light that will pass through the lens.

Ultraviolet (UV) or Infrared (IR) absorption is expressed as the percentage of UVA and UVB or IR radiation the lens will absorb up to a maximum wavelength in nanometers (nm).

Both the VLT and UV/IR absorptions can vary across manufacturers, so always check specifications to ensure you have the eyewear you need. In addition, it is important that your eyewear meets the American National Standard for Occupational and Educational Personal Eye and Face Protection Devices (ANSI/ISEA Z87.1-2015). This specification addresses lens coatings, lens tints/colors, frame styles, and lens sizing.

### Lens Coatings

Lens coatings are designed to enhance the versatility of a pair of safety glasses. Coatings are often available separately or in combination with other coatings for more functionality depending upon your individual eyewear needs.

**Antifog:** This type of lens coating helps reduce fogging in conditions such as cold-to-warm temperature transitions, humid environments, and half-mask respirator applications. While anti-fog coating is not 100% fog free, fogging can be limited by using a fog-free lens, choosing eyewear that sits further away from the face, and supplementing the lens coating by adding an anti-fog cleaner or spray. Fogging is reported as the leading challenge workers face with safety eyewear.

**Scratch-Resistant:** Designed to help protect the lens when subjected to repeated impacts in abrasive applications where scratches are possible.

**Antistatic:** Helps reduce the dust and particulate levels that stick to eyewear. This coating works well in environments where particulate levels are a concern or where dusts and particulates sticking to the lens would create a safety concern due to reduced visibility.

**Hydrophobic:** A special coating that helps repel water away, making water slide off your glasses for better visibility.

**Mirror:** Available in a variety of colors and can be added to both clear and tinted lenses to help reduce glare. Slight mirror coatings on clear lenses are appropriate for indoor glare reduction and going from light to dark conditions. Mirrored coatings on tinted lenses are most appropriate for outdoor work in bright conditions where glare is a concern.











**Polarized:** This type of lens has a specialized filter that helps reduce sunlight glare, eye stress, and fatigue from excessive glare and intense reflected light, most commonly caused by water, ice, land, and shiny nonmetallic surfaces like cars. Provides extreme clarity.



## Lens Color Options

Polycarbonate lenses set the standard for today's safety eyewear and are available in many colors and tints. Selecting the correct colored lens for the application is important to help get the best visual acuity.

Understanding the functionality of task-specific lenses helps determine what type of lens is best for your application and environment. When choosing a lens make sure you choose a lens based on color opposites. For example: Blue is the opposite of yellow and red is the opposite of green. Yellow lenses absorb blue/ultraviolet light and red lenses absorb green light and vice versa.

-  **Amber:** This color blocks blue light and gives optimum contrast enhancement, particularly in low light. Should not be used at night as too much light is blocked.
-  **Mirrored, Red and Rainbow:** Used in outdoor applications where sunlight and glare can cause eye strain and fatigue. Mirror coating reflects light, reducing the amount of light that passes through the lens.
-  **Bronze/Brown/Espresso:** This lens is similar to gray lenses and can be used like a sunglass lens, where bright light conditions or glare can cause eye fatigue. This lens should not be used in low light conditions. Also meets most color traffic signal recognition requirements.
-  **Clear:** For general indoor applications where impact protection is required. Should be used in low light conditions.
-  **Dark Green:** Offer general purpose protection from glare and UV. This tint should not be confused with a welding filter shade and will not provide adequate protection during soldering, torch blazing, cutting, gas welding, or electric arc welding.
-  **Gray/Smoke:** Used in environments where bright light conditions and glare could cause eye fatigue. This lens provides good color recognition and should not be used in low light conditions as it blocks too much light.
-  **Indoor/Outdoor:** This appears as a clear lens with a slightly mirrored surface, reducing glare. It is used when you go from light to dark conditions or need to reduce glare in indoor conditions due to harsh lighting. This lens is not a photochromic (auto darkening) lens.
-  **Light Blue:** This lens helps reduce glare and the yellow tint often given off by industrial/sodium vapor lighting. The yellow light can cause eye strain and fatigue.
-  **Photochromic:** Light adaptive lens that transitions automatically from light to dark with changing light conditions.
-  **Vermillion:** Enhances contrast while reducing all color equally for optimum color recognition. This is often used in inspection applications where color acuity is needed.



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## Frame Styles

There are several frame styles to consider when choosing the appropriate style that fits and meets your individual needs.

**Full-Frame:** Provides maximum eye coverage and protection.

**Frameless:** Single lens that offers a snug, secure fit and increased field of vision.

**Wraparound:** Offers extra peripheral vision protection and extended coverage.

**Sealed:** Has rubberized seal or foam-lined protection that helps keep out dust and other airborne particles.

**Temples:** Offer soft padding that helps prevent slippage and provides flexibility and comfort.

**Adjustable:** Allows you to adjust temple positions for a customized fit.

**Ratcheting:** Offers adjustability to the safety glasses. The corner piece of the frame by the temple will allow you to adjust your glasses up or down, giving you a more secure, comfortable fit.

**Removable:** Let's you remove the temples and add-on elastic that is interchanged with elastic straps. Usually includes adjustable strap or lanyard cord that can be removed quickly and easily.

**Nosepiece:** Can be molded into the base of safety glasses frame. A nosepiece can be attached to the molding, preventing slipping and added comfort.

## Lens Sizing

Most eyewear is made in a standard size to fit most faces. But in situations where a one-size-fits-all approach doesn't work, other options are often available to make wearing safety glasses comfortable.

**OTG (over-the-glasses) eyewear:** Made to facilitate wearing safety glasses over prescription glasses. These glasses have a wider frame and lens, fitting over most prescription glasses.

**Large safety glasses:** For individuals with wider facial features.

**Small safety glasses:** For women and individuals with smaller or narrower faces.

**Bifocal reading glasses:** Offers distance correction and is designed for individuals that need to read the fine print. Feature built-in magnifiers and come in multiple strengths for reading, inspection, and detail work. Ideal for workers who look up and down frequently during the day.

**Laser:** Protects eyes against potentially harmful hazardous light reflections and radiation.

**Rx prescription:** Custom fitted to one's individual eyewear prescription.