



Overview

OSHA 29 CFR 1910.133 states:

"The employer shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation."

What separates a pair of safety glasses from other types of glasses?

Impact standards in the US are set by ANSI (American National Standards Institute). In Canada, they are set by CSA (Canadian Standards Association). Look for the ANSI Approvals, usually located on the side of the temples and sometimes on the lens itself.

ANSI (US only) has two impact standards:

Basic: Usually glass lens, ANSI Z87

High-Impact: Polycarbonate lens, ANSI Z87+

CSA (Canada only) has one standard:

CSA Z94.3

Safety Glasses Selection

Style

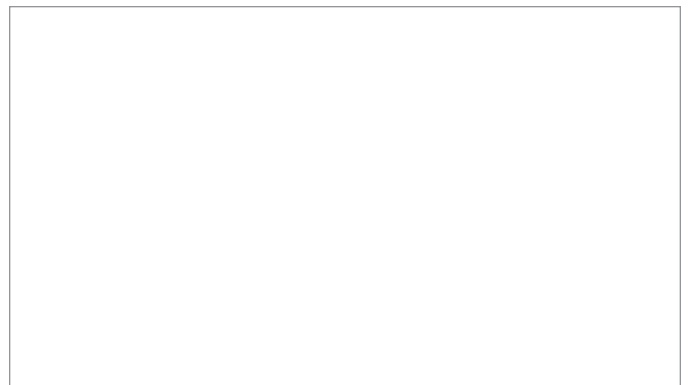
Choose a style that you will be happy with. Style is the #1 reason workers do not wear safety glasses.

Coatings

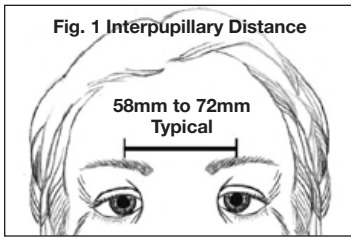
Anti-fog and scratch-resistant coatings enhance the life of safety glasses and improve worker comfort.

Balance

Make sure the glasses are not front heavy. If the glasses rest on the nose, they will slide down and require constant adjustment and more frequent removal.



Lens Construction and Color



Proper lens construction is an important step in choosing safety glasses.

Interpupillary distance is the critical factor. This is the distance between the centers of the eyeballs, with an average between 58mm and 72mm (Fig. 1).

1. Dual lens style glasses have two optical centers. Both traditional glasses (“Buddy Holly” style) and more modern glasses styles are examples of this. The biggest issue with dual lenses is that if a the wearer’s optical distance falls near the boundaries of the average optical distance or outside it, he cannot see through the glasses properly (Fig. 2).
2. Single lenses have one optical center. This is especially helpful to people with an interpupillary distance which is outside the average (Fig. 3).
3. Aspheric Lens Technology offers 180° vision and takes the single lens design to the next level. This is the most optically correct lens style. These lenses wrap around the face, without the distortion of typical single lens designs. The optical quality is as good on the sides as it is in the center (Fig. 4).

Lens Color Selection

Selecting the proper lens color is important to protect against non-flying environmental hazards such as UV or radiation. Use the table below to select the appropriate lens color for your application.

| Example | Lens Color | Typical Application |
|---------|----------------|---|
| | Clear | Indoor applications, especially natural light. |
| | Indoor/Outdoor | Ideal for applications that require transition between indoor lighting and sunlight, such as fork lift drivers. |
| | Light Blue | Originally made for sodium vapor lighting, which is prevalent in semiconductor fabrication facilities. Also works well under halogen lights. |
| | Amber | Blocks the blue portion of the visible light spectrum and creates maximum contrast. Works well in low-light applications. |
| | Vermillion | Pink lens reduces all color portions of the visible light spectrum and provides excellent contrast in all colors. These are designed for detail work and inspection |
| | Gray | Blocks bright light but may be unsafe if too much light is blocked. |
| | Polarized | Eliminates glare. |
| | Welding | Two shades of green available. These glasses are not for welders. They are for those passing by only. |