



# MEL SAFETY INSTITUTE SHIFT BRIEFING

## What Outdoor Workers Need to Know about Sunglasses

When working outdoors, workers can face a number of hazards to the eyes. These can fall into 3 major categories; impact, splash or spray, and ultraviolet radiation from the sun. Let's look at each and discuss information on selecting the appropriate protection level for your safety eyewear.

### Protection from Impact

Sunglasses purchased off-the-rack in stores only meet FDA safety standards that require the lens not fracture when a **5/8 inch steel ball is dropped from about 4 feet** on the lens. Compare that to ANSI safety sunglasses.

Safety glasses that are labeled **ANSI Z87.1** must withstand a **1" steel ball dropped from 10 feet**. That standard equates to the ball traveling at about 25 feet/ second.

Safety glasses labeled **ANSI Z87.1+** withstand the same **1" steel ball shot at the lens at 150 feet / second**.

**Show protective eyewear available or provided to employees and show ANSI label.**

**Give examples of jobs / tasks that require ANSI-rated eye protection.**

### Protection from Splashes and Sprays

Tight-fitting or protective glasses with sideguards must be worn in situations where the worker's eyes may be exposed to splashed or sprayed liquids to prevent the liquid from reaching the eyes.

### Protection from Ultraviolet (UV) Rays

UV rays in sunlight can cause serious damage to the eyes. Sun damage can contribute to cataracts, macular degeneration, corneal damage, and other vision problems. Excessive exposure to ultraviolet light reflected off sand or pavement can damage the cornea and the eye's surface.

Sunglasses should provide 99 - 100% protection from UVA and UVB rays as well as screening out 75 - 95% of the visible light. UV protection comes from a chemical coating applied to the lens, not from the color or darkness of the lens. The Mayo Clinic recommends gray tinting for the best color recognition. Manufacturers offer stylish sunglasses that meet the ANSI Z87.1 and Z87.1+ standards.

'Wraparound' style and polarization are advised to help reduce glare and eye fatigue, but must not obstruct peripheral vision. Polarization to reduce glare off the water or sand requires a filter in the lenses. Polarized lenses are useful for any activity over or near water. Polarization is a different quality than UV protection, although many protective glasses now combine polarization with a UV ray blocking substance. Large-framed wraparound sunglasses can protect your eyes from all angles, as opposed to ordinary eyeglass frames that may allow light to enter from the sides or top of the lenses.

**Ophthalmologists recommend that you wear sunglasses & a *broad-brimmed hat whenever in the sun.***

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