



Weekly Safety Meeting

Eye Safety

According to a study from the National Institute of Safety and Health (NIOSH), in 2019 approximately 118,000 occupational injuries in and around the eye were seen in our nation's emergency rooms. Statistics from the Centers for Disease Control and Prevention (CDC) show that from 2011 through 2019 there were over 219,000 occupational eye injuries involving days away from work. Nearly 41,000 of these eye injuries were in production occupations.

The OSHA "Safety Pays" Program e-tool website estimates the cost of one occupational vision loss incident to be \$159,358. The average claim cost estimates used in "Safety Pays" are provided by the National Council on Compensation Insurance, Inc. (NCCI). The data reflects the average cost of lost time workers' compensation insurance claims derived from unit statistical reports submitted to NCCI for policy years 2015-2017.

Common Causes of Eye Injuries

A direct injury to the eye can lead to a possible loss in vision and it can occur in multiple ways according to 1910.133(a)(1):

- Flying particles or objects striking the eye;
- Blunt force trauma;
- Chemical burn injuries from liquid acids or caustics;
- Chemical injuries from liquids, gases, or vapors;
- Thermal burns from molten metal; and
- Injurious light radiation.

Our eyes must be protected even in many seemingly safe situations that would be non-injurious to any other part of the body. With any eye injury, infection can potentially lead to loss of vision. The infection may involve one or both eyes, as the optic nerve from each eye joins together. Prompt treatment of any eye injury is thus very important.

The most popular forms of protective eyewear (wraparound glasses and protective goggles) involve injection molded thermoplastics and polyurethanes. Manufacturers inject melted plastic into metal molds creating the lens and/or frame. Other processes are extrusion molding and blow molding. Frames are then smoothed if needed and lenses ground and or polished for optical clarity to the appropriate standard for use and type.

Reducing Eye Injuries

We must protect our eyes from harm. To reduce eye injuries, we can wear personal protective eyewear, such as goggles, face shields, safety glasses, or full-face respirators. Our eye protection should be chosen for specific work situations, depending upon the nature and extent of the hazard, the circumstances of exposure, other protective equipment used, and personal vision needs.

Eye protection should be fitted to an individual or adjustable to provide appropriate coverage. For instance, our peripheral vision can be important. According to ANSI/ISEA Z87.1 our eye protection requires wrap around coverage or side-shields on safety glasses for impact protection (Z87+). Because of the OSHA 1910.133.(a)(2) requirement for side shields with flying objects, nearly all safety glasses will be high impact rated.

Employers will, of course, complete a workplace Hazard Assessment, prior to any selection of the proper eyewear, in order to understand the protection requirements necessary to provide different protection with correct eyewear ratings and types.

Actions Employers Can Take

Employers can reduce eye injuries through taking preventative measures and precautions and they should select eyewear and eye-protection based on specific eye hazards. Ways employers can take action to prevent eye injuries include:

- Conducting an eye-hazard assessment of all workspaces, and removing or reducing all eye hazards where possible, preferably as part of a full risk assessment;
- Selecting appropriate eye protection for the hazards as assessed (some manufacturers may have specific information for their products);
- Considering hazards due to electric, chemical, heat, dropping of eye protection, etc. and the need for retention, secondary protection, or different specification of materials or other aspects, and considering whether guidance for specific industries or hazards may also be applicable;
- Ensuring eyewear (employee- or employer-provided) is properly rated to at least the selected protection level;
- Being cognizant that work position can change requirements, for instance, working under a vehicle typically requires better fitting glasses or goggles because of falling debris in a direction different than intended;
- Providing appropriate personal protective eyewear for the types of hazards at the worksite, such as goggles, face shields, safety glasses, or full-face respirators;
- Providing workers with prescription safety eyewear or eyewear that accommodates prescription eyewear as per 1910.133.a(3);
- Assisting workers by providing training and assistance with proper selection, use, fit, and maintenance of protective equipment;
- Using signage to remind employees of required eyewear and PPE for areas and tasks;
- Providing emergency sterile eyewash solutions/stations and posting first-aid instructions near hazardous areas (OSHA 1910.151, ANSI/ISEA Z358.1);

- Using caution flags or guarding to identify potential hazards such as hanging or protruding objects; and
- Optimizing the lighting in the workplace for the tasks being performed.

Our protective eyewear is important to reduce eye injuries, trauma, and vision loss. The manufacturing sector does a lot of work to design, test, and create eye and face protection products for a variety of activities.

Remember, we should continue to evaluate our protective eyewear and make a commitment to wearing it regularly, at both work and, when required, at home.

DON'T TAKE YOUR SIGHT FOR GRANTED...KEEP YOUR EYES SAFE!

