

PPE Selection for Impact Hazards

(Source - www.osha.gov/SLTC/etools/eyeandface/index)

The majority of impact injuries result from flying or falling objects, or sparks striking the eye. Most of these objects are smaller than a pin head and can cause serious injury such as punctures, abrasions, and contusions.

While working in a hazardous area where the worker is exposed to flying objects, fragments, and particles, primary protective devices such as safety spectacles with side shields or goggles must be worn. Secondary protective devices such as face shields are required in conjunction with primary protective devices during severe exposure to impact hazards.

PPE Devices for Impact Hazards	
Spectacles	Primary protectors intended to shield the eyes from a variety of impact hazards.
Goggles	Primary protectors intended to shield the eyes against flying fragments, objects, large chips, and particles.
Face Shields	Secondary protectors intended to protect the entire face against exposure to impact hazards.

Impact Hazards: Safety Spectacles

Safety spectacles are intended to shield the wearer's eyes from impact hazards such as flying fragments, objects, large chips, and particles. Workers are required to use eye safety spectacles with side shields when there is a hazard from flying objects. Non-side shield spectacles are not acceptable eye protection for impact hazards.

The frames of safety spectacles are constructed of metal and/or plastic and can be fitted with either corrective or non-corrective impact-resistant lenses. Side shields may be incorporated into the frames of safety spectacles when needed. Consider each component of safety spectacles when selecting the appropriate device for your workplace.

Spectacles - Lenses	
The lenses of safety spectacles are designed to resist moderate impact from flying objects and particles.	
Plano (non-Rx) lenses should be used by workers who do not require vision correction. Lenses may be flat or curved and are available in clear, filtered, or tinted lenses and may include removable lenses.	
Prescription (Rx) lenses should be used by workers who require vision correction. These lenses may be clear, filtered, or tinted and may include removable lenses.	

Continued on Next Page

Spectacles - Frames

The safety spectacle frames must fit comfortably and correctly to offer the necessary protection.

Spatula temples fit *over* the ear. They can be either fixed or adjustable and are available in metal or plastic.



Cable temples fit *around* the ear. They can be either fixed or adjustable and are available in metal or plastic.

Headband temples are easily adjustable for a secure fit and are useful for tasks requiring movement.



Bridges are available in fixed or adjustable types. They may have adjustable nose pads with pliable arms and are available in a variety of sizes.



Spectacles - Side Shields

Side shields provide angular protection from impact hazards in addition to frontal protection.

Flatfold or semi side shields may be part of- or attached to- the temple. Styles include permanent, removable, solid, ventilated, tinted or clear shields.



Full (cup) side shields may be removable, wire screen, tinted or clear.



Impact Hazards: Safety Goggles

Safety goggles are intended to shield the wearer's eyes from impact hazards such as flying fragments, objects, large chips, and particles. Goggles fit the face immediately surrounding the eyes and form a protective seal around the eyes. This prevents objects from entering under or around the goggles.

Safety goggles may incorporate prescription lenses mounted behind protective lenses for individuals requiring vision correction. Take time to consider specific lens, frame, and ventilation options when selecting safety goggles.

Goggle Lenses

Safety goggles lenses are designed and tested to resist moderate impact.

Clear lenses are available with removable lenses which may be prescription. They do not provide special protection against optical radiation.



Continued on Next Page

Goggle Frames	
Safety goggle frames must be properly fitted to the worker's face to form a protective seal around the eyes. Poorly fitted goggles will not offer the necessary protection.	
Eyecup safety goggles cover the eye sockets completely. They are available with direct or indirect ventilation and can be rigid or flexible.	
Cover safety goggles may be worn over corrective spectacles without disturbing the adjustment of the spectacles and are available in direct, indirect, or nonventilated types. They may be rigid or flexible.	
Goggle Ventilation	
Ventilated goggles allow air circulation while providing protection against airborne particles, dust, liquids, or light.	
Direct ventilation resist direct passage of large particles into the goggle while preventing fogging by allowing air circulation.	
Indirect ventilation prevents fogging by allowing air circulation and protect against liquid or chemical splash entry.	
Non-ventilated goggles do not allow the passage of air into the goggle. They prevent splash entry but may fog and require frequent lens cleaning.	

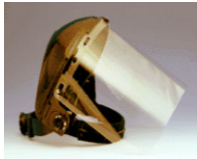
Continued on Next Page

Impact Hazards: Face Shields

Face shields are intended to protect the entire face or portions of it from impact hazards such as flying fragments, objects, large chips, and particles. When worn alone, face shields do not protect employees from impact hazards. Use face shields in combination with safety spectacles or goggles, even in the absence of dust or potential splashes, for additional protection beyond that offered by spectacles or goggles alone.

Face shield windows are made with different transparent materials and in varying degrees or levels of thickness. These levels should correspond with specific tasks. Window and headgear devices are available in various combinations to enable the worker to select the appropriate equipment.



Face Shield Windows	
Face shield windows extend from the brow to below the chin and across the entire width of the face. Windows are available in both removable and lift-front designs.	
Plastic window-types protect against light impact. They are available clear or filtered and may include a glass insert.	
Wire-screen windows protect against some moderate impact. They may include a plastic/glass insert and are not recommended for use involving chemical or liquid hazards.	
Face Shield Headgear	
Adjustable headgear includes straps that allow the user to manipulate the size of the headgear to ensure a proper fit. Allows face shields to be shared between employees.	
Hard hats with face shields may have a window shield mounted under the visor of the hat. Face shields may be plastic, wire-screen, lift-front, or removable.	

The information herein is provided by MIA+BSI as a general summary for use in job site toolbox talks and is provided to augment and not substitute for or replace required training under any applicable local, state or federal workplace statute, law or regulation. It is the user's responsibility to ensure this content is consistent with job site requirements and applicable statutes, laws or regulations prior to use and make any required additions or changes.