

“Info Sheet” for Eye and Face Protection

Lenses: The Canadian Standards Association (CSA)-certified safety glasses have plastic polycarbonate lenses. They are stronger than regular lenses, are impact-resistant, and come in prescription and non-prescription (plano or zero-power lens) forms.

Markings on safety glasses: The manufacturer or supplier logo is marked (or etched) on all approved safety lenses, frames (front and temple), removable side shields, and other parts of the glasses, goggles, or helmets.

Frames: Safety frames are stronger than street-wear frames and are often heat resistant. They are also designed to prevent lenses from being pushed into the eyes.

What are the pros and cons of the different lenses?

Comparison of Lens Materials	
Material	Characteristics
Polycarbonate	Strongest material for impact resistance Lightweight Can be coated for scratch resistance Most have built-in UV radiation protection
Plastic (CR39)	About one-half the weight of glass Resistant to solvents and pitting More choices for coatings and tinting
Trivex	More impact resistant than CR39 Plastic Less impact resistant than polycarbonate UV radiation absorption properties
Glass	High-density material (heavy lenses) Loses impact resistance if scratched Does not meet impact criteria as set by CSA

From: Z94.3.1-09 Selection, use and care of protective eyewear by Canadian Standards Association, 2009.

If eye protection is required, establish a complete eye safety protection program including selection, fit testing, training, maintenance and inspection.

Fit

- Ensure your safety glasses fit properly. Eye size, bridge size and temple length all vary. Safety glasses should be individually assigned and fitted.
- Wear safety glasses so that the temples fit comfortably over the ears. The frame should be as close to the face as possible and adequately supported by the bridge of the nose.















Care

- Safety glasses need maintenance.
- Clean your safety glasses daily. Follow the manufacturer's instructions. Avoid rough handling that can scratch lenses.
- Scratches impair vision and can weaken lenses.
- Store your safety glasses in a clean, dry place where they cannot fall or be stepped on. Keep them in a case when they are not being worn.
- Replace scratched, pitted, broken, bent or ill-fitting glasses. Damaged glasses interfere with vision and do not provide protection.
- Replace damaged parts only with identical parts from the original manufacturer to ensure the same safety rating.

Selecting the proper safety glasses and face protection.

If you are at risk for eye or face injury at work, you should wear appropriate protection.

To select the proper protectors follow the recommendations in the table below.

Selection of Eye and Face Protection																																																																																																																
<p>Note: This table cannot cover all possible hazards and combinations that may occur. Examine each situation carefully and select the appropriate protector or combination of protectors.</p> <p>*indicates recommended protection</p>	Spectacles (Class 1)		Goggles (Class 2)			Welding Helmet (Class 3)	Welding Hand Shield (Class 4)	Non-Rigid Hoods (Class 5)				Face Shields (Class 6)																																																																																																				
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Flying Objects													<p>Examples</p> <p>Class 1</p> <p>A </p> <p>A </p> <p>B </p> <p>Class 2</p> <p>A </p> <p>B </p> <p>C </p> <p>C </p> <p>Class 3</p> <p></p> <p></p> <p></p> <p>Class 4</p> <p></p> <p></p> <p>Class 5</p> <p></p> <p>Class 6</p> <p></p>	Chipping, drilling, scaling, grinding, polishing, buffing, riveting, punching, shearing, hammer mills, crushing, heavy sawing, planing, wire and strip handling, hammering, unpacking, nailing, punch press, lathework, etc.	*		*	*				*	*			*			Flying particles, dust, wind, etc.													Woodworking, sanding, light metal working and machining, exposure to dust and wind, resistance welding (no radiation exposure), sand, cement, aggregate handling, painting, concrete work, plastering, material batching and mixing	*		*	*				*	*			*			Heat, sparks and splash from molten materials													Babbiting, casting, pouring molten metal, brazing, soldering, spot welding, stud welding, hot dipping operations		*			*					*	*	*	*	*	Acid splash, chemical burns													Acid and alkali handling, degreasing, pickling and plating operations, glass breakage, chemical spray, liquid bitumen handling				*				*				*		
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Abrasive blasting materials													
Sand blasting, shot blasting, shotcreting				*					*			*	
Glare, stray light (for reduction of visible radiation)													
Reflecting, bright sun and lights, reflected welding flash, photographic copying	*			*	*				*	*			*
Injurious optical radiation (moderate reduction of optical radiation)													
Torch cutting, welding, brazing, furnace work, metal pouring, spot welding, photographic copying		*			*					*			*
Injurious optical radiation (large reduction of optical radiation)													
Electric arc welding, heavy gas cutting, plasma spraying and cutting, inert gas shielded arc welding, atomic hydrogen welding						*	*						

From: Z94.3.1-09 Selection, use and care of protective eyewear by Canadian Standards Association, 2009.

Reference Material Sources

- <http://www.ccohs.ca/oshanswers/prevention/ppe/glasses.html>
- (CSA) Standard Z94.3.1-09 Selection, use and care of protective eyewear by Canadian Standards Association, 2009.