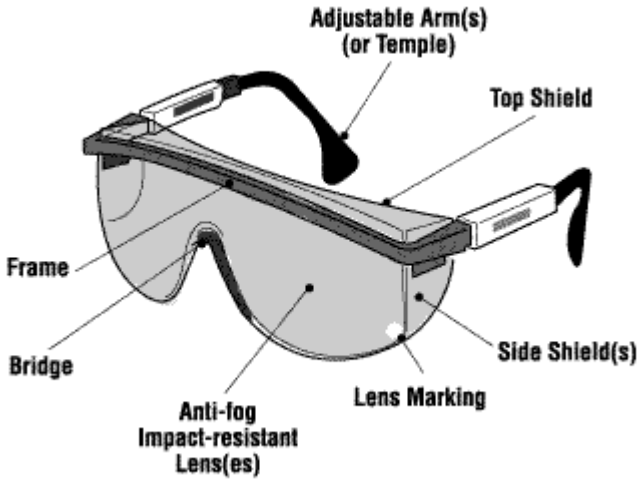
Eye and Face Protectors Fact Sheets

HOW DO I RECOGNIZE SAFETY EYE WEAR?

Lenses: CSA-certified eye and face protectors must meet the criteria for impact resistance as outlined in the standard. Only devices made of approved materials are permitted.

Markings: The manufacturer or supplier certification mark must be present 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**
Hi-Vex	• More impact-resistant than CR39 plastic • Available with all surface treatments (coatings) • 100% UV filtering • Light weight • Material is very clear

Polycarbonate	• Most impact-resistant of all lens materials • Lightweight • Can be coated for scratch resistance • Most have built-in UV radiation absorption properties
Plastic (CR39)	• About one-half the weight of glass • Resistant to solvents and pitting
Trivex	• More impact resistant than CR39 Plastic • Less impact resistant than polycarbonate • UV radiation absorption properties
Glass	• High-density material resulting in heavy lenses • Loses impact resistance if scratched • Does not meet impact criteria as set by CSA Z94.3

WHAT SHOULD I KNOW ABOUT THE FIT AND CARE OF EYE WEAR?

Eye wear will protect the user if the eye and surrounding soft tissues are fully covered by the protection device. If eye protection is required, establish a complete eye safety protection program including selection, fit testing, training, maintenance and inspection.

Fit

- Ensure your safety eye wear fits properly. Eye wear should cover from the eyebrow to the cheekbone, and across from the nose to the boney area on the outside of the face and eyes. Eye size, bridge size and temple length all vary. Eye wear should be individually assigned and fitted so that gaps between the edges of the device and the face are kept to a minimum.
- Eye wear should fit over the temples comfortably and over the ears. The frame should be as close to the face as possible and adequately supported by the bridge of the nose.
- Users should be able to see in all directions without any major obstructions in their field of view.

Care

Eye and face protection devices need maintenance.

- Clean your devices daily. Follow the manufacturer’s instructions.
- Avoid rough handling that can scratch lenses. Scratches impair vision and can weaken lenses.
- Store your devices 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 devices immediately. Damaged devices 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.
- Do not change or modify the protective device.

WHAT SHOULD I KNOW ABOUT LENS COLOURS?

Lenses can be clear, tinted, photochromic or polarized. Each type offers various levels of ultraviolet protection, including no protection (even when coloured). Do not be fooled by the colour of the lenses.

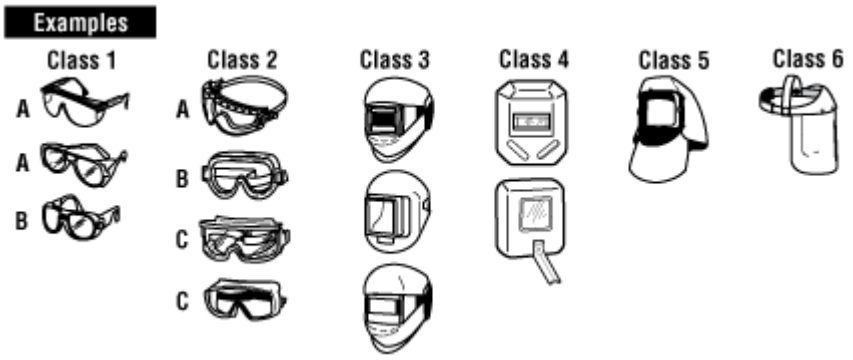
Conduct a hazard assessment to identify the hazards that workers may be exposed to, and then select appropriate PPE when engineering controls or other more permanent methods of control are not possible. Consult with the PPE manufacturer about the uses and limitations for each type of eye or face protection.

HOW DO I SELECT THE PROPER EYE 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.

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.



Nature of hazard	Hazardous Activities involving but not limited to	Recommended protectors
Flying Objects	Chipping, scaling, stonework, drilling, grinding, buffing, polishing, hammer mills, crushing, heavy sawing, planing, wire and strip handling, hammering, unpacking, nailing, punch press, lathework	Class 1A – Spectacles Class 2A, 2B – Goggles Class 5A, 5B – Hoods Class 6A, 6D – Face shields
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	Class 1A – Spectacles Class 2A, 2B – Goggles Class 5A, 5B – Hoods Class 6A, 6D – Face shields
Heat, sparks, and splash from molten materials	Babbiting, casting, pouring, molten metal, brazing, soldering, spot welding, stud welding, hot dipping operations	Class 1B – Spectacles Class 2C – Goggles Class 5C, 5D – Hoods Class 6B, 6C, 6D – Face Shields
Acid splash, chemical burns	Acid and alkali handling, degreasing, pickling and plating operations, glass breakage, chemical spray, liquid bitumen handling	Class 2B – Goggles Class 5B – Hoods Class 6A – Face Shields
Abrasive blasting materials	Sand blasting, shot blasting, shotcreting	Class 2B – Goggles Class 5B – Non-Rigid Hoods Class 6A – Face Shields
Glare, stray light (where slight reduction of visible radiation is required)	Reflection, bright sun and lights, reflected welding flash, photographic copying	Class 1A – Spectacles Class 2A, 2B – Goggles Class 5A, 5B – Hoods Class 6A – Face Shields
Injurious optical radiation (where moderate reduction of optical radiation is required)	Torch cutting, welding, brazing, furnace work, metal pouring, spot welding, photographic copying	Class 1B – Spectacles Class 2C – Goggles Class 5C – Hoods Class 6B – Face Shields
Injurious optical radiation (where large reduction of optical radiation is required)	Babbiting, casting, pouring, molten metal; brazing, soldering, spot welding, stud welding, hot-dipping operations	Class 3 – Helmet Class 4 – Handshield
Laser radiation	Laser cutting, laser surgery, laser etching	Class 2D – Goggles
Electric arc flash	Electrical installation, electrical maintenance, troubleshooting of electrical systems, disconnecting live electrical systems	Class 2E – Goggles Class 5E – Hoods Class 6D – Face shields