

Personal Protective Equipment

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Personal Protective Equipment

Overview

Personal Protective Equipment (PPE) is used to protect employees from health or safety hazards associated with working conditions at a work site, and includes a falling arrest device.

The best way to prevent injuries is to eliminate the hazard. For instance, to protect eyes, safety glass or plastic shields can be installed on machines to prevent exposure to flying particles or liquids; enclosures can be used to control dusts, mists and vapours; and proper ventilation can be provided to remove harmful substances before they become airborne and reach the working area. Good housekeeping at the workplace can reduce the risk of slips due to spilled or leaking fluids, and falls due to tripping over objects on the floor or in the aisle. Storing heavier objects on low shelves or pallets can reduce the risk of them falling on the foot. Noise can be controlled in the workplace by reducing the noise at its source or changing the path of the sound through engineering controls.

PPE should not be used as a substitute for other health and safety control measures. If hazards cannot be eliminated, personal protective equipment shall be worn for protection of a staff member. PPE is supplied by either the employer or the employee as outlined in this document.

As well, all PPE shall meet regulatory and Canadian Standards Association (CSA) requirements.

Examples of types of personal protective equipment (PPE) and when and where they should be used are outlined on the following pages.

References can be made to Administrative Procedure:

[AP 405 – Workplace Health and Safety](#)

Legislative Requirements

Under provincial legislation, the Division is expected to ensure that employees use the appropriate Personal Protective Equipment (PPE). The provider of the PPE can be either the employee or the employer.

Personal Protective Equipment is regulated under the legislation below:

- Alberta Occupational Health and Safety Code
 - Part 18 Personal Protective Equipment
 - Part 9 Fall Protection

- Part 16 Noise Exposure section 222 Hearing Protection

Wherever there are hazards that may require the use of personal protective equipment, the employer is required to take reasonable measures to reduce the hazard by means of elimination, engineering controls, administrative controls or work practices. If these measures do not eliminate or reduce the hazard to where there is no danger to the health and safety of employees, then PPE can be used.

Part 18 Personal Protective Equipment states:

If the hazard assessment indicates the need for personal protective equipment, an employer must ensure that:

- Employees wear personal protective equipment that is correct for the hazard and protects employees.
- Employees properly use and wear the personal protective equipment.
- The personal protective equipment is in a condition to perform the function for which it was designed, and workers are trained in the correct use, care, limitations and assigned maintenance of the personal protective equipment.

An employee must:

- Use and wear properly the appropriate personal protective equipment specified in the Operational Health and Safety code in accordance with the training and instruction received.
- Inspect the personal protective equipment before using it.
- Not use personal protective equipment that is unable to perform the function for which it is designed.

An employer must ensure that the use of personal protective equipment does not itself endanger the employee.

The Division employee has the obligation to ensure that they purchase the PPE that is required for their job as per the guide in Appendix I of this section. The Division employee shall, if needed, receive clarification from their supervisor on PPE purchase responsibilities.

Personal Protective Equipment Compliance

Personal Protective Equipment (PPE) is judged from an adequate protection standard for all actual or potential work hazards to which employees, students, visitors and volunteers could be exposed. The questions a government inspector would ask are:

- Do all employees have PPE designed or constructed to provide adequate protection from work hazards that could cause them bodily injury and do they know how to use it?
- Has a written hazard assessment been completed?
- Where needed, is there a code of practice for respiratory protective equipment?

If the answers are YES, then there is compliance.

Principals, non-school based department heads and employees are responsible for ensuring that:

- Work hazards have been identified.
- Where possible, a written hazard assessment has been completed and all methods of controlling hazards at the source have been implemented.
- Appropriate PPE is available for employees, students, visitors and volunteers when needed.
- Employees, students, visitors and volunteers wear the required PPE.
- Meetings are held to promote proper use of equipment and specific values to be received from wearing it.
- Employees have been competently trained and know when to wear the appropriate PPE and how to wear it correctly.
- Violations of failing to wear required PPE are investigated to determine their causes.

Employees are competently trained if they know:

- Their responsibility in following related codes of practice.
- When to wear personal protective equipment (PPE).
- How to select PPE appropriate to the hazard.
- How to fit, clean and maintain their PPE.
- The necessity to remove sub-standard or damaged PPE from service.
- Their responsibility to replace any PPE loaned to them if they lose it.

Guidelines for Meeting Legislative Requirements

Head Protection

- Approved Canadian Standards Association (CSA) - Class E head protection (hard hat) shall be worn in the workplace when there is danger of injury to an employee, student, visitor or volunteer's head from:
 - Falling objects.
 - Bumps.
 - Harmful substances, e.g., chemical spills, splashes.
 - Contact with energized substances(Refer to CSA Standard Z94. 1-92 (R1998), *Industrial Protection Headwear*, for more information.)
- Head Protectors shall:
 - Be comfortably fitted.
 - Not be dropped, painted on, marked, have accessories added or holes put in shell.
 - Be regularly inspected for damage and have suspension regularly checked.

- Accessories to protective headwear such as earmuffs, chin straps and winter liners should be used when needed.
- There are a number of other types of headwear designed for workplace use, such as hoods, hair nets and bump caps. These are usually used for specific purposes, such as when using respiratory protection, keeping hair away from food or keeping hair away from moving machine parts. They may provide some protection against minor bumps and cuts and for reasons of cleanliness but they offer no protection against impact injuries and shall not be used as a substitute for proper protective headwear.
- The Division will provide the appropriate head protection.

Eye Protection

- **Protective eyewear (one per student and teacher)**
- Approved CSA eye protection, e.g., goggles, safety glasses, side shields, full face shields, welders' lens or prescription non-glare tinted eyewear, shall be worn when there is or may exist danger at the workplace of eye injury or irritation to an employee, student, visitor or volunteer's eyes from:
 - Exposure to radiant energy, e.g., sun, welding flash.
 - Flying particles, e.g., slag from welding, chipping or grinding.
 - Splashing or spilling of liquids when working with potentially harmful chemicals, e.g., caustics, acids.
 - Harmful airborne chemicals, e.g., gases, vapours and particulates.
 (Refer to CSA Standard Z94.3-99, *Industrial Eye and Face Protectors* or CSA Standard Z94.3-02, *Eye and Face Protectors*, for more information). See Division website.
- If prescription glasses are normally worn, eye protection must fit over them.
- For Science, protective eyewear should be in the form of safety goggles. Goggles fit the face immediately surrounding the eyes and form a protective seal around the eyes. This prevents foreign substances from entering under or around the goggles, and provides splash protection from chemicals. **Safety spectacles are not sufficient protection.**
- It is strongly recommended for shared protective eyewear, to have a facility or procedure in place for sterilizing after use.
- Eye Protectors shall be comfortably fitted to the employee, student, visitor or volunteer so as not to interfere with movement or hinder performance of task.
- Any eye protection should be cleaned and sanitized on a regular basis.
- Face shields are not an acceptable substitute for eye protection equipment. Suitable eye protectors shall be worn underneath face shield.
- The Division will provide the appropriate eye protection where applicable.
- Contact lenses are not a substitute for safety eyewear. Protective equipment shall be worn over them. For more information regarding contact lens safety and when they should be worn, refer to guidelines for *Use of Contact Lenses in Industry* available from Alberta Labour.
- Ordinary glasses **do not** protect the eyes from most hazards. Prescription safety eyeglasses shall be made from CSA approved safety lenses and frames. Employees can choose this option at their own cost. When purchasing consider the following:

Advantages of Spectacle Lens Materials

Glass	Plastics	Polycarbonate
Scratch resistant	Light weight	Light weight
Low colour fringing	More impact resistant	Greatest impact resistance possible
Easy to verify heat tempering	No tempering needed	No tempering needed
Resists solvents	Low colour fringing	UV blocking
Lower costs	Can be made UV blocking	Thin lens
Consistent optical quality	Lower costs	Easily tinted
Solid tint can block IR	Consistent optical quality	
	Easily tinted	

Eye-Wash Station

Please refer to First Aid, Eye wash equipment (Section 5).

Foot Protection

Approved CSA - Grade 1 Green Triangle, Grade 2 Yellow Triangle and Grade 3 Red Triangle protective footwear shall be worn when there is danger in the workplace of injury to the employee's feet.

Potential Hazards	Protective Footwear
Impact - something falling on the foot; Compression - something rolling over or squeezing the foot Punctures - a sharp object sticking into the foot, e.g., nail, glass	Shall have metal toe caps and a metal plate in the sole or insole that will protect against penetration, along with in-step protection.
Slips - on hazardous surfaces	Shall have proper footwear
Temperature extremes - burns from hot materials, e.g., molten metal	Shall be made of leather
Freezing from cold materials	Shall be thermo-insulated.
Explosive/electrical shocks - contacting energized electrical conductors	Shall be made of non-sparking and/or non-conducting materials, except for metal box toe (e.g., shock resistant and/or anti-static soles).

Dangerous liquids - corrosive or dangerous substances where feet could be immersed	Shall be constructed of impermeable materials or specially treated. Shall be checked to see that there are no holes in sole or any substance sticking to sole.
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It is the employees' responsibility to provide the appropriate footwear. (Refer to CSA Standard Z195-02 or Z195-M92, *Protective Footwear*, for more information).

- For all of these hazards, protective footwear should be inspected regularly by the employer for excessive wear, e.g., footwear with shock resistant soles will lose its effectiveness if it gets wet or contaminated by common chemicals like road salt. If the toe cap is exposed through worn leather or has been knocked loose it probably can't protect against a crushing injury. Also, boots can't protect ankles against impact injuries or sprains nearly as well if they aren't laced and tied correctly.

Prohibited Footwear

Any footwear that does not conform to the potential hazards to which the employee will be exposed on the job is prohibited.

Exceptions

Rubber boots that are CSA approved protective footwear will be acceptable when working in wet conditions.

Hearing Protection

- Approved CSA Class hearing protection shall be worn, when there is, or may exist danger of noise levels greater than the legislated limits for unprotected exposure in the workplace resulting in injury or loss of hearing to the employee, student, visitor or volunteer.
(Refer to CSA Standard Z94.2-02, *Hearing Protection Devices - Performance, Selection, Care and Use* for more information).
- Earplugs are best for employees, students, visitors or volunteers who work in noise but must also wear other safety gear such as helmets, respirators or goggles.
- Earmuffs are best for employees who work all day in noise as they provide greater protection or for those staff intermittently exposed as they are easier to put on and take off.
- Hearing Protection shall:
 - Be inspected and cleaned daily if non-disposable plugs, kept dry and stored appropriately.
 - Fit appropriately and be the correct type for specific noise conditions, substitutions or alteration shall not be made.
 - Work well with other personal protective used.
 - Be suitable for temperature and humidity conditions at the workplace.

Refer to the section *Hearing Conservation* in the manual for further information and guidelines for the development of a Hearing Conservation Program at the workplace.

- The Division will provide the appropriate hearing protection where applicable.

Limb and Body Protection

- Approved limb and body protection, e.g., gloves, aprons, leggings, arm coverings, waist supports, uniforms / coveralls and wrist supports shall be worn when there is danger in the work place of injury to the employee, student, visitor or volunteer's hands, arms, body trunk or legs from:
 - Temperature.
 - Motion, e.g., scrapes, abrasions, punctures, or repetitive strain.
 - Chemicals, e.g., caustics, acids, substances that are skin absorbed.
 - Biological, e.g., bacteria, viruses, fungi.
 - Electrical.
 - Occupational cleanliness, e.g., food service.
- Limb and body protection shall be appropriate to the work being done and properly fitted to the employee, student, visitor or volunteer.
- Employees, students, visitors or volunteers shall ensure their clothing, hair accessories, rings or other jewelry is so tied, fitted, covered or secured as to prevent entanglement or contact.
- When an employee or a volunteer is required to be outside for fifteen minutes or more and the UVR rating is four or above, the employee, student, visitor or volunteer should wear a skin barrier protective cream adequate to protect all exposed areas of skin during the entire period of exposure. This product should be supplied by the individual themselves.
- The Division will provide the appropriate limb and body protection where applicable.

Fall Protection

A fall protection system such as an approved CSA safety belt, lanyard or lifeline must be used at a temporary or permanent work area above three metres. Some examples of work platforms are scaffolds, unguarded work structures, and ladders. A power lift may be used for areas above three metres. See section on power lifts below.

If scaffolding or a ladder is used, employees must be trained and comply with Part 23 of the Occupational Health and Safety Code. Training must comply with section 15(1) of the Occupational Health and Safety Regulation and be approved by the Division.

Fall protection must comply with CSA standards for fall protection.

Employees using the fall protection must have completed Division-approved training for the relevant equipment.

The Division will provide the appropriate fall protection and/or safe work practices where applicable.

Powered Lifts

Powered lifts are sometimes referred to as man-lifts, elevating platforms or aerial devices. This type of equipment does not require fall protection unless specified in the manufacturer's instructions or CSA specifications.

The Division has powered lifts available for use to access areas above three metres. Any employees using the powered lift must have completed Division-approved training for powered lifts. This equipment must not be used by untrained individuals unless under the **direct supervision** of a trained operator.

Respirators

- Approved CSA respirators shall be worn when there is danger of injury to the employee from:
 - Toxic gases.
 - Oxygen-deficient atmosphere.
 - Chemicals that produce vapours or mists.
 - Working with materials that present a serious inhalation hazard, e.g., asbestos.

(Refer to CSA Standard, Z94.4-02 *Selection, Use and Care of Respirators* or CSA Standard Z180.1-00 *Compressed Breathing Air Systems*, for more information).

- The Division will provide the appropriate respirators where applicable.

Training Requirements

All new and present employees who are expected to wear personal protective equipment (PPE) as part of their job shall be trained in proper fitting, use, cleaning, maintenance and storage of the equipment. See Section 13 *Safe Work Practices*.

On-going training shall occur:

- At regular intervals, particularly when employees use the equipment on an infrequent basis.
- When new equipment is introduced into the workplace.
- When there are changes in the legislation.

Implementation Process

Getting Started

Principals and non-school based department heads shall:

1. Identify the hazards in the workplace where personal protective equipment (PPE) will be necessary.
2. Select and purchase the appropriate PPE for the hazard(s) according to Division guidelines and standards.
3. Ensure employees have the PPE necessary for their job or emergency situations they might encounter.
4. Post signs in areas where there are hazards warning any employee, student, visitor or volunteer coming into the area about the hazard, calling attention to what PPE is required before entry.

Ongoing Activities

Principals and non-school based department heads shall:

1. Ensure that required PPE is present, and in sufficient quantities, in the areas where it is required.
2. Conduct periodic inspections to ensure that PPE is being used where required. Documentation of these inspections should be maintained.
3. Ensure that appropriate on-going cleaning and maintenance of PPE occurs.

Appendix I - Division Personal Protective Equipment Guide

Type of Equipment Needed	When	Who/Where	Supplied By
Burning goggles and welding helmet	Oxy-acetylene welding, burning or cutting	Maintenance -Projects -Repairs	Maintenance Dept / Contractor
Burning goggles and welding helmet	Oxy-acetylene welding, burning or cutting	Teaching/Support -Career & Technology Studies (CTS) Shop	School

Chemical Goggles	Handling of hazardous chemicals which may splash or leak	Caretaking -Cleaning Chemicals -Vessel Cleaning/Testing Chlorine Room	Caretaking Services / Contractor
Chemical Goggles	Handling of hazardous chemicals which may splash or leak	Teaching/Support -Labs -CTS Shops	School
Chemical suits (coveralls) and/or aprons	Mixing of corrosive chemicals	Caretaking/Contractor -Boiler Room -Cleaning Areas / Infection control	Caretaking Services / Contractor
Chemical suits and/or aprons	Mixing of corrosive chemicals	Teaching/Support -Labs	School
Cold weather clothing	Working in extreme weather conditions e.g., snow clearing	Maintenance -Grounds -Crawl Spaces Caretaking -Outdoors	Employee / Contractor Employee / Contractor
Cold weather clothing	Working in extreme conditions	Contractor -Walk-in freezer	Contractor
Dust Masks	Working around heavy concentrations of dust and other airborne particles	Maintenance -Projects, Shops Caretaking -General cleaning areas	Caretaking / Maintenance dept./ Contractor
Dust Masks	Working around heavy concentrations of dust and other airborne particles	Teaching / Support -CTS Shops	School
Face Shields	Handling of corrosive chemicals, inspecting fire boxes, working on pressurized equipment, using high-pressure equipment, using high pressure water, arc welding, or performing any operation that may put the face at risk	Maintenance -Repairs -Renovations, Projects Caretaking -Vessel Cleaning	Maintenance Dept. / Contractor Caretaking Services Contractor

	from flying objects, extreme temperatures, splashed acid or caustic substances.		
Face Shields	Handling of corrosive chemicals using high-pressure equipment, using high pressure water, arc welding, or performing any operation that may put the face at risk from flying objects, extreme temperatures, splashed acid or caustic substances.	Teaching / Support -CTS Shops -Labs	School
Fire-retardant clothing	Working in areas with potential for explosion or flash fire as defined by occupational health and safety regulations.	Maintenance -Projects -Confined Spaces	Maintenance Dept. / Contractor / Caretaking Services
Gloves	Handling of sharp objects, chemicals, hot or cold objects, ropes or cables or contact with biohazardous substances	Maintenance -Projects -Repairs Caretaking -General Cleaning Areas -Boiler Rooms	Maintenance Dept. / Contractor / Caretaking Services
Gloves	Handling of sharp objects, chemicals, hot or cold objects, ropes or cables or contact with biohazardous substances e.g., molds or cultures	Teaching / Support -Labs -Infection Control	School
Hard Hats	All worksites where a danger of injury to a worker's head exists or may exist.	Maintenance -Crawl Spaces -Projects	Maintenance Dept. / Contractor / Caretaking Services

Hard Hats	All worksites where a danger of injury to a worker's head exists or may exist.	CTS	School
Hearing Protection	Working at sites with noise levels greater than legislated limits for unprotected exposure	Maintenance -Projects -Confined Spaces -Shops -Lawn mower and snow removal equipment Caretaking -Boiler/Electrical Rooms -Propane burnishes	Maintenance Dept. / Contractor Caretaking Services / Contractor
Hearing Protection	Working at sites with noise levels greater than legislated limits for unprotected exposure	Teaching / Support -CTS Shops -Music Rooms / Gyms - Food Services Area	School
High visibility safety vests	Working with traffic or around mobile equipment	Maintenance -Projects	Maintenance Dept. / Contractor
Hoods	Sandblasting, handling caustic acid or shutting off ruptured caustic or acid lines	Maintenance -Projects	Maintenance Dept. / Contractor
Oxygen and other monitors	Working in areas with potential of shortage of oxygen	Maintenance -Confined Spaces -Projects	Maintenance Dept. / Contractor
Respiratory Protective Equipment	Working in areas where there is potential for exposure to oxygen deficiency or toxic gases exceeding regulated exposure limits (i.e., Chiller Rooms)	Maintenance -Confined Spaces -Projects (e.g., asbestos abatement, solvent cleaning, spray painting) Caretaking -Vessel Cleaning	Maintenance Dept. / Contractor Caretaking Services / Contractor
Respiratory Protective Equipment	Working in areas where there is potential	Teaching / Support -shops (e.g., autobody	School

	for exposure to oxygen deficiency or toxic gases exceeding regulated exposure limits (i.e., Chiller Rooms)	painting) -Labs	
Safety belts, lanyards and lifelines	Working from ladders, scaffolds, suspended cages or at heights specified by Workplace Health and Safety regulations.	Maintenance -Projects (e.g., roof repair) -Confined Spaces / Rescue	Maintenance Dept. / Contractor / Caretaking Services
Safety goggles/glasses	Welding, cutting, drilling, grinding or performing any operation with potential exposure to flying objects, or excessive heat or light	Maintenance -Projects -Repairs Caretaking -Vessel Cleaning	Maintenance Dept. / Contractor Caretaking Services
Safety goggles/glasses	Welding, cutting, drilling, grinding or performing any operation with potential exposure to flying objects, or excessive heat or light	Teaching / Support -CTS Shops -Labs	School
Safety helmets	Riding grass mowers or snow removal equipment	Maintenance -Grounds Caretaking -Outdoors	Maintenance Dept. / Contractor Caretaking Services
Safety footwear - CSA approved protective footwear	Working in areas where feet are at risk from falling objects or other hazards	Maintenance -Projects -Shops -Warehouse (e.g., shipping, receiving, driving) Caretaking/Contractor CTS Teachers / Technicians	Employee/Contractor

