CORPORATE POLICY AND PROCEDURE

POLICY	**Personal Protective Equipment Policy**
CATEGORY	Health and Safety
AUTHORITY	All Departments
RELATED POLICIES	Job Hazard Analysis Policy Working at Heights Policy Respiratory Protection Program Hearing Conservation Program Energized Electrical Work Procedure Hot Work Program
APPROVED BY	Executive Team
EFFECTIVE DATE	September 1, 2018
REVISION DATE	August 31, 2019

Policy Statement

Guided by our corporate values, the City of Guelph is committed to ensuring the use of appropriate Personal Protective Equipment (PPE) in order to reduce employee exposure to hazards, when engineering or other controls are not feasible or effective enough to completely eliminate the exposure.

Purpose

To ensure appropriate PPE is provided and worn in areas where hazard identification and risk assessment has shown that it is a requirement to protect the worker. The types of PPE covered by this policy are as follows:

- Eye and face protection
- Foot protection
- Head protection
- High-Visibility safety apparel, and
- Hand protection*

*****Note: This document does not cover respiratory protective equipment, hearing protection or fall protection equipment, which are covered in separate policies.

Background

Chemical, physical or biological agents must be reduced at the source by eliminating or substituting the hazard, preferably, or along the path by implementation of engineering or administrative controls. It is recognized, however, that on occasion the hazard cannot adequately be controlled at the source or along

the path, and on these occasions appropriate PPE designed to protect the worker from the hazard, must be identified, provided and worn.

Definitions

Competent Person

A person who,

(a) is qualified because of knowledge, training and experience to organize the work and its performance,

(b) is familiar with this Act and the regulations that apply to the work, and

(c) has knowledge of any potential or actual danger to health or safety in the workplace

Personal Protective Equipment (PPE)

Specialized clothing or equipment worn by employees for protection against health and safety hazards. Personal Protective Equipment is designed to protect many parts of the body.

Supervisor/Manager

A person who has charge of a workplace or authority over a worker

Worker

Means any of the following, but does not include an inmate of a correctional institution or like institution or facility who participates inside the institution or facility in a work project or rehabilitation program:

1. A person who performs work or supplies services for monetary compensation.
2. A secondary school student who performs work or supplies services for no monetary compensation under a work experience program authorized by the school board that operates the school in which the student is enrolled.
3. A person who performs work or supplies services for no monetary compensation under a program approved by a college of applied arts and technology, university, private career college or other post-secondary institution.
4. Such other persons as may be prescribed who perform work or supply services to an employer for no monetary compensation

Procedure

Roles & Responsibilities

Executive Team

- Ensure that service area leaders are aware of the content of this policy, and support the successful implementation of the requirements as laid down.

Managers/Supervisors

- Lead by example, wear and ensure required PPE is worn as requiredEnsure areas/tasks requiring the use of PPE are identified using an appropriate hazard assessment and/or risk analysis methodology
- Ensure PPE is selected appropriate to the hazard identified
- Ensure required PPE is provided as required
- Ensure required PPE is maintained in good condition
- Ensure workers required to wear PPE are trained in the proper use, maintenance and storage
- Ensure there is a system to repair, replace or remove damaged PPE
- Ensure PPE that is provided meets applicable Canadian Standards Association (CSA) standards or other equivalent standard
- Ensure PPE is inspected by a competent person as required by the manufacturers recommendations or legislative requirements
- Ensure records of required inspections are kept
- Ensure appropriate signage is posted in areas requiring PPE, indicating type(s) of PPE to be worn, where it will be seen by persons entering the area
- Ensure Contractors are aware of the PPE requirements and are required to provide their own PPE and comply with the City of Guelph PPE policy
- Ensure visitors entering areas where PPE is required are informed of the requirements and provided with the required equipment
- Ensure annual reviews of the PPE requirements are conducted, or more frequently should conditions or processes change

Workers

- Wear PPE as required
- Inspect PPE prior to use
- Never deliberately damage or render PPE ineffective
- Report damaged PPE immediately to your supervisor
- Follow correct protocols for the use and maintenance of the required PPE
- Store PPE according to manufacturer's recommendations

Health & Safety

- When requested to do so, assist:
  - Managers/Supervisors in conducting assessments for identification of where/when PPE is required
  - Managers/Supervisors in selection of appropriate PPE for the hazard
- Ensure this policy is updated annually, or as new information pertaining to the selection, use and care of PPE becomes available

General Procedure

1. All PPE must meet a recognized standard such as CSA or equivalent
2. There is no recognized standard for Protective Gloves, so the PPE must be selected based on the tasks to be performed and the performance and characteristics of the material quality of the glove and the manufacturer's recommended uses.
3. Prior to selection of PPE, a hazard assessment and/or risk analysis has been completed based on the workplace environment and specific work activities.
4. This assessment shall be conducted by a competent person.

5. Selection of PPE must be based on the results of hazard assessments and/or risk analysis
6. Employees must be provided with the required PPE and trained on its use, maintenance and proper storage.
7. Employees must wear the PPE provided and not deliberately damage or make ineffectual such equipment.
8. Damaged or ineffectual PPE must be removed from service immediately and repaired or replaced.
9. PPE must be replaced as per the manufacturer recommendations. For instance, single use items must be discarded after each use.
10. Signage must be posted as needed in areas where use of PPE is mandatory.
11. Required inspection records of PPE must be kept for a period of at least two years and be available for audit purposes upon request.
12. Proper use of PPE shall be included in workplace inspections.

Eye and Face Protection

A worker exposed to the risk of eye injury shall wear eye protection appropriate in the circumstances. Suitable eye protection shall be provided to cover prescription lenses in lieu of approved safety glasses as required.

1. Safety glasses shall be worn at all times in areas it has been determined there is a hazard to the eyes.
2. Additional eye and face protection i.e. face shields and goggles shall be worn when as required to prevent injury.
3. When welding, a full-face welding helmet with appropriate shaded protective eye shield shall be worn.
    a. For more information on appropriate eye and face protection when welding, please review the **Corporate Hot Work Program**.
4. When dispensing or working with chemicals, properly fitted chemical splash goggles must be worn.

All safety glasses shall meet the CSA standard **Z94.3.1-16 - Guideline for selection, use, and care of eye and face protectors** with markings indicating this.

Use Appendix A – Selection of Eye and Face Protection to assist in determining the correct type of PPE to be worn relevant to the hazards.

Foot Protection

Protective Footwear must be chosen based on the hazards identifed. The Supervisor/Manager must assess the workplace and work activities for:

- Materials handled or used by the worker.
- Risk of objects falling onto or striking the feet.
- Any material or equipment that might roll over the feet.
- Any sharp or pointed objects that might cut the top of the feet.
- Objects that may penetrate the bottom or side of the foot.
- Possible exposure to corrosive or irritating substances.

- Possible explosive atmospheres including the risk of static electrical discharge.
- Risk of damage to sensitive electronic components or equipment due to the discharge of static electricity.
- Risk of coming into contact with energized conductors of low to moderate voltage (e.g., 220 volts or less).
- Type of walking surface and environmental conditions workers may be exposed to (e.g., loose ground cover, smooth surfaces, temperature, wet/oily, chemicals, etc.).

Also, evaluate the risk of:

- Ankles injury due to uneven walking surfaces or rough terrain
- Foot injury due to exposure to extreme hot or cold
- Slips and falls on slippery walking surfaces
- Exposure to water or other liquids that may penetrate the footwear causing damage to the foot and the footwear
- Exposure to rotating or abrasive machinery (e.g., chainsaws or grinders)

All protective footwear shall meet the requirements of the CSA standard **Z195-14 – Protective Footwear** and shall bear the appropriate markings to indicate as such.

Use Appendix B – Selection of Foot Protection to assist in determining the correct type of PPE to be worn relevant to the hazards.

Head Protection

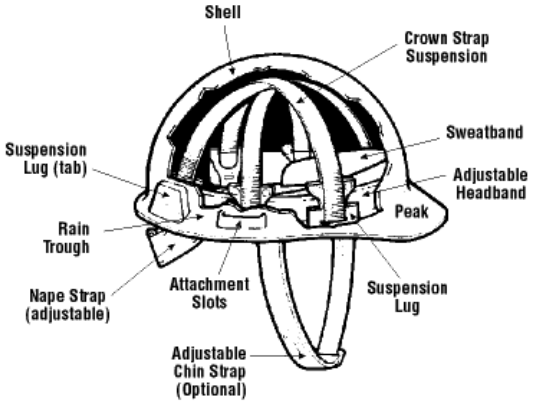
Head protection **must always be worn** in the areas where the following hazards exist:

- Objects might fall from above and strike a worker on the head
- A worker might bump their heads against fixed objects, such as exposed pipes, beams or other similar equipment
- There is a possibility of accidental head contact with electrical hazards
- Walking on ice surfaces or other surfaces that are slippery and the hazard cannot be adequately eliminated or effectively controlled to prevent slipping, falling and potentially striking the head.

Some general rules to be observed related to the use of head protection include the following:

- Headwear consists of a shell and the suspension. These work together as a system and both need regular inspection and maintenance.
- Do not transport headwear in rear windows of vehicles. Heat and UV light can damage the material, making it brittle and less protective.
- Inspect headwear before each use.
- Always check with the manufacturer when adding or using accessories (non-metallic stickers, tape, bandanas, handkerchiefs, welder's cap, etc.).
- Winter liners should be inspected to ensure they do not interfere with fit of headwear.

- Do not draw the chin strap over the brim or peak of the headwear.
- Do not wear baseball style hats under the headwear as it interferes with the suspension.
- Only wear the hard hat with the peak at the back, if the hard hat is designed to be worn this way and the suspension is installed according to the manufacturers specifications for this purpose.



All head protection shall meet CSA standard **Z94.1-15 - Industrial protective headwear - Performance, selection, care, and use** and shall bear the appropriate markings to indicate as such.

Classes of head protection can include:

- Type 1 - protection from impact and penetration at the crown (top) and
- Type 2 - protection from impact, penetration at the crown (top) and laterally (sides and back)
- Each type is also available in the following classes:
    - Class E (20 000 V electrical rating) - non-conducting material (electrical trades)
    - Class G (2200 V electrical rating) - non-conducting material (general trades)
    - Class C (no electrical rating).

The shell of the hard hat or bump cap is rigid and light, and is shaped to deflect falling objects. Correct maintenance is important. Some important things to remember when using head protection include the following:

- Inspect hard hats prior to each use
- Replace a shell when: that shows signs of:
    - Shell shows signs of wear, scratches or gouges
    - Shells become brittle from exposure to heat, sunlight and chemicals
    - There is a visible pattern of tiny
    - Hard hat has become faded or dull or have a chalky appearance.
- Replace headwear that has been struck, even if no damage is visible.
- Remove and destroy any headwear if its protective abilities are in doubt.

Things that **should not be done** to head protection include the following:

- Do not drill holes, alter or modify the shell. Alterations may reduce the protection provided by the headwear.
- Do not paint the plastic shell. Paint solvents can make plastic headwear brittle and more susceptible to cracks. Paint can also hide cracks that may develop.
- Do not use winter liners that contain metal or electrically conductive material under Class G or E headwear.
- Do not use metal labels on Class G or E headwear.

High-Visibility Safety Apparel

High-visibility safety apparel is clothing that workers can wear to improve how well other people "see" them. Most often, high-visibility clothing is worn to alert drivers and other vehicle operators of a worker's presence, especially in low light or dark conditions. High-visibility headwear can also be worn to increase the visibility of the wearer in situations where part or all of the wearer's body could be obscured.

High-visibility safety apparel is needed if you work when there is low light and poor visibility, especially if you are **working around moving vehicles** (cars, trucks or other machinery traveling under their own power - e.g., forklifts, backhoes, etc).

CSA Standard Z 96-15 High Visibility Safety Apparel recommends that a hazard assessment be carried out on each job site to evaluate the workplace or work site for known or potential hazards a worker can encounter while performing a job or task. This assessment will determine the risk to workers of being hit by moving vehicles and the environmental conditions under which work is performed.

Use Appendix C – Selection of High-visibility Safety Apparel to assist in determining the correct type of PPE to be worn relevant to the hazards.

Hand Protection

Where the hazard assessment indicates workers face potential injury to hands and arms that cannot be eliminated through engineering and work practice controls, the city must ensure that workers wear appropriate protection. Potential hazards include but are not limited to:

- Skin absorption of harmful substances
- Chemical or thermal burns
- Electrical dangers
- Bruises, abrasions, cuts, punctures
- Fractures and amputations.

Protective equipment includes gloves, finger guards and arm coverings or elbow-length gloves.

There are many types of gloves available today to protect against a wide variety of hazards. The nature of the hazard and the operation involved will affect the selection of gloves. It is essential that workers use gloves specifically designed for the hazards and tasks found in their workplace because gloves designed for one

function may not protect against a different function The following are examples of some factors that influence the selection of protective gloves:

- Type of chemicals handled
- Nature of contact (total immersion, splash, etc.)
- Duration of contact
- Area requiring protection (hand only, forearm, arm)
- Grip requirements (dry, wet, oily)
- Thermal protection
- Size and comfort
- Abrasion/resistance requirements.

Gloves made from a wide variety of materials are designed for many types of workplace hazards. In general, gloves fall into four groups:

1. Gloves made of leather, canvas or metal mesh;
2. Fabric and coated fabric gloves;
3. Chemical- and liquid-resistant gloves;
4. Insulating rubber gloves*

*Requirements for insulating rubber gloves are covered in the Energized Electrical Work Procedure

Leather, Canvas or Metal Mesh Gloves
Gloves made from metal mesh, leather or canvas provide protection against cuts burns and sustained heat.

Fabric and Coated Fabric Gloves
Fabric and coated fabric gloves protect against dirt, slivers, chafing and abrasions. Note: These gloves do not provide sufficient protection for use with rough, sharp or heavy materials.

Coated fabric gloves strengthen fabric to protect from rough edges, provide slip-resistance qualities and delay absorption of some liquids. These can be used for tasks a wide range of tasks.

Chemical- and Liquid-Resistant Gloves
Chemical-resistant gloves are made with different kinds of rubber: natural, butyl, neoprene, nitrile and fluorocarbon (viton); or various kinds of plastic: polyvinyl chloride (PVC), polyvinyl alcohol and polyethylene.

Always check the manufacturers recommended use when selecting gloves to protect against chemical exposure to determine the gloves' effectiveness against specific workplace chemicals and conditions.

Training

Supervisors shall ensure that all workers receive adequate instruction in the use and care of all applicable PPE. This instruction shall be reviewed at least annually, or sooner should be issues or concerns be raised.

References

Occupational Health and Safety Act, R.S.O. 1990, c. O.1
R.R.O. 1990, Reg. 851: INDUSTRIAL ESTABLISHMENTS
OSHA Standard 1910.132 General Requirements
CSA Z96.1-15 Selection, use and care of High Visibility Safety Apparel
CSA Z94.3.1-16 - Guideline for selection, use, and care of eye and face protectors
CSA Z94.2-14 - Hearing protection devices - Performance, selection, care, and use
CSA Z94.1-15 - Industrial protective headwear - Performance, selection, care, and use
CSA Z195-14 – Protective Footwear

Revision History

Document Owner	Issue / Revised Date	Reason For Changes
Health & Safety	September 1, 2018	Initial draft

Appendix A – Selection of Eye and Face Protection

(Taken from **CSA Z94.3.1-16 - Guideline for selection, use, and care of eye and face protectors)**

Hazard Groups	Nature of Hazard	Hazardous activities involving but not limited to	Spectacles Class 1		Goggles Class 2			Welding helmet Class 3	Welding hand shield Class 4	Face shields Class 6			Non-rigid hoods Class 5			
			A	B	A	B	C			A	B	C	A	B	C	D
A	Flying objects	Chipping, scaling, stonework, drilling, grinding, budding, polishing; hammer mills, crushing; heavy sawing, planning; wire and strip handling; hammering, unpacking, nailing; punch press, lathework														
B	Flying particles, dust, wing, 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														

Hazard Groups	Nature of Hazard	Hazardous activities involving but not limited to	Spectacles Class 1		Goggles Class 2			Welding helmet Class 3	Welding hand shield Class 4	Face shields Class 6			Non-rigid hoods Class 5			
			A	B	A	B	C			A	B	C	A	B	C	D
C	Heat, sparks, and splash from molten materials	Babbiting, casting, pouring molten metal; brazing soldering; spot welding, stud welding; hot-dipping operations														
D	Acid splash, chemical burns	Acid and alkali handling; degreasing pickling, and plating operations; glass breakage; chemical spray, liquid bitumen handling														
E	Abrasive blasting materials	Sand blasting; shot blasting; shotcreting														
F	Glare, stray light (where slight reduction of visible radiation is required)	Reflection, bright sun, and lights; reflected welding flash; photographic copying														
G	Injurious optical radiation (where moderate reduction of optical radiation is required)	Torch cutting, welding, brazing, furnace work; metal pouring, spot welding, photographic copying														

(Continued)

Hazard Groups	Nature of Hazard	Hazardous activities involving but not limited to	Spectacles Class 1		Goggles Class 2			Welding helmet Class 3	Welding hand shield Class 4	Face shields Class 6			Non-rigid hoods Class 5			
			A	B	A	B	C			A	B	C	A	B	C	D
H	Injurious optical radiation (where large reduction of optical radiation is required)	Electric arc welding; heavy gas cutting; plasma spraying and cutting; inert gas shielded arc welding; atomic hydrogen welding														

Note: *Highlighted areas are recommendations for protectors. Class 1 and Class 2 protectors shall be used in conjunction with recommendations for Classes 3, 4, 5 and 6 protectors. The possibility of multiple and simultaneous exposure to a variety of hazards shall be considered in assessing the needed protection. Adequate protection against the highest level of each of the hazards should be provided. This table cannot encompass all of the various hazards that may be encountered. In each particular situation, thorough consideration should be given to the severity of all the hazards in selecting the appropriate protector or combination of protectors. The practice of wearing protective spectacles (Class 1B) with filter lenses under welding helmets or hand shields is strongly recommended, to ensure impact and flash protection for the wearer when the helmet or lift front is raised or the shield is not in use. Protectors that meet the requirements for ignition and flame resistance are not intended to provide protection in environments that expose the user to open flames or high-energy arcs.*

Examples of Class 1 – Spectacles
(See Clause 4.2.)

Class 1A
Spectacles with side protection

Class B
Spectacles with side radiation protection

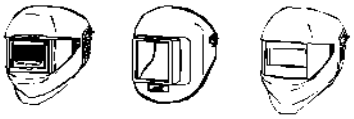
Examples of Class 2 – Goggles
(See Clause 4.3.)

Class 2A
Direct ventilated goggles

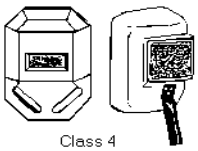
Class 2B
Indirect ventilated goggles

Class 2C
Direct/non-ventilated goggles with radiation protection

Examples of Class 3 and 4 – Welding Helmets and Hand Shields
(See Clauses 4.4 and 4.5.)



Class 3
Welding Helmets



Class 4
Welding Hand Shields

Figure 1
Examples of Eye and Face Protectors
(See Clauses 4.2-4.8.)

(Continued)

Examples of Class 5 – Non-rigid Helmets (Hoods)
(See Clause 4.6.)

Class 5A Non-rigid helmet (hood) with impact-resistant window
Class 5B Non-rigid helmet (hood) for dust, splash, and abrasive materials protection
Class 5C Non-rigid helmet (hood) with radiation protection
Class 5D Non-rigid helmet (hood) for high-heat applications

Examples of Class 6 – Face Shields
(See Clause 4.7.)

Class 6A Face shield for impact and splash protection
Class 6B Face shield for radiation protection
Class 6C Face shield for high-heat application

(Continued)

Figure 1 (Continued)

WELDING SHIELD SHADE CHART
GUIDE FOR SHADE NUMBERS

Operation	Electrode Size 1/32 in. (mm)	Arc Current (A)	Minimum Protective Shade	Suggested [1] Shade No. (Comfort)
Shielded metal arc welding	Less than 3 (2.5) 3-5 (2.5-4) 5-8 (4-6.4) More than 8 (6.4)	Less than 60 60-160 160-250 250-550	7 8 10 11	- 10 12 14
Gas metal arc welding and flux cored arc welding		Less than 60 60-160 160-250 250-500	7 10 10 10	- 11 12 14
Gas tungsten arc welding		Less than 50 50-150 150-500	8 8 10	10 12 14
Air carbon arc cutting	(Light) (Heavy)	Less than 500 500-1000	10 11	12 14
Plasma arc welding		Less than 20 20-100 100-400 400-800	6 8 10 11	6 to 8 10 12 14
Plasma arc cutting	(Light) [2] (Medium) [2] (Heavy) [2]	Less than 300 300-400 400-800	8 9 10	9 12 14
Torch brazing		-	-	3 or 4
Torch soldering		-	-	2
Carbon arc welding		-	-	14
	Plate thickness			
	in.	mm		
Gas welding Light Medium Heavy	 Under 1 1 to 2 Over 2	 Under 3.2 3.2 to 12.7 Over 12.7		 4 or 5 5 or 6 6 or 8
Oxygen cutting Light Medium Heavy	 Under 1 1 to 6 Over 6	 Under 25 25 to 150 Over 150		 3 or 4 4 or 5 5 or 6

(1) As a rule, start with a shade that is too dark to see the weld zone. Then go to a lighter shade that gives sufficient view of the weld zone without going below the minimum. In oxy-fuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.

(2) These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the work piece.

Appendix B – Selection of Foot Protection

(Taken from CSA Z195-14 – Protective Footwear)

Selection of Safety Footwear		
Marking	**Criteria**	**Intended Application**
	Green triangle indicates sole puncture protection with a Grade 1 protective toecap.	For heavy industrial work environments, especially that of construction where sharp objects (such as nails) are present.
	Yellow triangle indicates sole puncture protection with a Grade 2 protective toecap.	For light industrial work environments requiring puncture protection as well as toe protection.
	Blue rectangle indicates a Grade 1 protective toecap with no puncture-resistant sole.	For industrial work environments not requiring puncture protection.
	Grey rectangle indicates a Grade 2 protective toecap with no puncture-resistant sole.	For industrial and non-industrial work environments not requiring puncture protection.
	White rectangle with orange Greek letter omega indicates electric-shock protective footwear.	For industrial work environments where accidental contact with live electoral conductors can occur. **Warning:** Electrical shock resistance deteriorates with wear and in a wet environment.
	Yellow rectangle with black SD letters indicates static-dissipative footwear.	For industrial work environments where a static discharge can create a hazard for workers or equipment. **Warning:** This footwear should not be used where contact with live electrical conductors can occur.
	Yellow rectangle indicates sole puncture protection with a Grade 2 protective toecap. (super-static dissipative footwear)	For industrial work environments where a static discharge can create a hazard for workers or equipment. **Warning:** This footwear should not be used where contact with live electrical conductors can occur.
	Red rectangle with white C letter indicates electrically conductive footwear.	For industrial work environments where low-power electrical changes can create a hazard for workers or equipment. **Warning:** This footwear should not be used where contact with live electrical conductors can occur.
	Dark grey rectangle with M letter indicates metatarsal protection. **Note:** Toe protection is required for all metatarsal protective footwear.	For industrial work environments where heavy objects can hurt the metatarsal region of the foot.
	White label with green fir tree symbol footwear provides protection when using chainsaws.	For forestry workers and others who work with or around hand-held chainsaws and other cutting tools.

Appendix C – Selection of High-visibility Safety Apparel

(Taken from CSA Z96-15 Selection, use and care of High Visibility Safety Apparel)

Size/Coverage

- Large, bright garments are more visible than small ones. Coverage all around the body provides better visibility in all viewing directions.
- Stripes of colours that contrast with the background material to provide good visibility. Stripes on the arms and legs can provide visual clues about the motion of the person wearing the garment.
- When background material is bright-coloured or fluorescent material, it is intended to be highly visible, but is not intended to provide retroreflective performance.
- Other requirements such as flame resistance, thermal performance, water resistance, durability, comfort, tear-away features, material breathability and flexibility that are applicable to the job.

Employers should select the colour and stripe combination that provides the preferred contrast and visual indication of movement.

Fit

- For safety and best performance, garments should be fitted to the person. Don't forget to consider the bulk of clothing that might be worn underneath the garments, and how the garment should be worn (i.e., done up properly around the body with no loose or dangling components). The garments should sit correctly on the body and stay in place during the work.
- The apparel should be comfortable to wear - the parts of the apparel that come into direct contact with the worker should not be rough, have sharp edges, or projections that could cause excessive irritation or injuries. The apparel should also be lightweight.
- Garments should be selected and worn so that no other clothing or equipment covers the high-visibility materials (e.g., glove gauntlets, equipment belts, and high-cut boots).

Brightness

- Daylight - Bright colours are more visible than dull colours under daylight conditions (e.g. fluorescent materials are suitable for daylight).
- Low light conditions - Fluorescent colours are more effective than bright colours under low light (e.g. dawn and dusk). Under these conditions, reflective materials are also suggested.
- Dark conditions/worksites - Greater retroreflectivity provides greater visibility under low light conditions. Retroreflective materials provide high-visibility conditions and are preferred over bright colours. Fluorescent materials are ineffective at night and less visible than white fabrics.

Design

The High-visibility Safety Apparel (HVSA) should meet the following criteria for the stripes/bands:

a. A waist-level horizontal stripe/band that goes completely around the HVSA.

b. Two vertical stripes on the front passing over the shoulders and down to the waist.
c. A symmetric "X" on the back extending from the shoulders to the waist.
d. For Class 3 apparel, stripes/bands encircling both arms and both legs are added.

Colour
For all classes, the CSA Z96-15 High-Visibility Safety Apparel Standard specifies both the colour of the background and the stripes/bands. Class 1 (e.g., harness style) must have a minimum of 0.14 metres squared of background material. **Background material should be one of fluorescent yellow-green, fluorescent orange-red or fluorescent red; or one of bright yellow-green, or bright orange-red.**

Care/Maintenance
- Keep high-visibility apparel clean and well-maintained. Contaminated or dirty retroreflective materials provide lower visibility.
- Replace garments that show signs of wear and tear, soiling, or contamination as it will no longer be able to provide acceptable levels of visibility.

CSA lists three classes of garments based on body coverage provided. Each class covers the torso (waist to neck) and/or limbs according to the minimum body coverage areas specified for each class.

- **Class 1** provides the lowest recognized coverage and good visibility.
- **Class 2** provides moderate body coverage and superior visibility.
- **Class 3** provides the greatest body coverage and visibility under poor light conditions and at great distance.

Details for each of the classes are listed below. For more details on the exact specifications, please refer to the Standard.

Low Risk: Class 2, Class 1 under certain conditions

Examples of situations that could be considered lower risk:
- Workers in activities that permit full and undivided attention to approaching traffic.
- When there is ample separation between the worker on foot and the traffic.
- When work backgrounds are not complex, allowing for optimal visibility.
- When vehicles are moving slowly (e.g., less than 40 km/h (25 mph).
- When workers are doing tasks that divert attention from approaching traffic.

Examples of jobs include:
- Workers directing vehicle operators to parking or service locations.
- Workers in warehouse operations.
- "Right-of-Way" or sidewalk maintenance workers.

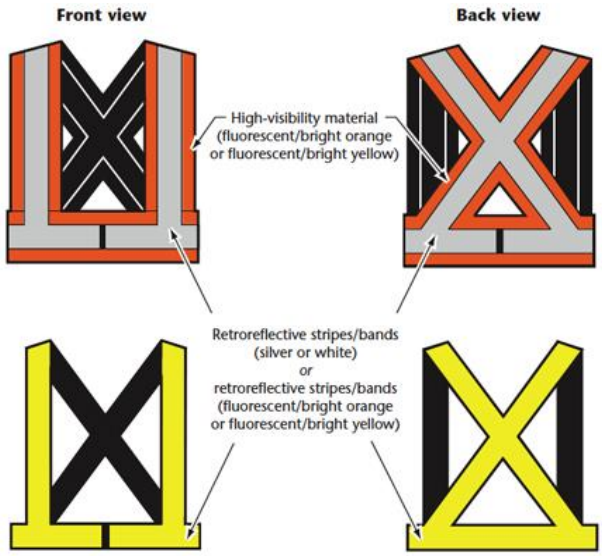


Figure 1
Example of Class 1 Apparel
Harness or Colour/Retroreflective Stripes on Other Clothing

NOTE: Other options are possible, including a shirt made of non-high-visibility material, but with high-visibility or retroreflective stripes/bands.

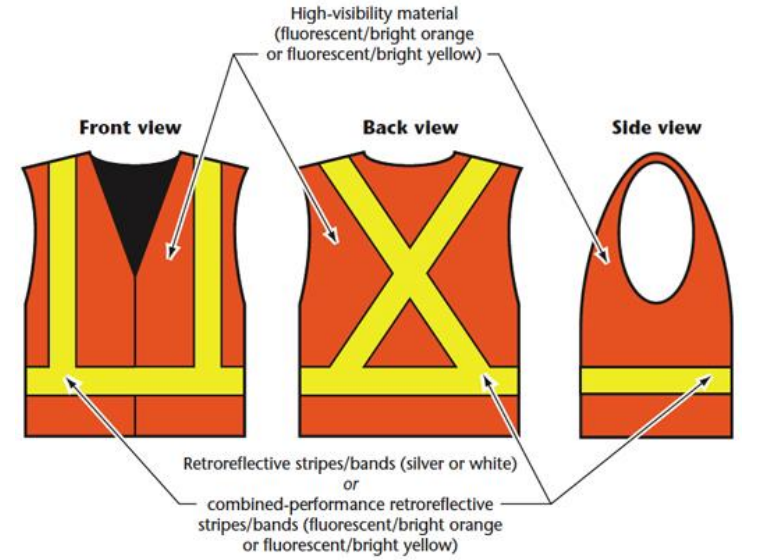
Medium Risk: Class 2 or 3 based on certain conditions

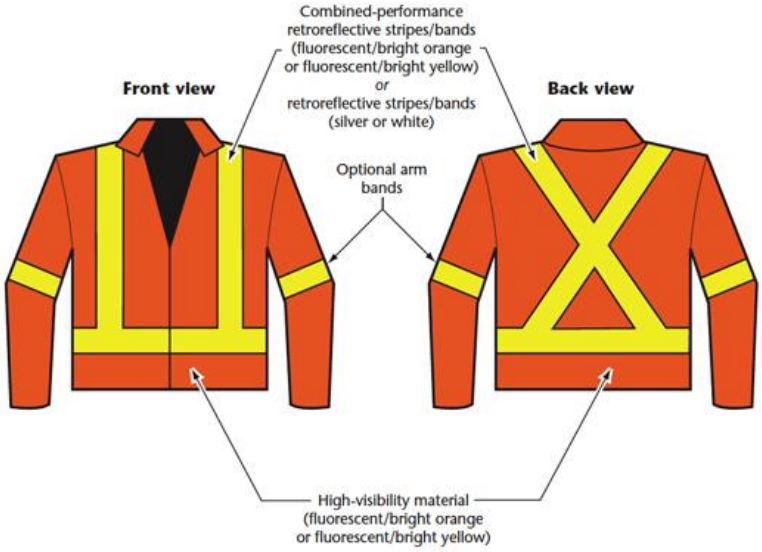
Examples of situations that may be of medium risk:

- When vehicles or equipment are moving between 40-80 km/h (25-50 mph).
- Workers who require greater visibility under inclement weather conditions or low light.
- When work backgrounds are complex.
- When workers are performing tasks that divert attention from approaching vehicle traffic.
- When work activities are in closer proximity to vehicles (in or near flowing vehicle traffic).

Examples of jobs include:

- Roadway construction, utility, forestry or railway workers.
- Utility workers.
- Survey crews.
- Forestry workers.
- School crossing guards.
- Parking and/or toll gate workers.
- Emergency response personnel.
- Members of law enforcement.
- Accident site investigators.





Bib overalls

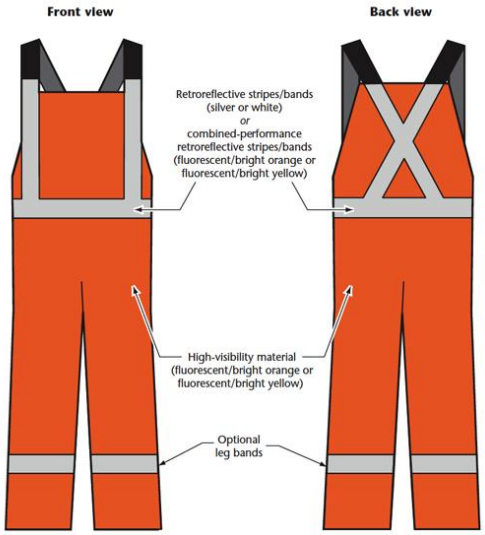


Figure 2
Examples of Class 2 Apparel
Vests, Jackets and Bib overalls

NOTE: These examples are not the only options available and are shown for example purposes.

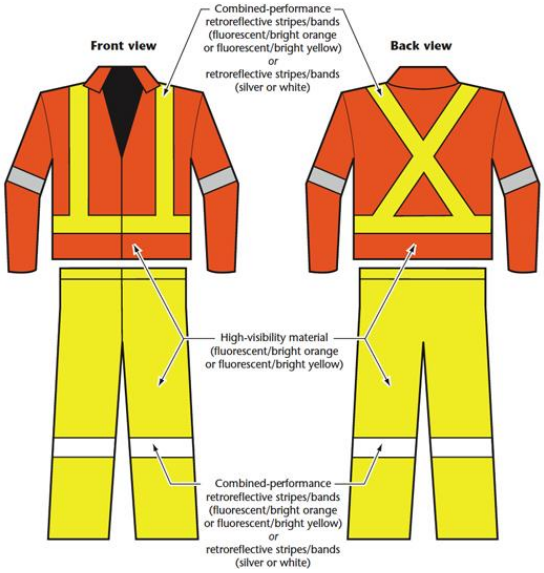
High Risk: Class 2 for daytime, Class 3 for low-light conditions

Examples of situations that may be high risk:

- Vehicle speeds exceeding 80 km/h (50 mph).
- Workers on foot and vehicle operators with high task loads that clearly place the worker in danger.
- When the wearer must be conspicuous through the full range of body motions at a minimum of 390 m (1,280 ft).
- Work activities taking place in low light or at nighttime.

Examples of jobs include:

- Roadway construction workers.
- Utility workers.
- Survey crews.
- Emergency responders.
- Road assistance/courtesy patrols.
- Flagging crews.
- Towing operators.



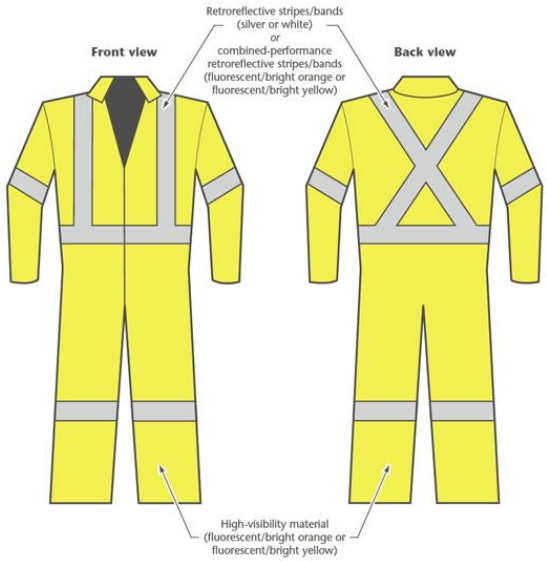


Figure 3
Examples of Class 3 Apparel
Jackets and Overalls

NOTE: These examples are not the only options available and are shown for example purposes.