4 Personal Protective Equipment (PPE) (OH&S PART 18)

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4.1 Personal Protective Equipment Policy

(OH&S CODE Part 2 Section 9 & Part 18)

It is Assurance Construction policy to provide and maintain safe and healthy working conditions and to follow operating practices that will safeguard all workers.

In keeping with this policy, Assurance requires that all workers use the proper personal protective equipment (PPE) required by the worksite indicated on the Field Level Hazard Assessment (FLHA) or signage and by the specific task/job Hazard Assessment & Anaylsis (HAA).

All workers, Management, Supervisors, Subtrades, and visitors will wear Canadian Standards Association (CSA) standard safety boots, long trousers, sleeved shirts, CSA or American National Standards Institute (ANSI) standard hard hats, and any other PPE required for the job site.

All PPE used by Assurance will meet the requirements of provincial occupational health and safety regulations. All PPE must comply with CSA or ANSI standards.

All PPE will be maintained in accordance with the manufacturer's instructions, specifications, and requirements. No PPE will be modified or changed contrary to the manufacturer's instructions, specifications, or requirements.

Workers are required to follow the rules concerning PPE at all times, without exception. Deliberately refusing to wear PPE or removing protective equipment, such as machine guards, will be considered an act of insubordination, and subject to corrective disciplinary action.

This policy establishes the requirements regarding the PPE necessary to insure that all workers are properly protected from specific hazards in the workplace.

Assurance considers deliberate safety violations that put workers or co-workers at risk very serious and penalties for such violations may include suspension or termination.

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Paul Wolff,

Senior Administrator

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4.2 Personal Protective Equipment

(OH&S Code Part 16 & Part 18)

Personal protective equipment (PPE) is intended to safeguard workers against a variety of hazards.

It must be available and used properly.

PPE is not intended to replace the need for other accident control measures such as machine guards, proper equipment maintenance, or safe working procedures.

The particular demands of the job may require additional PPE, as per provincial occupational health and safety regulations.

The worker must provide clothing, safety footwear, head protection, safety eyewear and gloves. Specialized PPE will be provided by the company.

If it is determined that wearing a piece of PPP is a hazard in itself then the equipment is not required to be used. (example, gloves while using drill press0

4.3 Head Protection

All safety headgear must meet approved CSA or ANSI standards.

Headgear can provide protection in situations where there is a danger of head injuries from impact, flying, falling of thrown objects, splashes from chemicals or harmful substances, or contact with energized objects and equipment or as per OH&S handbook or site specific instructions.

Workers exposed to electrical hazards must wear non-conductive safety headgear.

Most head protection is made of two parts:

- The shell (light and rigid to deflect a blow)
- The suspension (with a ratchet assembly to absorb and distribute the energy of a blow)

Both parts of the headgear must be compatible and maintained according to manufacturer's instructions. The service life of headgear is affected by many factors including temperature, chemicals, sunlight, and ultraviolet radiation (welding). Discard damaged head gear as it is defective equipment.

4.4 High Visibility Vests

A high visibility vest will be supplied, and it must be worn if specified in work site requirements or in a site-specific safety plan. Usually where there is mobile equipment and traffic.

4.5 Steel Toe Safety Footwear

Safety footwear is designed to protect against foot hazards in the workplace (compression, puncture injuries, impact, etc.) and must be worn at all times. Safety footwear is divided into three grades, indicated by coloured tags and symbols:

- **Tag colour**

The tag colour indicates the amount of resistance the toe of the footwear will supply to different weights dropped from different heights.

- **Tag symbol**

  The tag symbol indicates the strength of the sole of the footwear.

Only *the Green Triangle grade of footwear is approved for ASSURANCE CONSTRUCTION work sites.*

4.6 Eye Protection

Eye protection PPE is designed to protect eyes from flying objects, flying particles, molten metals, splashing liquids, infrared radiation, and ultraviolet radiation (welding).

A worker who meets **any** of the following criteria must wear properly fitting goggles, face shields, or other approved eye protection PPE:

- Handles a material likely to injure or irritate the eyes
- Is exposed to any material likely to injure or irritate the eyes
- Engages in any work in which there is a hazard of eye injury
- Has 20/200 vision in either eye
- Is blind in either eye

There are two types of eye and face protection:

- **Basic eye protection**

  Basic eye protection should conform to the requirements of CSA Z94.3 “Eye Protectors” and any other standards acceptable to the Board.

- **Face protection**

  Face protection includes metal mesh face shields for radiant heat or hot and humid conditions, chemical and impact resistant (plastic) face shields, and welder’s shields or helmets with specified covers, filter plates, and lenses.

When safety glasses are used, the following criteria must be met:

- All safety glasses must be CSA approved.
- Regular workers must not wear clip-on or cover-type glasses over prescription lenses in lieu of approved safety glasses
- Additional eye and face protection, such as face shields and goggles, must be worn during grinding and chipping

Prescription safety eyewear

Prescription safety eyewear must meet the requirements of CSA Standard CAN/CSA-Z94.3-92, Industrial Eye and Face Protectors.

Contact lenses

Contact lenses are not an acceptable substitute for proper eye protection. Workers should not wear contact lenses in the following situations:

- Gases, vapours, or other materials are present that, when absorbed by contact lenses, may harm the eyes
- Dusts or other materials are present that may harm the eyes or cause distraction that may expose the worker to other injury

***Warning**: Hard contact lenses may break into the eye when hit. Any kind of eyewear made of glass must be CSA approved or covered by eyewear that goes over those the worker would normally wear.*

4.7 Hearing Protection Program (Oh&S Code Part 16 & Schedule 3)

Hearing protection is designed to reduce the level of sound energy reaching the inner ear.

Any sound over 85dBA requires hearing protection when a worker exposed for 8 or more hours a day. (OH&S Code Schedule 3)

Use hearing protection when you cannot carry on a normal voice volume conversation with another person who is three (3) feet (.914m) away.

The most common types of hearing protection are earplugs and earmuffs. If you want to use the other types of hearing protection, contact the Supervisor.

Different styles of hearing protection must be available to allow workers a better chance of a good fit because one style may not fit everyone in a crew. A good fit is important for two reasons:

- If hearing protection does not fit properly or is painful to use, a worker might not use it
- If hearing protection does not fit properly, it will not supply the level of protection it was designed to deliver

***Note:** A worker shall not wear muff-type hearing protectors or headsets that have been designed or modified to accept AM or FM radio or other signals.*

A worker is responsible for wearing hair and personal apparel in a way that the muff-type hearing protection maintains an effective seal around the ears.

If, for some medical reason, an individual should not wear hearing protective devices, the employer, after being advised of this situation, can reassign the worker or contact the provincial authority with jurisdiction and follow the directions given.

For further information refer to CSA Standard "Hearing Protectors" (Z94.2 M1984).

Workers must receive a hearing test as/where required by provincial regulations. See *Section 4 of this manual, Hearing protection program* for additional information and requirements (OH&S Code Part 16, 223 (1).

Where workers are exposed to high levels of noise, ASSURANCE CONSTRUCTION will establish and maintain a Hearing protection program designed to minimize the effect of noise on workers. This program will include the monitoring and labeling of high noise areas.

Wherever possible, ASSURANCE CONSTRUCTION will control noise at its source.

In areas of high-level noise, ASSURANCE CONSTRUCTION will post warning signs and provide the necessary hearing protection to its workers.

ASSURANCE CONSTRUCTION workers must wear hearing protection in any area where the work in progress exceeds the following decibel levels:

Daily exposure (8 hour shift) 85 dBA Lex

Peak sound level (impact noise) 135 dBA

NOTE: «*At noise levels of 85 dBA a person cannot carry on a conversation in a normal tone with another person while standing 3 feet (.914m) from that person.*

ASSURANCE CONSTRUCTION makes classes "C" and "D" disposable earplugs available to all workers when their use is required. Where decibel levels exceed 105 dBA and cannot be effectively controlled, Class "A" earmuffs will be provided.

Where it is found that workers will be exposed to potentially harmful levels of noise, or when information indicates a worker may be exposed to noise above 85 dBA Lex, ASSURANCE CONSTRUCTION will measure the noise exposure and keep a record of the results.

The results of any noise measurements taken will be posted at the site office, and the areas involved will have signs posted warning of the hazard.

All hearing protection supplied will meet Canadian Standards Association

Standard Z94.2-94-Hearing Protectors.

For the hearing protection recommended at various noise levels, see *Table 1: Recommended hearing protection*.

For the noise exposure time allowed, see *Table 2: Noise exposure time allowed*.

Table 1: Recommended hearing protection

Recommended hearing protection	
Maximum equivalent noise level	**Recommended class of hearing protector**
Leq less than 85 dBA	No protection required
Leq up to 89 dBA	Class C
Leq up to 95 dBA	Class B
Leq up to 105 dBA	Class A
Leq up to 110 dBA	Class A plug and Class A or B muff
Leq more than 110 dBA	Class A plug and Class A or Class B muff and limited exposure
* Both plug and muff must be worn.	

Table 2: Noise exposure time allowed

Noise exposure time allowed	
Noise level	**Exposure allowed**

85 dBA	8 hours
88 dBA	4 hours
91 dBA	2 hours
94 dBA	1 hour
97 dBA	½ hour
100 dBA	15 minutes
103 dBA	7 minutes 30 seconds
106 dBA	3 minutes 45 seconds
109 dBA	1 minute 53 seconds

Hearing protection:

Class A — Ear muffs only

Class B — Some disposable earplugs and ear protectors (muffs)

Class C — Disposable earplugs

Any employee exposed to excessive noise will be provided with an audiometric test conducted by a qualified audiologist. (based on Code 223 (1)) See also *Section 10.2.5 of this manual.*

The outside professional hearing consultant will perform a number of tasks:

Evaluate all audiograms performed for all workers in the hearing protection program and provide recommendations as well as the necessary referrals and follow-ups

Provide a list of qualified local audiologists for referral purposes and for communication with in regard to specific problems

Provide worker assistance and evaluation through annual site visits

Worker Responsibility

Every worker must follow the requirements of the Hearing protection program. Workers are required to inform their Supervisors of changes that may impact the safety of the workplace or that may affect the noise levels.

4.8 Hand Protection

Where a risk of hand injury exists, all workers will wear the appropriate hand protection for the task to be undertaken. This specialized hand protection will be provided by the employer.

Suitable hand protection must be in the possession of workers at all times. Workers should be aware of the tasks they are to perform and ensure that they bring the appropriate gloves for the task.

If uncertain which type of protection to use, the worker should consult the safe work procedures, or ask the supervisor.

Choose hand personal protective equipment (PPE) that will protect against the job hazard.

PPE for the hands comes in many forms, each designed to protect against certain hazards, and includes finger guards, thimbles, hand pads, mitts, gloves, and barrier creams.

Gloves may have to protect against chemicals, scrapes, abrasions, heat and cold, punctures, and electrical shocks. The most commonly used gloves in the construction industry are made from leather, cotton, rubber, synthetic rubbers, other man-made materials, or combinations of materials. Vinyl coated gloves or leather gloves are good for providing protection while handling wood or metal objects. Gloves should fit well and be comfortable.

When selecting hand PPE, keep the following in mind:

- All hand protection selected and provided to workers must properly guard against the identified hazard
- All workers handling chemicals must wear appropriate hand protection, as recommended by the chemical manufacturer's Material Safety Data Sheet (MSDS)
- All workers working with glass, knives, or other sharp objects must wear gloves that guard against cuts
- All workers who provide first aid or emergency medical services or who may come in contact with body fluids must wear gloves that guard against the transmittal of blood-Bourne pathogens

4.9 Respiratory Protection

Every work site must evaluate its need for respiratory protection based on a hazard assessment.

The most common reasons for needing respiratory protection are the following:

1. Oxygen deficiency
2. Toxic airborne contaminants such as these:
    - **Gas**

      Any substance that is in gaseous state at room temperature (carbon monoxide, chlorine, etc.)
    - **Fume**

      Solid particulate of metallic origin generated by heat or chemical treatment of metals that is point one to one (.1 - 1) micron in size (welding fume)
    - **Vapour**

      Gaseous state of a substance that is normally a solid or liquid at standard room temperature (solvents or gasoline)
    - **Smoke**

      Solid particulate generated by heat or chemical that is point one to one (.1 – 1) micron in size (airborne toxins from plastics, etc.)
    - **Mist**

      Suspended droplets of an atomized mist (paint, etc.)
    - **Particulate**

Fine solid particulate, generated mechanically or by friction that is one to ten (1 – 10) microns in size (drywall dust, grain dust, etc.)

Oxygen deficient atmosphere

No one may enter any confined space until a proper air quality test has been performed, at which time the need for ventilation will be assessed.

Respiratory terms

The following respiratory terms are relevant to work site safety:

TLV (threshold limit value)

The permissible time-weighted concentrations of airborne substances that a worker may be exposed to based on an eight (8) hour workday.

TWA (time weighted average)

The average concentration of a toxic substance in air when continuously tested over a specific period of time.

PPM (parts per million)

Mg/m3 (milligrams per cubic meter) is presently the most common measurement of airborne particulate.

STEL (short term exposure limit)

The maximum contaminant concentration in air to which workers can be exposed for a period of up to 15 minutes continuously without suffering **any** of the following:

- Irritation
- Chronic or irreversible tissue damage
- Narcosis or impairment

HEPA (high efficiency particulate aerosol)

This is a special type of particulate filter.

IDLH (immediately dangerous to life and health)

A substance that is IDLH can cause health damage or death immediately.

Toxicity

Describes the quantitative ability of a chemical agent to cause injury, sickness, or other unwanted effects on a person.

Toxic materials can act on the body in three ways:

- Ingestion
- Inhalation
- Absorption

Respiratory equipment

Respiratory equipment will be provided whenever there is a contaminated atmosphere or an oxygen-poor atmosphere.

The proper type of respirator (filter type, air supplied, or self-contained) for the conditions must be determined by the Supervisor based on provincial occupational health and safety regulations.

Respiratory equipment will be selected in consultation with the Supervisor and/ Safety Officers and the worker(s) who will use the equipment.

Caution: *The respirator must be properly fitted to the worker and the seal must be tested.*

A qualified technician or an outside company must perform the respirator fit test. If there is doubt about a worker's ability to use a respirator due to medical factors, the worker must be examined by a physician who will advise ASSURANCE CONSTRUCTION about the workers' ability to wear the respirator.

Manufacturer's Specifications and Recommendations

The manufacturer's specifications and recommendations for any required personal protective equipment (PPE) must be reviewed and complied with in addition to any supplementary requirements enforced by ASSURANCE CONSTRUCTION policy and provincial health and safety regulations.