

Personal Protective Equipment (PPE)

ACTSAFE SAFETY BULLETIN #6

The purpose of this Safety Bulletin is to provide employers, supervisors, and workers of the performing arts and live events industry with information on selecting the appropriate Personal Protective Equipment (PPE) based on the hazard and in accordance with WorkSafeBC's OHS Regulation, Part 8: Personal Protective Clothing and Equipment.

The purpose of this safety bulletin is to provide general information on:

- Hierarchy of Controls
- Responsibilities and key actions
- Cleaning, sanitation and storage
- Inspection and maintenance
- Types and selection of commonly used PPE

This bulletin does not include or apply to:

- PPE and respiratory protection related to bloodborne pathogens or other hazardous substances
- Flame resistant clothing when working with flame or special effects, and pyrotechnics
- Fall protection and harnesses when working at heights
- Personal flotation devices when working above or in close proximity to water

HIERARCHY OF CONTROLS

When selecting PPE, it is important to systematically assess the hazard, the risk and the controls in place through the Hierarchy of Controls. Where reasonable, practicable and in accordance with WorkSafeBC's OHS Regulation, take a multi-layered approach to hazard control as part of an overarching PPE program. PPE should not be used before attempting to eliminate, substitute or effectively control the hazard.



For more information, see: <https://www.actsafe.ca/department/jhsc/hierarchy-controls-poster/>

Responsibilities of Employers, Supervisors and Workers

We all have responsibilities specific to PPE, these include but are not limited to:

- Each employer is responsible for assessing their workplace and tasks to determine reasonably foreseeable hazards and establishing the appropriate PPE requirements
- Supervisors are responsible for ensuring that workers under their supervision have the appropriate PPE, and that it is being used properly, regularly inspected and maintained
- Workers are responsible for using their PPE as instructed and wearing it properly

Other shared responsibilities

We all have responsibilities specific to PPE, these include but are not limited to:

- Consult JHSCs and Worker H&S Reps in determining type and style of PPE
- Communicate what, when and where PPE is required
- Wear PPE properly - Correctly donning and doffing matters
- Take care of PPE - keep it clean and sanitary, and store it properly
- Ensure PPE is inspected, tested and maintained

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TIP!

Consider size, gender and other factors when selecting PPE, see CSA research paper on Canadian Women and PPE in the workplace: <https://www.csagroup.org/article/research/canadian-womens-experiences-with-personal-protective-equipment-in-the-workplace/>

PERSONAL CLOTHING AND ACCESSORIES

- Clothing determined by the employer to be appropriate for the work being performed is required to be worn. Jewelry, loose sleeves, exposed shirt tails, neckties, lapels, loose cuffs or other loose clothing should not be worn around machinery and equipment in which it might become entangled. Long hair should be tied back when working around hazardous substances, and machinery or equipment with moving parts.
- Additional requirements for clothing exist for higher risk activities, including but not limited to, working with or around:
 - Electricity
 - Hot works (i.e. welding or cutting)
 - Pyrotechnics, open flames and other special effects
 - Construction activities (i.e. load-in/builds and load-out/strikes)
 - Chemicals and other hazardous substances (TIP! Check the Safety Data Sheet (SDS) for PPE requirements)

High Visibility Safety Apparel (HVSA or High Vis)

CSA approved HVSA has the colours, dimensions, chromaticity and luminance that are required around vehicles and mobile equipment to ensure workers are more easily seen by drivers and operators especially in environments with inadequate lighting.

Whether the HVSA is a jumpsuit, jacket, vest or harness will depend on many factors of the worker, environment, comfort and whether Class 1, 2 or 3 is required based on the risk. These classes are summarized below:

- 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

Foot Protection

Footwear must be of a design, construction, and material appropriate to the level of protection that allows the worker to safely perform work. This means assessing the potential for foot injuries that considers the risks associated with:

- slipping, tripping, uneven terrain
- abrasion, crushing, punctures
- falling objects
- temperature extremes
- corrosive and other hazardous substances
- electrical shock
- machinery or equipment
- any other reasonably foreseeable hazards

If safety protective footwear is required, it is important to consider the following:

- toe protection



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- ankle coverage and support
- metatarsal protection
- puncture resistant soles
- dielectric protection

Safety protective footwear must meet the requirements of CSA Z195 for Protective Footwear or other standards as prescribed in WorkSafeBC's OHS Regulation Part 8.22.

Hand Protection

Gloves (i.e. hand protection) can reduce the risk of cuts, burns, and other injuries. Generally, workers are responsible for providing their own gloves unless the employer identifies a hazard that requires additional hand protection. Exposures that require additional assessment to determine appropriate hand protection may include: physical hazards (i.e. sharp edges or crushing potential), extreme temperatures, radiation, electrical hazards and chemical or other hazardous substances.

When determining the requirements for hand protection, it is important to ensure that hand protection would not increase the risk of injury or entanglement in moving equipment or machinery. Gloves must be properly doffed (i.e. taken off) and disposed of to reduce risk of exposure to the worker and others.

Hearing Protection

Similar to all types of PPE it is important to consider the Hierarchy of Controls when assessing PPE requirements for a specific work activity, task or location, this is particularly helpful when related to noise. PPE (i.e. ear muffs or plugs) should be used together with eliminating or relocating the source of noise, implementing engineering controls (i.e. sound barriers or curtains) and administrative controls (i.e. Hearing Conservation Program which includes measurements, training, signage, hearing tests and other elements as required by WorkSafeBC's OHS Regulation, Part 7: Noise, Vibration, Radiation and Temperature.

Employers must ensure that a worker is not exposed to noise levels above the 85 dBA Lex daily noise exposure level, or the 140 dBC peak sound level. If noise levels in the workplace exceed these limits, the employer is required to implement a hearing conservation program including the requirement for hearing protection.

Employers should consult the JHSC and workers in determining the available styles and required Noise Reduction Ratings (NRR) of hearing protection available in the workplace. The different styles of hearing protections are:

- Ear plugs which are inserted in the ear canal, they may be premolded (preformed) or moldable (foam ear plugs)
- Ear muffs which consist of sound-attenuating material and soft ear cushions that fit around the ear and hard outer cups and are held together by a headband

It is important to ensure workers have been instructed in donning (i.e. putting on) hearing protection properly along with use, care and ensuring proper fit to ensure adequate protection against Noise Induced Hearing Loss (NIHL).

Safety Headgear

Safety headgear provides protection when there is a risk for head injury due to work above and the potential for falling objects or striking objects at head level such as moving objects or heavy machinery and equipment.

When safety headgear is required, it is important to ensure the right PPE for the job is selected in accordance with Worksafe BC regulation and meets the requirements of the CSA, ANSI or other prescribed standards.

Like other PPE, safety headgear can vary in style and protection factor which is an important reason to consult the manufacturers' instructions for safe use. The most common type of safety headgear is a hard hat. Hard hats are designed to:



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- Resist penetration by objects
- Absorb shock of a strike or blow
- Be water resistant and slow burning

Both the CSA Standard and ANSI Standard classify safety headgear into two types:

- Type 1 - protection from impact and penetration at the crown (top) only
- Type 2 - protection from impact, penetration at the crown (top) and laterally (sides and back)

It is also important to consider the following when selecting the appropriate type of safety headgear:

- Exposure to electrical hazards which requires safety headgear to have the appropriate non-conductive rating
- Chin straps or other means of retention are to be used at heights or where high winds or other conditions may cause loss of the headgear.

Damaged headgear or headgear with missing, mismatched, or modified components must be removed from service.

Eye and Face Protection

Wearing appropriate eye and face protection can protect against the risk of eye injuries from exposure to dust, chemicals and other hazardous substances, or the risk of impact with tools, equipment, projectiles or flying debris.

If required to wear eye or face protection, it is important to understand the difference between safety glasses, safety goggles and face shields.

- Safety glasses provide minimum protection and are for general working conditions where dust, chips, or flying particles may present a hazard. They are available in a variety of styles and provide side protection in the form of shields or wrap around arms
- Safety goggles provide increased protection against dust, particle impact, and chemical splash compared to safety glasses
- Face shields protect the full face from injury, and they offer the highest impact protection and shelter from spraying, chipping, grinding, chemicals and other hazards

When selecting adequate eye and face protection it is important to consider the hazard, potential exposure and meets the requirements of the CSA, ANSI or other prescribed standards.

Specialized forms of eye protection are required for certain types of work such as welding.



TIP!
Prescription glasses and/or contact lenses are NOT considered safety glasses or goggles.

REGULATORY REFERENCES

Key sections of the OHS Regulation related to PPE:			
8.1 to 8.9	Definitions and General Requirements	8.14 to 8.18	Eye and Face Protection
8.10	Personal Clothing and Accessories	8.22 to 8.23	Footwear
8.11 to 8.13	Safety Headgear	8.24 to 8.25	High Visibility Apparel

- WorkSafeBC's OHS Regulation, Part 8: Personal Protective Clothing and Equipment:
 - <https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation/part-08-personal-protective-clothing-and-equipment>
 - <https://www.worksafebc.com/en/health-safety/tools-machinery-equipment/personal-protective-equipment-ppe>



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- WorkSafeBC's OHS Regulation, Part 7: Noise, Vibration, Radiation and Temperature <https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation/part-07-noise-vibration-radiation-and-temperature>
- Safety protective footwear must meet the requirements of CSA Z195 for Protective Footwear or other standards as prescribed in WorkSafeBC's [OHS Regulation Part 8.22](#).
- When performing overhead work such as rigging, follow WorkSafeBC's [OHS Regulation Part 34.14](#) specific to safety headgear related to rope access

RELATED RESOURCES

- Additional resources to provide guidance on selecting the correct HVSA for the job: WorkSafeBC: <https://www.worksafebc.com/en/resources/health-safety/posters/stand-out-safely>
- Additional resources to provide guidance on selecting the correct safety headgear for the job: WorkSafeBC: <https://www.worksafebc.com/en/health-safety/tools-machinery-equipment/personal-protective-equipment-ppe/types/safety-headgear>
- For more information and guidance on selecting eye and face protection specific to the hazard type and degree, see: <https://www.worksafebc.com/en/health-safety/tools-machinery-equipment/personal-protective-equipment-ppe/types/eye-face-protection>

CCOHS Resources

- CCOHS: <https://www.ccohs.ca/oshanswers/prevention/ppe/protective-headwear.html>
- CCOHS: https://www.ccohs.ca/oshanswers/prevention/ppe/high_visibility.html
- For more information and the interpretation of safety footwear markings, see: <https://www.ccohs.ca/oshanswers/prevention/ppe/footwear.html>
- For more information and guidance on selecting glove and hand protection specific to the hazard type and degree, see: <https://www.ccohs.ca/oshanswers/prevention/ppe/gloves.html>
- For more information on the advantages and disadvantages related to the different styles of hearing protection, see: https://www.ccohs.ca/oshanswers/prevention/ppe/ear_prot.html

Actsafes Resources

For more information, see ActSafe's resource on properly inserting your ear plugs: <https://www.actsafe.ca/topic/hearing/properly-inserting-foam-earplugs-poster/>

Actsafes Safety Association

Actsafes (www.actsafe.ca) is a not-for-profit health and safety association supporting British Columbia's arts and entertainment industries. Actsafes provides resources and training to employers, workers, and supervisors. We are always here to provide information relevant to best practices around health and safety in the arts and entertainment industries in B.C.

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