

10 PERSONAL PROTECTIVE EQUIPMENT

INTRODUCTION

Personal protective equipment (PPE) is something all construction workers have in common.

PPE is designed to protect against safety and/or health hazards. Hard hats, safety glasses, and safety boots, for instance, are designed to prevent or reduce the severity of injury if an accident occurs.

Other PPE, such as hearing and respiratory protection, is designed to prevent illnesses and unwanted health effects.

It is important to remember that PPE only provides protection. It reduces the risk but does not eliminate the hazard.

This manual's chapters on particular kinds of PPE will enable users to

- assess hazards and select a suitable control method
- locate and interpret legislation related to PPE
- effectively use and maintain PPE.

Legal Requirements

While common to all trades, PPE varies according to individual, job, and site conditions.

Legal requirements for personal protective equipment also vary and the appropriate sections of the construction regulation (O. Reg. 213/91) under the *Occupational Health and Safety Act* should be consulted.

The *Occupational Health and Safety Act* makes employers and supervisors responsible for ensuring that required PPE is worn. This does not mean that the employer must provide PPE but only ensure that it is provided by someone.

Workers, meanwhile, have a duty under the Act to wear or use PPE required by the employer. This addresses situations where the regulations may not require PPE but the employer has set additional health and safety standards, such as mandatory eye protection.

The construction regulation (O. Reg. 213/91) broadly requires that such protective clothing, equipment, or devices be worn "as are necessary to protect the worker against the hazards to which the worker may be exposed." It also requires that the worker be trained in the use and care of this equipment.

Control Strategies

Personal protective equipment should be the last resort in defence. Better alternatives lie in engineering controls that eliminate as much of the risk as possible. Engineering controls fall into five categories:

- substitution
- alternative work methods
- isolation
- enclosure
- ventilation.

Substitution

This control substitutes a less toxic chemical that can do the same job. A common example is the substitution of calcium silicate or fibreglass insulation for asbestos insulation. Substitution is an effective control as long as the substitute is less hazardous.

Alternative Work Methods

This simply means doing the job in a way which is less hazardous. For example, brushing or rolling paint produces much lower vapour levels than spray painting. Similarly, wet removal of asbestos releases up to 100 times less dust than dry removal. The change should be checked to ensure that it is safer.

Isolation

Isolation isolates the worker from the hazard. In a quarry, for example, the operator of a crusher can be isolated from dust by a filtered, air-conditioned cab.

Enclosure

A substance or procedure may be enclosed to contain toxic emissions. It may be as simple as putting a lid on an open solvent tank or enclosing asbestos removal projects with polyethylene sheeting (Figure 1).

Enclosures have also been built around compressors to reduce the noise level. Enclosures must not restrict access when maintenance is required.

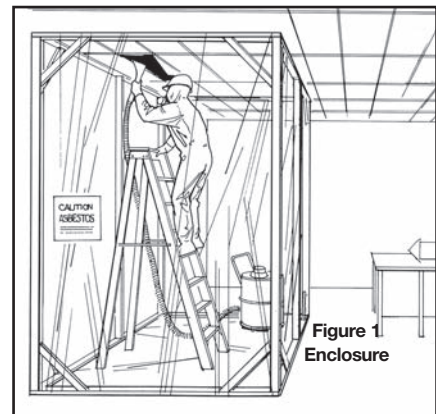


Figure 1
Enclosure

Ventilation

A common engineering control

is to dilute the contaminant in the air by using general ventilation. Local ventilation is better because it removes the contaminant. General ventilation may employ fans to move large volumes of air and increase air exchange. This is not suitable, however, for highly toxic materials.

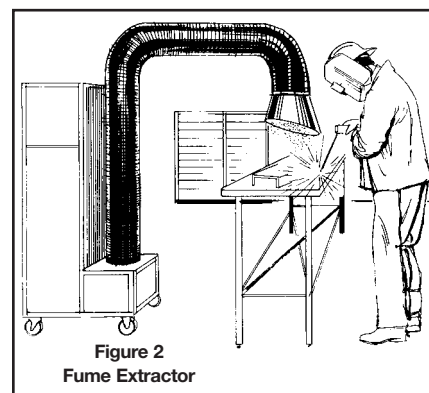


Figure 2
Fume Extractor

Local ventilation captures and removes contaminants at their source. At a shop bench, a fume hood can be constructed to remove dusts and fumes. On sites, portable fume extractors (Figure 2) can be used.

Remember: many filtering systems can only remove fumes—not gases or vapours.

Personal Protective Equipment

When it is not possible to apply any of the five engineering controls, personal protective equipment may be the last resort.

Regulations often refer to Canadian Standards Association (CSA) or other equipment standards as a convenient way to identify equipment which meets requirements and is acceptable. CSA-certified equipment can be identified by the CSA logo. For instance, there are CSA standards for



- Head Protection - CSAZ94.1M1992
- Eye Protection - CSAZ94.3-07
- Foot Protection - CSAZ195-M1992

For respiratory protection, National Institute for Occupational Safety and Health (NIOSH) standards and approvals are usually referenced throughout North America.

For life jackets, Transport Canada certification is the standard reference.

See the following chapters on particular kinds of PPE.