

Selecting Personal Protective Devices

It's important to know the rules for using PPE devices, as well as the circumstances where they may not protect workers effectively.

BY SIMON FRIDLYAND

Even when hazards cannot be engineered out of an operation or controlled by some method, workers exposed to these hazards must still be protected. Using personal protective equipment (PPE) can either prevent or reduce the severity of an injury should an accident occur. That's why personal protective equipment should always be worn when hazardous exposure or injury is possible.

But it can't be any PPE. Government regulations determine what qualifies for appropriate protection of workers. The following are some of the requirements for personal protective equipment.

Foot protection

What the legislation says: A worker exposed to the hazard of foot injury shall wear foot protection appropriate in the circumstances [R.R.O. 1990, Reg. 851, s. 82].

All protective footwear must conform to CSA Standard Z195-M92, Protective Footwear. Selection of the footwear is based on ratings for the hazard and the proper sole for the working conditions. Selection information can be found in Tables A and B.

Eye protection

What the legislation says: A worker exposed to eye injury shall wear eye protection appropriate in the circumstances [R.R.O.1990, Reg. 851, s. 81]. All frames and lenses used as protective equipment must be CSA approved according to the standard CAN/CSA-Z94.3-92, Industrial Eye and Face Protectors.

To select the proper eye and face protectors, follow the recommendations found at www.ccohs.ca.

Hearing protection

What the legislation says: Where a worker is exposed to a sound level of 90 decibels (dbA) or greater, measures shall be taken to reduce the sound level below 90 dbA [R.R.O.1990, Reg. 851, s. 139].

Sound level surveys shall be con-

ducted to identify potentially hazardous areas or job tasks which have the potential for overexposure. Such surveys must be conducted in accordance with CSA Standard Z107.56, Procedures for the Measurement of Occupational Noise Exposure.

Also, employees shall not be permitted to work in an area where the sound level exceeds 85 dbA unless hearing protection that reduces the exposure to a level below 85 dbA is worn. Warning signs must be posted in any permanent location where the sound level exceeds 85 dbA. Hearing protection devices and equipment shall meet CSA Standard Z94.2, Hearing Protectors.

Respirators

Respiratory hazards can include airborne contaminants such as dusts, mists, fumes and gases, or oxygen-deficient atmospheres. Well-designed and maintained engineering controls are the preferred methods of controlling worker exposure to hazardous contaminants in the air. These control methods include:

- mechanical ventilation
- enclosure or isolation of the process or work equipment
- proper control and use of process equipment, and
- process modifications, including substitution of less hazardous materials, where possible.

Administrative controls may be used in addition to engineering controls. Administrative controls limit workers' exposures by scheduling reduced work times in contaminant areas or by implementing other such work rules. These control measures have many limitations because the hazard is not removed.

Administrative controls are not generally favoured because they can be difficult to implement and maintain, and are not reliable.

Workers should use respirators for protection from contaminants in the air only if other hazard control methods are not practical or possible under the cir-

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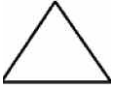
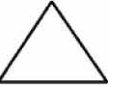


Table A		
 <p>Grade I will withstand 125 joules, or 93 ft. lbs.; a 50 lb weight dropped from a height of 22 in.</p>	 <p>Grade II will withstand 90 joules, or 65 ft. lbs.; a 50 lb. weight dropped from a height of 16 in.</p>	 <p>Grade III will withstand 60 joules, or 45 ft. lbs.; a 50 lb. weight dropped from a height of 10.5 in.</p>
		
<p>Electric Shock Resistant Footwear carries this CSA marking tag. Footwear must withstand (under dry conditions) a test potential of 18 kV (18,000 volts), 60 Hz, for a period of one minute, without discharge to ground of more than one milliamperere (1 mA).</p> <p>*Use where there is danger of high voltage</p>		<p>If the triangle is Green it is Grade I; Yellow it is Grade II; Red it is Grade III</p> <p>The triangle designates a puncture resistant sole able to withstand 135 kg. of pressure, (300 ft-lb) without being punctured by a 5 cm nail.</p> <p>** Use where there is danger of punctures.</p>

Table B: Selection Guide for Safety Footwear	
	
<p>Combined with:</p>  ** for punctures	<p>Combined with:</p>  ** for punctures
 * for high voltage	 * for high voltage
<ul style="list-style-type: none"> • Freight companies • Steel mills • Construction • Mining • Auto industries • Paper Mills • Lumbering 	<ul style="list-style-type: none"> • Warehousing • Machine shops • Auto industries • Aircraft Industries • Paint companies • Home appliance company • Fire Departments

cumstances. Respirators should not be the first choice for respiratory protection in workplaces. They should only be used:

- when engineering or administrative controls are not technically feasible
- while engineering controls are being installed or repaired
- when emergencies or other temporary situations arise (e.g., maintenance operations).

Workers with beards, long sideburns, or even a two-day stubble may not wear respirators because the hair breaks the seal between the skin and the respirator mask. Wearing eyeglasses would also break the respirator seal. This means that the respirator mask will leak and will not provide the needed respiratory protection.

Also, if a worker has facial scars or an acne problem, the facial skin may not be able to form a good seal with a respirator mask.

Even when you choose approved personal protection equipment, it's important to know the rules and conditions in which they apply to protect employees in all workplace circumstances. **MRO**

Simon Fridlyand, P.Eng., is president of S.A.F.E. Engineering, a Toronto-based company specializing in industrial health and safety issues and PSR compliance. He can be reached 416-447-9757 or simonf@safeengineering.ca. For more information, visit www.safeengineering.ca.