Black&McDonald

Safety Bulletin

Choosing the Right Personal Protective Equipment

Personal Protective Equipment (PPE) is equipment worn by a worker to minimize exposure to specific hazards. Examples of PPE include respirators, gloves, aprons, fall protection, as well as head, eye and foot protection. Using PPE is only one element in a complete hazard control program that would use a variety of strategies to maintain a safe and healthy work environment. PPE does not reduce the hazard itself nor does it guarantee permanent or total protection.

Hazards exist in every workplace so strategies to protect workers are essential. The priority should be to follow the 'hierarchy of control' including elimination, substitution, or engineering controls of hazards at their source or along the path between the source and the worker. Many methods are available, and those most appropriate to the specific situation should be used.

Controls are usually placed:

1. At the source (where the hazard comes from)
2. Along the path (where the hazard 'travels')
3. At the worker

Controlling a hazard at its source is the first choice because this method will eliminate it from the workplace altogether, or isolate it from the worker. This approach may require a substitution of a material with nonhazardous ones, isolation of hazards, ventilation, addition of safety features to existing equipment, redesign of work processes, or purchase of new equipment. Administrative controls such as work practices, education/training, and housekeeping are also ways to control hazards.

When the hazard cannot be removed or controlled adequately, personal protective equipment may be used.

PPE is considered as the last level of protection when all other methods are not available or possible.

How do you begin planning a protection strategy?

Before planning a protection strategy it's important to understand the underlying principles of protection strategies. The main elements that must be considered are:

- Protection of the workers
- Compliance with applicable laws/regulations/standards and guidelines
- Compliance with internal company requirements
- Technical feasibility

A good strategy considers the hazards, conducts a thorough risk assessment, evaluates all possible control methods, integrates various approaches and reexamines the controls frequently to make sure the hazard continues to be controlled.

PPE is used to reduce or minimize the exposure or contact to injurious physical, chemical, ergonomic, or biological agents. Remember, a hazard is not 'gone' when PPE is used, but the risk of injury may be

reduced. For example, wearing protective gloves will reduce the likelihood of a physical injury like a cut or a scrape when worn – but it does not eliminate the hazard of the sharp object.

PPE should only be used:

- As a short term measure before further controls are implemented
- Where other controls are not available or adequate
- During activities such as maintenance, clean up, and repair where pre-contact controls are not feasible or effective
- During emergency situations

What does the law say?

By law, workers must use the personal protective equipment in the workplace when it is required. Employer responsibilities include providing instruction on what PPE is needed, maintenance and cleaning of the PPE, and educating and training workers on the proper use of the PPE. In every jurisdiction, it is clear that the employer is responsible for making sure that these requirements are met.

What steps are involved in selecting the right PPE?

Once the need for PPE has been established, the next task is to select the proper type. Two criteria need to be determined:

- The degree of protection required, and
- The appropriateness of the equipment to the situation

The degree of protection and design of PPE must be integrated because both affect its overall efficiency, wearability and acceptance.

Below are some tips for an effective PPE program:

1. **Match PPE to the Hazard**
   There are no shortcuts on PPE selection. Choose the right PPE to match the hazard. On some jobs, the same task is performed throughout the entire job cycle, so it is easy to select the proper PPE. In other instances, workers may be exposed to multiple different hazards. In such instances, multiple PPE items are needed.

2. **Obtain Advice**
   Make decisions based on a thorough risk assessment, worker acceptance, and types of PPE available. Once you have determined the PPE needs, shop around. Discuss your needs with trained sales representatives and Regional HSE teams and ask for their recommendations. Always ask for alternatives and try out the PPE to test and see if it meets all the criteria.

3. **Involve Workers**
   It is extremely important to have the individual workers involved in the selection of specific models. This assistance in selection can be achieved by introducing approved models into the workplace for trials and pilot programs. These programs allow workers the opportunity to

evaluate various models. In this way, much information regarding fit, comfort, and worker acceptability will be gained. When choosing PPE, workers should select among two or three models, allowing for personal preferences. PPE should then be individually assigned.

4. **Consider Physical Comfort**
   If a PPE device is unnecessarily heavy or poorly fitted, it is unlikely that it will be worn. Note also that if a PPE device is unattractive or uncomfortable, or there is no ability for workers to choose among different models, compliance is likely to be poor. When several forms of PPE are worn together, interactions must be kept in mind (e.g., will wearing eye wear interfere with the seal provided by ear muffs?). Use every opportunity to provide flexibility in the choice of PPE as long as it meets required legislation and standards.

5. **Evaluate Cost**
   The cost of PPE is often a concern. Some programs will use disposable equipment (like respirators) because they appear to be inexpensive. However, when the use is evaluated overtime, it is possible that non-disposable pieces might be more economical. Engineering controls may prove to be an even more cost effective solution in the long term, and should be considered before PPE.

6. **Check the Fit**
   When the selection has been made, the ‘fitting’ component should be put in place. The key is to fit each worker with PPE on an individual basis. At the time of the fitting, show each worker how to wear and maintain the PPE properly.
   In some cases, individual fitting programs may need to be carried out by a qualified individual (e.g., respirator fit testing).

7. **Perform Regular Maintenance and Inspections**
   Without proper maintenance the effectiveness of PPE cannot be assured. Maintenance should include inspection, care, cleaning, repair, and proper storage.

   If carefully performed, inspections will identify damaged or malfunctioning PPE before it is used. PPE that is not performing up to manufacturers specifications will have lost their ability to withstand the hazard and should be discarded.

Remember, programs are often plagued by the idea that once a piece of equipment is put on, the worker is totally protected. This is a false sense of security. Basic safety principles, such as housekeeping, engineering controls and most importantly, thorough risk assessments, must not be ignored.

Contact the Regional HSE team to discuss PPE options and/or trial and fitting opportunities.