



PERSONAL PROTECTIVE EQUIPMENTS

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



Role of personal protective equipment (PPE)

Hazards exist in every workplace so strategies to protect workers are essential. The priority should be the elimination and control 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.

Controlling a hazard at its source should be the first choice because this method will

eliminate it from the workplace altogether or isolate it from the worker. This "safe place" approach may require substitution of a material with nonhazardous ones, isolation of hazards, addition of safety features to existing equipment, redesign of the work processes, or purchase of new equipment. When the hazard **cannot be removed or controlled adequately**, Personal Protective Equipment (PPE) must be used if the work process is to continue.

Steps are involved in the selection of 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 (including the practicality of its being used and kept in good repair).

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

The following are guidelines for selection:

a) Match PPE to the hazard

There are no shortcuts to 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 proper PPE. In other instances, workers may be exposed to two or more different hazards. A welder may require protection against welding gases, harmful light rays, molten metal and flying chips. In such instances, multiple

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protection is needed: a welding helmet, welders goggles and the appropriate respirator, or an air-supplied welding hood.

b) Obtain advice



Make decisions based on thorough hazard evaluation, worker acceptance, and types of PPE available. Once you have determined your PPE needs, shop around. Discuss your basic needs with trained sales representatives then ask for their recommendations. Always ask for alternatives and check into product claims and test data. Try out PPE and test it to see that products meet all of your criteria before it is approved.

c) Involve workers in evaluations

It is extremely important to have the individual worker involved in the selection of specific models. This assistance in selection can be achieved by introducing approved models into the workplace for trials in which workers have 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 be individually assigned.

d) Consider physical comfort of PPE (ergonomics)

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 allowance for workers to choose among models, compliance is likely to be poor. When several forms of PPE are worn together, interactions must be borne in mind. Use every opportunity to provide flexibility in the choice of PPE as long as it meets required standards.

e) Evaluate cost considerations

The cost of PPE is often a concern. Some programs use disposable respirators because they appear to be inexpensive. However when the use is evaluated over time, it is possible that a more substantial dual cartridge respirator would be more economical. Engineering controls might prove an even more cost effective solution in the long term and should be considered before PPE.

f) Review standards



Performance requirements of all standards must be reviewed to ensure that exposure to injury will be minimized or eliminated by using PPE. If PPE is exposed to hazards greater than those for which it is designed, it will not deliver adequate protection.

Shared By : Mr.Selvaraj, Mumbai

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