



**University of Vermont
Department of Physical Plant
Personal Protective Equipment Program**

REVISED AND DISTRIBUTED BY:
THE UNIVERSITY OF VERMONT
DEPARTMENT OF PHYSICAL PLANT
TRAINING AND COMPLIANCE OFFICE

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Personal Protective Equipment

Department of Physical Plant

Policy Statement

A. Purpose

The Personal Protective Equipment (PPE) Program has been developed to provide the University of Vermont Physical Plant with the necessary information to identify work situations that require the use of PPE, the proper selection and use of PPE, and documentation of this information.

Scope

University Physical Plant employees who currently utilize PPE or have the potential to encounter hazards to the eyes, face, head, feet, hands, or who conduct work involving electrical, as identified during the Hazard Assessment of the workplace, will be required to participate in this PPE Program. PPE will be selected and used to protect employees from the hazards and potential hazards that are likely to be encountered. Respiratory, fall protection and hearing protection are covered under separate programs.

PPE includes all clothing and work accessories designed to protect employees from workplace hazards. PPE should not be used as a substitute for engineering, work practices, and/or administrative controls to protect employees from workplace hazards. PPE should be used in conjunction with permanent protective measures, such as engineered guards, substitutions of less hazardous chemicals, and prudent work practices.

B. Training and Compliance Office (TCO)

TCO shall prepare a PPE hazard analysis list and annually review and revise the material to meet current OSHA regulations.

Hazard Assessment

A hazard assessment is a formalization of what is done whenever personal protective equipment is selected based on the hazards of the job. When conducting a hazard assessment, a task is investigated and the hazards and the potential hazards associated with the task are determined. This allows selection of personal protective equipment that will protect the employee from the identified hazards.

A hazard assessment may be conducted of a single employee, of a single task, or a group of employees if all the employees perform an identical task. For example, if all employees in a group are exposed to ultraviolet radiation during one type of welding, the hazard assessment could include all of the welders conducting that task.

During the hazard assessment of each task, inspect the layout of the workplace and look for the following hazardous sources:

- A. High or low temperature that could result in burns, eye injury, ignition of equipment, heat/cold stress, frostbite, lack of coordination, etc.
- B. Chemical exposures, including airborne or skin contact, that would have the potential for splash on the skin or eyes, or the potential to breathe vapors or mists.

- C. Harmful dust or particulates.
- D. Light radiation, e.g., welding, arc lamps, etc.
- E. Sources of falling objects, potential for dropping objects, or rolling objects that could cause crush or pinch the feet.
- F. Sharp objects that may pierce the feet or cut the hands.
- G. Observe the layout of the workplace and the location of co-workers for the potential for collision with other personnel or objects.
- H. Electrical hazards.
- I. Any other identified potential hazard.

Training

Prior to conducting work requiring the use of personal protective equipment, employees must be trained to know:

- When PPE is necessary;
- What type is necessary;
- How it is to be worn;
- What its limitations are; and,
- Proper care, maintenance, useful life, and disposal.

Upon completion of the training, the employee must be able to demonstrate the above mentioned information. Any type of training format can be used as long as a hands-on session is incorporated.

Whenever PPE is used, employee comfort should be considered. When PPE does not fit properly, employees will tend not to use it. Follow the manufacturer's recommendation for proper PPE usage.

PPE Selection Guidelines

General Conditions

Personal Protective Equipment (PPE) includes all clothing and work accessories designed to protect employees from workplace hazards. Protective equipment should not replace engineering, administrative, or procedural controls for safety. It should be used in conjunction with these controls. Employees must wear protective equipment as required and when instructed by a supervisor.

For each hazard identified, select personal protective equipment that will protect the employee by creating a barrier against workplace hazards. Consider the likelihood of an accident and the seriousness of a potential accident. Personal protective equipment must be selected to protect against any hazard that is likely to occur or has a serious injury impact if it does occur. It is important that employees become familiar with the potential hazards, the type of protective equipment that is available, and the level of protection that is provided by that equipment.

The personal protective equipment selected must fit the employee it is intended to protect. Make certain that employees have the correct size of protective equipment. Whenever possible, select adjustable personal protective equipment. Employee input in the selection process is critical. Employees will more likely wear personal protective equipment that fits properly and is comfortable. Damaged or defective protective equipment shall be immediately taken out of service to be repaired or replaced.

- **29 CFR 1910.133 – Eye and Face Protection.** Safety glasses, goggles, or face shields will be provided as appropriate to the identified hazard; side shields (either incorporated into the design or detachable) are required where there is a hazard from flying objects. Designated employees who wear prescription lenses will be provided either with eye protection that will fit over the lenses without disturbing their proper position or safe use, or prescription PPE that replaces the lenses for work use.

- **29 CFR 1910.135 – Head Protection.** Hard hats will be worn where there is a hazard from falling objects, overhead obstructions, or overhead electrical conductors.

- **29 CFR 1910.136 – Foot Protection.** Employees must wear protective (steel toe/shank, or STS) boots where there is a danger of falling or rolling objects, objects piercing the sole, or exposure to electrical hazards.

29 CFR 1910.137 – Electrical Protective Equipment. Including insulating blankets, matting, covers, line hose, gloves, and sleeves made of rubber or other insulating materials, shall be properly marked, proofed, inspected, and provided for use.

- **29 CFR 1910.138 – Hand Protection.** Gloves of appropriate type, size and materials shall be provided where there is a hazard from: skin absorption of hazardous substances; severe cuts, lacerations, abrasions, or punctures; chemical or thermal burns; or harmful temperature extremes.

Additional information and requirements may also be obtained from:

- MSDS for chemicals; and Product descriptions.

Inspection and Maintenance

PPE and their components will be inspected regularly by the employee and/or their Supervisor, and disposed, repaired, or replaced according to manufacturer's specifications. Non-disposable PPE will be cleaned and maintained by the employee to whom it was issued or last used it, as needed.

Appendix A

Filter Lenses for Protection against Radiant Energy

Operations	Electrode Size 1/32 in.	Arc Current	Minimum (*) Protective Shade
Shielded metal			
arc welding	Less than 3	Less than 60 ...	7
	3-5	60-160	8
	5-8	160-250	10
	More than 8	250-550	11
Gas metal arc welding and flux cored			
arc welding		less than 60 ...	7
		60-160	10
		160-250	10
		250-500	10
Gas Tungsten			
arc welding		less than 50 ...	8
		50-150	8
		150-500	10
Air carbon	(Light)	less than 500 ..	10
Arc cutting	(Heavy)	500-1000	11
Plasma arc welding		less than 20 ...	6
		20-100	8
		100-400	10
		400-800	11
Plasma arc	(light) (**)	less than 300 ..	8
cutting	(medium) (**)	300-400	9
	(heavy) (**)	400-800	10
Torch brazing		3
Torch soldering		2
Carbon arc welding		14

Filter Lenses for Protection against Radiant Energy

Operations	Plate thickness-inches	Plate thickness-mm	Minimum (*) Protective Shade
Gas Welding:			
Light	Under 1/8	Under 3.2	4
Medium	1/8 to 1/2	3.2 to 12.7	5

Heavy	Over 1/2	Over 12.7	6
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Oxygen cutting:

Light	Under 1	Under 25	3
Medium	1 to 6	25 to 150	4
Heavy	Over 6	Over 150	5