

VI. Personal Protection Program

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- b. Visitors to hazardous areas shall be provided protective eyewear meeting ANSI Z87.1 protection factors for visitor's eyewear.
- c. Selection chart for eye and face protectors:

This selection chart offers general recommendations only. Final selection of eye and face protective devices is the responsibility of management and safety specialists. (For laser protection, refer to American National Standard for Safe Use of Lasers, ANSI Z136.1-1976.)

Selection Chart for Eye and Face Protectors For Use In Industry, Schools, And Colleges

1. Goggles—Flexible fitting, regular ventilation.
 2. Goggles—Flexible fitting, hooded ventilation.
 3. Goggles—Cushioned fitting, rigid body.
 4. Spectacles*—Without side shields.
 5. Spectacles—Eyecup type side shields.
 6. Spectacles—Semi-/Flat-fold side shields.
 7. Welding Goggles—Eyecup type, tinted lenses (illustrated).
 - 7A. Chipping Goggles—Eyecup type, clear safety lenses (not illustrated).
 8. Welding Goggles—Cover spec type, tinted lenses (illustrated).
 - 8A. Chipping Goggles—Cover spec type, clear safety lenses (not illustrated).
 9. Welding Goggles—Cover spec type, tinted plate lens.
 10. Face Shield—Plastic or mesh window (see caution note).
 11. Welding Helmet*
- *Non-side shield spectacles are available for limited hazard use requiring only frontal protection.

Operation

Hazards

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Grinding-Light	Flying particles	1,3,5,6 (for severe exposure, add 10)
Grinding-Heavy	Flying particles	1,3,7A,8A (for severe exposure, add 10)
Laboratory	Chemical splash, glass breakage	2 (10 when in combination with 5,6)
Machining	Flying particles	1,3,5,6 (for severe exposure, add 10)
Molten Metals	Heat, glare, sparks,	7,8 (10 in combination with 5,6, in tinted lenses)
Spot Welding	Flying particles	1,3,4,5,6 (tinted sparks lenses advisable; for severe exposure add 10)

Caution:

- * Face shields alone do not provide adequate protection.
- * Plastic lenses are advised for protection against molten metal splash.
- * Contact lenses, of themselves, do not provide eye protection in the industrial sense and shall not be worn in a hazardous environment without appropriate covering safety eyewear.

5. Inspection And Maintenance

All eye and face protection shall be kept clean and inspected daily before each use. Badly scratched or damaged items are to be replaced immediately.

6. Other

It is recommended that all employees required to wear eye and face protection shall have their own and be required to inspect and maintain them in accordance with this section.

B. Hearing Protection

1. Employees/Students Covered

Hearing protection shall be worn by employees/students when noise exposure is above that of the 90dB when measured on the A-scale of the standard sound level meter at slow response. An employees/students may also be required to wear hearing protection if hearing loss is demonstrated during audiometric testing. Audiometric testing is required at 85dBA of noise exposure and the employees/students is placed in the hearing conservation program.

2. Approval and Selection

- a. Personal hearing protection devices shall meet ANSI 53.19.
- b. Selection of hearing protection shall take into consideration durability, ease of fit, noise calculations in area, and length of time to be worn.
- c. There are many types of disposable and permanent hearing protection. Listed below are three:
 - i. *Earmuffs*: fluid or foam-filled cushions connected by a plastic or metal band that fits over the head. They reduce noise levels by 35-40dB depending on type and fit. In order for them to be effective, a perfect seal must be formed. Glasses, long side burns, and facial movements can reduce protection.

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- ii. *Ear Plugs*: the most commonly used ear protection device. They come in many different shapes, sizes, and materials. Ear plugs can be purchased as disposables, preformed, or molded (professionally fitted). They reduce noise levels by 25-30dB depending on type and fit. Cotton is ineffective as ear plugs.
- iii. *Ear Caps*: a cross between ear muffs and ear plugs—ear plugs connected to a plastic (usually) band which can be worn under the chin, over the top of the head, or behind the neck. They reduce noise levels by 25-35dB depending on type and fit.

NOTE: Combinations of ear plugs and ear muffs can reduce noise level by an additional 3-5dB depending on type and fit.

3. Fitting

Preformed ear plugs have to be professionally fitted. All others are fitted according to need in accordance with LSU's hearing conservation and evaluation program.

4. Inspection and Maintenance

All ear protection, if not disposable, shall be inspected and cleaned before each use. All damaged ear protection shall be discarded and replaced. No unauthorized modifications shall be allowed.

5. Other

Noise measurements shall be performed by the Office of Occupational and Environmental Safety personnel. Noise studies shall be authorized by the Office of Occupational and Environmental Safety.

C. Hand Protection

1. Employees/Students Covered

Hand protection shall be worn by employees when handling hot work, chemicals, electrical, material handling of rough and/or sharp items, doing landscaping work, welding, and "wherever it is necessary by reason of hazards of processes of environmental, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment." (OSHA 1910 Standards)

Hand protection shall not be worn while working on moving machinery such as drill saws, grinders, or other rotating and moving equipment that might catch the hand protection and

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Gloves shall be selected to fit comfortably and snugly.

4. Inspection and Maintenance

All hand protection shall be kept clean and inspected daily before each use. Badly worn or damaged items are to be replaced.

5. Glove Materials

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iv. Impregnated Wovens and Jerseys

- 1) *Newtex* Woven cloth for strength. Coating for abrasion resistance.
- 2) *PVC Dotted Canton and Jersey*. The original coated glove. Cool, comfortable cotton, permanently “dotted” for longer wear and better grip.

v. Uncoated Knit Fabrics Machine Knit (string glove). 100% cotton. They are cool, comfortable, and the lowest-priced glove on the market.

vi. General Purpose: Leather

- 1) *Side Split Leather* Superior combination of strength, thickness and suppleness in split cowhide leather. A minimum of flaws, scars, and weaknesses, provides longer wear and comfort.
- 2) *Shoulder Split Leather* Provides cushioning and abrasion resistance in a more economical grade of leather.
- 3) *Grain Leather* Better flexibility, finger dexterity and fit than split leather. Generally, more comfortable, but less durable than split leather.

D. Respiratory Protection Program

1. General Program Requirements

See Industrial Hygiene Section and appendix for details of the program.

2. Rules for Respirator Program

- a. If a respirator is required by an OSHA standard or due to overexposure to a contaminant in the workplace, all of the requirements of the respirator program must be met, including medical evaluation, fit testing, maintenance, and program management.
- b.

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- ii. Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Type 1–Grade D breathing air; and
 - iii. The moisture content in the cylinder does not exceed a dew point of 50 °F (15.6 °C) at 1 atmosphere pressure.
- c. Do not use oil-lubricated compressors.
- d. Breathing gas containers marked in accordance with the NIOSH respirator certification standard, 42 CFR part 84, shall be used.

6. Identification of Filters, Cartridges, And Canisters

All filters, cartridges and canisters used in the workplace shall be labeled and color coded with the NIOSH approval label and that the label is not removed and remains legible.

7. Training and Information

Effective training must be provided to employees who are required to use respirators. The training must be comprehensive, understandable, and recur annually, and more often if necessary. Employees who wear respirators when not required by this section or by the employer to do so must be provided the basic information on respirators in Appendix D of the attachment. Consult the appendix for training procedures.

E. Fall Protection

1. Employees/Students Covered

Fall protection shall be utilized by those employees/students for the specific purpose of securing, suspending, or retrieving the employee/student in or from a hazardous work area,

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Note: After an accidental freefall, the safety belt and lanyard shall be discarded.

5. Classification of Safety Belts and Harnesses

Class I: Body belt (work belts), used to restrain a person in a hazardous work position and to reduce the probability of falls and to avert falls from bucket trucks.

Class II: Chest harness, used where there are only limited fall hazards (no vertical free-fall hazard) and for retrieval purposes, such as removal of a person from a tank, bin, or other enclosed place.

Class III: Bod

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b. Conductive Shoes: Reduces the possibility of generating a spark.

Usage: Areas where fire and explosive hazards exist.

c. Foundry Shoes: Contains no fasteners and is easily removed.

Usage: Areas where exposure to splashes of molten metal is likely.

d. Explosive Operation Shoes: A shoe with non-conductive and grounding properties.

Usage: Areas where explosive compounds are present when cleaning tanks with volatile hydrocarbons.

e. Electrical Hazard Shoes: A shoe which minimizes the hazard of conducting electricity (no metal in shoes).

Usage: Areas where electrical hazards exist.

3. Inspection and Maintenance

All foot protection shall be kept reasonably clean and in good repair. Shoes shall be repaired or replaced periodically.

G. Head Protection

1. Employees/Students Covered

Employees/students in areas such as visiting construction sites, tree trimmers, and any work where a potential for head hazard may exist.

2. Approval and Selection

Head protection used shall bear the ANSI Z89.1 or Z89.2 approval, manufacturer's name, and ANSI class designation (A, B, C, or D). Employees shall only be allowed to purchase or receive them through an authorized department representative to insure compliance. Refer to the attached "Selection Chart for Head Protection for University Employees" to determine appropriate head protection.

3. Fitting

Each employee shall be individually fitted. The hard hat shall fit firmly but comfortably on the employee's head.

4. Inspection and Maintenance

- a. **Painting:** If the hard hat is to be painted, the manufacturer shall be contacted to see if the paint will affect the properties of the hat.
- b. **Cleaning:** Hard hats shall be washed every thirty days. If worn by more than one employee, it shall be washed daily.
- c. **Inspection:** Before each wearing of the hard hat, it shall be checked for wear and damages, especially the suspension system.

2. Approval and Selection

There are many different standards for approval of protective clothing (ANSI, ASTM, etc.). Protective clothing shall be selected for specified hazard, degree of protection, comfort, and ease of use.

Once the specific or multi-hazards have been identified, contact a reputable vendor or Occupational and Environmental Safety personnel for recommendation of proper protective clothing and/or equipment needed.

3. Fitting

Protective clothing shall fit the wearer comfortably and shall not be too loose or baggy.

4. Inspection and Maintenance

Protective clothing shall be routinely cleaned unless disposable. Disposable clothing shall be disposed of after use. Damaged, torn, ripped, etc., clothing shall be replaced before use.

5. Preventive Clothing

Employees in occupations which expose them to arcs, flames, and explosions shall wear clothes which will not melt, drip, or burn in the presence of one of these hazards. Heavy cotton or flame resistant fabrics shall be worn.

I. Emergency Showers and Eye Wash Stations

Since it has been conclusively proven that immediate washing of the skin and eye with a generous amount of water is the most effective first aid treatment for chemical burns, all chemistry laboratories and areas where faculty, staff, students, or visitors are exposed to harmful chemicals shall be provided with safety showers and eyewash fountains. These facilities shall be conveniently located and tested frequently, readily available, operable, and known to persons concerned.

The valve handle of safety showers and eyewash fountains shall be rigidly fixed and plainly labeled. The valve shall open readily in either direction and remain open until intentionally closed. Water flow pressure shall be sufficient to drench the subject rapidly or gently flow in the case of eyewash fountains. The shower and eyewash fountain area shall be kept clear of obstructions. Water of drinking purity only shall be used in safety showers and eyewash fountains. The showers and eyewash stations shall be in the immediate vicinity. Eyewash stations should be located close to the safety shower so that the eyes can be washed while the body is showered if necessary.

Emergency eyewash fountains shall deliver a gentle flow of clean, aerated water. A hand-held eyewash spray with a five-foot hose is more adaptable to unusual situations including head and body splashes, but shall not be located where it can be contaminated by waste materials. It shall be understood by all that eye protection is infinitely more important than eye washes.

