



Lead > Secondary Lead Smelter eTool

OSHA Lead Requirements for PPE, Housekeeping, and Hygiene Facilities

The OSHA Lead Standard addresses specific requirements for the following:

- [Protective Clothing and Equipment](#)
- [Housekeeping](#)
- [Hygiene Facilities](#)



Locker Room

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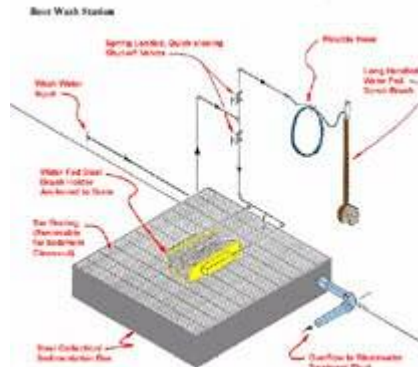


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OSHA Lead Requirements for PPE, Housekeeping, and Hygiene Facilities > Protective Work Clothing and Equipment

Appropriate personal protective equipment and clothing limits lead exposure. OSHA requires the following for:

- [Clothing and Equipment](#)



Click for larger view of boot wash station diagram

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Clothing and Equipment

- The following protective clothing and equipment must always be used when lead levels are above the PEL: **(Fig. 1)** [1910.1025(g)(1)]
 - Coveralls or similar full-body work clothing; [1910.1025(g)(1)(i)]
 - Gloves, hats, and shoes or disposable shoe coverlets; and [1910.1025(g)(1)(ii)]
 - Face shields, vented goggles, and other appropriate protective equipment. [1910.1025(g)(1)(iii)]
- Clean and dry protective work clothing must be provided daily or weekly depending on exposure levels. [1910.1025(g)(2)(i)]
 - Cleaning, laundering, or disposal of protective clothing and equipment must be provided. [1910.1025(g)(2)(ii)]
- Protective clothing and



Fig. 1. Appropriate PPE

equipment must be repaired or replaced as needed to maintain its safety and effectiveness. [1910.1025(g)(2)(iii)]

- All protective clothing must be removed at the end of a work shift in change rooms provided for that purpose. [1910.1025(g)(2)(iv)]



Fig. 2. Vacuum to remove lead from protective clothing

- Contaminated protective clothing, which is to be cleaned, laundered, or disposed of, must be placed in a closed, labeled container in the changing area. [1910.1025(g)(2)(v)]

▶ [Boot Wash Station Diagram](#)

▶ [Shoe Cleaning Machine](#)

▶ [Clothes Cleaning Air Shower Diagram](#)

- Persons who clean or launder protective clothing or equipment must be informed in writing of the potentially harmful effects of exposure to lead. [1910.1025(g)(2)(vi)]

- Containers of contaminated protective clothing and equipment must be appropriately labeled. [1910.1025(g)(2)(vii)]

- Removal of lead from protective clothing or equipment by blowing, shaking, or any other means which disperses lead into the air is prohibited. [1910.1025(g)(2)(viii)] **(Fig. 2).**

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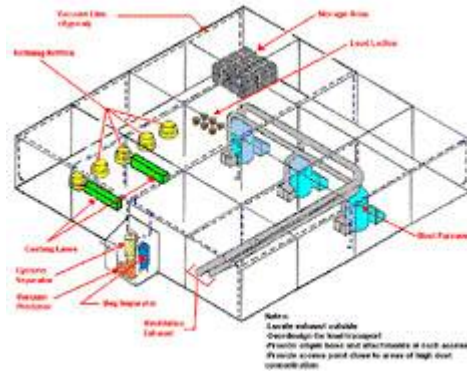


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OSHA Lead Requirements for PPE, Housekeeping, and Hygiene Facilities > Housekeeping

A rigorous housekeeping program is necessary to keep airborne lead levels as low as feasibly possible. OSHA requires the following regarding general housekeeping:

- [OSHA Housekeeping Requirements](#)
- [Video Exposure Monitoring: Glove Removal](#)
- [Video Exposure Monitoring: Shoveling](#)



Click for larger view of central vacuum system diagram

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OSHA Housekeeping Requirements

- All surfaces must be maintained as free as practicable of accumulations of lead. [[1910.1025\(h\)\(1\)](#)]
- Floors and other surfaces where lead accumulates may not be cleaned by the use of compressed air. [[1910.1025\(h\)\(2\)\(i\)](#)]
- Shoveling, dry or wet sweeping and brushing may be used only where vacuuming or other equally effective methods have been tried and found not to be effective (**Fig. 1**). [[1910.1025\(h\)\(2\)\(ii\)](#)]
- Where vacuuming methods are selected, the vacuums shall be used and emptied in a manner which minimizes the reentry of lead into the workplace. [[1910.1025\(h\)\(3\)](#)]

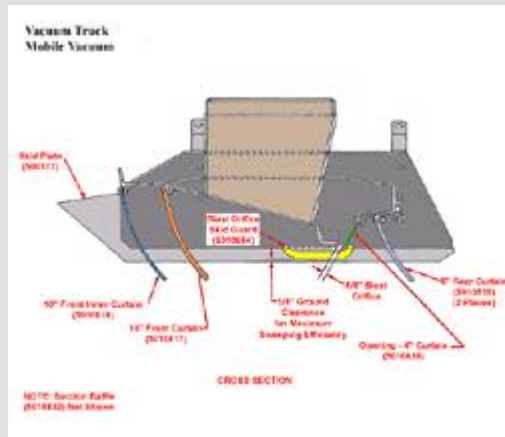


Fig. 1. Vacuum instead of sweep

[▶ Central Vacuum Diagram](#)

[▶ Regenerative Sweeper Diagram](#)

[▶ Vacuum Truck Diagram](#)



Click for larger view of vacuum truck diagram

Video Exposure Monitoring: Glove Removal

With video exposure monitoring (VEM), worker exposures to lead are monitored and recorded with a direct reading instrument. At the same time, work place activities are recorded on a video tape. The right hand bar indicates changes in total dust concentrations over time.

As the employee removes the protective gloves, the increasing red bar indicates that the employee is exposed to lead due to dispersion of lead from the surface of the improperly cleaned or stored gloves.



Low Bandwidth Video 
Dial up Modem, ISDN

High Bandwidth Video 
LAN, DSL, T1, T3

Note: This example illustrates the level and duration of exposure to total dust and is used to show how VEM can be used for determining sources of employee exposure. Other sources of employee lead exposure can be determined by using VEM sampling for a full work shift.

Video Exposure Monitoring: Shoveling

With video exposure monitoring (VEM), worker exposures to lead are monitored and recorded with a direct reading instrument. At the same time, work place activities are recorded on a video tape. The right hand bar indicates changes in total

dust concentrations over time.

As the employee shovels the slag during cleanup and places it into the slag pot for disposal, the increasing red bar indicates that the employee is exposed because lead dust is inadequately captured when the slag is shoveled and dumped into the pot.



Note: This example illustrates the level and duration of exposure to total dust and is used to show how VEM can be used for determining sources of employee exposure. Other sources of employee lead exposure can be determined by using VEM sampling for a full work shift.

Low Bandwidth Video 

Dial up Modem, ISDN

High Bandwidth Video 

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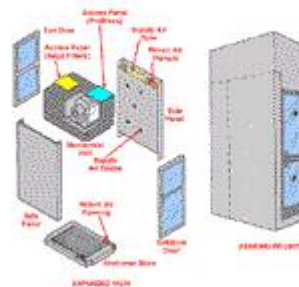
OSHA Lead Requirements for PPE, Housekeeping, and Hygiene Facilities > Hygiene Facilities

Lunch rooms, break rooms, and control rooms in secondary smelting plants should exhibit low ambient lead levels. The following are OSHA requirements that have been established for the provision and maintenance of:

- o [Hygiene Facilities](#)

[Hygiene facility diagram](#)

Clothes Cleaning Air Shower



Click for larger view of clothes cleaning air shower

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Hygiene Facilities

- o Food, beverage, and tobacco products must not be present or consumed, and cosmetics must not be applied, except in change rooms, lunchrooms, and showers. [1910.1025(i)(1)]
- o Clean change rooms must be provided (**Fig. 1**). [1910.1025(i)(2)(i)]
 - Change rooms must be equipped with separate storage facilities for protective work clothing and equipment and for street clothes. [1910.1025(i)(2)(ii)]
- o Employees exposed to lead above the PEL must shower at the end of the work shift. [1910.1025(i)(3)(i)]
 - Shower facilities must be provided. [1910.1025(i)(3)(ii)]
 - Employees must not leave the workplace wearing any clothing or equipment worn during the work shift. [1910.1025(i)(3)(iii)]
- o Lunchroom facilities must be



Fig. 1. Change room

provided for employees (**Fig. 2**).
[1910.1025(i)(4)(i)]

- Lunchroom facilities must have a temperature-controlled, positive-pressure, filtered air supply.
[1910.1025(i)(4)(ii)]

- Employees must wash their hands and face before eating, drinking, smoking or applying cosmetics (**Fig. 3**). [1910.1025(i)(4)(iii)]

- Employees must not enter lunchroom facilities with protective work clothing or equipment unless surface lead dust has been removed by vacuuming, down draft booth, or other cleaning method. [1910.1025(i)(4)(iv)]

▶ [Clothes Cleaning Air Shower Diagram](#)



Fig. 2. Lunchroom



Fig. 3. Hand wash station

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