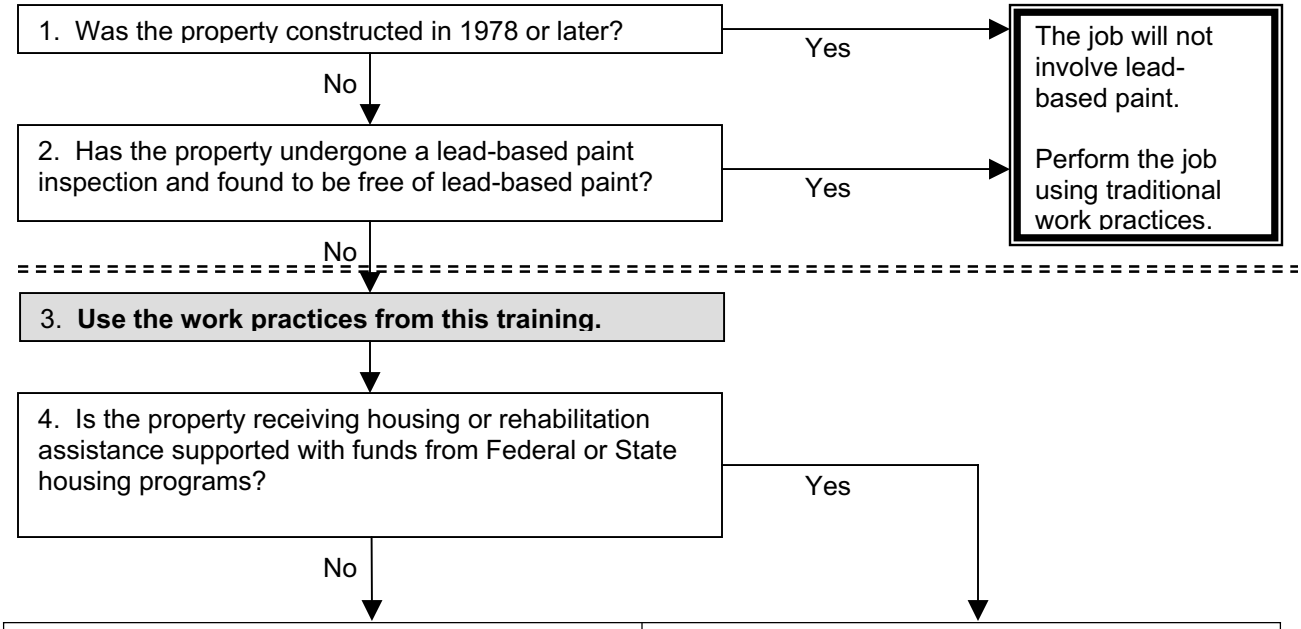
Appendix 1

APPENDIX 1: Flowchart for Planning a Remodeling, Repair, or Painting Job



5. Determine if there are State, local, or tribal lead-based paint requirements that apply to the property and the work to be performed.**

   If YES:
   - ✓ Supervisors - Make sure that the work write-up and job specifications address these requirements.
   - ✓ Workers - Check with your supervisor to find out how the requirements affect the job.

6. Plan the work to follow the practices presented in this training for:
   - ✓ Setting up the work area to contain dust and debris, & restrict occupant access
   - ✓ Minimizing dust during the job
   - ✓ Cleaning up effectively at the end of each day & at the end of the job
   - ✓ Safely disposing of waste and debris

5. Contact the agency providing the housing or rehabilitation assistance & determine if there are Federal, State, local, or tribal program requirements about lead-based paint that apply to the job.

   If YES:
   a) The agency providing the assistance will ensure that the work write-up for the job addresses the applicable requirements.

   b) Supervisors & workers should make sure that they understand the requirements so they can follow them effectively.

   Possible requirements include:
   - ✓ Worker training in lead safe work practices (or supervisor certification)
   - ✓ Occupant protection/relocation
   - ✓ Prohibited practices
   - ✓ Clearance testing at end of the job

6. Also determine if State, local, or tribal lead-based paint requirements apply to the property and the work to be performed.**

   If YES:
   - ✓ Supervisors - Make sure that the work write-up and job specifications address these requirements.
   - ✓ Workers - Check with your supervisor to find out how the requirements affect the job.

7. Plan the work to follow the practices presented in this training.

** *Note: At least annually, supervisors should check with State and local agencies for changes in these requirements.*

Types of Lead-Based Paint Requirements for Residential Properties Assisted Through Federal or State Supported Housing & Rehabilitation Programs -

The following types of requirements may apply to renovation, remodeling, rehabilitation, painting or maintenance work performed in pre-1978 residential properties that receive financial assistance from Federal, State, local, or tribal housing programs.

If a property receives housing assistance or rehabilitation assistance, contact the State, local, or tribal agency administering the assistance to find out what specific requirements, if any, apply to the work planned for the property.

- **Worker Training Requirements**. When lead safe rehabilitation, maintenance, or interim controls is performed, each worker generally needs to have successfully completed a HUD-approved lead safe work practices training. Successful completion of this course meets this requirement.

  This requirement can also be satisfied if the supervisor for the work is properly certified as a lead-based paint abatement supervisor and ensures that safe work practices are followed. In this case, workers on the job are not required to have completed an approved course, but they are required to have OSHA Hazard Communication Training.

  Some States and State-supported housing programs have additional or more stringent training requirements.

  NOTE: If abatement of lead-based paint hazards is required by a program providing assistance to a property, additional specialized training and certification is required for the supervisors and workers who perform these activities.
- **Work Area Containment.** Workers and supervisors will fulfill most containment requirements triggered due to Federal assistance by following the work practices presented in this course to prevent dust and debris from spreading beyond the work area or contaminating an occupant's possessions. (See Module 2.)
- **Occupant Protection.** If workers and supervisors restrict occupant access to the work area until the work is complete and clearance achieved (if required), most containment requirements triggered due to Federal assistance will be satisfied. For some jobs, occupant relocation may be necessary, but this decision will be made by the public agency administering the assistance to the property.
- **Prohibited Work Practices.** If a property receives housing or rehabilitation assistance supported with Federal funds, **workers are prohibited from using the work practices identified as high-risk** in Module 3 of this training. State, local, or tribal laws may prohibit additional practices.
- **Cleanup & Clearance.** Workers must use the specialized cleaning practices presented during Module 4 of this training. For many jobs in properties that receive housing or rehabilitation assistance supported with Federal funds, a clearance examination (i.e., dust testing) must be performed at the end of the job. If the area tested fails the clearance exam, the work area and the dwelling units affected must be cleaned again and re-tested. (See Module 4.)

See Appendix 3 for more information about Federal lead-based paint requirements, including requirements about safe work practices.

How To Find Out About Lead-Based Paint Requirements that Apply to Planned Work in Properties Receiving Housing or Rehabilitation Assistance

For each job, supervisors should take the following steps to find out whether:

- The property receives financial assistance; and
- Any lead-based paint requirements apply to the work because of the assistance provided.

  Note: This is an important step because failure to meet lead-based paint requirements could affect the owner's ability to receive the assistance.

1. If you or your company is contacted about the job by the housing agency providing assistance to the property, ask the program specialist or rehabilitation specialist working with the property the questions listed in Question #3.

2. Ask the property owner if the property or the family receives any type of housing assistance, including low-interest loans, from a local, State, or Federal agency.

   - Find out the name of the agency, contact person, address and phone number. (See the list of types of agencies below.)
   - Get a basic description of the type of assistance the property receives.

   Note: If the property owner is concerned about why you are asking, just explain that there will be information about the work that you will need to provide to that agency and that you also need to check if there are any requirements of their program that apply to the work to be done.

3. Contact the public agency administering the assistance and ask the program specialist or rehabilitation specialist working with the property:

   a) Do any Federal or State lead-based paint requirements apply to the work?

   b) If YES, what are they and how will they be incorporated into the work write-up?

   c) If YES to a), are there any abatement requirements that apply to the job and who will perform that work?

Some Types of Public Agencies Administering Housing or Rehabilitation Assistance

- State Housing Finance Agency
- State Housing Agency
- State Community Development Agency
- City or County Housing Agency
- City or County Community Development Agency
- City or County Housing Authority
- USDA Service Center - Rural Housing Programs

Appendix 2

CHECKLIST: EVALUATING THE WORK

Evaluate the property		
1. Was the property constructed after 1978? or	1. Yes	No
2. If the work area is limited to an addition, was the addition constructed after 1978? *If yes, you are <u>not</u> required to perform lead safe work practices (unless the home receives housing assistance – see Question 4 below).*	2. Yes	No
3. Was testing conducted in this property? *If yes, collect any documentation and plan your work using the information.*	3. Yes	No
4. Is the property receiving assistance through a State, local, or Federal program? *If yes, ask if there are any special work requirements for the job and confirm that it is not an abatement job for a certified abatement contractor.*	4. Yes	No
Evaluate the job		
1. Will this work disturb painted surfaces or otherwise create or disturb dust that may contain lead? *If yes, use the safe work practices covered in this course and plan your schedule to accommodate the necessary lead safety measures. Use the attached list of supplies to plan your work.*	1.Yes	No
2. Is this a high dust job? *If yes, you must take the added precautions for high dust jobs as described in this course. Plan your schedule to accommodate the necessary lead safety measures. Use the attached list of supplies to plan your work.*	2. Yes	No

CHECKLIST: MATERIALS and SUPPLIES

Set up Tool Kit

Barriers

- ❑ Rope
- ❑ Barrier Tape (bright color preferable)
- ❑ Saw horses
- ❑ Orange cones or other similar marker
- ❑ Signs

Coverings

- ❑ Heavy duty plastic sheeting
- ❑ Disposable mesh (e.g., burlap, cheesecloth, landscaping mesh)
- ❑ Staple gun
- ❑ Tape (duct, painters, or masking)
- ❑ Utility knife or scissors

Other Items

- ❑ Tack pad
- ❑ Small disposable towels or wipes
- ❑ Misting bottle

Safe Work Practices Tool Kit

- ❑ Wet/dry sandpaper or sanding sponge
- ❑ Mist bottle or pump sprayer
- ❑ Chemical stripper
- ❑ Heat gun
- ❑ Heavy duty plastic sheeting
- ❑ Tape (duct, painters, or masking)
- ❑ Utility knife or scissors
- ❑ Heavy duty garbage bags
- ❑ Vacuum with HEPA filter

Specialized Tools

- ❑ HEPA exhaust attachments for power tools (sanders, grinders, planers, shavers)
- ❑ Power washing equipment
- ❑ Needle gun with HEPA exhaust

Personal Protection Equipment (PPE) Tool Kit

- ❑ Painter's hats
- ❑ Gloves
- ❑ Coveralls
- ❑ Disposable shoe covers
- ❑ N-100 disposable respirators or equivalent
- ❑ Pre-moistened disposable wipes
- ❑ Disposable hand towels (e.g., paper towels)

Additional Items to Consider

- ❑ First aid kit
- ❑ Safety glasses
- ❑ Ear protection (when using power tools)

Clean Up Tool Kit

- ❑ Misting bottle
- ❑ Vacuum with HEPA filter
- ❑ Heavy duty garbage bags
- ❑ Tape (duct)
- ❑ Detergent
- ❑ Two buckets or two-sided bucket
- ❑ Mop with disposable heads
- ❑ Disposable hand towels (e.g., paper towels)
- ❑ Pump sprayer
- ❑ Shovel and rake

Appendix 3

APPENDIX 3: U.S. Department of Housing and Urban Development (HUD) Requirements for Safe Work Practices

This appendix describes safe work practices required in HUD-funded work that disturbs known or presumed paint in housing built before 1978. The regulations can be found in the Code of Federal Regulations (CFR) at 24 CFR 35.1350. They can also be found through HUD's website at www.hud.gov/offices/lead. The brief summary of HUD's requirements provided here will be useful if you work now or will work in the future on HUD-funded rehabilitation projects or other Federally assisted housing projects.

In most cases, it is the responsibility of the agency (public, non-profit, or private) that administers the rehabilitation project or the individual / organization who accepts HUD funds to make sure that HUD's requirements are followed. However, the contractors who work on HUD-funded projects are required to know and use the proper practices for set up, safe work practices, and clean-up. Contractors should also cooperate with the agency and property owners to make sure that the job is carried out safely.

The HUD regulations that apply most to contractors who do routine renovation, remodeling and rehabilitation that is funded by HUD relate to:

- Training Requirements
- Occupant Protection;
- Safe Work Practices;
- Cleanup; and
- Clearance.

TRAINING REQUIREMENTS

Contractors who perform rehabilitation, maintenance, repainting, or interim lead-based paint hazard controls on most pre-1978 HUD-associated housing, and are disturbing paint that is known or presumed to be lead-based paint must have taken OSHA hazard communication training and a HUD-approved course in lead-safe work practices. If workers have not taken a lead safe work practices course they must be supervised by a certified lead-based paint abatement supervisor, who is responsible for assuring that the work is done safely and effectively.

There is an exception to the training requirement for jobs receiving no more than $5,000 per dwelling unit in Federal rehabilitation funds. In such cases, HUD requires the use of safe work practices, and the local recipient will ensure that the work is performed safely.

OCCUPANT PROTECTION

Contractors must take steps to protect occupants from lead-based paint hazards while the work is in progress.

- Occupants may not enter the worksite. Occupants are allowed to return only after the work is done and the home has passed a clearance examination that checks for deteriorated lead-based paint and harmful levels of lead-contaminated dust.

- Occupants' belongings must be protected from lead contamination. This can be done by removing them from the work area or covering them with protective sheeting and sealing it to prevent dust from getting on the items.

- The work site must be set up to prevent the spread of leaded dust and debris.

- Warning signs must be posted at entrances to the worksite when occupants are present; at the main and secondary entrances to the building; and at exterior work sites. The signs must be readable from 20 feet from the edge of the worksite. Signs must be in the occupants' primary language when practicable.

- It may be necessary to temporarily move occupants out of the unit if work will take several days and it involves kitchens, bathrooms, or bedrooms. This is the responsibility of the dwelling's owner.

SAFE WORK PRACTICES

HUD prohibits several work practices (see exhibit 1, below).The safe practices described in Module 3 of this training are good alternatives to the prohibited practices listed here. Safe work practices are not required:

• If paint has been tested and found not to be lead-based paint by an EPA or State certified risk assessor or inspector, or

• If the work disturbs a total painted surface area that is:

- Less than 20 ft.^{2} on exterior surfaces;

- Less than 2 ft.^{2} in any one interior room or space; or

- Less than 10 percent of the total surface area on an interior or exterior type of component with a small surface area like window sills, baseboards, and trim.

Exhibit 1: HUD Prohibited Work Practices

- Open flame burning or torching.
- Machine sanding or grinding without a high-efficiency particulate air (HEPA) local exhaust control.
- Abrasive blasting or sandblasting without HEPA local exhaust control.
- Heat guns operating above 1,100 degrees Fahrenheit, or those that operate high enough to char the paint.
- Dry sanding or dry scraping.
- Paint stripping in a poorly ventilated space using a volatile stripper that is a hazardous substance.

There are several circumstances when limited use of these prohibited methods is allowed under HUD regulations:

• Dry scraping in conjunction with heat guns;

• Dry scraping within 1.0 ft of electrical outlets;

• Dry scraping deteriorated paint spots that total no more than 2 ft.^{2} in any one interior room or space; or

• Dry scraping deteriorated paint spots that total no more than 20 ft.^{2} on exterior surfaces.

Note: Use of paint strippers with methylene chloride can be hazardous and is prohibited in poorly ventilated areas (such as when the concentration will exceed the permissible exposure limit for methylene chloride).

CLEANUP

Worksite clean-up removes dust and debris from the work area. Good clean-up is critical to passing the clearance exam and leaving the unit safe for habitation. Worksite clean-up must use methods, products, and devices that are successful in cleaning lead-contaminated dust, such as vacuum cleaners with HEPA filters or equivalent equipment, and wet cleaning with household or lead-specific detergents or equivalent products.

THE CLEARANCE EXAMINATION

Clearance is a process to test the work site to assure that any lead in dust in the work area after the work has been completed does not exceed HUD standards. It also assures that there is no deteriorated paint that might contain lead remaining in the work area. After the work is done and before the residents can return, the work area or unit must pass clearance. In a clearance examination, a qualified, third-party, clearance examiner:

- Performs a visual assessment of the worksite or unit to look for deteriorated paint and visible amounts of dust, debris, paint chips or other residue. If these are found in areas where dust sampling is required they must be eliminated before continuing the clearance examination. If deteriorated paint is found, it must be stabilized using safe work practices. If visible dust and debris is found, it must be cleaned up;

- Takes several dust wipe samples from floors, interior window sills (stools), and window troughs and sends them to a laboratory for analysis. If leaded dust above HUD standards are found, the worksite or unit must be re-cleaned and another dust clearance test conducted.

It is usually the responsibility of the organization or owner overseeing the work to arrange for the clearance. However, it is often the contractor who is responsible for cleaning sufficiently to pass clearance. Some agencies may state in the construction contract that if clearance is not passed the first time, the contractor will be held responsible for paying for an adequate second cleaning and clearance test.

- Clearance must be performed by a certified examiner (a risk assessor, lead-based paint inspector, or lead sampling/clearance technician, according to EPA or State requirements), or a trained lead sampling/clearance technician whose work is approved by a certified risk assessor or lead-based paint inspector. Certified sampling technicians cannot conduct clearance after lead abatement, but only after other lead hazard control activities like paint stabilization, interim controls, maintenance or rehabilitation. State requirements for sampling technicians may vary, so the State regulatory authority should be consulted.

- Contractors cannot perform clearance on their own jobs. The HUD regulations state that the person conducting the lead hazard reduction activities and clearance must be independent of each other. However, an organization or owner that is responsible for regulatory compliance may use a qualified in-house employee to conduct clearance if that same employee does not conduct both 1) a hazard reduction, rehabilitation, or maintenance activity and 2) the clearance examination.

Clearance Standards

If the test results equal or exceed the following standards, the dwelling unit, worksite, or common area fails the clearance examination.

- Floors: 40 µg/ft.^{2}

- Interior windows sills (stools): 250 µg/ft.^{2}

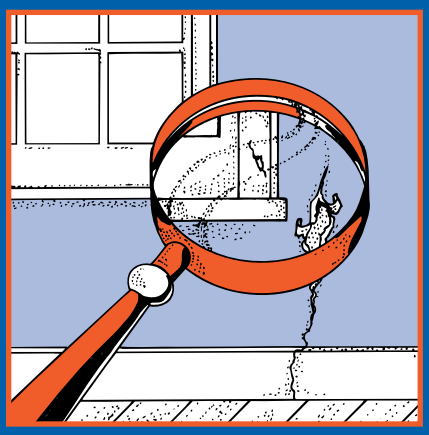
- Window troughs: 400 µg/ft.^{2}

Clearance is not required when:

- Maintenance or a lead hazard reduction activity at a worksite does not disturb painted surfaces; or

- If the total area of the painted surface disturbed does not exceed the following: (1) 20 ft.^{2} on exterior surfaces; (2) 2 ft.^{2} in any one interior room or space; or (3) 10 percent of the total surface area on an interior or exterior type of component with a small surface area like windowsills, baseboards, and trim.

Appendix 4



Protect Your Family From Lead In Your Home

United States Environmental Protection Agency

United States Consumer Product Safety Commission

United States Department of Housing and Urban Development

Simple Steps To Protect Your Family From Lead Hazards

If you think your home has high levels of lead:

- Get your young children tested for lead, even if they seem healthy.
- Wash children's hands, bottles, pacifiers, and toys often.
- Make sure children eat healthy, low-fat foods.
- Get your home checked for lead hazards.
- Regularly clean floors, window sills, and other surfaces.
- Wipe soil off shoes before entering house.
- Talk to your landlord about fixing surfaces with peeling or chipping paint.
- Take precautions to avoid exposure to lead dust when remodeling or renovating (call 1-800-424-LEAD for guidelines).
- Don't use a belt-sander, propane torch, high temperature heat gun, scraper, or sandpaper on painted surfaces that may contain lead.
- Don't try to remove lead-based paint yourself.

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Are You Planning To Buy, Rent, or Renovate a Home Built Before 1978?

Many houses and apartments built before 1978 have paint that contains high levels of lead (called lead-based paint). Lead from paint, chips, and dust can pose serious health hazards if not taken care of properly.

OWNERS, BUYERS, and RENTERS are encouraged to check for lead (see page 6) before renting, buying or renovating pre-1978 housing.

Federal law requires that individuals receive certain information before renting, buying, or renovating pre-1978 housing:

LANDLORDS have to disclose known information on lead-based paint and lead-based paint hazards before leases take effect. Leases must include a disclosure about lead-based paint.

SELLERS have to disclose known information on lead-based paint and lead-based paint hazards before selling a house. Sales contracts must include a disclosure about lead-based paint. Buyers have up to 10 days to check for lead.

RENOVATORS disturbing more than 2 square feet of painted surfaces have to give you this pamphlet before starting work.

IMPORTANT!

Lead From Paint, Dust, and Soil Can Be Dangerous If Not Managed Properly

FACT: Lead exposure can harm young children and babies even before they are born.

FACT: Even children who seem healthy can have high levels of lead in their bodies.

FACT: People can get lead in their bodies by breathing or swallowing lead dust, or by eating soil or paint chips containing lead.

FACT: People have many options for reducing lead hazards. In most cases, lead-based paint that is in good condition is not a hazard.

FACT: Removing lead-based paint improperly can increase the danger to your family.

If you think your home might have lead hazards, read this pamphlet to learn some simple steps to protect your family.

Lead Gets in the Body in Many Ways

Childhood lead poisoning remains a major environmental health problem in the U.S.

Even children who appear healthy can have dangerous levels of lead in their bodies.

People can get lead in their body if they:

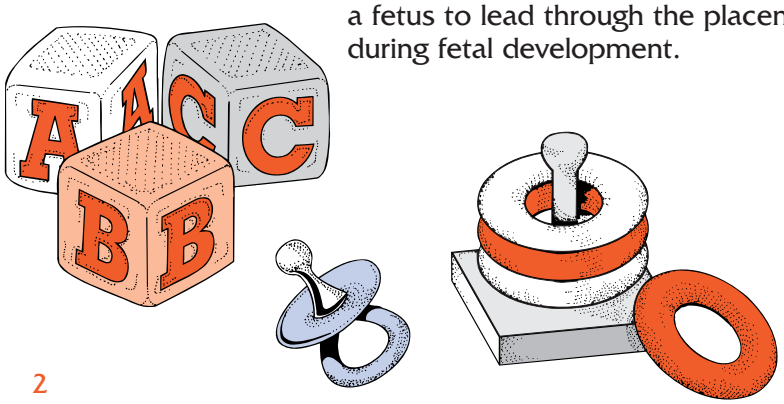
- Breathe in lead dust (especially during renovations that disturb painted surfaces).
- Put their hands or other objects covered with lead dust in their mouths.
- Eat paint chips or soil that contains lead.

Lead is even more dangerous to children under the age of 6:

- At this age children's brains and nervous systems are more sensitive to the damaging effects of lead.
- Children's growing bodies absorb more lead.
- Babies and young children often put their hands and other objects in their mouths. These objects can have lead dust on them.

Lead is also dangerous to women of childbearing age:

- Women with a high lead level in their system prior to pregnancy would expose a fetus to lead through the placenta during fetal development.



Lead's Effects

It is important to know that even exposure to low levels of lead can severely harm children.

In children, lead can cause:

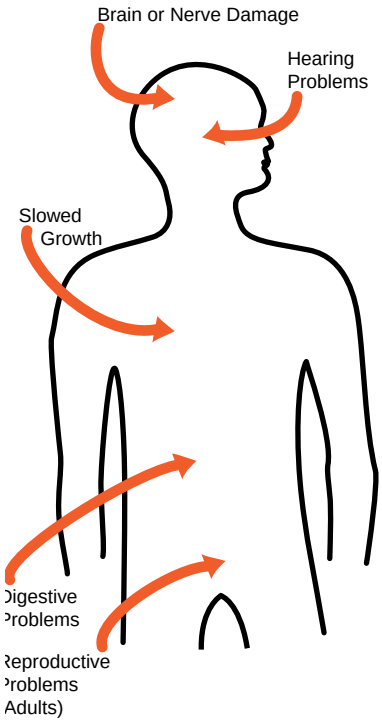
- Nervous system and kidney damage.
- Learning disabilities, attention deficit disorder, and decreased intelligence.
- Speech, language, and behavior problems.
- Poor muscle coordination.
- Decreased muscle and bone growth.
- Hearing damage.

While low-lead exposure is most common, exposure to high levels of lead can have devastating effects on children, including seizures, unconsciousness, and, in some cases, death.

Although children are especially susceptible to lead exposure, lead can be dangerous for adults too.

In adults, lead can cause:

- Increased chance of illness during pregnancy.
- Harm to a fetus, including brain damage or death.
- Fertility problems (in men and women).
- High blood pressure.
- Digestive problems.
- Nerve disorders.
- Memory and concentration problems.
- Muscle and joint pain.



Lead affects the body in many ways.

Where Lead-Based Paint Is Found

In general, the older your home, the more likely it has lead-based paint.

Many homes built before 1978 have lead-based paint. The federal government banned lead-based paint from housing in 1978. Some states stopped its use even earlier. Lead can be found:

- In homes in the city, country, or suburbs.
- In apartments, single-family homes, and both private and public housing.
- Inside and outside of the house.
- In soil around a home. (Soil can pick up lead from exterior paint or other sources such as past use of leaded gas in cars.)

Checking Your Family for Lead

Get your children and home tested if you think your home has high levels of lead.

To reduce your child's exposure to lead, get your child checked, have your home tested (especially if your home has paint in poor condition and was built before 1978), and fix any hazards you may have. Children's blood lead levels tend to increase rapidly from 6 to 12 months of age, and tend to peak at 18 to 24 months of age.

Consult your doctor for advice on testing your children. A simple blood test can detect high levels of lead. Blood tests are usually recommended for:

- Children at ages 1 and 2.
- Children or other family members who have been exposed to high levels of lead.
- Children who should be tested under your state or local health screening plan.

Your doctor can explain what the test results mean and if more testing will be needed.

Identifying Lead Hazards

Lead-based paint is usually not a hazard if it is in good condition, and it is not on an impact or friction surface, like a window. It is defined by the federal government as paint with lead levels greater than or equal to 1.0 milligram per square centimeter, or more than 0.5% by weight.

Deteriorating lead-based paint (peeling, chipping, chalking, cracking or damaged) is a hazard and needs immediate attention. It may also be a hazard when found on surfaces that children can chew or that get a lot of wear-and-tear, such as:

- Windows and window sills.
- Doors and door frames.
- Stairs, railings, banisters, and porches.

Lead from paint chips, which you can see, and lead dust, which you can't always see, can both be serious hazards.

Lead dust can form when lead-based paint is scraped, sanded, or heated. Dust also forms when painted surfaces bump or rub together. Lead chips and dust can get on surfaces and objects that people touch. Settled lead dust can re-enter the air when people vacuum, sweep, or walk through it. The following two federal standards have been set for lead hazards in dust:

- 40 micrograms per square foot ($\mu g/ft^2$) and higher for floors, including carpeted floors.
- 250 $\mu g/ft^2$ and higher for interior window sills.

Lead in soil can be a hazard when children play in bare soil or when people bring soil into the house on their shoes. The following two federal standards have been set for lead hazards in residential soil:

- 400 parts per million (ppm) and higher in play areas of bare soil.
- 1,200 ppm (average) and higher in bare soil in the remainder of the yard.

The only way to find out if paint, dust and soil lead hazards exist is to test for them. The next page describes the most common methods used.

Checking Your Home for Lead

Just knowing that a home has lead-based paint may not tell you if there is a hazard.

You can get your home tested for lead in several different ways:

- A paint **inspection** tells you whether your home has lead-based paint and where it is located. It won't tell you whether or not your home currently has lead hazards.
- A **risk assessment** tells you if your home currently has any lead hazards from lead in paint, dust, or soil. It also tells you what actions to take to address any hazards.
- A combination risk assessment and inspection tells you if your home has any lead hazards and if your home has any lead-based paint, and where the lead-based paint is located.

Hire a trained and certified testing professional who will use a range of reliable methods when testing your home.

- Visual inspection of paint condition and location.
- A portable x-ray fluorescence (XRF) machine.
- Lab tests of paint, dust, and soil samples.

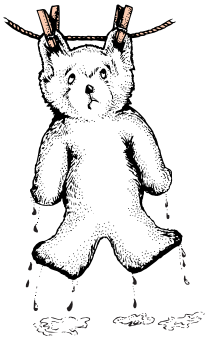
There are state and federal programs in place to ensure that testing is done safely, reliably, and effectively. Contact your state or local agency (see bottom of page 11) for more information, or call **1-800-424-LEAD (5323)** for a list of contacts in your area.

Home test kids for lead are available, but may not always be accurate. Consumers should not rely on these kits before doing renovations or to assure safety.

What You Can Do Now To Protect Your Family

If you suspect that your house has lead hazards, you can take some immediate steps to reduce your family's risk:

- **If you rent, notify your landlord of peeling or chipping paint.**
- **Clean up paint chips immediately.**
- **Clean floors, window frames, window sills, and other surfaces weekly**. Use a mop or sponge with warm water and a general all-purpose cleaner or a cleaner made specifically for lead. REMEMBER: NEVER MIX AMMONIA AND BLEACH PRODUCTS TOGETHER SINCE THEY CAN FORM A DANGEROUS GAS.



- **Thoroughly rinse sponges and mop heads after cleaning dirty or dusty areas**.
- **Wash children's hands often, especially before they eat and before nap time and bed time.**
- **Keep play areas clean.** Wash bottles, pacifiers, toys, and stuffed animals regularly.
- **Keep children from chewing window sills or other painted surfaces.**
- **Clean or remove shoes before entering your home to avoid tracking in lead from soil.**

- **Make sure children eat nutritious, low-fat meals high in iron and calcium,** such as spinach and dairy products. Children with good diets absorb less lead.

Reducing Lead Hazards In The Home

Removing lead improperly can increase the hazard to your family by spreading even more lead dust around the house.

Always use a professional who is trained to remove lead hazards safely.

In addition to day-to-day cleaning and good nutrition:

- You can **temporarily** reduce lead hazards by taking actions such as repairing damaged painted surfaces and planting grass to cover soil with high lead levels. These actions (called "interim controls") are not permanent solutions and will need ongoing attention.
- To **permanently** remove lead hazards, you should hire a certified lead "abatement" contractor. Abatement (or permanent hazard elimination) methods include removing, sealing, or enclosing lead-based paint with special materials. Just painting over the hazard with regular paint is not permanent removal.

Always hire a person with special training for correcting lead problems—someone who knows how to do this work safely and has the proper equipment to clean up thoroughly. Certified contractors will employ qualified workers and follow strict safety rules as set by their state or by the federal government.

Once the work is completed, dust cleanup activities must be repeated until testing indicates that lead dust levels are below the following:

- 40 micrograms per square foot ($\mu g/ft^2$) for floors, including carpeted floors;
- 250 $\mu g/ft^2$ for interior windows sills; and
- 400 $\mu g/ft^2$ for window troughs.

Call your state or local agency (see bottom of page 11) for help in locating certified professionals in your area and to see if financial assistance is available.

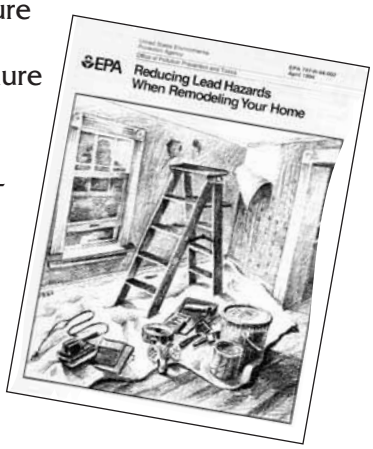
Remodeling or Renovating a Home With Lead-Based Paint

Take precautions before your contractor or you begin remodeling or renovating anything that disturbs painted surfaces (such as scraping off paint or tearing out walls):

- **Have the area tested for lead-based paint.**
- **Do not use a belt-sander, propane torch, high temperature heat gun, dry scraper, or dry sandpaper** to remove lead-based paint. These actions create large amounts of lead dust and fumes. Lead dust can remain in your home long after the work is done.
- **Temporarily move your family** (especially children and pregnant women) out of the apartment or house until the work is done and the area is properly cleaned. If you can't move your family, at least completely seal off the work area.
- **Follow other safety measures to reduce lead hazards.** You can find out about other safety measures by calling 1-800-424-LEAD. Ask for the brochure "Reducing Lead Hazards When Remodeling Your Home." This brochure explains what to do before, during, and after renovations.

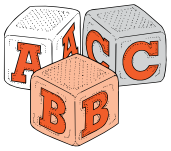
If you have already completed renovations or remodeling that could have released lead-based paint or dust, get your young children tested and follow the steps outlined on page 7 of this brochure.

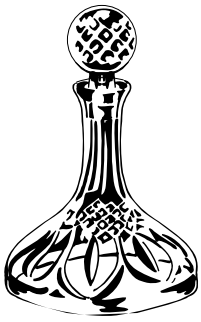
If not conducted properly, certain types of renovations can release lead from paint and dust into the air.



Other Sources of Lead

While paint, dust, and soil are the most common sources of lead, other lead sources also exist.

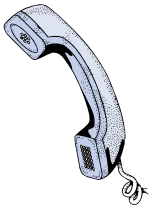




- **Drinking water.** Your home might have plumbing with lead or lead solder. Call your local health department or water supplier to find out about testing your water. You cannot see, smell, or taste lead, and boiling your water will not get rid of lead. If you think your plumbing might have lead in it:
  - Use only cold water for drinking and cooking.
  - Run water for 15 to 30 seconds before drinking it, especially if you have not used your water for a few hours.
- **The job.** If you work with lead, you could bring it home on your hands or clothes. Shower and change clothes before coming home. Launder your work clothes separately from the rest of your family's clothes.
- Old painted **toys** and **furniture.**
- Food and liquids stored in **lead crystal** or **lead-glazed pottery or porcelain.**
- **Lead smelters** or other industries that release lead into the air.
- **Hobbies** that use lead, such as making pottery or stained glass, or refinishing furniture.
- **Folk remedies** that contain lead, such as "greta" and "azarcon" used to treat an upset stomach.

For More Information

The National Lead Information Center

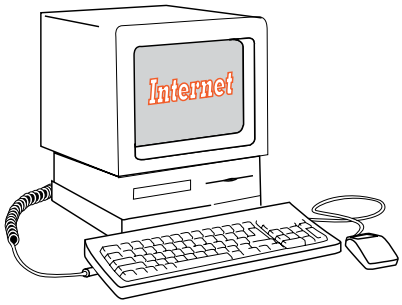


Call **1-800-424-LEAD (424-5323)** to learn how to protect children from lead poisoning and for other information on lead hazards. To access lead information via the web, visit **www.epa.gov/lead** and **www.hud.gov/offices/lead/.**

EPA's Safe Drinking Water Hotline

Call **1-800-426-4791** for information about lead in drinking water.

Consumer Product Safety Commission (CPSC) Hotline



To request information on lead in consumer products, or to report an unsafe consumer product or a product-related injury call **1-800-638-2772**, or visit CPSC's Web site at: **www.cpsc.gov.**

Health and Environmental Agencies

Some cities, states, and tribes have their own rules for lead-based paint activities. Check with your local agency to see which laws apply to you. Most agencies can also provide information on finding a lead abatement firm in your area, and on possible sources of financial aid for reducing lead hazards. Receive up-to-date address and phone information for your local contacts on the Internet at **www.epa.gov/lead** or contact the National Lead Information Center at **1-800-424-LEAD.**

For the hearing impaired, call the Federal Information Relay Service at **1-800-877-8339** to access any of the phone numbers in this brochure.

EPA Regional Offices

Your Regional EPA Office can provide further information regarding regulations and lead protection programs.

EPA Regional Offices

Region 1 (Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont)

Regional Lead Contact
U.S. EPA Region 1
Suite 1100 (CPT)
One Congress Street
Boston, MA 02114-2023
1 (888) 372-7341

Region 2 (New Jersey, New York, Puerto Rico, Virgin Islands)

Regional Lead Contact
U.S. EPA Region 2
2890 Woodbridge Avenue
Building 209, Mail Stop 225
Edison, NJ 08837-3679
(732) 321-6671

Region 3 (Delaware, Maryland, Pennsylvania, Virginia, Washington DC, West Virginia)

Regional Lead Contact
U.S. EPA Region 3 (3WC33)
1650 Arch Street
Philadelphia, PA 19103
(215) 814-5000

Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee)

Regional Lead Contact
U.S. EPA Region 4
61 Forsyth Street, SW
Atlanta, GA 30303
(404) 562-8998

Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin)

Regional Lead Contact
U.S. EPA Region 5 (DT-8J)
77 West Jackson Boulevard
Chicago, IL 60604-3666
(312) 886-6003

Region 6 (Arkansas, Louisiana, New Mexico, Oklahoma, Texas)

Regional Lead Contact
U.S. EPA Region 6
1445 Ross Avenue, 12th Floor
Dallas, TX 75202-2733
(214) 665-7577

Region 7 (Iowa, Kansas, Missouri, Nebraska)

Regional Lead Contact
U.S. EPA Region 7
(ARTD-RALI)
901 N. 5th Street
Kansas City, KS 66101
(913) 551-7020

Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming)

Regional Lead Contact
U.S. EPA Region 8
999 18th Street, Suite 500
Denver, CO 80202-2466
(303) 312-6021

Region 9 (Arizona, California, Hawaii, Nevada)

Regional Lead Contact
U.S. Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 947-4164

Region 10 (Alaska, Idaho, Oregon, Washington)

Regional Lead Contact
U.S. EPA Region 10
Toxics Section WCM-128
1200 Sixth Avenue
Seattle, WA 98101-1128
(206) 553-1985

CPSC Regional Offices

Your Regional CPSC Office can provide further information regarding regulations and consumer product safety.

Eastern Regional Center
Consumer Product Safety Commission
201 Varick Street, Room 903
New York, NY 10014
(212) 620-4120

Western Regional Center
Consumer Product Safety Commission
1301 Clay Street, Suite 610-N
Oakland, CA 94612
(510) 637-4050

Central Regional Center
Consumer Product Safety Commission
230 South Dearborn Street, Room 2944
Chicago, IL 60604
(312) 353-8260

HUD Lead Office

Please contact HUD's Office of Healthy Homes and Lead Hazard Control for information on lead regulations, outreach efforts, and lead hazard control and research grant programs.

U.S. Department of Housing and Urban Development
Office of Healthy Homes and Lead Hazard Control
451 Seventh Street, SW, P-3206
Washington, DC 20410
(202) 755-1785

U.S. EPA Washington DC 20460
U.S. CPSC Washington DC 20207
U.S. HUD Washington DC 20410

EPA747-K-99-001
June 2003

Appendix 5

United States
Environmental Protection
Agency

EPA 747-B-99-004
September 1999

Pollution Prevention and Toxics (7404)

EPA

The Lead-Based Paint Pre-Renovation Education Rule

a handbook for contractors, property managers, and maintenance personnel

LEAD Awareness Program

What Is The Lead-Based Paint Pre-Renovation Education Rule (Lead PRE)?

- The Lead PRE Rule is a Federal regulation affecting construction contractors, property managers, and others who perform **renovations** for **compensation** in residential housing that may contain lead-based paint.
- It applies to residential houses and apartments built before 1978.
- It requires distribution of the **lead pamphlet**, *Protect Your Family from Lead in Your Home*, to the owners and occupants before starting **renovation** work.
- **Renovation** includes most repair, remodeling, and maintenance activities that disturb painted surfaces.
- Lead PRE implements Section 406(b) of the Toxic Substances Control Act (TCSA).

About This Handbook

- This handbook summarizes Lead PRE and how to comply with it. To ensure compliance, you should also read the rule.
- Key terms are highlighted in **bold** and are explained on pages 8-10.

Who Should Read This Handbook?

- Anyone who owns or manages housing built before 1978.
- Contractors who perform **renovations** (including certain repairs and maintenance) which disturb paint in homes built before 1978.

How Can This Handbook Help Me?

- This handbook presents simple steps to follow to comply with Lead PRE. It also lists ways these steps can be easily incorporated into your work.
- Having demonstrated knowledge of lead requirements and safety practices can mean more business for you.
- Distributing the **lead pamphlet** to your customers and tenants can help them protect themselves and their children from the hazards of lead-based paint.
- This handbook describes the law. It also explains the proper steps to take to avoid potentially significant civil (monetary) and criminal fines and penalties.

What Does Lead PRE Require Me To Do?

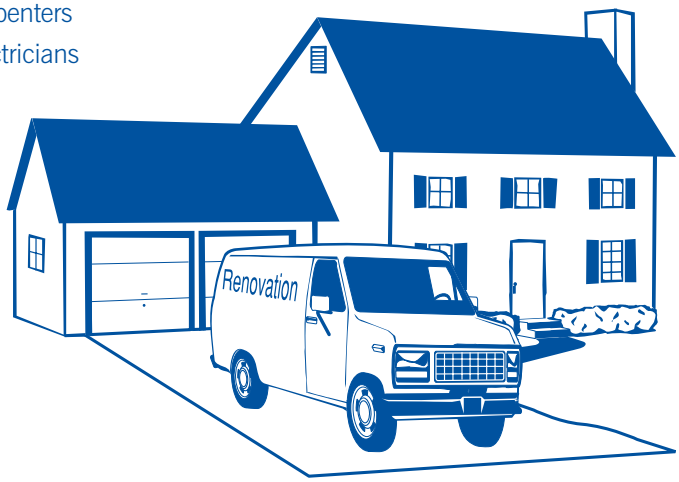
1. Distribute a **lead pamphlet** to the housing **owner** and occupants before **renovation** starts.
2. Obtain **confirmation of receipt of lead pamphlet** (see page 11) from owner and occupants or a **certificate of mailing** from the post office.
3. For work in **common areas** of **multi-family housing**, distribute **renovation notices** to tenants.
4. Retain records for 3 years.

(See page 4 for more details)

Who Must Follow These Requirements?

In general, anyone whose compensated work disturbs paint in housing built before 1978, including:

- Residential rental property owners/managers
- **General contractors**
- **Special trade contractors**, including
  - Painters
  - Plumbers
  - Carpenters
  - Electricians



What Types Of Activities Are Subject To Lead PRE?

In general, any activity that disturbs paint in pre-1978 housing, including:

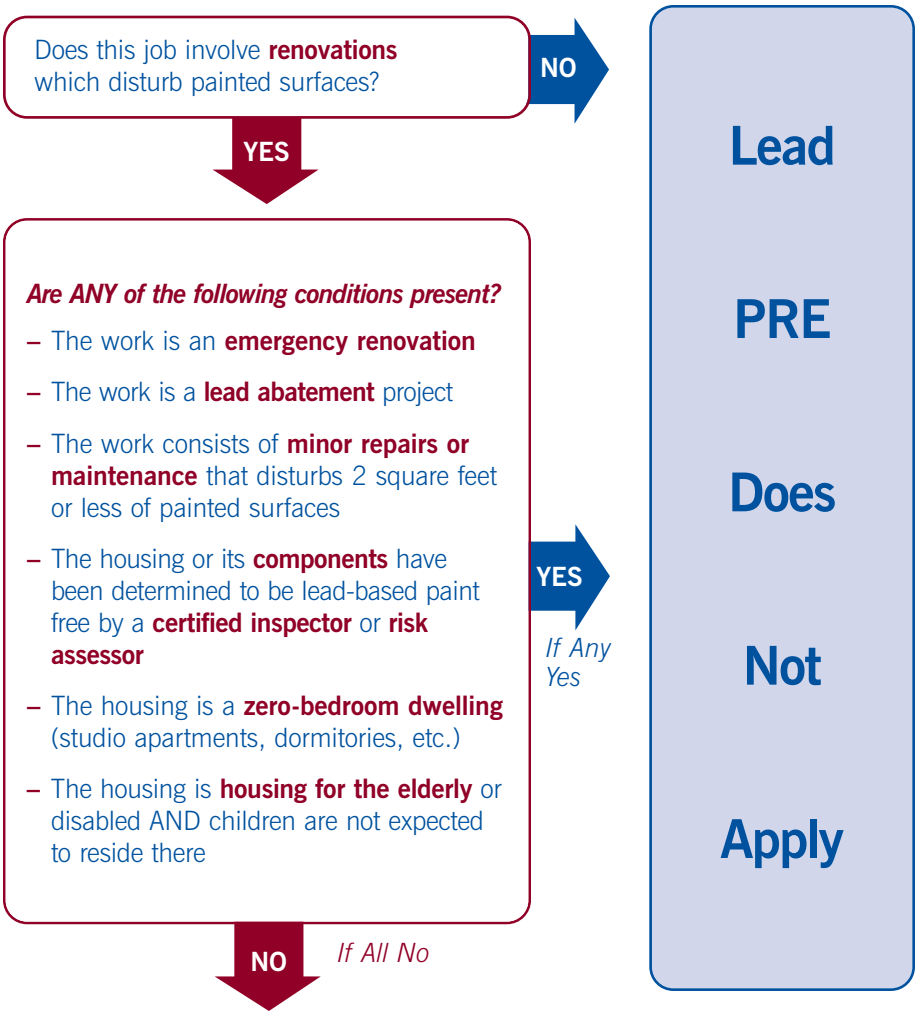
- Remodeling and repair/maintenance
- Plumbing
- Carpentry
- Electrical work
- Painting
- Window replacement

What Housing Or Activities Are Excluded From Lead PRE?

- Housing built in 1978 or later
- **Housing for the elderly** or disabled persons (unless children will reside there)
- **Zero-bedroom dwellings** (studio apartment, dormitories, etc.)
- Housing or **components** declared lead-free by a **certified inspector** or **risk assessor**
- **Emergency renovations** and repairs
- **Minor repairs and maintenance** that disturb two square feet or less of paint per **component**

Lead PRE At-A-Glance

If you will be working for **compensation** in a pre-1978 home or apartment building, answer the questions below to determine if Lead PRE requires you to give the **lead pamphlet** to the **owner** and occupants.



If no, then you need to provide the lead pamphlet (see page 4).

How Do I Meet The Lead PRE Requirements?

Renovation Location	Procedures to Follow
Renovations in Owner-Occupied Dwelling Units	Box 1 Deliver **lead pamphlet** to **owner** before **renovation** begins and obtain **confirmation of receipt**. **OR** Mail lead pamphlet to owner 7 days before renovation begins and document with **certificate of mailing**
Renovations in Tenant-Occupied Dwelling Units	Box 2 1. Provide **lead pamphlet** to **owner** using either procedure described in Box 1 above. 2. Provide lead pamphlet to tenant by either method below: (a) Deliver pamphlet to dwelling unit before **renovation** begins and document delivery with either a **confirmation of receipt** of lead pamphlet or a **self-certification of delivery**. **OR** (b) Mail lead pamphlet to tenant at least 7 days prior to renovation and document with a **certificate of mailing**
Renovations in Common Areas of Multi-Family Housing Units	Box 3 1. Provide **owner** with **lead pamphlet** using either procedure described in Box 1 above. 2. Notify tenants and make pamphlet available. 3. Maintain written documentation describing notification procedures. 4. Provide **supplemental renovation notice** if changes occur in location, timing, or scope of renovation occurring.

For all options keep records for 3 years after renovation is completed.
(Sample Forms on pages 11 and 12.)

Special Circumstances

Is painting considered renovation, even if no surface preparation activity occurs?

No. If the surface to be painted is not disturbed by sanding, scraping, or other activities that may cause dust, the work is not considered renovation and Lead PRE does *not* apply.

What if I renovate my own home?

Lead PRE applies only to **renovations** performed for **compensation**; therefore, if you work on your own home Lead PRE does not apply.

Is a renovation performed by a landlord or employees of a property management firm considered a compensated renovation under Lead PRE?

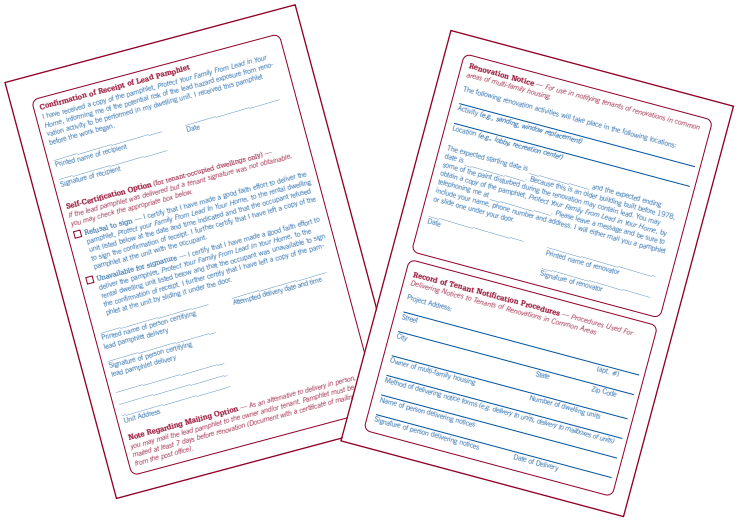
Yes. The receipt of rent payments or salaries derived from rent payments is considered **compensation** under Lead PRE. Therefore, **renovation** activities performed by landlords or employees of landlords are covered.

Do I have to give out the lead pamphlet 7 days prior to beginning renovation activities?

The 7-day advance delivery requirement applies only when you deliver the **lead pamphlet** via mail; otherwise, you may deliver the pamphlet *anytime* before the **renovation** begins. Note, however, that the renovation must begin within 60 days of the date that the pamphlet is delivered. So for example, if your renovation is to begin May 30, you may deliver the pamphlet in person anytime between April 1 and start of the project on May 30, or you may deliver the pamphlet via mail anytime between April 1 and May 23.

Tips For Easy Compliance

1. Copy and use the sample forms on pages 11 and 12 of this handbook.
2. Attach the forms to the back of your customer **renovation** or repair contracts. The completed forms can be filed along with your regular paperwork.
3. If a tenant is not home or refuses to sign the form, you may use the "self-certification" section of the form *(on page 11)* to prove delivery. This will reduce your paperwork.
4. Plan ahead to obtain enough copies of the **lead pamphlet**.



Where Can I Obtain More Information on Lead PRE?

Further information is available from the National Lead Information Clearinghouse (800-424-LEAD) or through the Internet (www.epa.gov/lead). Available resources include:

- Full text version of Lead PRE
- Interactive software which guides the users through the Lead PRE requirements on a step-by-step basis *(available in late June)*
- Interpretive guidance which provides more detailed information on Lead PRE requirements

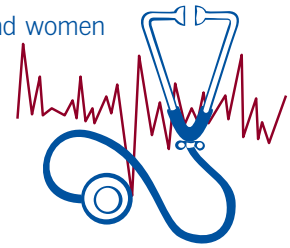
Why is Lead Paint Dangerous?

People can ingest lead by breathing or swallowing lead-based paint dust or by eating lead-contaminated soil or lead-based paint chips. Household animals are also at risk.

If not detected early, high levels of lead in a child can cause serious effects, including:

- Damage to the brain and nervous system
- Behavior and learning problems
- Slowed growth
- Hearing problems
- Headaches

Lead is also harmful to adults and can, among other effects, cause:



- Difficulties during pregnancy
- Other reproductive problems for men and women
- High blood pressure
- Digestive problems
- Nerve disorders
- Memory and concentration problems
- Muscle and joint pain

Lead can be dangerous to workers and their families if the worker brings equipment and clothing home after a job.

Other Resources

For additional information on how to protect yourself and your customers from lead paint hazards, call the National Lead Information Clearinghouse at 1-800-424-LEAD. Available documents include:

- *Lead-Based Paint: Operations and Maintenance Work Practices Manual for Homes and Buildings*
- *Lead Safety for Property Owners, Developers, and Managers*
- *Reducing Lead Hazards When Remodeling Your Home*
- *Lead in Your Home: A Parents' Reference Guide*
- *Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work*

Bold Type = Key Terms (see pages 8–10)

Key Terms

Certificate of Mailing — written verification from the Postal Service that you mailed the lead pamphlet to an owner or a tenant. This is less expensive than certified mail, which is also acceptable for meeting Lead PRE requirements. *(**Note:** If using this delivery option, you must mail the pamphlet at least 7 days prior to the start of renovation.)*

Certified Inspector or Risk Assessor — an individual who has been trained and is certified by EPA or an authorized state or Indian Tribe to conduct lead-based paint inspections or risk assessments.

Common Area — a portion of a building that is generally accessible to all residents or users. Common areas include (but are not limited to) hallways, stairways, laundry rooms, recreational rooms, playgrounds, community centers, and fenced areas. The term applies to both interiors and exteriors of the building. *(**Note:** Lead PRE requirements related to common areas apply only to multi-family housing.)*

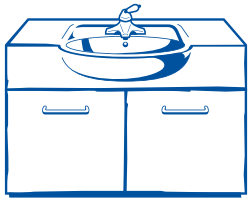
Compensation — payment or goods for services rendered. Payment can be in the form of money, goods, or services (bartering).

Component — specific design or structural element or fixture distinguished by its form, function, and location. A component can be located inside or outside the dwelling.

Examples

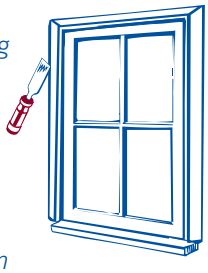
Interiors

Ceilings
Crown molding
Walls
Doors and trim
Floors
Fireplaces
Radiators
Shelves
Stair treads
Windows and trim
Built-in cabinets
Beams
Bathroom vanities
Counter tops
Air conditioners



Exterior

Painted roofing
Chimneys
Flashing
Gutters and downspouts
Ceilings
Soffits
Doors and trim
Fences
Floors
Joists
Handrails
Window sills and sashes
Air conditioners



Confirmation of Receipt of Lead Pamphlet — a form that is signed by the owner or tenant of the housing confirming that they received a copy of the lead pamphlet before the renovation began. *(See sample on page 11.)*

Key Terms (continued)

Emergency Renovation — unplanned renovation activities done in response to a sudden, unexpected event which, if not immediately attended to presents a safety or public health hazard, or threatens property with significant damage.

Examples 1: *Renovation to repair damage from a tree that fell on a house*
2: *Renovation to repair a water pipe break in an apartment complex*

General Contractor — one who contracts for the construction of an entire building or project, rather than for a portion of the work. The general contractor hires subcontractors (e.g. plumbing, electrical, etc.), coordinates all work, and is responsible for payment to subcontractors.

Housing for the Elderly — retirement communities or similar types of housing specifically reserved for households of one or more persons 62 years of age or older at the time the unit is first occupied.

Lead Abatement — work designed to permanently eliminate lead-based paint hazards. If you are hired to do lead-abatement work only, Lead PRE does not apply. Abatement does not include renovation, remodeling, landscaping, or other activities done to repair, restore, or redesign a given building — even if these activities incidentally reduce lead-based paint hazards. *(**Note:** Some states define this term differently than described above. Consult your state officials if you are not sure how "lead abatement" is defined in your state.)*

Lead Pamphlet — the pamphlet *Protecting Your Family From Lead in Your Home,* or an EPA-approved alternative pamphlet. *(See page 13 for information on obtaining copies.)*

Minor Repair and Maintenance — minor repair and maintenance activities, such as minor electrical work or plumbing, that disturb two square feet or less of painted surface per component.

Examples 1: *Drilling holes in the wall to run an electrical line*
2: *Replacing a piece of window trim*
3: *Replacing a light fixture*

Multi-family Housing — housing property consisting of more than four dwelling units.

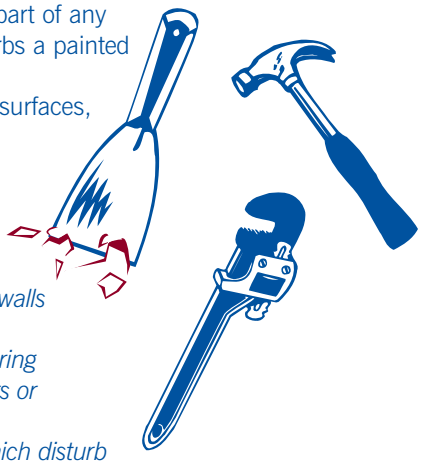
Owner — any person or entity that has legal title to housing, including individuals, partnerships, corporations, government agencies, Indian Tribes, and nonprofit organizations.

Record of Notification — written statement documenting the steps taken to notify occupants of renovation activities in common areas of multi-family housing. *(See page 12 for sample.)*

Key Terms (continued)

Renovation — modification of all or part of any existing structure in housing that disturbs a painted surface. Includes:

- Removal/modification of painted surfaces, components, or structures
- Surface preparation activities (sanding/scraping/other activities that may create paint dust)
- Window replacement



Examples 1: *Demolition of painted walls or ceilings*

2: *Large surface replastering*

3: *Major plumbing repairs or improvements*

4: *Any other activities which disturb painted surfaces*

Renovation Notice — notice to tenants of renovations in common areas of multifamily housing. *(See sample form on page 12.)* Notice must describe nature, location, and expected timing of renovation activity; and must explain how the lead pamphlet may be obtained free of charge.

Renovator — a person who performs for compensation a renovation, as defined above. *(**Note:** Because the term "renovation" is defined broadly by Lead PRE, many contractors who are not generally considered to "renovators," as that term is commonly used, are considered to be "renovators" under Lead PRE, and must follow Lead PRE requirements.)*

Self-Certification of Delivery — an alternative method of documenting delivery of the lead pamphlet to a tenant. This method may be used whenever the tenant is unavailable or unwilling to sign a confirmation of receipt of lead pamphlet. *(See sample form on page 11.)* (***Note:** This method is not a permissible substitute for delivery of the lead pamphlet to an owner.)*

Special Trade Contractors — individuals or companies performing work in specialized occupations such as painting, electrical work, plumbing, or carpentry.

Supplemental Renovation Notice — additional notification that is required when the scope, location, or timing of project changes.

Zero-Bedroom Dwelling — any residential dwelling where the living area is not separated from the sleeping area. This term includes efficiency and studio apartments, dormitory housing, and military barracks.

Sample Forms

The forms on the next two pages are sample forms you can use to make documentation of compliance easier.

Confirmation of Receipt of Lead Pamphlet

I have received a copy of the pamphlet, *Protect Your Family From Lead in Your Home*, informing me of the potential risk of the lead hazard exposure from renovation activity to be performed in my dwelling unit. I received this pamphlet before the work began.

_____ _____

Printed name of recipient Date

_____

Signature of recipient

Self-Certification Option (for tenant-occupied dwellings only) — *If the lead pamphlet was delivered but a tenant signature was not obtainable, you may check the appropriate box below.*

☐ Refusal to sign — I certify that I have made a good faith effort to deliver the pamphlet, *Protect your Family From Lead In Your Home,* to the rental dwelling unit listed below at the date and time indicated and that the occupant refused to sign the confirmation of receipt. I further certify that I have left a copy of the pamphlet at the unit with the occupant.

☐ Unavailable for signature — I certify that I have made a good faith effort to deliver the pamphlet, *Protect Your Family From Lead In Your Home,* to the rental dwelling unit listed below and that the occupant was unavailable to sign the confirmation of receipt. I further certify that I have left a copy of the pamphlet at the unit by sliding it under the door.

_____ _____

Printed name of person certifying lead pamphlet delivery Attempted delivery date and time

_____

Signature of person certifying lead pamphlet delivery

_____

_____

_____

Unit Address

Note Regarding Mailing Option — *As an alternative to delivery in person, you may mail the lead pamphlet to the owner and/or tenant. Pamphlet must be mailed at least 7 days before renovation (Document with a certificate of mailing from the post office).*

Sample Forms (continued)

Renovation Notice — *For use in notifying tenants of renovations in common areas of multi-family housing.*

The following renovation activities will take place in the following locations:

_____
Activity *(e.g., sanding, window replacement)*

_____
Location *(e.g., lobby, recreation center)*

The expected starting date is _____ and the expected ending date is _____. Because this is an older building built before 1978, some of the paint disturbed during the renovation may contain lead. You may obtain a copy of the pamphlet, *Protect Your Family From Lead in Your Home*, by telephoning me at _____. Please leave a message and be sure to include your name, phone number and address. I will either mail you a pamphlet or slide one under your door.

_____ _____
Date Printed name of renovator

_____
Signature of renovator

Record of Tenant Notification Procedures — *Procedures Used For Delivering Notices to Tenants of Renovations in Common Areas*

Project Address:

_____
Street (apt. #)

_____
City State Zip Code

_____
Owner of multi-family housing Number of dwelling units

_____
Method of delivering notice forms *(e.g. delivery to units, delivery to mailboxes of units)*

_____
Name of person delivering notices

_____
Signature of person delivering notices Date of Delivery

Where Can I Get Copies of the **Lead Pamphlet**?

For single copies of *Protect Your Family From Lead in Your Home* (in Spanish or English), call the National Lead Information Clearinghouse (NLIC) at 1-800-424-LEAD. For any orders, be sure to use the stock reference number **EPA747-K-99-001**.

There are four ways to get multiple copies:

1. **Call the Government Printing Office order desk at (202) 512-1800.**
2. **Send fax requests to (202) 512-2233.**
3. **Request copies in writing from:**

   Superintendent of Documents
   P.O. Box 371954
   Pittsburgh, PA 15250-7954
4. **Obtain via the Internet at www.epa.gov/lead**

Single copies are available at no charge. Bulk copies available in packs of 50.

The pamphlet may be photo-copied for distribution as long as the text and graphics are read-able. Camera-ready copies are available from NLIC or via the Internet.

The Lead Pre-Renovation Education Rule (Lead PRE) At-A-Glance

If you will be working for **compensation** in a pre-1978 home or apartment building, answer the questions below to determine if Lead PRE requires you to give the **lead pamphlet** to the **owner** and occupants.

Does this job involve **renovations** which disturb painted surfaces?

NO → **Lead PRE Does Not Apply**

YES

Are ANY of the following conditions present?

- The work is an **emergency renovation**
- The work is a **lead abatement** project
- The work consists of **minor repairs or maintenance** that disturbs 2 square feet or less of painted surfaces
- The housing or its **components** have been determined to be lead-based paint free by a **certified inspector** or **risk assessor**
- The housing is a **zero-bedroom dwelling** (studio apartments, dormitories, etc.)
- The housing is **housing for the elderly** or disabled AND children are not expected to reside there

YES → **Lead PRE Does Not Apply**

If Any Yes

NO *If All No*

If no, then you need to read this book! Rental property owners and managers, renovators, and maintenance personnel are affected by Lead PRE.

Bold Type = Key Terms (see pages 8–10 inside)

Appendix 6

APPENDIX 6: For More Information

If you are a hearing- or speech-impaired person, you may reach the telephone numbers below via TTY by calling the Federal Information Relay Service at 1-800-877-8339.

Where can I get copies of the *Protect Your Family From Lead in Your Home* pamphlet in English, Spanish, or Vietnamese?

- ✓ Download electronic copies at: www.epa.gov/lead or www.hud.gov/offices/lead/disclosurerule.
- ✓ Use camera-ready copies from the National Lead Information Center to reproduce the pamphlet, providing that you reproduce the text and graphics in full: 1-800-424-LEAD (5323).
- ✓ Order bulk copies from the Government Printing Office (GPO) which cost $53.00 for a package of 50 pamphlets: 202-512-1800; refer to the pamphlet by name or by GPO Stock Number 055-000-00632-6 or order online at http://bookstore.gpo.gov.

Where can I get copies of *The Lead-Based Paint Pre-Renovation Education Rule* handbook?

- ✓ Download electronic copies in PDF format at http://www.epa.gov/lead/leadrenf.htm.
- ✓ Contact the National Lead Information Center at: 1-800-424-LEAD (5323)

Where can I find additional information and resources related to lead-based paint?

- ✓ Lead Information Center: 1-800-424-LEAD (5323)
- ✓ EPA's Office of Pollution Prevention and Toxics (OPPT): www.epa.gov/lead and 202-260-3810
- ✓ HUD's Office of Healthy Homes and Lead Hazard Control: www.hud.gov/offices/lead and 202-755-1785 x104

Appendix 7

APPENDIX 7: Optional Written Exercises

The following exercises can be used in place of the hands-on exercises or as supplemental activities. Exercise worksheets and answers are provided.

Exercise 1) Identify Common Work Practices that Create Dust

Exercise 2) Review Set-Up Methods

Exercise 3) Identify Safe Work Practices

Exercise 1: Instructions

Objective: Identify common work practices that produce a lot of dust and debris.

Length: Total time: 20 minutes; 10 minutes to answer; 10 minutes to report and debrief.

Directions:

1. Introduce the exercise objective and describe what each group should do.

2. Determine the number of groups of 3 to 5 people (group size should be at least 3 or 4 people and up to 5 people if the class is large). Try to keep the number of groups to no more than 6 or 7 if the class is large. The table below may help you determine group size and number of groups. Have participants count off up to the number of groups to assign to groups.

Class Size	Number of Groups	Group Size
1-5	1	1-5
6-8	2	3 or 4
9-11	3	3 or 4
12-14	4	3 or 4
15-19	5	3 or 4
20-24	6	3 or 4
25-30	6	4 or 5

3. Tell class they have 10 minutes to answer all four questions, and then we will have a class discussion on the answers each group develops. Each group should select a spokesperson to present the group's answers to the rest of the class.
    - Give 5, 2, and 1-minute warnings of time remaining.
    - Circulate around the room to ensure that participants understand their roles.

Debriefing Procedure

Take 10 minutes for debriefing.

- Have one group present its answers to questions 1 and 2.

- Ask whether other groups had a different ranking for the work practices, and if so to please share their ranking for question 1 and their answer to question 2. If no other group volunteers, choose a group to present their answers to questions 1 and 2.

- The point of this discussion is to help participants see that the types of work practices they may currently use can create a lot of dust and debris and that there are some common reasons for the amount of dust and debris created.

- Ask another group what they answered for question 3. Then ask other groups if they agree or disagree. If they disagree, ask them to say why.

- Finally, ask another group to answer question 4. Ask the other groups if they would do something different. If no one answers, choose a group and ask them to respond. Try to make sure that each group has had a chance to participate and answer at least one question.

Exercise 1: Answers

Objective: Identify common work practices that produce a lot of dust and debris.

Length: 20 minutes.

Directions: In groups of 3 to 5 take 10 minutes to answer the questions below. Assign one person to report your group's answers to the rest of the class.

1. Rank the work practice descriptions according to the amount of dust and paint chips you think they make. In the table below, under the column labeled Rank, write:

    - "1" next to the work practice that makes the most dust and debris.
    - "2" next to the work practice that makes the second most amount of dust and debris.
    - "3" next to the work practice that makes the third most amount of dust and debris.

Continue until you have ranked each work practice according to how much dust and debris you think it will make. A smaller number means that you think the work practice will create more dust or debris than a larger number.

If you think that some work practices make about the same amount of dust or debris you can give them the same rank. If you think that each practice makes different amounts of dust, rank them from 1 to 7. If you think you need more detail to make a decision, just make that detail part of your assumptions and be sure to note that assumption when explaining your ranking.

Work Practice Description	Rank
A. Using a power sander with no vacuum attachment to remove interior paint from a plaster wall.	1
B. Hand sanding a small (less than 2 square feet) area for surface preparation on an interior room where the paint is in good condition.	5
C. Ripping out old kitchen cabinets in a 50 year-old house where the paint on the walls and cabinets is in good condition (e.g., it is not peeling or flaking).	2
D. Repairing a sticking window. Loosen the painted sashes, remove inside stop molding, remove top and bottom sash, use a power planer to remove old paint, reglaze and repair the sash as necessary, repair and paint the jamb, reinstall the sash.	2
E. Removing old carpeting placed over a hardwood floor in one room.	3
F. Demolishing one interior wall using hand or power tools.	2
G. High pressure power washing or hydro blasting exterior paint.	4

2. For the work practice(s) that you ranked #1 (it makes the most dust and debris), tell why you think it makes the most dust or debris.

Work practice A creates the most dust and debris. Any sanding on a surface area more than 2 square feet generates a lot of dust. Recent studies by the National Institute for Occupational Safety and Health (NIOSH) indicate that power sanding without a HEPA filter attachment creates the most dust.

Different groups could come up with different answers. If they do, ask them why. Underlying assumptions about the nature of the work practice may have contributed to their decision. Different assumptions may render different answers acceptable.

3. For the work practice(s) that you ranked last (it makes the least amount of dust and debris) tell why you think it makes the least amount of dust and debris.

Hand sanding less than 2 square feet for surface preparation usually generates less dust and debris than the other activities listed in question 1. This is the smallest area in the list of work practices. In addition, hand sanding is unlikely to use as much pressure on the surface or move as fast as a power sander. The combination of small surface area and less total "activity" means that less dust and debris is usually created.

Different groups could come up with different answers. If they do, ask them why. Underlying assumptions about the nature of the work practice may have contributed to their decision. Although unlikely in this case, different assumptions may render different answers acceptable.

4. If you actually did any of the jobs described above, what would you do to clean up when the job was finished?

Most contractors will sweep or vacuum obvious dust from the interior work area and dispose of any debris or garbage. They will also pick up drop cloths for reuse at another work site.

If contractors do more than this, there is usually less to learn in order to perform clean-up activities that are safer and more effective.

Exercise 1: Worksheet

Objective: Identify common work practices that produce a lot of dust and debris.

Length: Total Time: 20 minutes.

Directions: In groups of 3 to 5 take 10 minutes to answer the questions below. Assign one person to report your group's answers to the rest of the class.

1. Rank the work practice descriptions according to the amount of dust and paint chips you think they make. In the table below, under the column labeled Rank, write:
   - 1 next to the work practice that makes the most dust and debris.
   - 2 next to the work practice that makes the second most amount of dust and debris.
   - 3 next to the work practice that makes the third most amount of dust and debris.
   - Continue until you have ranked each work practice according to how much dust and debris you think it will make. A smaller number means that you think the work practice will create more dust or debris than a larger number.

If you think that some work practices make about the same amount of dust or debris you can give them the same rank. If you think that each practice makes different amounts of dust, rank them from 1 to 7. If you think you need more detail to make a decision, just make that detail part of your assumptions and be sure to note that assumption when explaining your ranking.

Work Practice Description	Rank
A. Using a power sander with no vacuum attachment to remove interior paint from a plaster wall.	
B. Hand sanding a small (less than 2 square feet) area for surface preparation on an interior room where the paint is in good condition.	
C. Ripping out old kitchen cabinets in a 50 year-old house where the paint on the walls and cabinets is in good condition (e.g., it is not peeling or flaking).	
D. Repairing a sticking window. Loosen the painted sashes, remove inside stop molding, remove top and bottom sash, use a power planer to remove old paint, reglaze and repair the sash as necessary, repair and paint the jamb, reinstall the sash.	
E. Removing old carpeting placed over a hardwood floor in one room.	
F. Demolishing one interior wall using hand or power tools.	
G. High pressure power washing or hydro blasting exterior paint.	

2. For the work practice(s) that you ranked #1 (it makes the most dust and debris), tell why you think it makes the most dust and debris.

3. For the work practice(s) that you ranked last (it makes the least amount of dust and debris) tell why you think it makes the least amount of dust and debris.

4. If you actually did any of the jobs described above, what would you do to clean up when the job was finished?

Exercise 2: Instructions

Objective: Review set-up methods to contain lead dust and allow for easier clean-up.

Length: Total Time 30 minutes; 20 minutes to answer; 10 minutes to report and debrief.

Directions:

- Introduce the exercise and the objective. Describe what each group should do.
- Divide the class into groups of between 3 and 5 participants.
- Tell the class that they will have 20 minutes to look at the illustrations and determine the three set-up techniques that do not contain lead dust and identify three techniques that they could use to contain lead dust.

Debriefing Procedure:

Take 10 minutes for the debriefing.

- The point of this debriefing is to help participants gain a clear understanding of the concept of containment–what it is and what it is not–and how to set-up the work space to preserve containment.

- Have one group present their answers for the first illustration. If necessary to save time, ask the group to present only their answers for how to reduce the spread of dust and debris.

- Then ask other groups if they had different answers for the first illustration. If so, select one other group to present and explain their answers. If not, ask other groups why they selected the specific methods in their answer.

- Repeat this process for each illustration. Be sure to select different groups to present on each illustration to ensure that each group has a chance to present.

Exercise 2: Answers

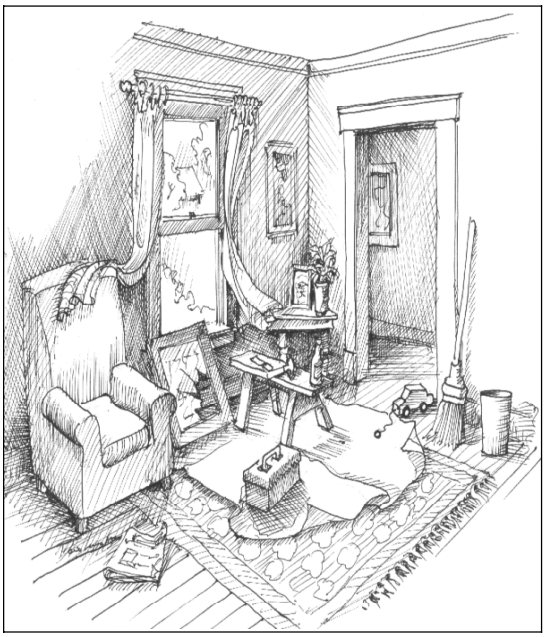
Objective: Review set-up methods to contain lead dust and allow for easier clean-up.

Length: Total Time 30 minutes; 20 minutes to answer; 10 minutes to report and debrief.

Directions: In groups of three or four take 20 minutes to review the three illustrations below and:

- Identify three set-up methods that encourage the *spread* of lead dust beyond the work area;
- Identify three techniques that could be used to *reduce* the spread of lead contaminated dust to non-work areas;
- Assign one person to report your group's answers to the rest of the class.

Illustration 1: Replace Window



Increase the Spread of Dust and Debris:
1) Drop cloths carry lead-contaminated dust to other jobs. 2) Lead-contaminated dust will fall onto the drapes creating a hazard for the residents. 3) Open windows and doors allow dust to be blown into and outside of the house. 4) There is no barrier to indicate that residents should not enter the area.

Reduce the Spread of Dust and Debris:
1) The small child should not be allowed near the work area. 2) Use plastic protective sheeting to cover furniture and the floor. 3) The drapes should be removed from the work area. 4) Barriers should be installed. 5) Adult residents should be told to stay away from the work area and keep children away

Illustration 2: Remove Exterior Paint

Increase Spread of Dust and Debris:
1) Paint dust and chips are blowing onto the nearby play area. 2) Children are playing nearby. 3) The exposed pile of paint chips poses a significant hazard to the residents.

Reduce Spread of Dust and Debris:
1) Lay protective sheeting on ground (if using water, lay landscaping mesh to capture paint chips and let water into ground). 2) Children should be told to stay away from the work area and a barrier erected. 3) The pile of paint chips should be vacuumed up frequently and not left on the ground where wind may scatter them onto the play area.

Illustration 3: Rework and Paint Interior Components

Increase the Spread of Dust and Debris:
1) The significant amount of dust being generated and the ability to remove the door suggest that a dust room should be set-up. 2) There is no protective sheeting on the floor. 3) The windows and doors are open. 4) There is also no evidence of any barriers or signs limiting access to the work area.

Reduce the Spread of Dust and Debris:
1) Create a dust room. 2) The floors and windows should be lined with protective sheeting. 3) The entrance to the dust room" should have the 2- layer flap system.

Exercise 2: Worksheet

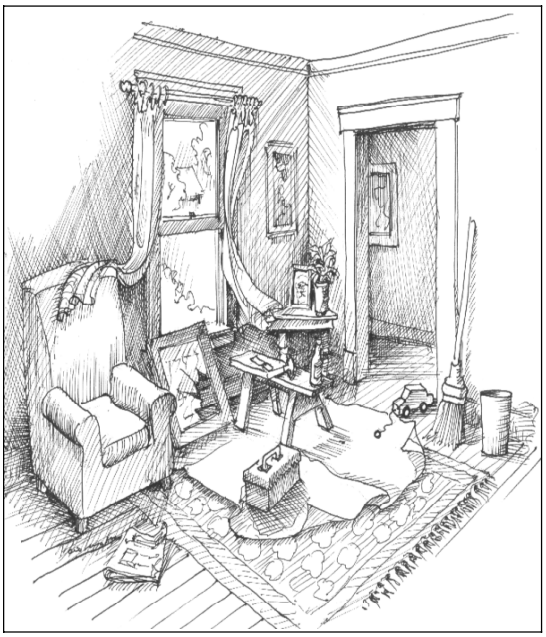
Objective: Review set-up methods to contain lead dust and allow for easier clean-up.

Length: Total Time 30 minutes; 20 minutes to answer; 10 minutes to report and debrief.

Directions: In groups of three or four take 20 minutes to review the three illustrations below and:

- Identify three set-up methods that encourage the *spread* of lead dust beyond the work area;
- Identify three techniques that could be used to *reduce* the spread of lead contaminated dust to non-work areas;
- Assign one person to report your group's answers to the rest of the class.

Illustration 1: Replace Window



Increase the Spread of Dust and Debris:

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Reduce the Spread of Dust and Debris:

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Illustration 2: Remove Exterior Paint

Increase Spread of Dust and Debris:

Reduce Spread of Dust and Debris:

Illustration 3: Rework and Paint Interior Components

Increase the Spread of Dust and Debris:

Reduce the Spread of Dust and Debris:

Exercise 3: Instructions

This exercise is an instructor-lead discussion where participants determine approaches to work tasks using safe work practices. The discussion should lead to an exchange of ideas among the participants on safe approaches to typical jobs.

Instructor's Notes

This exercise is a class discussion. The instructor's job is to present the directions, encourage discussion, manage the responses, write down the participants' ideas, and contribute to the discussion.

Step 1. Explain the instructions to the class: Give them 5 minutes to read the scenario and the jobs described after.

Step 2. The remaining 20 minutes allotted for the exercise is devoted to the participants' suggestion for safe approaches to each job. Starting with the first job, ask the participants for their ideas on how to do the job. Ask them for specific steps, the tools they will need, and what the job should look like when done.

Step 3. As the participants make their suggestions, jot them down on a clear overhead sheet or flip chart for everyone to see and keep track of what has been covered.

Step 4. After getting a complete description, move onto the next job. You should spend about 5 minutes on each before moving onto the next.

Exercise 3: Answers

Objective: Identify safe work practices for typical renovation and remodeling tasks.

Length: Total time: 25 minutes

Directions: Take 5 minutes to read the background and the jobs below. When you are finished, the instructor will ask you and the other participants to contribute approaches to each of the jobs listed below. You may take notes on approaches under each description.

Background

You own a small contracting firm which has been hired by a couple to renovate the interior and exterior of their large Victorian-style home built around 1910. This is a prominent home in the neighborhood (it sits on the corner) and you are looking forward to doing a quality job and getting a good reference. You also like that your truck parked in the driveway with your name on it will make good advertising to the neighbors who drive by. Furthermore, it will keep you and your workers busy for at least three solid weeks.

As the law requires, you give the couple the lead pamphlet *Protect Your Family from Lead in Your Home*. The day before you are to start working, they call and ask you if they have lead-based paint in their home and whether they should be worried about it. (They have a four-year old daughter and plan to remain in the house during the two-week work period). You inform them that, short of having the place tested, you have no way of knowing for sure. To be safe, you tell them that you assume that some layers of paint in the home are lead-based paint.

You get the feeling that they are having second thoughts and might cancel the job. You inform them that there are steps that can be taken to reduce the risk of creating a lead hazard. You also point out that you and two of your steady workers have taken an EPA course on how to do work safely. This seems to reassure them and they tell you to go ahead as planned.

On the Job: Day One

In addition to yourself and your two experienced employees, you have hired a full-time worker to help with the demolition and prep work. You have several specific jobs in mind for this worker which are listed below. Keeping in mind that your clients are concerned about lead-based paint, and that the jobs will create a lot of debris and dust, you want to be sure that the jobs are done right and use safe work practices. You decide that the best course of action is to take the time to explain to the worker, step-by-step, how to do each.

The instructor will ask you and the others in the class to give instructions the new worker. Be clear about what safe work practices you want used, in what order, and the tools that the worker will need. Also tell the worker how you want the work site prepared and what you want it to look like before the next stage of work starts.

The Jobs

How will you tell the new worker to do each of the following jobs?

1. Remove worn green carpet from vestibule, first floor hallway, and staircase. The carpet is tacked to the floor and its edges are covered with quarter round at all of the walls. The carpet is being removed to expose hardwood flooring which is to be refinished.

   Mist and pry loose baseboard covering edges of carpet; dispose of by immediately wrapping in protective sheeting and carry out of the work site. Lightly mist carpet with pump sprayer to keep dust down but not to add weight to the carpet. Pull up edges of the carpet and roll to one side, carpet side up. Wrap in protective sheeting, seal with duct tape, and carry away from the work site for disposal. HEPA vacuum dust on the bare floor before beginning refinishing of the floor. Tools used include pry bars, vice grips, misting bottles and pump sprayer, and HEPA vacuum.

2. Enlarge the door size opening in the wall between the living and dining rooms to make way for an enlarged passageway. There is trim at the base of the walls and trim at the top and sides of the opening. As much of the trim as possible should be saved to be reused on the enlarged opening. The new opening will be as tall as before but wider.

   Set up the work area as described in the module on set up: put down protective sheeting, seal doorways, etc. Lightly mist trim surfaces and pry loose with pry bar and hammer. Remove nails by pulling with the hammer claws or vice grips. Remove trim from the work area for paint removal at the exterior of the residence.

   When all of the trim has been removed. Lightly mist sections of wall if demolishing with a sledge hammer. Do not mist if using a saw to cut through the wall. Dispose of debris as it is created by wrapping in protective sheeting, sealing with duct tape, and carrying away from the work site.

   After demolition, HEPA vacuum the work site, remove protective sheeting, and HEPA vacuum the surfaces covered by protective sheeting.

3. Remove the old painted wooden cabinets in the kitchen. These built-in cabinets line two walls in the kitchen. The walls will be repainted and new cabinets installed.

   Set up the work area as described in the module on set up: put down protective sheeting, seal doorways, etc. Remove cabinet doors and wrap in protective sheeting and carry away from the work area. Mist cabinets and pry loose from walls. Wrap in protective sheeting and carry away from the work site.

   After the cabinets are removed, wet scrape and sand any rough areas on the wall in preparation for installation of new cabinets and repainting.

   When work is done, HEPA vacuum area, remove protective sheeting, and HEPA vacuum all surfaces.

4. Remove sections of deteriorated siding and peeling paint from the east exterior wall of the house. Water has leaked behind the siding causing large sections to deteriorate. There are two large patches of peeling paint where the siding is still solid. New clapboard siding will be installed later and the entire exterior repainted by a painting contractor.

   Set up exterior work area according to set up procedures in module on set up. Remove deteriorated siding by lightly misting and prying loose siding from the structure. Immediately wrap removed siding in protective sheeting and carry away from the work site. Lightly mist, scrape, and sand areas of deteriorated paint. When done, remove protective sheeting and dispose of . NOTE: Safe work practices should also be used when installing new sections of siding.

Exercise 3: Worksheet

Objective: Identify safe work practices for typical renovation and remodeling tasks.

Length: Total time: 25 minutes

Directions: Take 5 minutes to read the background and the jobs below. When you are finished, the instructor will ask you and the other participants to contribute approaches to each of the jobs listed below. You may take notes on approaches under each description.

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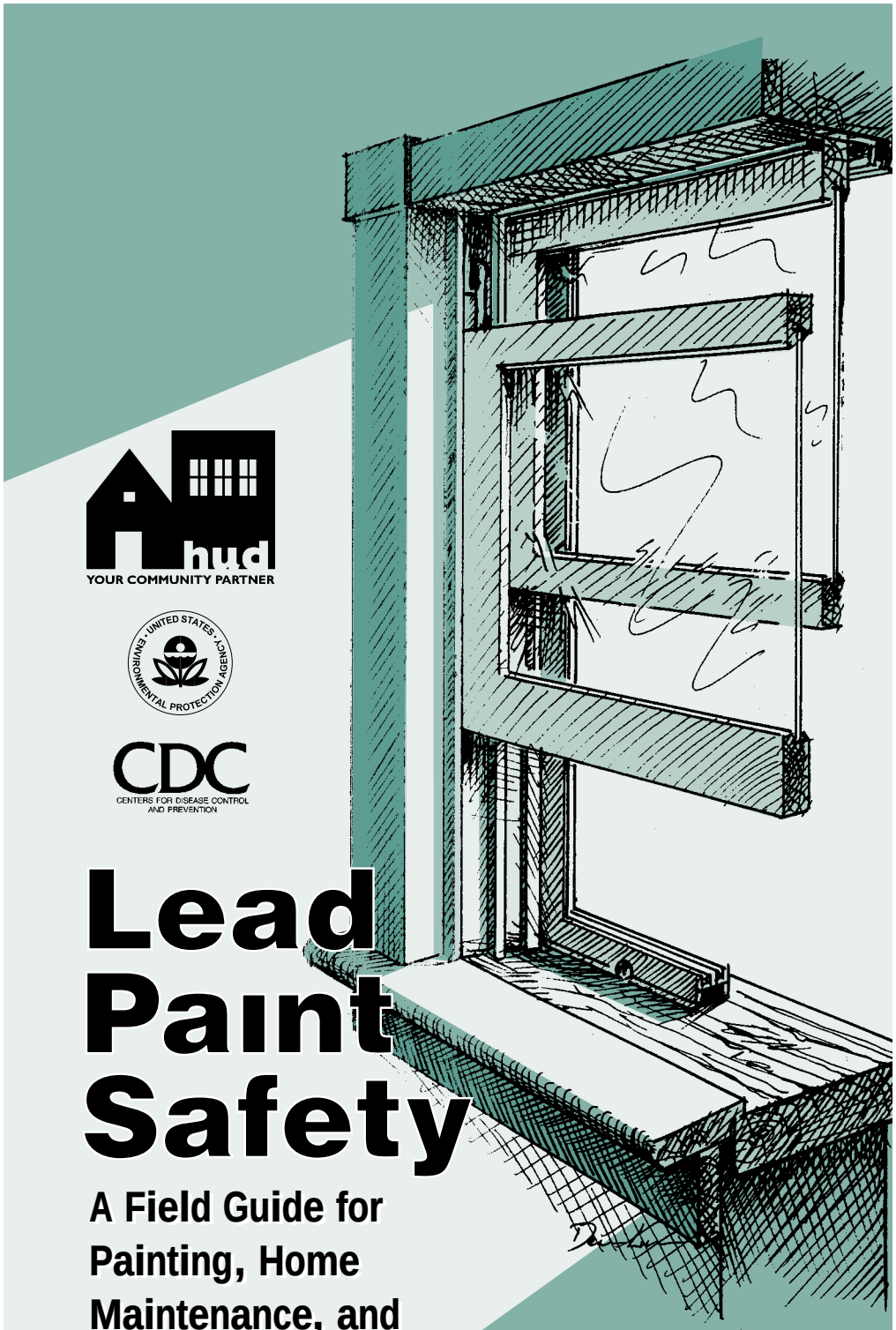
4. Remove sections of deteriorated siding and peeling paint from the east exterior wall of the house. Water has leaked behind the siding causing large sections to deteriorate. There are two large patches of peeling paint where the siding is still solid. New clapboard siding will be installed later and the entire exterior repainted by a painting contractor.

Appendix 8



YOUR COMMUNITY PARTNER

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

Lead Paint Safety

A Field Guide for Painting, Home Maintenance, and Renovation Work

U.S. Department of Housing
and Urban Development
Office of Healthy Homes and
Lead Hazard Control

Foreword

Every child should have a lead-safe home. That's why HUD is working to create lead-safe affordable housing through outreach and public education, a lead hazard control grant program, worker training, and the enforcement of regulations.

This guide is one part of HUD's comprehensive approach to lead safety in the home. If you perform routine maintenance on homes or apartments built before 1978, this guide will help you plan and carry out your work safely. Step-by-step instructions and illustrations explain and show what you need to do to protect yourself and your clients if you are working in older housing that could contain lead paint. This Field Guide is a valuable tool that thousands of workers and contractors across the country are using as part of a national effort to eliminate childhood lead poisoning.

Thank you for working lead-safe. It's helping protect America's children.

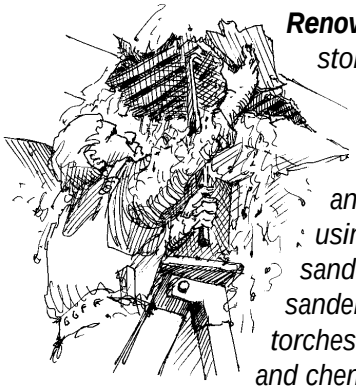
Mel Martinez, Secretary
U.S. Department of Housing and Urban Development

Acknowledgements

The U.S. Department of Housing and Urban Development (HUD) developed this guide with the assistance and input of the Centers for Disease Control and Prevention (CDC), the U.S. Environmental Protection Agency (EPA), and the Occupational Safety and Health Administration (OSHA). HUD would like to thank the staff of these agencies for their participation in developing this Field Guide. HUD would also like to thank all of the renovation, painting, maintenance, and lead professionals who provided useful feedback. Vicki Ainslie, Dana Bres, Robert Brown, Kevin Cleary, Alan Isaac, David Levitt, Linda Lewis, Dennis Livingston, Eric Oetjen, Roy Reveilles, Ron Rupp, Joe Shirmer, Aaron Sussell, Peter Tiernan, David Thompson, Richard Tobin, Ellen Tohn, Veda Watts, and Mike Wilson served on the Technical Panel for this project. A special thanks goes to these individuals for their contributions.

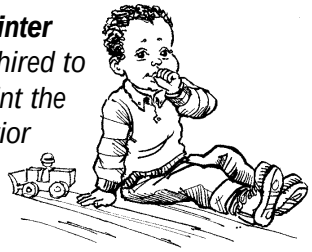
This Guide was developed by the U.S. Department of Housing and Urban Development's Office of Healthy Homes and Lead Hazard Control through a contract with ICF Incorporated. Dennis Livingston created the illustrations and provided technical content for this Field Guide.

WHY SHOULD I FOLLOW THIS GUIDE?



Renovation *of a two-story, 19th century house included removing paint from floors and woodwork using power sanders, hand sanders, scrapers, torches, heat guns, and chemical paint strippers. Ceilings were also repaired, and wallpaper and paint were removed from several walls. The family that owned the home temporarily moved out of the house. They returned when the work was only partly completed. There was dust throughout the house.*

The family discovered that something was wrong when one of the family's dogs began to have seizures. A veterinarian found that the dog had been lead poisoned. The mother and children had their blood tested, and found that all of them had very high levels of lead in their blood. All three were admitted to the hospital for severe lead poisoning.

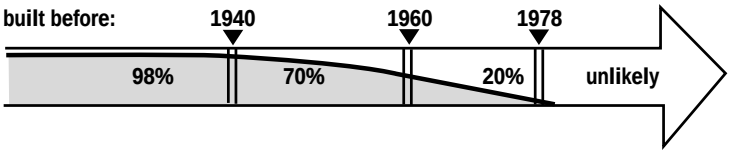


A painter *was hired to repaint the exterior of an old Vermont home occupied by a couple expecting the birth of their first child. The painter used a power grinder to remove the old paint from the exterior siding. While the painter worked, the window to the baby's nursery was left open, and the entire room, including the crib, became covered with dust. Fortunately, the couple noticed the dust, and understood the potential risk. They called in another painter who was qualified to control lead hazards. He cleaned up the paint dust and the newborn baby moved into a clean, safe home.*

Most Old Homes Contain Lead-Based Paint

- Most homes built before 1978 contain some lead-based paint. Lead-based paint is more common and was used more extensively in homes built before 1950.

Probability of a House Containing Lead



- Homes built before 1950 also used paint that had a higher concentration of lead.

Poor Maintenance Endangers Children

- In poorly maintained houses, lead-based paint, which may be several layers down, flakes and peels off. Paint failure is usually caused by moisture problems. Sometimes rubbing or impact causes paint failure. Doing work improperly can also cause a lot of dust.
- Lead-based paint chips and dust then mix with house dust and build up in window troughs and on floors.
- Children are endangered when lead in paint chips, dust, and soil gets on their hands and toys which they may put in their mouths.
- Lead can make children very sick and cause permanent brain and nerve damage. It can also result in learning difficulties and behavior problems. This damage is irreversible. It is a tragedy we can prevent.
- If paint is kept intact and surfaces are kept clean, children can live safely in a home painted with lead-based paint.
- Uncontrolled or uncontained dust and debris from repainting and/or renovation that disturbs lead-based paint in a well-maintained home can also expose children to unsafe levels of lead.

Changing Common Work Practices Can Protect Workers and Children

- Lead-based paint can also pose a threat to workers by causing damage to their brains, and nervous and reproductive systems.
- With small changes in work practices, workers can protect themselves and their customers from lead exposure.
- These changes include:
  - Keeping dust to a minimum.
  - Confining dust and paint chips to the work area.
  - Cleaning up during and after work. Special cleanup procedures must always be used.
  - Taking dust wipe samples to make sure cleaning removed lead-contaminated dust. (Dust wipe sampling is described in Section 5D, p. 71.)

Who Should Use This Guide?

- Building maintenance workers and their supervisors
- Painters
- Repair, renovation, and remodeling contractors
- Property managers and owners
- Homeowners
- Local housing agency staff and public health staff

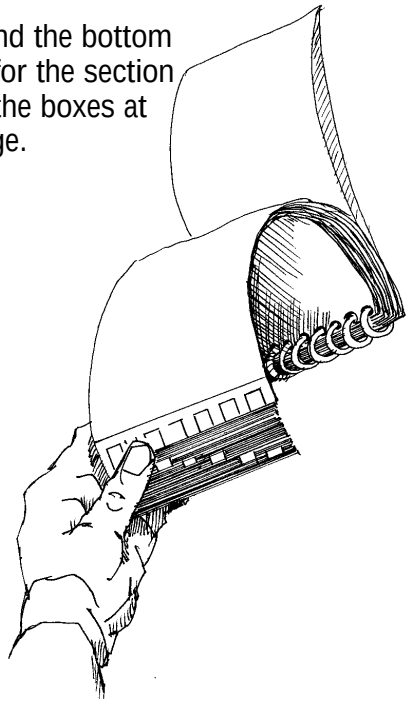
When Should I Follow This Guide?

- To fix a specific problem.
- During routine maintenance or apartment turnover.
- In homes where there may be a young child or a pregnant woman.
- During work supported by Federal funds that must be performed using safe work practices under Federal regulations.

H O W T O U S E T H I S G U I D E

This guide is divided into 5 sections.

To locate a section, bend the bottom of these pages. Look for the section you want by lining up the boxes at the bottom of each page.



The Basics

Before You Start Work

Doing the Work

At the End of the Job

Resources (Includes Glossary)

1 2 3 4 5

CONTENTS OF THIS GUIDE

REMEMBER THESE PRINCIPLES

1. ASSUME: **Paint in Homes Built Before 1978 Contains Lead**
(Unless a lead-based paint inspection shows it doesn't.)
Exposing Anyone to Dust, Especially Children, is Bad

2. CHECK: **Federal, State, and Local Regulations**
- OSHA has rules for worker safety
- EPA and your local community have rules for waste disposal

3. AVOID: **Creating Dust**
- Use low dust work practices (for example, mist surfaces with water before sanding or scraping)

Spreading Dust
- Cover area under work with durable protective sheeting (plastic or poly)
- Keep dust contained to immediate work area

4. PROTECT: **Occupants, Particularly Children**
- Keep them away from work area
- Clean up work site before they return

Workers
- Wear proper respiratory protection for lead dust
- Keep clean
- Don't take dust home

5. CLEAN UP: **After All Work**
- Clean up is particularly important if painted surfaces were broken or wall cavities were opened
- Take dust wipe samples to make sure that it is safe for children to return

6. MAINTAIN: **A Dry Building**
- Moisture problems can cause paint failure, building deterioration, and encourage pests

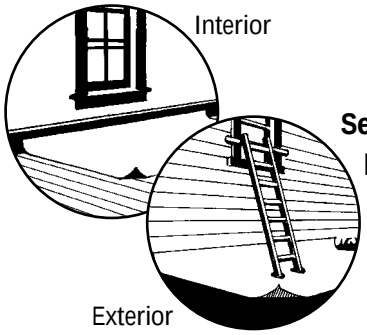
All Painted Surfaces
- Well-maintained paint generally does not pose a health risk

Clean and Cleanable Surfaces
- Keep floors and painted surfaces smooth
- Damp mop them often
- Clean rugs and carpet well

ROUTINE WORK PRACTICES

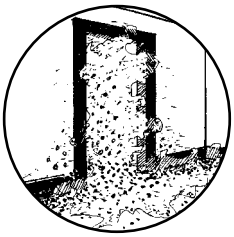
The following pictures appear throughout the Guide and refer to specific sections covering these practices.

Correct the Cause of the Problem. Before work starts, correct the conditions causing damage to the home. See Correcting the Cause of the Problem, p. 7.



Set Up Work Area. Set up the work area properly. See Section 2: Set Up the Work Area - Interior & Exterior, p. 13 and p. 15, respectively.

Clean Up and Clear. Thoroughly clean up the work area using the procedures described in this guide. Then, take dust wipe samples to see if it is safe for children to return. See Section 4: Cleaning Up, p. 47 and Check Your Work, p. 51.



High Dust Jobs. Some activities are likely to create high amounts of dust during the job. See Section 3: High Dust Jobs, p. 45 and follow the guidelines in this section to ensure that this work is performed safely.

Important!! This symbol points out important details where special attention is needed.

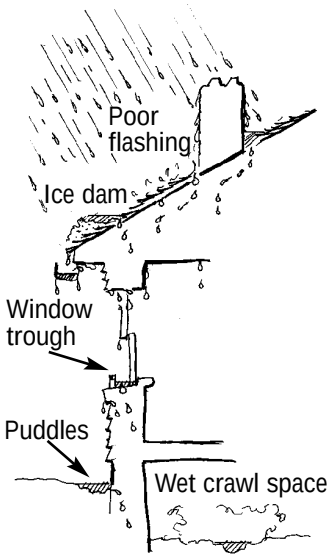
CORRECTING THE CAUSE OF THE PROBLEM

If a job involves repairs to a damaged paint surface, it is important to correct the cause of the damage, or the damage will occur again. Damaged surfaces that contain lead-based paint represent a health threat to the occupants.

The following conditions are <u>examples</u> of potential causes of damage to painted surfaces. Be sure that the planned work will correct these conditions if they are present.

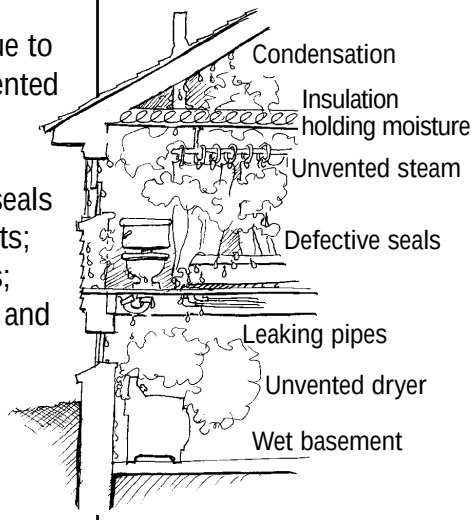
Moisture From Outside

Roof leaks; incorrectly installed flashing; defective downspouts and gutters; water collecting in window troughs; puddles of water at foundations; leaking basement walls; wet crawl spaces.



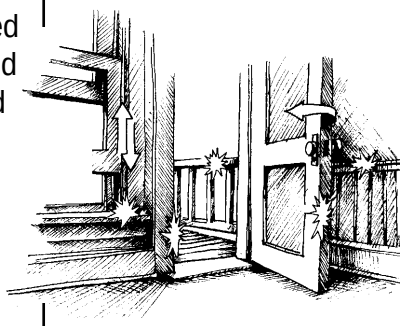
Moisture From Inside

Attic condensation due to poor ventilation; unvented steam from showers and cooking; leaking plumbing and failed seals around tubs and toilets; condensation in walls; unvented dryers; wet and poorly maintained basements.



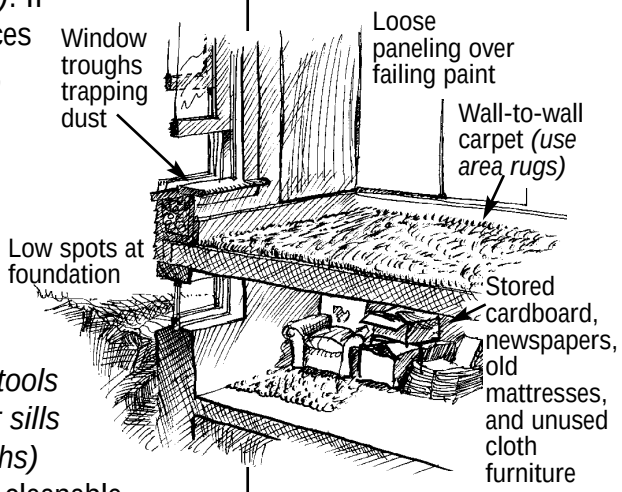
Rubbing and Impact of Painted Surfaces

Binding doors; unprotected painted walls and trim; and rubbing from opening and closing painted windows.



Places that Collect Dust and Paint Chips

Where feasible, repair or remove places where dust and paint chips may accumulate and can't be easily cleaned *(such as old wall-to-wall carpet and unused items stored in the basement)*. If these places are damp, they may also be home to mold. Keep flat surfaces *(such as window stools or interior sills and troughs)* clean and cleanable.



Structural Damage

Some surface damage may be caused by structural damage such as wood rot, termites, foundation settlement, and foundation shift. These problems must be addressed before surface repairs are made.

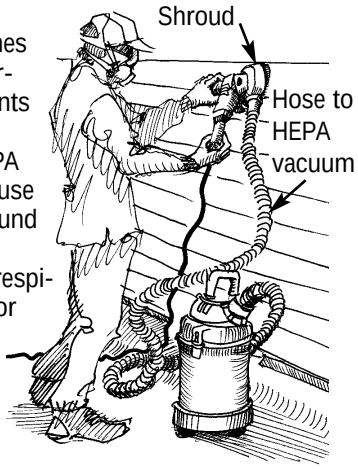
RESTRICTED PRACTICES

Goal: **Don't use unsafe work methods. Some work methods create such high levels of dust that they must not be used when working on surfaces that may contain lead-based paint.**

Don't Use Power Sanders or Grinders Without HEPA Vacuum Attachment.

These machines create a lot of dust that can contaminate a building and the ground around a building endangering workers, neighbors, and occupants.

Controlled Sanding or Grinding With HEPA Vacuum Attachment Is Acceptable.



If the sanding or grinding machines are "shrouded," which means surrounded with a barrier that prevents dust from flying out around the perimeter, AND attached to a HEPA vacuum, they can be used. Because some dust may still blow out around the perimeter, workers near the machine should wear half-mask respirators rated by NIOSH as N100 (or HEPA) at a minimum. Also, the work area must be completely isolated if the machine is used inside (see Section 3: High Dust Jobs, p.45). Because these tools can create high levels of dust and require additional precautions, their use is beyond the scope of this guide.

Don't Use Open Flame/High Heat Removal of Paint.

There is no acceptable use of an open flame torch or high temperature heat gun (above 1100 degrees F) to remove paint.

- It produces toxic gases that a HEPA dust canister on a respirator cannot filter out on its own (a second, organic filter is necessary).
- It creates high levels of very toxic dust that is extremely difficult to clean up.
- It can burn down a house.

Do Use a Heat Gun on Low Setting.

A heatgun set below 1100 degrees F may be used with caution. It is recommended for small areas only, such as the edge of a door, the top of a window stool, or the friction surface of a window jamb.

Don't Use Paint Strippers Containing Methylene Chloride.

Many paint strippers are potentially dangerous. Strippers containing methylene chloride should not be used because this chemical is extremely toxic and is known to cause cancer.

Other Chemical Strippers with Appropriate Precautions Are Acceptable.

Chemical strippers without methylene chloride are safer to use, as long as the precautions printed on the container are followed. Take extra precautions to mask areas near stripping.

Don't Use Uncontained Hydroblasting.

Removal of paint using this method can spread paint chips, dust, and debris beyond the work area. This result makes it difficult to clean up these hazards at the end of the job.

Contained Pressure Washing Is Acceptable.

Removal of paint using contained pressure washing within a protective enclosure to prevent the spread of paint chips, dust, and debris may be done. Because this method requires additional precautions that are beyond the scope of this guide, it should only be used by certified lead abatement workers.

Don't Use Uncontrolled Abrasive Blasting.

This work method can also spread paint chips, dust, and debris beyond the work area. This result makes it difficult to clean up these hazards at the end of the job.

Contained Blasting Is Acceptable.

Contained abrasive blasting within a protective, locally exhausted enclosure to prevent the spread of paint chips, dust, and debris may be used. Because this method requires additional precautions that are beyond the scope of this guide, it should only be used by certified lead abatement workers.

Avoid Extensive Dry Scraping or Sanding.

Extensive dry scraping or sanding create large amounts of paint chips, dust, and debris that are hard to contain.

Use Wet Methods or Limited Dry Scraping and Sanding.

Mist surfaces before scraping and sanding. Continue to mist while working. Dry scraping or sanding of very small areas (for example, around light switches or outlets) may be done if flat surfaces below these areas are covered with protective sheeting. These methods should be avoided on areas larger than 2 square feet per room, and workers must have adequate respiratory protection.

KEY STAGES OF A JOB

Quality work requires thinking through the job from start to finish. Here are the basic stages of the jobs described in this guide.

Before Starting	• Find the causes of damage • Prioritize work • Hand out lead hazard information pamphlet (see note below)
Work	• Set up work area — Separate work space from occupied space — Isolate high dust areas • Correct cause(s) of problem(s) • Complete the job using safe work practices, such as those shown in this guide
Finish the Job	• Clean up thoroughly • Dispose of waste safely • Check quality of work and correct problems
Maintain the Work	• Educate occupants about risks from lead-based paint • Maintain a safe and healthy home

Renovation Notice About Lead Safety

Note: Federal law requires that owners and occupants of a house or apartment built before 1978 receive the pamphlet *Protect Your Family From Lead In Your Home* prior to the start of renovation work. The requirement applies to any work that will disturb a painted surface larger than 2 square feet when the work is done by:

- Contractors who have been hired to do any kind of work. Among others, this can apply to painting, drywall, and electrical trades.
- Owners of rental properties who have work performed by maintenance staff.

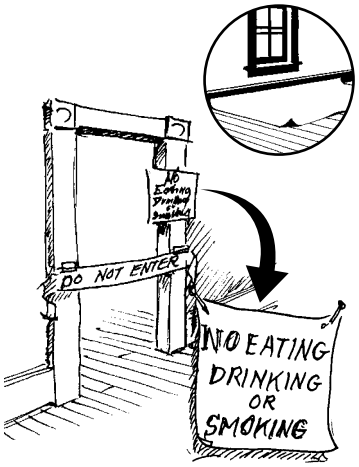
See p. 67 for more information about this requirement.

SET UP THE WORK AREA — INTERIOR

Restrict Access

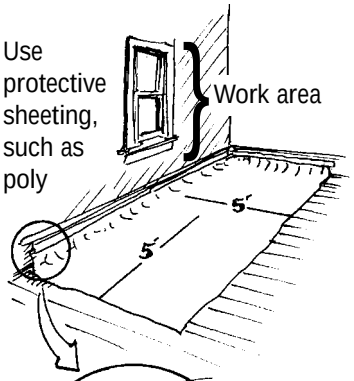
- Ask occupants to leave the room where work will be done.
- Have them stay out until final cleanup.
- Place "DO NOT ENTER" tape across doorway or post sign.

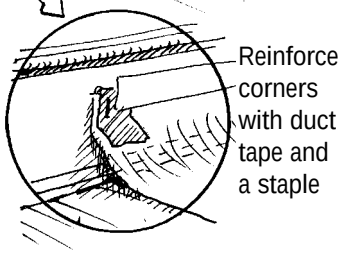
Caution: If the work will create a large amount of dust, follow the guidelines in Section 3: High Dust Jobs, p. 45.



Protect Floor

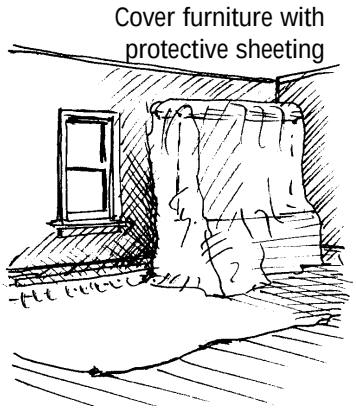
- Place protective sheeting on floor extending about 5 feet from the work area.
- Tape protective sheeting to the baseboard under work area using masking tape (or durable tape where masking tape doesn't work).





Protect Furnishings

- Remove drapes, curtains, furniture, and rugs within 5 feet of work area.
- Cover any furniture within 5 feet of work area that cannot be moved.



Stock the Work Area

- Put all necessary tools and supplies on protective sheeting before beginning work to avoid stepping off the protective sheeting.

Tracking

- To avoid tracking dust off the protective sheeting, wear non-skid shoe covers on protective sheeting and remove them each time you step off the protective sheeting.

OR

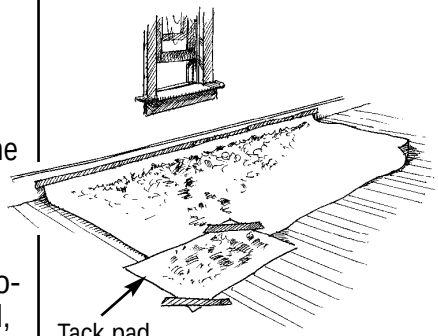
- Wipe both top and bottom of shoes with a damp paper towel each time you step off the protective sheeting.

OR

- Clean off shoes using a tack pad (a large sticky pad that helps remove dust).

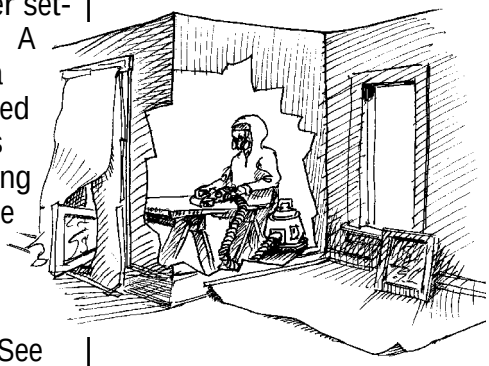
OR

- Remove shoes every time you step off the protective sheeting.



Set Up Dust Room (Optional)

- When working on components that can be moved, such as doors and window sashes, consider setting up a dust room. A dust room is an area isolated from occupied areas where workers can do dust generating work. The door of the room is covered with a flap and the floor is covered with protective sheeting. See Section 5D: Setting Up a Dust Room, p. 73.



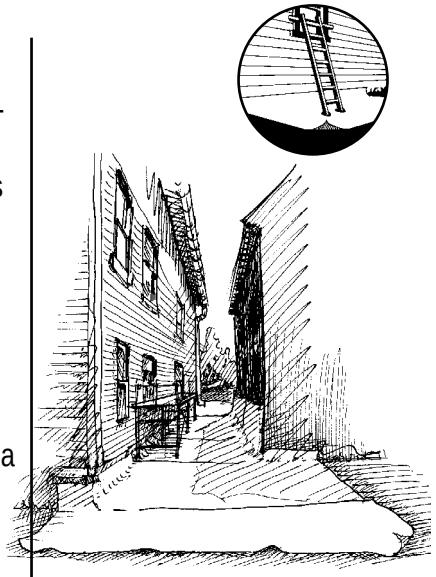
- Using a dust room contains dust and paint chips, and makes cleanup easier. It also helps protect occupants, as well as other workers.

SET UP THE WORK AREA — EXTERIOR

Protect Ground

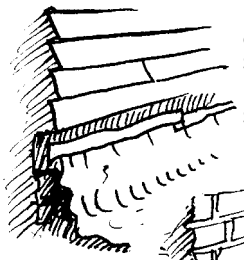
- When working on the ground floor, lay protective sheeting 10 feet from work surface or as space permits. When working on the 2nd story or above, extend the sheeting farther out.
- Vertical shrouding on scaffolding should be used if work is close to a sidewalk, street, or another property, or the building is more than three stories high.

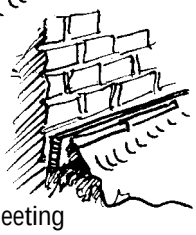
Important: Covering the ground protects the soil from contamination by lead-based paint chips and dust.



Attach Protective Sheeting to Wall

- Protective sheeting can be taped and/or stapled to wood siding or ribbon board. A wood strip may need to be attached to a masonry wall.

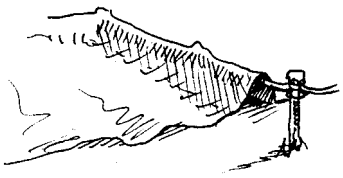




Build Curb

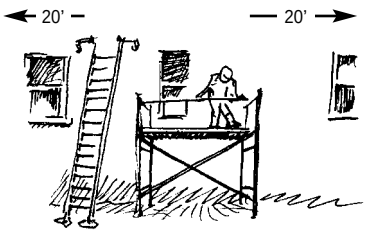
- Build a curb around work perimeter when a sidewalk or another property is near, or when wind may blow debris off protective sheeting.

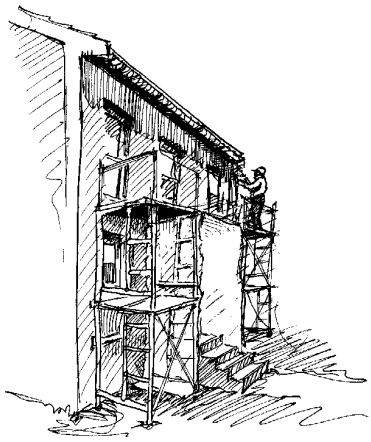
Caution: This may pose a tripping hazard.



Cover Windows and Doors

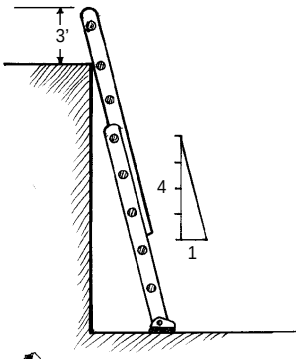
- All windows and doors within 20 feet of the work area must be closed. If they cannot be closed, seal with protective sheeting during work.
- If an entrance must be used that is closer than 20 feet, place a shroud above and on the sides of the entrance.

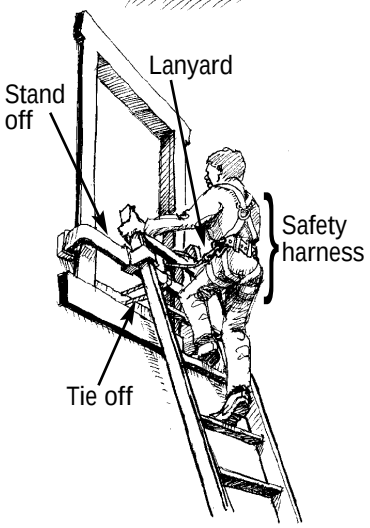




Use Ladder Safely

- Don't use a metal ladder near power lines.
- Check feet and rungs of ladder to make sure they are sound.
- Place the base of the ladder at a distance from the wall using a height to base ratio of 4:1.
- Ladder should extend 3 feet past the top of the surface area where work will be done.
- If using protective sheeting to cover the ground, cut slots in the sheeting and place the ladder feet directly on the ground—not on top of the protective sheeting.
- Tie off the top of the ladder, where possible.
- If the work is taking place at heights above 10 feet, tie off the ladder and secure yourself with a lanyard and harness.





W O R K E R P R O T E C T I O N

Protect Your Eyes

- Always wear safety goggles or safety glasses when scraping, hammering, etc.

Keep Clothes Clean

- At end of work period, remove dusty clothes and/or vacuum off dust. Wash them separately. Do not use compressed air to blow dust off clothing.

OR

Use Disposable Covers

- Wear disposable protective clothing covers. Disposable protective clothing covers can be stored in a plastic bag and reused if fairly clean and there are no rips. Small tears can be repaired with duct tape.
- Wear painter's hat to protect head from dust and debris.

Disposable suit & shoe covers

Wear Respiratory Protection

- When work creates dust or paint chips, workers should wear at least a NIOSH-approved respirator for lead work. See Section 5D: Respiratory Protection, p. 69.

Post Warning

- Post sign and avoid eating, drinking, or smoking on site.

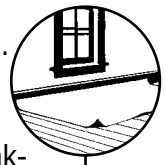
Sign at work site entrance

Wash Up

- Wash hands and face each time you stop working.

PROBLEM A wall or ceiling is sound, but has holes, uneven surfaces, or flaking and peeling paint.

SOLUTION Prepare wall or ceiling to create a sound, intact surface for painting. Use methods that create a minimum amount of dust.



Set Up

- See Section 2, p. 13.

Remove Deteriorated Paint

- Wet scrape any loose, peeling, or flaking paint.

Fill and Patch Holes

- If removal of damaged edges is necessary, mist surface before removal.
- Skim and fill holes and cracks less than 1/16 inch wide with a non-shrinking spackle compound.
- If sanding is necessary to feather edge, use wet abrasive sponge or wet-dry sandpaper with water.

Prep Surface

- Clean wall, particularly in kitchen area.
- De-gloss surfaces as necessary (use liquid sandpaper or wet-dry sandpaper with water).

Important: Allow surface to thoroughly dry before priming.

- Prime surface using high-grade primer.
- Apply top coat. Use one or two coats as necessary.

Clean Up and Clear

- See Section 4, p. 47.

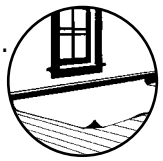
INTERIOR SURFACE PREP CONT'D

PROBLEM A wall or ceiling has cracking, peeling, or alligatoring paint, but most of the surface is sound.

SOLUTION Use a coating designed for longer durability than paint. Some of these coating systems include mesh.

Set Up

- See Section 2, p. 13.



Liquid Coating

Test Surface

- Where a long-lasting system (sometimes called encapsulant) is to be brushed, sprayed, or rolled, surface preparation is very important.
- If an encapsulant is used, use one that is approved by a state government. If your state does not have a list of approved encapsulants, it is recommended that you check with a state that does. Contact the National Lead Information Center at 1-800-424-LEAD for the telephone numbers of states with lists.
- A sample area should be tested before application. Follow manufacturer's instructions exactly.

Apply System Base Coat

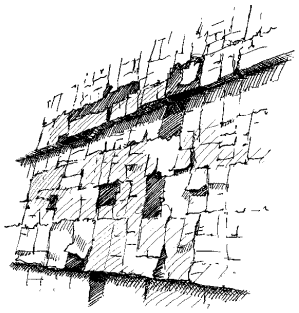
- Apply system base coat with a high nap (approximately 3/4 inch) roller. Follow the product instructions.

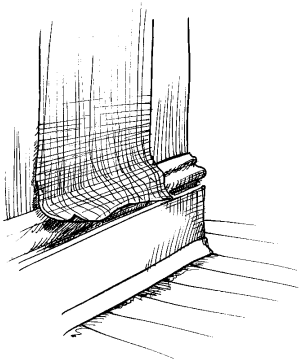
Mesh System

Apply Mesh

- Where there is extensive cracking or alligatoring, consider using a system that includes mesh because it can add strength and durability.
- Cut the mesh leaving a 2 inch overlap at ceiling and baseboard.
- Install so that mesh is plumb.

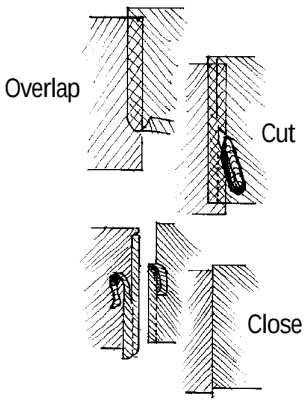
Important: For mesh systems, follow manufacturer's instructions exactly.

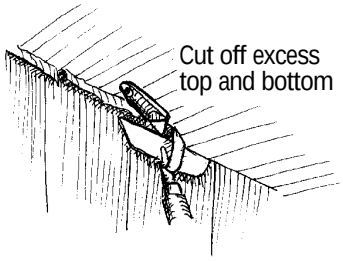


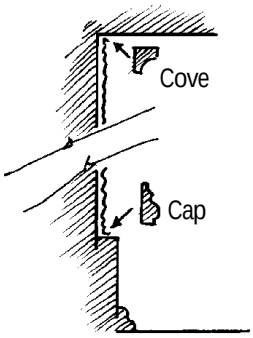


Apply Mesh Cont'd

- Press mesh into the base coat with a wallpaper brush, spackle knife, or roller.
- Overlap seams by 1 inch. Cut down the center of the seam and remove the 2 waste strips. Let seams butt against each other.
- Using a spackle knife, press the mesh at the bottom and top. Then cut off the excess.
- Roll on the top coat. Make sure that there is complete and even coverage.
- If there is a risk of further peeling, the top edge of mesh can be reinforced with cove or crown molding, and the bottom reinforced with base cap.







Clean Up and Clear

- See Section 4, p. 47.

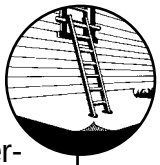
EXTERIOR SURFACE PREP

PROBLEM Exterior wood surface is chipping and peeling and may be painted with lead-based paint.

SOLUTION Prepare a sound, intact surface for painting. Use methods that create minimal dust.

Set Up

- See Section 2, p. 15.

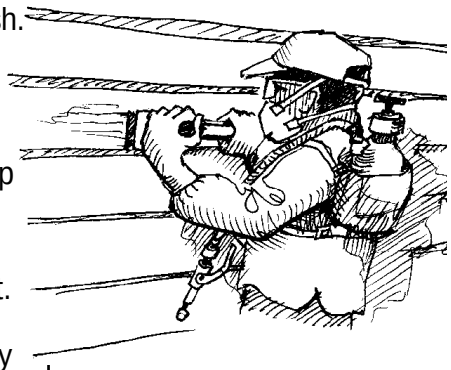


Clean Surface

- Clean wood with detergent (or lead-specific cleaner) and scrub brush.

Wet Scrape

- Wet scrape woodwork and siding. Mist small areas frequently to keep down dust. Using a pump sprayer in a knapsack is convenient.



Mist and Sand

- Wet sand using wet-dry sandpaper or wet sanding sponges. A power sander may be used if attached to a HEPA vacuum, and the worker is wearing respiratory protection.

Paint

- Prime and paint.

Clean Up and Clear

- See Section 4, p. 47.

Dispose of Water

- If you dislodge paint using pressure washing, water must be collected and may need to be tested (see local regulations for water disposal procedures in your area).

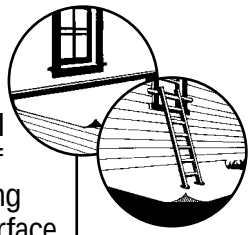
P A I N T R E M O V A L

PROBLEM Areas of paint are peeling or flaking or there is evidence that a child has been chewing on a painted surface. An example of a surface accessible to children is the inside nose of a window stool (inside sill).

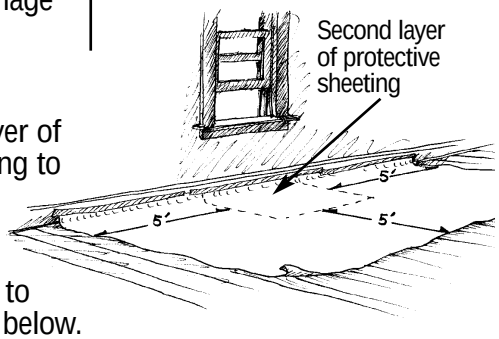
SOLUTION Remove all paint using methods that do minimum harm to the surface, create minimal dust, and are safe for workers.

Set Up

- See Section 2, p. 13 or p. 15.
- When using chemical strippers, the edge of the protective covering below the painted surface must be tightly fastened to the wall so that the stripper doesn't damage other surfaces.



- Recommendations:
  - — Use a second layer of protective sheeting to collect stripping waste. The first layer remains in place to protect surfaces below.
  - — For removable components, consider having paint stripped off-site or installing an entirely new component.



Chemical Removal

- If a large area of paint is to be stripped, consider hiring a professional.
- Follow the manufacturer's instructions carefully when using chemical paint strippers.

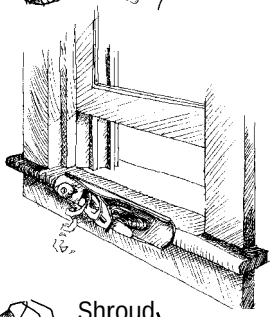
Caution: If using a caustic stripper, neutralize the surface according to the manufacturer's directions before applying new paint.

Chemical Removal Cont'd

- After stripping paint from wood, a paint residue will remain in the wood. Use caution when sanding the bare wood because it may contain lead residue.

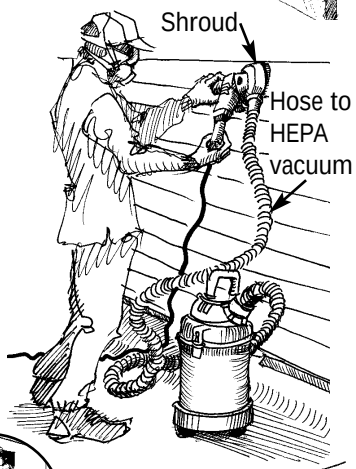
Hand Stripping

- Paint can also be removed with a paint scraper. Be sure to mist areas where paint is to be removed. Using a hand plane removes all paint and all residue. It also creates very little dust.

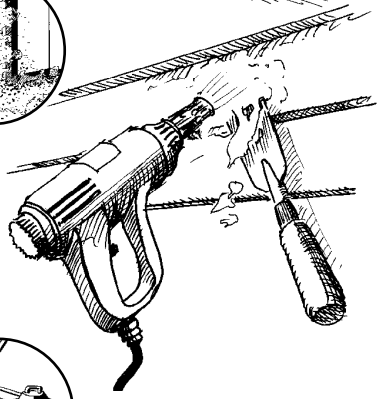


Mechanical Stripping

- When using power tools, such as sanders or grinders to remove or feather paint, make sure the tool is shrouded and attached to a HEPA vacuum. Respiratory protection is still necessary.



Caution: High dust potential.



Heat Stripping

- When using a heat gun to remove paint, be sure the temperature setting is kept below 1100 degrees F.

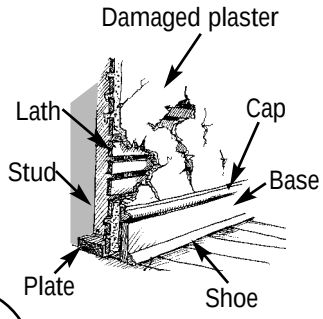
Clean Up and Clear

- See Section 4, p. 47.

DAMAGED INTERIOR WALL OR CEILING

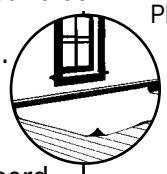
PROBLEM Wall or ceiling area is too badly damaged to repair, and demolition would create a large amount of dust.

SOLUTION Install a new durable surface over the damaged area using methods that create little dust and do not require demolition.



Set Up

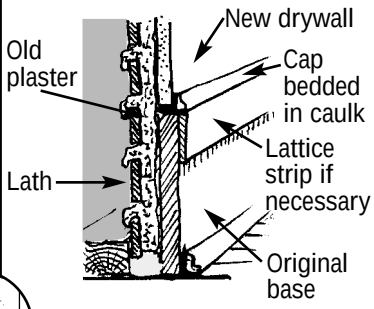
- See Section 2, p. 13.



Cover With Drywall

- Mechanically fasten drywall or veneer board through damaged plaster to studs.
- Seal the perimeter, particularly the bottom edge.

Drywall laminate sits on old base



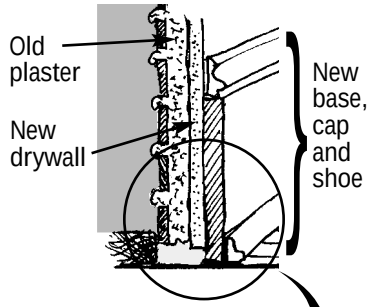
—On Base

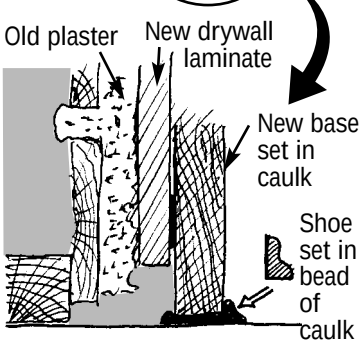
- Avoid removing existing base.

Caution: High dust potential.

- Where drywall laminate will end above existing base, install shoe or cove molding into bead of caulk to seal.
- If laminate comes close to flush with base face, a strip of lattice bedded in caulk can be used to seal joint.

New base over drywall laminate



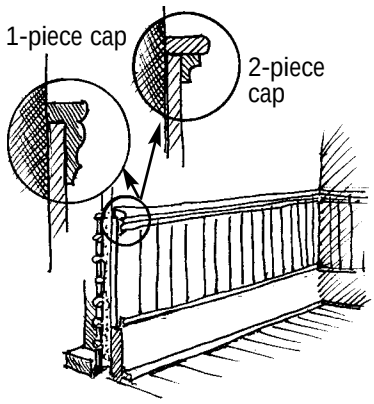


—Behind Base

- Where base will be replaced, bed the new base in bead of caulk on the back and bottom. Then, bed shoe molding in a bead of caulk to seal.

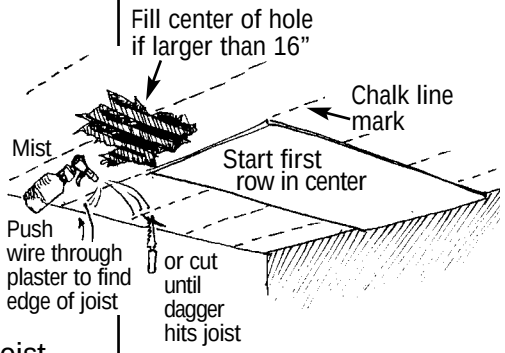
Install Wainscoting

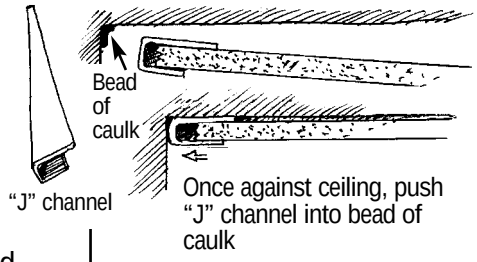
- Where bottom 3 or 4 feet of wall is damaged beyond repair, the wall can be enclosed with wainscoting. The wainscoting can be installed above the existing baseboard.
- Bed the lower edge in a bead of caulk with a trim piece also bedded in caulk.
- Finish top with cap molding.

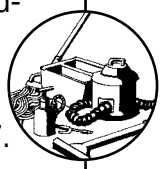


Repair Holes in Ceilings

- When laminating drywall to ceilings, it is critical to screw into joists, not lath.
- Old joists may be irregularly spaced, so each joist center must be located.
- A drywall dagger can be used to find the joist edge, as can a heavy gauge wire pushed through the plaster.
- The drywall edges should be taped and spackled.
- If walls will not be spackled, perimeter edges can be finished with "J" channel bedded in a bead of caulk.







Clean Up and Clear

- See Section 4, p. 47.

DETERIORATED EXTERIOR SURFACES

PROBLEM An exterior painted surface is badly damaged.

SOLUTION Whenever possible, repair the surface, prep, prime, and paint exterior trim and siding, and then maintain the surface. This method is the preferred approach.

When a surface is too badly damaged to repair, install vinyl or aluminum siding, or aluminum wrap to create a safe, durable covering that protects the surface and does not cause further deterioration.

Note: Siding must be installed correctly or it may lead to wood rot and/or interior paint failure. Siding may also become home to insects and mold. Correct installation is critical in both hot and cold climates.

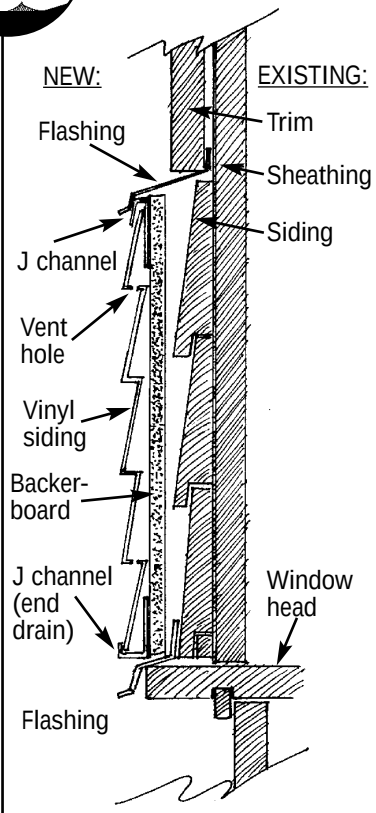
Cover Deteriorated Surface With Siding

Set Up

- See Section 2, p. 15.

Install Siding

- Carefully follow the manufacturer's instructions for installing siding over an existing surface.
- Use a styrene backboard with an R-value of at least R2.
- Take care to properly install flashing, especially at horizontal trim and window and door heads.
- The siding system must be well vented but sealed at the bottom to prevent flaking and peeling paint from falling from behind the siding to the ground.
- Be sure that water can drain out.



Important: The entire home should be well ventilated to prevent moisture build-up that can cause structural damage and/or paint failure.

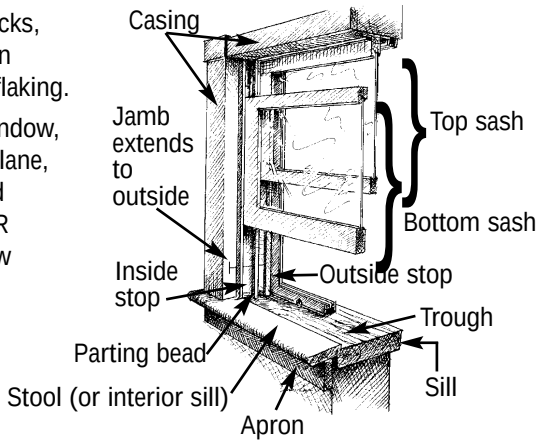
Clean Up and Clear

• See Section 4, p. 47.

S T I C K I N G W I N D O W

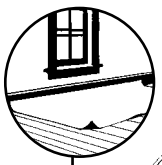
PROBLEM Window sticks, and paint on window is flaking.

SOLUTION Remove window, scrape or plane, repaint, and reinstall, OR install a new window.



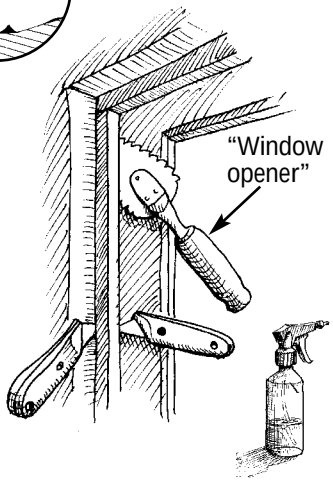
Set Up

- See Section 2, p. 13.



Loosen Painted Sashes

- If window is painted shut, mist and cut window joint with utility knife. Then open joint between sash and stop with a “window opener.” Mist while working.



Remove Inside Stop Molding

- Mist and remove stop molding from sides and head. Dispose of properly unless it has historic value.

Remove Bottom Sash

- If counterweight cord or chain is attached to the sash, knot it or tie it to a stick when removing from sash so it does not get pulled into the weight compartment.

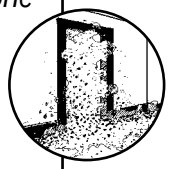
Remove Top Sash

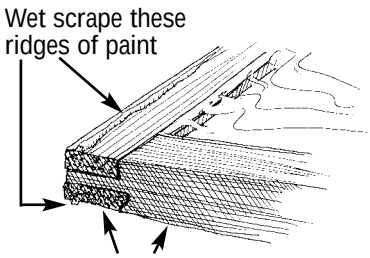
- Mist and remove parting bead. Then remove the top sash.

Wet Scrape or Plane

- Set sash on a work bench, clamp, and wet scrape all surfaces. Or use a power planer attached to a HEPA vacuum.

Caution: High dust potential. This work can be done in a dust room. See Section 5D: Setting Up a Dust Room, p. 73.





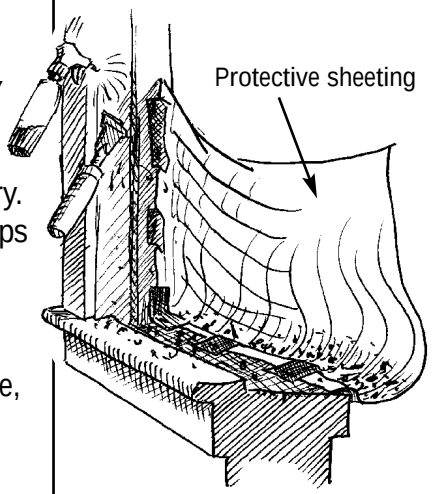
Repair, Reglaze, Seal, and Paint

- Reglaze and repair as necessary. Wet sand, prime, and paint sash and jamb. Seal, but do not paint sash edges.

Important: Seal bottom edge of sash, particularly end grain.

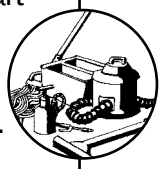
Repair and Paint Jamb

- Repair jamb if necessary.
- To prevent dust and chips from falling outside the window, install a scoop of protective sheeting.
- Then wet scrape, prime, and paint.



Reinstall Sash

- Reinstall sash with new or wet scraped and repainted stop and parting bead.



Clean Up and Clear

- See Section 4, p. 47.

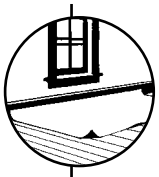
L O O S E W I N D O W

PROBLEM Loose sashes (lower and upper) do not operate smoothly, and they allow heat loss. Also, sashes rubbing against a painted jamb create paint dust.

SOLUTION Install sashes in window compression jamb liner to seal window and allow sashes to move easily without rubbing against jamb. If sashes or window components are badly deteriorated, replace window.

Set Up

- See Section 2, p. 13.



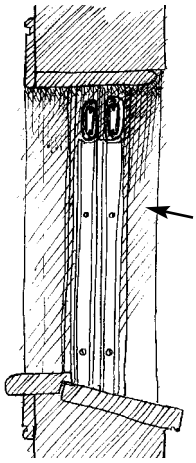
Install Window Jamb Liners

Remove Sashes and Paint

- Follow directions on pages 29 and 30.

Cut Jamb Liners

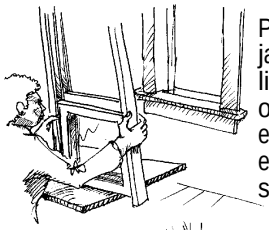
- Cut liners to fit in jamb (1/4 inch short of dimension). If pulley system is being saved, cut off directly below pulley.



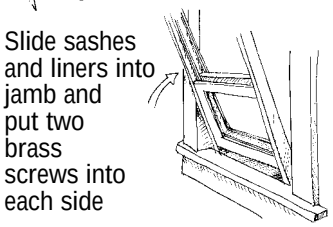
Window jamb liner installed below pulleys to keep counterweight system working

Install Jamb Liners

- Press jamb liners onto sash.
- Attach jamb liners with brass screws on top and bottom of each side.



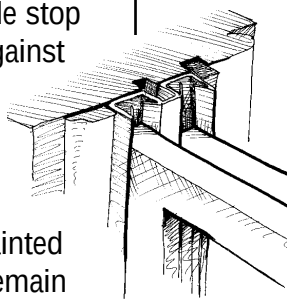
Press jamb liners onto edge of each sash

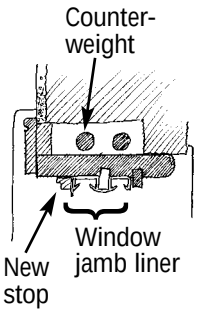


Slide sashes and liners into jamb and put two brass screws into each side

Install Stop Molding

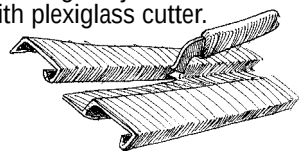
- Install new inside stop molding tight against jamb liner.





- If top sash is painted shut and is to remain fixed, adjust the above steps as follows:
  - — Cut away flange between channels of jamb liner.
  - — Leave parting bead intact and install bottom sash as above.

Cut flange of jamb liner with plexiglass cutter.



Replace Sash/Window

Choose an Option

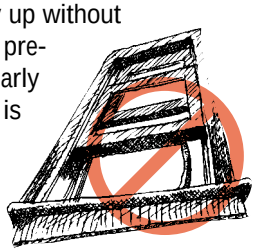
- If the sashes or other components are too badly deteriorated to save, consider one of the following options:
  - — Install new sashes in tilt-in jamb liners.
  - — Replace sashes, stops, and parting bead with a vinyl or aluminum window unit.
  - — Replace entire window including jamb casing, stool, and apron.

Clean Up and Clear

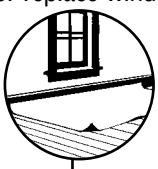
- See Section 4, p. 47.

WINDOW WON'T STAY OPEN

PROBLEM Window sash is loose and won't stay up without support. Propping the window open presents a danger to occupants, particularly children. When a window jamb liner is used, it may not be sufficient to keep the window open. (See page 31.)



SOLUTION Repair counterweight system or install hardware so the window will stay open securely, or replace window.



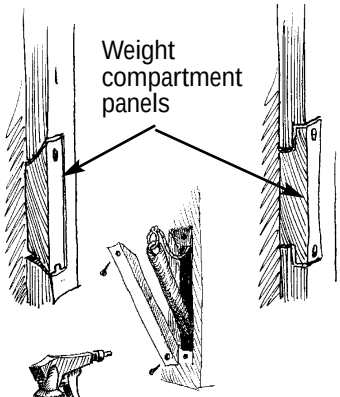
Set Up

- See Section 2, p. 13.

Option #1: Reinstall Counterweight System

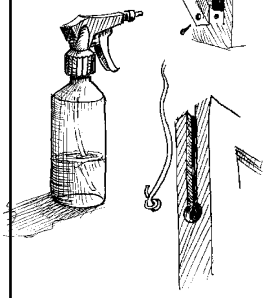
Open Counterweight Panel

- Find top of panel. Mist and scrape paint from top edge to find screw or nail holding in panel. Remove screw and pry off panel.



Vacuum

- Vacuum weight compartment with HEPA vacuum.

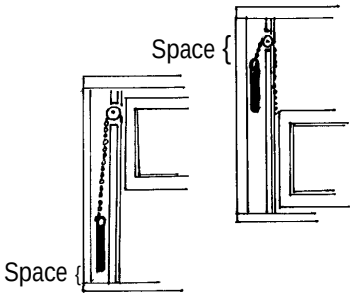


Remove Counterweight System

- Remove old rope or chain from counterweight and edge of sash.

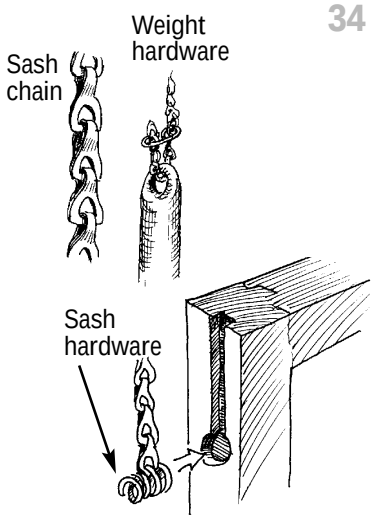
Reinstall Counterweight System

- Cut chain so weight is above bottom of weight compartment when open and weight is below pulley when closed.



Reinstall Counter Weight System Cont'd

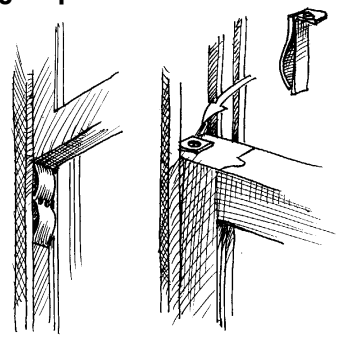
- Drop chain over pulley into weight compartment, pull out through panel opening, and attach to weight.
- Attach other end to edge of window sash using spring fixture. You may want to secure chain with fence staple.



Option #2: Install Spring Clips

Install Spring Clips

- Screw spring clips on to window as directions indicate. (2 styles shown.)



Option #3: Install "Hold Open" Hardware

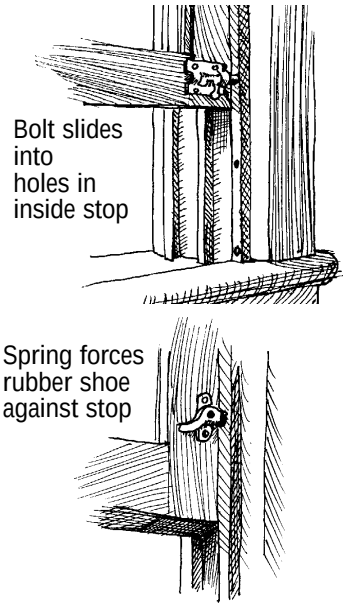
Install Slide Bolt

- Screw slide bolt to bottom of window sash. Tap bolt to mark where you want to drill holes for bolt. Drill holes in inside stop at 3 or 4 points.

OR

Attach Hardware

- Attach hardware that uses spring to press against stop. To move sash, press lever. Release lever when window is at desired height.



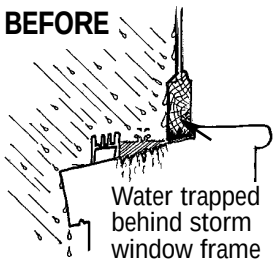
Clean Up and Clear

- See Section 4, p. 47.

DETERIORATED WINDOW TROUGH

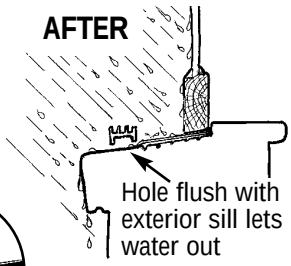
PROBLEM Storm window traps water behind the frame causing paint deterioration and damage to the sill.

SOLUTION Drill a drain hole through bottom of the storm window frame.



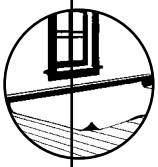
PROBLEM Window trough surface is damaged and difficult to clean.

SOLUTION Install smooth and cleanable surface in window trough.



Set Up

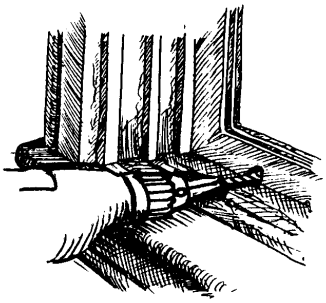
- See Section 2, p. 13.



Drill Drain Hole

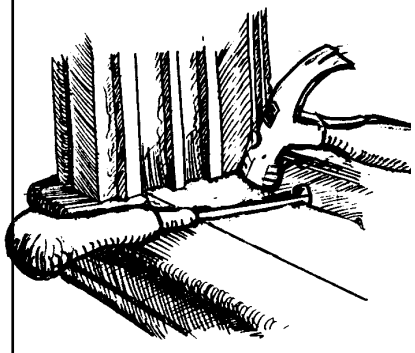
Drill

- To allow drainage, drill 2 holes through frame of storm window flush with sill. Drill holes approximately one quarter of the way from both sides. First, drill a 1/8 inch pilot hole, then the 3/8 inch hole.



Dent

- If flashing is installed in window trough and covers any part of the drain hole, run awl through drain hole. Tap with hammer to form dent in flashing to drain out water.



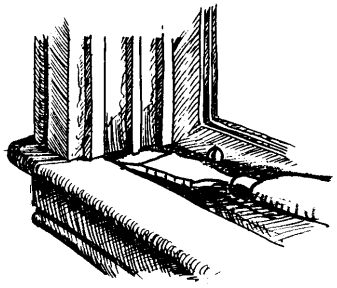
Cover Trough with Flashing

Wet Scrape

- To make surface flat, wet scrape high points and remove any fasteners from trough.

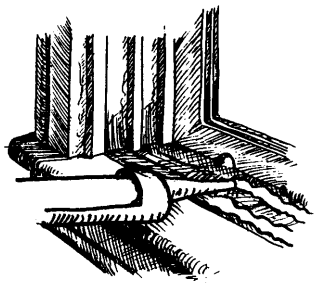
Cut

- Cut flashing 1/4 inch shorter than the width and length of trough.



Chisel or Notch

- To allow flashing to fit tight to jamb, drive chisel under parting bead and outside stop — or notch each side of the flashing at these two points.

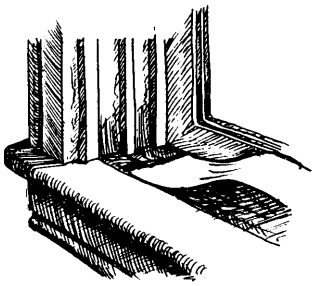


Check Fit

- Then slide flashing in to check fit. Remove and trim if needed.

Fasten

- To fasten flashing, run bead of adhesive caulk around perimeter of trough.

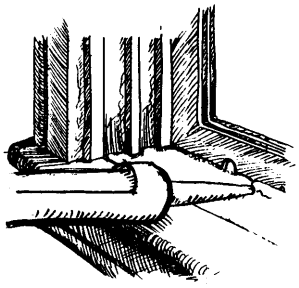


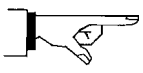
Install Flashing

- Bed flashing in adhesive caulk bead and press down.

Seal

- Run a bead of caulk around perimeter of flashing. If necessary wipe off excess caulk with damp cloth. Try not to smear caulk on face of flashing.





Important: Do not cover drain hole with caulk.

Clean Up and Clear

- See Section 4, p. 47.

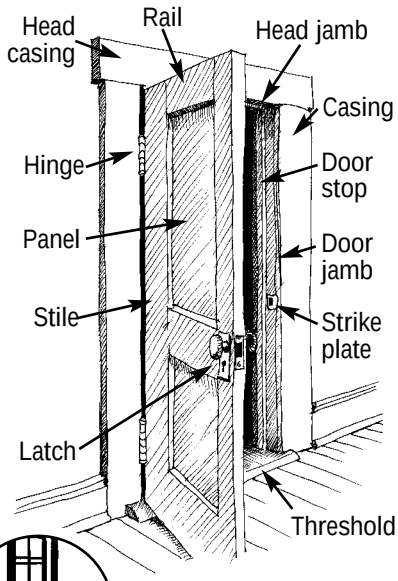
DOOR NEEDS ADJUSTMENT

PROBLEM

Edge of door is crushing against jamb on hinge side; or door is rubbing on latch side because hinges are loose. When paint on a door rubs or is crushed, dust and paint chips can result.

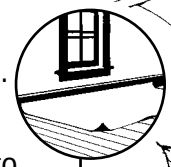
SOLUTION

Adjust the door so that it opens and closes without damaging painted surfaces.



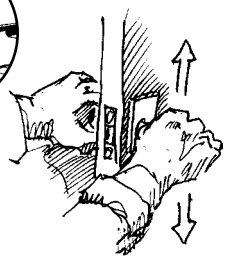
Set Up

- See Section 2, p. 13.



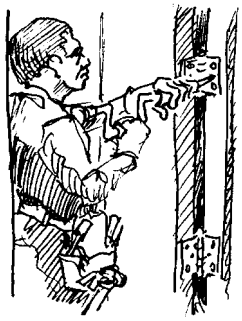
Check Door

- Grasp knob and try to move door up and down. If hinges are loose, door will move.



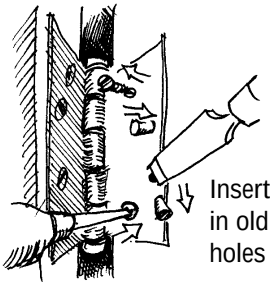
Remove Screws

- Remove screws that are most loose, but not all screws, so door remains hung.
  - — Clear paint from screw notch with hammer and small screwdriver.
  - — Unscrew. If screw head is stripped, use screwdriver bit in a brace.



Fill Hole

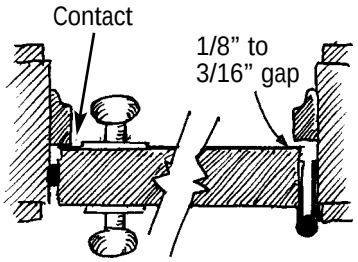
- Drive 3/16 inch or 1/4 inch dowel into screw holes as necessary to fill each hole. Cut dowels flush.



Insert dowel in old screw holes

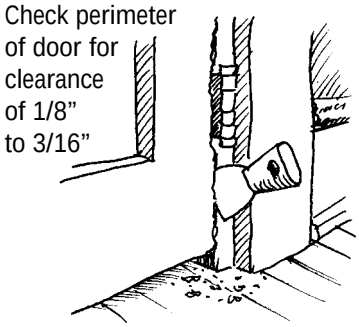
Install New Screws

- Replace screws. Use longer screws if necessary. Using a screwdriver bit on a brace makes this easier. Then remove and replace remaining screws as necessary.



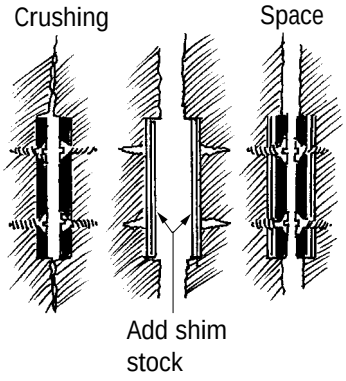
Adjust Stop

- Face of door should only contact the stop on the latch side of door frame. It should not crush or rub head or hinge side stop.
- Where stop is nailed, remove and replace with new matching stop. Leave 1/8 inch space between hinge, head stop, and the face of the door.



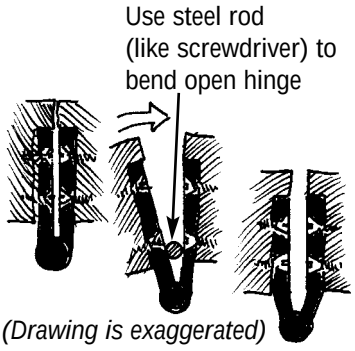
Check Clearance

- If putty knife can't fit in gap between door and jamb at <u>all</u> points, crushing of painted surfaces may be occurring.



Adjust Depth of Hinge Leaf

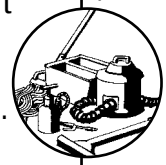
- If door is crushing hinge side and there is more clearance than necessary on the latch side, install metal shims behind hinge leaves. Keep at least 1/8 inch clearance on leaf side and 1/8 inch clearance on latch side. If not enough clearance, see p. 39.
- If only a small increase is needed between leaves of hinge to create a gap between door edge and jamb, place a steel rod between hinge leaves near pin and close door to slightly bend apart leaves.



(Drawing is exaggerated)

Clean Up and Clear

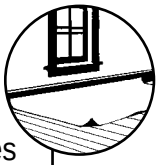
- See Section 4, p. 47.



DOOR RUBS OR STICKS

PROBLEM Door is scraping on latch side; or door is crushing jamb on latch side and there is not enough clearance on latch side to add shims to hinges. When paint on a door rubs or is crushed, paint chips can result.

SOLUTION Plane edges of door so that it operates smoothly and does not rub.

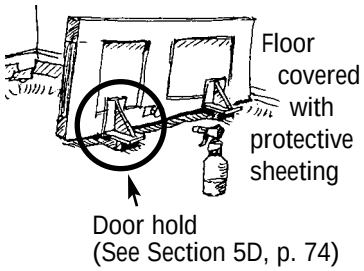


Set Up

- See Section 2, p. 13.

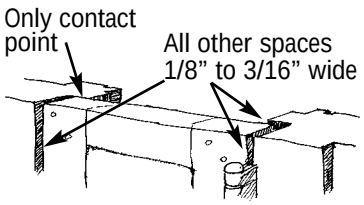
Remove Hinge Leaves

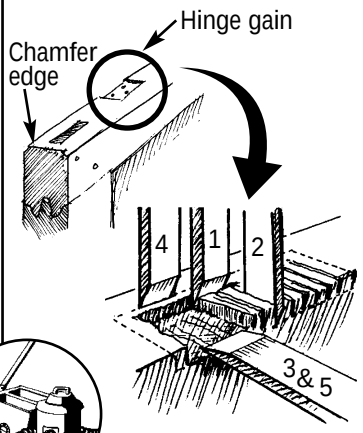
- Remove pins from hinges and hinge leaves from door.
- Set door on edge in a door hold. (See Section 5: Building a Door Hold, p. 74.)



Hand Plane Edge

- Mist surface and hand plane a chamfer edge.
- Use a smooth bench or jointer plane (not a block plane) to remove the rest of the paint from the edge. Continue to mist while working. If a power planer is used to remove paint, it must be attached to a HEPA vacuum. Some power planers need an adaptor to accept HEPA attachments.
- Once paint is removed, use either a hand or power planer.





Recut Gains

- Then, recut gains as necessary so hinge leaf is set about halfway into gain.

Seal Edges

- Seal edges of door, particularly the bottom, and rehang.

Clean Up and Clear

- See Section 4, p. 47.

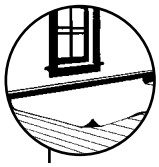
CHIPPING PAINT ON STAIRS OR FLOOR

PROBLEM Painted staircase treads, risers or floors are worn, or the paint is chipping. Paint and other coatings used on staircases and floors in older homes often contain lead. Everyday friction and wear can produce paint chips and dust.

SOLUTION Cover portions of stairs or floor that are worn with durable material.

Set Up

- See Section 2, p. 13.



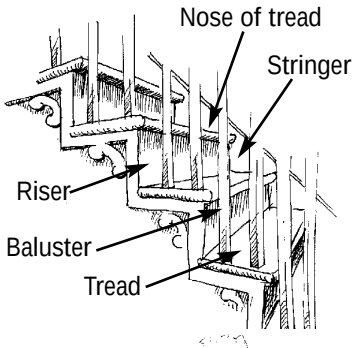
Stairs – Option #1: Install Tread Covers and Riser Enclosures

Wet Scrape

- Mist and wet scrape any loose paint on treads and risers, particularly on edges.

Prime and Paint

- Prime treads and risers. Paint edges that will not be covered by enclosures.

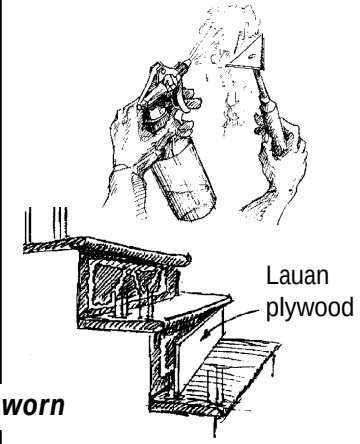


Install Riser Enclosure

- Cut 1/4 inch lauan plywood to fit each riser. Sand exposed edges of lauan.

Fasten

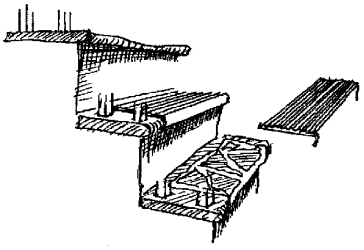
- Back caulk perimeter of riser with adhesive caulk. Press tight or nail with finish nails.



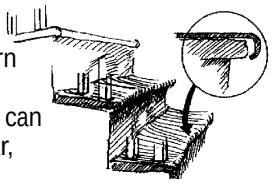
If nose tread is not worn

Cut and Install Tread Cover

- Cut cover to fit over the tread and nose.
- Install cover with adhesive caulk or screws.



If nose tread is worn



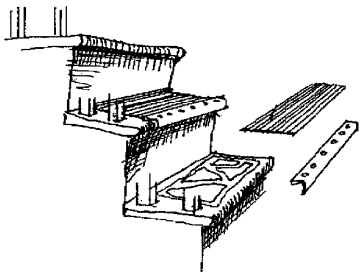
PROBLEM Installing a rubber tread over a worn tread nose creates a hollow space under the rubber tread cover. This can cause the rubber tread cover to tear, posing a tripping hazard.

Cut and Install Tread Cover

- Cut tread cover to fit from the riser to rear edge of nose. Install with adhesive caulk or screws.

Install Metal Nose Cover

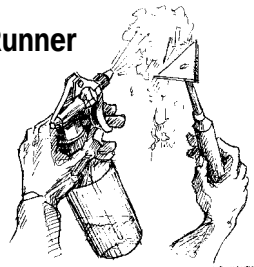
- Screw metal cover over edge of tread nose. It will span the worn area of the nose.



Stairs – Option #2: Install Staircase Runner

Wet Scrape

- Mist and wet scrape any loose paint on tread and riser, particularly on edges.

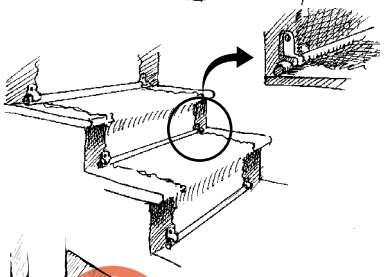


Prime and Paint

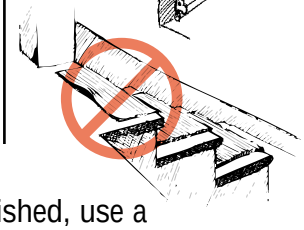
- Prime and paint treads and risers.

Install Runner

- Staple runner to top of top riser. Then fasten with staircase bars so runner may be easily removed for cleaning.



Important: Do not install runner or tread cover on landing of upper floor where its rear edge may become a tripping hazard.



Floors

Prep Surface

- If a floor needs to be refinished, use a floor sander attached to a HEPA vacuum.

Caution: High dust potential.

Cover

- Apply a coating to the floor to keep it smooth and cleanable.
- To maintain a smooth and cleanable surface, it is recommended that the use of wall-to-wall carpeting be avoided. Area rugs can be used instead.

Clean Up and Clear

- See Section 4, p. 47.

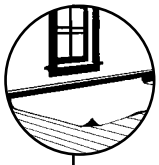
CHIPPED OR DAMAGED IMPACT SURFACES

PROBLEM Outside corners of walls, edges at passages, as well as trim, base cap, and shoe molding are being chipped due to impact from doors, furniture, and other objects. If these surfaces are covered with lead-based paint, the paint chips and the dust created may pose a health threat.

SOLUTION Protecting these surfaces with a durable material can prevent the creation of paint chips and dust.

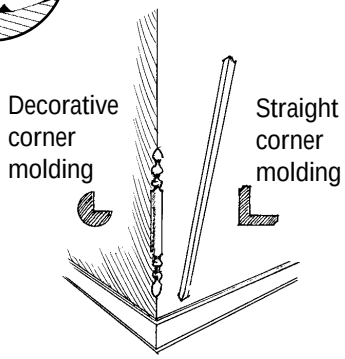
Set Up

- See Section 2, p. 13.



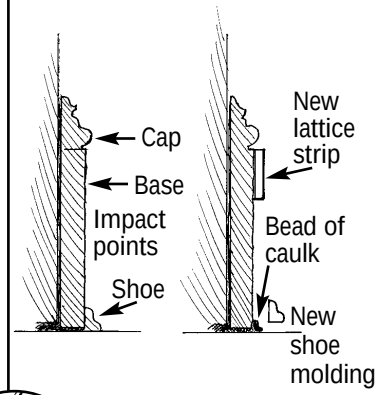
Enclose Outside Corner

- Cover outside corners of walls with corner molding. Attach with nails and/or with a bead of adhesive.



Protect Base

- In places where a baseboard shows signs of impact, replace shoe and protect cap with lattice strip.
- When replacing shoe, bed new shoe in bead of caulk to seal out moisture and prevent infiltration of dust.



Clean Up and Clear

- See Section 4, p. 47.

H I G H D U S T J O B S

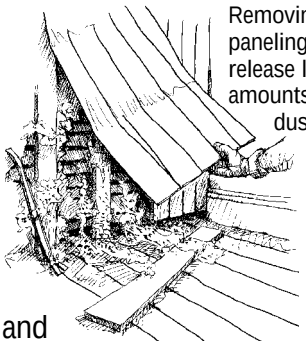
Some jobs create large amounts of dust. To be safe, workers doing this type of work should:

1. Wear half-mask respirators rated by NIOSH as N100 (or HEPA) at a minimum and be trained to wear and maintain them, or conduct air monitoring to show that they are not needed. (See Section 5D: Respiratory Protection, p. 69.)
2. Completely isolate the work space from occupied spaces and use containment to protect other workers. (See next page.)
3. Receive lead worker or supervisor training from an accredited trainer. In most states, accredited courses are available. To locate a course in your state, contact the Leadlisting at 1-888-Leadlist (1-888-532-3547) or www.leadlisting.org.

Remember: All house dust is unhealthy to breathe. It may contain lead, mold, asbestos, gypsum, roach waste, dust mites, coal dust, fiberglass, etc.

Examples of High Dust Jobs

The following types of work are likely to create high levels of dust:



Removing old paneling can release large amounts of dust.

Demolition. Demolition includes tearing off siding and/or demolishing old plaster walls or ceilings.

Opening Up Wall Cavities. These jobs include:

- Removing old paneling and baseboards
- Removing door casings and frames or window casings or jambs

"It's not just what's on the wall, it's the dust behind it."

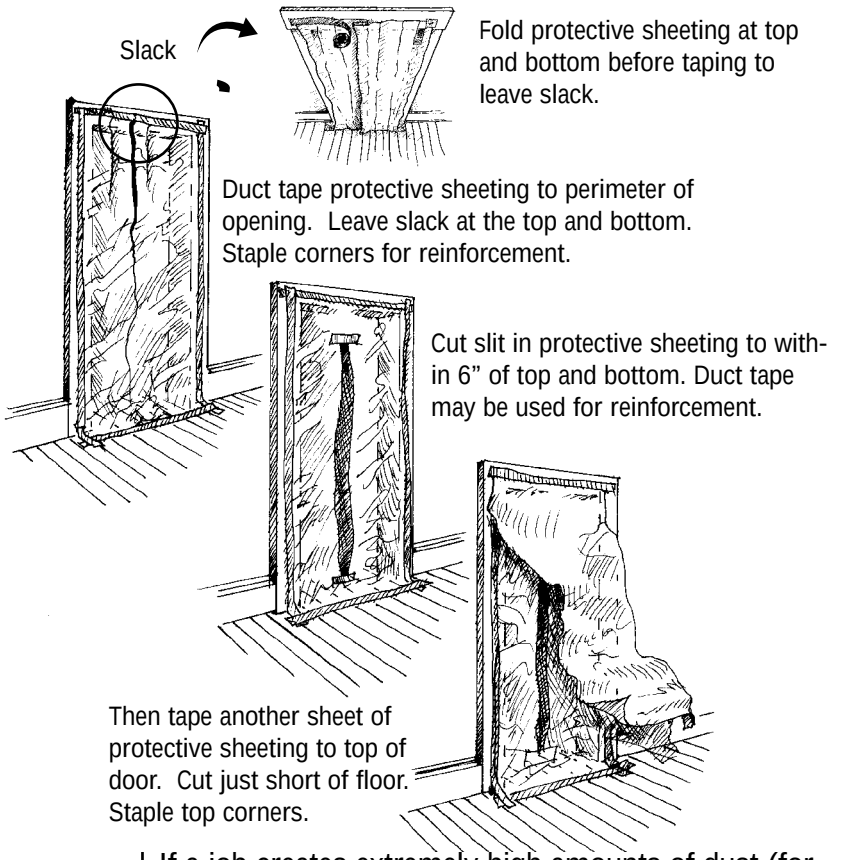
Removing Old Drop Ceilings. Lots of dust can accumulate above ceiling panels.

Improperly Removing Wall-To-Wall Carpet. A carpet that's been on the floor for many years has gathered large amounts of household dust, which may include lead dust. Improperly removing it can release a large amount of dust.

Paint Scraping. Scraping large painted areas, such as the side of a house or an entire room, even when done correctly, can create a large amount of dust.

Containing Dust

Use this system to keep dust from spreading to another room.



If a job creates <u>extremely</u> high amounts of dust (for example, demolition) or large amounts of dust in the air for more than short periods, the protective flap system shown above may not be sufficient to prevent dust from spreading beyond the work area.

For these types of jobs, a more protective system called "isolation" is needed so that dust does not spread beyond the work area. Isolation means that the work area is sealed with no direct access to occupied areas of the home. Workers need to use an entrance that is separate from occupants until cleanup is completed.

C L E A N I N G U P

It is very important to use proper cleanup procedures at the end of the job. Dust and paint chips left behind at the end of the job may contain lead and may endanger children. Have dust wipe samples collected at the end of the job to be sure that it is safe for children to return.

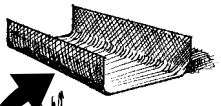
Pick Up Work Area

- Pick up large chips with damp paper towel.

AND/OR

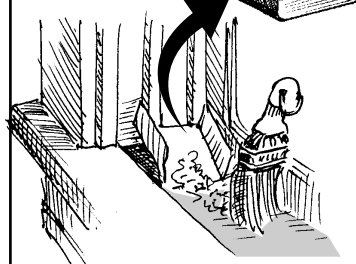
- Mist then push dust into dust pan.

Make dust pan from flashing and clean with a whisk broom.



Pick Up Protective Sheeting

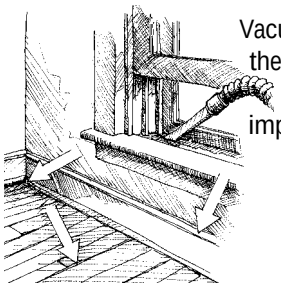
- Clean off protective sheeting. Fold dirty side inward (dirty side to dirty side). Dispose of protective sheeting at the end of each job. Protective sheeting may be used again within the same work area if it has not already been folded.



Mist and push dust

Vacuum

- HEPA vacuum all horizontal surfaces—slowly.
- Vacuum all ledges, sills, stools, molding tops, dusty surfaces, etc.
- Vacuum floor under work area. Use corner tool in corners, cracks of trim, and between floor boards.
- Vacuum floor with floor brush and carpet with a carpet tool.

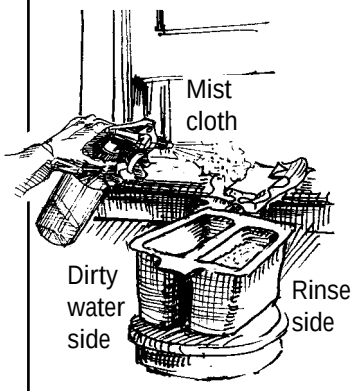


Vacuuming the cracks is very important.

Important: Vacuum carpet very slowly.

Mist and Scrub

- Wet rag with detergent then wring out.
- Mist surface or rag as you clean.
- Lead needs scrubbing, not just wiping.



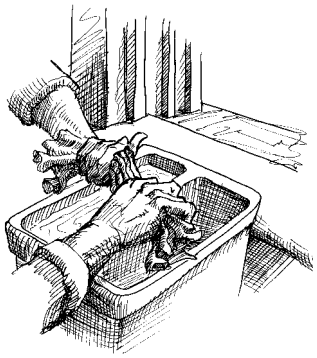
Mist cloth

Dirty water side

Rinse side

Rinse Rag

- Squeeze rag into empty side of split bucket. Rinse out rag. Squeeze into empty side. Repeat as needed.
- Change rinse water often.
  - — Use paper towels first if surfaces are very dirty.
  - — Replace rag when it looks dirty.
- Clean until dust and debris are removed.



Cleaning Floors

Mist and Scrub

- At start of cleaning, soak mop in detergent water then mist small area with detergent before mopping.
- Scrub with mop.

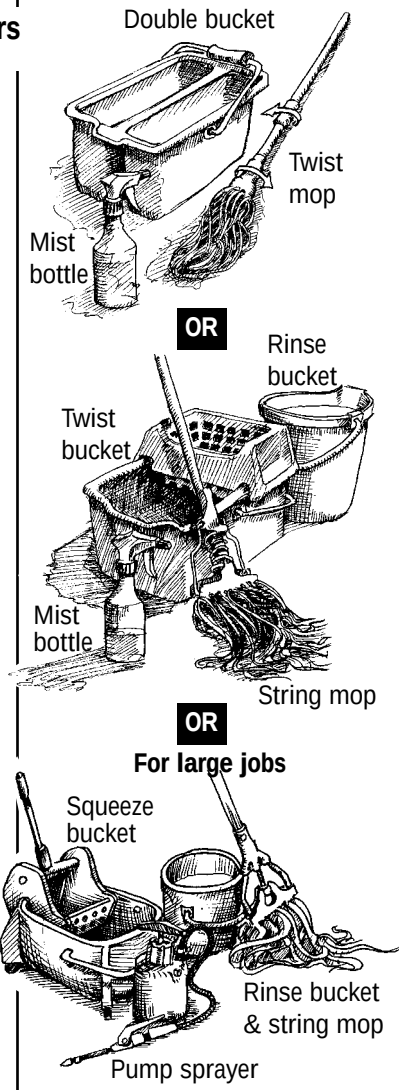
Squeeze Out and Wash

- Squeeze mop into empty bucket then rinse in rinse water. Rinse often. Squeeze out and rinse again. Mop small areas at a time.

Rinse

- Repeat above process using clean water rather than detergent. When cleaning up a work site, use a new mop head for rinse stage.

Recommendation: Make a final pass with a HEPA vacuum.



Dispose of Waste

- See following section.

Take Dust Wipe Sample

- See Section 5D: Testing Dust for Lead, p. 71.

D I S P O S A L O F W A S T E

After cleanup of the work area, take care to safely handle and remove dust and debris from the job. Supervisors should check with the EPA and their state's agency responsible for waste to find out about specific Federal, state, and local regulations regarding disposal of waste that may contain lead-based paint.

Key Principle:

Confine dust and waste to the work area that will be cleaned.

Disposal Practices

Specific guidelines are:

- Avoid carrying construction waste through an occupied space. If you must carry it through an occupied space, first place it in a heavy duty plastic bag or wrap it in protective sheeting and seal with tape.
- When a dumpster is used, keep the dumpster covered. If a chute is used, cover the chute (or use a barrel chute) and cover the dumpster.
- Store all waste in a secure container or dumpster until disposal. Do not transport waste in an open truck, unless it is bagged and sealed.

Water

Water used for clean up should be dumped into a toilet. Never dump this water in a sink, tub, on the ground, or down a storm drain.

Water used to remove paint through pressure washing must be collected in drums and may need to be tested to determine if it is hazardous. Check with your state agency responsible for waste.

CHECK YOUR WORK!

Check Quality of Work & Cleanup

Check work quality **during the job** and at the **end of the job.**

- **Was the cause of the problem corrected?**
- **Were proper work practices used?**
- **Was cleanup done thoroughly?**

How to Check:

Checking your work involves two important steps.

1. Visual Checks

Use the checklist inside the back cover of this guide when performing visual checks.

- **During the Job.** Be sure that:
  - — the cause of the problem is being corrected;
  - — the work area is safely set up;
  - — the practices in this guide are being used; and
  - — dust and debris are not spreading beyond the work area.
- **End of the Job.** Be sure that the repairs were done properly and that no dust or paint chips remain.

2. Take a Dust Wipe Sample

When interior work disturbs painted surfaces or produces dust, have dust wipe samples taken at the end of the job to check for harmful levels of lead-contaminated dust.

To be accurate, these tests must be done according to specific procedures. See Section 5D, p. 71, for more information about these tests, and who should perform them.

How to Check Cont'd

Dust wipe testing is recommended at the end of any job that disturbs paint or produces dust. It is **strongly recommended** when:

- Work that disturbs paint is done in homes built before 1978.
- A young child or pregnant woman lives in the home.
- Performing unit turnover or regular maintenance in rental properties.

Why Is It Important to Check Work?

Checking that work was done properly is important because:

- Failing to correct conditions causing damage or deterioration results in repairs that do not last.
- Work that fails to follow the recommendations in this guide may spread dust and paint chips beyond the work area and may endanger children in the home.
- Dust and paint chips left behind due to poor cleaning may contain lead and may also endanger children in the home.
- For contractors, checking your work improves the quality of a job and is likely to reduce the risk of a lawsuit in the event a child in the home is later found to have high levels of lead in his/her blood.
- Leaving a clean job site is greatly appreciated by customers.

Regularly Check Repairs for Deterioration, Paint Chips, and Dust

Property owners should regularly monitor painted surfaces where maintenance or improvements were performed.

Check to see if:

- New evidence of deterioration or paint failure is present.
- The cause of the problem was corrected.
- Lead dust hazards are present. *Important: This can only be done by dust wipe sampling.*

Maintain Surfaces and Thoroughly Clean

Then:

- Perform repairs, as needed, to maintain surfaces in a smooth and cleanable condition using the methods recommended in this guide; and
- Clean the area thoroughly using the practices described earlier in this section.

Methods of Monitoring

Follow the same methods used to check your work:

- **Visual Check.** Look for deterioration, paint failure, dust and paint chips. Use the checklist inside the back cover of this guide.
- **Test for Lead Dust.** Have dust wipe samples taken to check for dust that may be contaminated with lead. A test is needed to determine when dust contains harmful amounts of lead.

To be accurate, these tests must be done according to specific procedures. See Section 5D, p. 71, for more information about these tests, and who should perform them.

When to Monitor?

- **Annually.** Perform a visual check of past repairs and improvements involving painted surfaces.
- **During Unit Turnover or Routine Maintenance.** Perform a visual check of past repairs and improvements involving painted surfaces.
- **Every Two Years.** Get a dust wipe test done at least every two years. This type of test is **strongly recommended** when a young child or pregnant woman lives in the home.

Why Is It Important to Monitor & Maintain Work?

Monitoring and maintenance helps:

- Plan and implement maintenance tasks
- Protect occupants and neighbors, particularly children, from lead exposure
- Give owners, contractors, and residents a record of the condition of the unit

A. GLOSSARY

Aluminum flashing - thin aluminum sheeting, also known as coil stock.

Aviation snips - metal cutters.

Chamfer - a small bevel on an edge.

Enclosure - a rigid, durable construction material that is mechanically fastened to the structure to cover painted surfaces.

Fit testing - a method to check if a respirator fits properly over the face.

Gain - notch chiseled in a door for a hinge leaf.

HEPA filter - High-Efficiency Particulate Air filter. A filter that can remove particles of 0.3 micrometers or larger from the air at 99.97 percent or greater efficiency.

HEPA vacuum - a vacuum with a HEPA filter.

HUD Guidelines - HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.

Interim controls - a set of measures to reduce exposure to lead hazards. Interim control measures include special cleaning, repairs, paint stabilization, enclosure, and containment. For a full discussion, see HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.

Lauan plywood - 1/4 inch plywood made of lauan with a smooth face.

N100 - a NIOSH filter class that describes a respirator's ability to filter airborne particles. A respirator filter rated as N100 removes particles of 0.3 microns or larger from the air at 99.97 percent or greater efficiency.

NIOSH - National Institute for Occupational Safety and Health, an agency within the Centers for Disease Control and Prevention that tests and certifies safety equipment including respirators.

OSHA - Occupational Safety and Health Administration, an agency of the U.S. Department of Labor that oversees worker safety.

Paint stabilization - a process of wet scraping, priming, and finish coating of a deteriorated painted surface to prevent further deterioration.

Permissible Exposure Limit (PEL) - a dust exposure threshold set by OSHA. Work that creates lead dust levels in the air greater than the PEL must meet OSHA lead safety requirements for workers. OSHA has set the PEL for airborne lead dust at 50 micrograms per cubic meter *($\mu g/m^3$)* as a time weighted average. See Section 5D, p. 69, for technical information about OSHA requirements and Section 5B, p. 61, for information about OSHA regulations.

Pilot hole - a small hole drilled to guide the drilling of a larger hole.

Protective sheeting - made of plastic, poly or other material. Protective sheeting must be puncture and tear resistant, impermeable to liquids, durable, flexible, and lightweight.

R-value - a measure of heat containment; used for rating insulation effectiveness.

Shim - small piece of wood or metal used to fill space between two fastened components.

Shroud - a protective covering that contains dust and chips.

Substrate - a solid surface such as plaster, drywall, wood, etc.

Tack pad - a sticky pad that helps remove dust from shoes.

Window trough - the area of the sill between a window stool or interior sill and the frame of the storm window where the bottom sash rests when closed (also called a window well or exterior sill).

B. FOR MORE INFORMATION

This section lists useful documents, web sites, and other lead-based paint information resources. Additional sources also exist. Use the reference letter on the right to locate the contact for each information resource. Contacts are listed by letter on pages 62-64. Publications marked with an * are for sale; others are available for free.

Where can I get more information on…

Work practices and lead-safety?

Publications	Reference Letter
• *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (July 1995).** Technical guidance on methods for identifying and controlling lead-based paint and lead-based paint hazards. The *Guidelines* can also be downloaded for free from the HUD Office of Lead Hazard Control web site. (About 750 pages)	**B, C**
• *Residential Lead Desktop Reference (2nd Edition, June 1998).** A CD-ROM containing a large variety of lead-based paint information resources.	**C**
• *Maintaining a Lead Safe Home (1997).** A do-it-yourself manual for homeowners and property managers. (89 pages)	**B**
• *Lead-Based Paint: Operations and Maintenance Work Practices Manual for Homes and Buildings (May 1995).** Technical guidance on safe work practices. (200 pages)	**G**
• *Guide Specifications for Reducing Lead-Based Paint Hazards (May 1995).** Technical guidance on purchasing lead-hazard control reduction services and developing lead-hazard reduction work specifications. (About 500 pages)	**G**
• *Lead Safety for Nonprofit Property Owners, Developers, and Managers (July 1998).* Practical guide to developing policies and activities that incorporate lead safety in property management. (About 30 pages)	**F**

	Reference Letter
Publications	
• *Guide to Working Safely with Residential Lead Paint (1999).* Pamphlet with key lead safety precautions to follow during repainting and home improvement.	**F**
• *Reducing Lead Hazards When Remodeling Your Home (September 1997).* Pamphlet providing basic information about lead-based paint risks and precautions when remodeling pre-1978 homes.	**B, I, K**
Web Sites	
• HUD, Office of Lead Hazard Control. Provides information on HUD regulations, technical and educational documents, and links to other lead resources.	**B**
• EPA, Office of Pollution Prevention and Toxics. Provides information on EPA regulations, technical and educational documents, and links to other lead resources.	**K**
Worker protection methods?	
Publications	
• *Protecting Workers and Their Communities from Lead Hazards: A Guide for Protective Work Practices and Effective Worker Training (1993).** Guidance on worker protection methods, training workers, and complying with OSHA regulations. (About 500 pages)	**L**
• *Lead Exposure in the Construction Industry (1993).* Fact sheets that describe worker protection measures needed to meet OSHA requirements for lead including respiratory protection and protective clothing. (Series of 6 fact sheets)	**J**
Web Site	
• OSHA. Occupational Safety and Health Administration. Provides information on OSHA regulations, technical and educational documents, and links to other lead resources.	**J**

Preventing children's exposure to lead hazards?

Publications

	Reference Letter
• *Protect Your Family From Lead In Your Home (May 1995).* Pamphlet that provides basic information about addressing and preventing lead-based paint hazards in the home.	**B, I, K**
• *Lead Poisoning Prevention: Directory of State Contacts (1997-98).** Booklet that contains profiles of state programs to reduce lead hazards. (150 pages)	**E**
• *Directory of State and Local Lead Poisoning Prevention Advocacy Organizations (1998).** List of state and local non-profit organizations that are working to prevent lead poisoning. (About 300 pages)	**A**

Web Site

• Alliance to End Childhood Lead Poisoning. Information on lead poisoning prevention, lead issues, and program design. Site has publications that can be copied from the web.	**A**

Public education and outreach materials?

Web Site and Hotline

• National Lead Information Center. Information about lead hazards and poisoning prevention.	**I**

Locating certified abatement contractors and clearance inspectors?

Web Site and Hotline

• Leadlisting. List of qualified lead professionals including inspectors, risk assessors, abatement contractors, and analysis laboratories.	**D**

Disclosure requirements?

Publications	Reference Letter
• *Protect Your Family From Lead in Your Home (May 1995).* Pamphlet that provides basic information about addressing and preventing lead-based paint hazards in the home.	**B, I, K**
• *Disclosure of Lead-Based Paint Hazards in Housing (March 1996).* Fact sheet that provides information on how to meet Federal disclosure requirements.	**K**
• *Questions and Answers on the HUD/EPA Disclosure Rule.* Answers to commonly asked questions about Federal disclosure requirements. (5 pages)	**K**
• *Interpretive Guidance for the Real Estate Community on the Requirements for Disclosure of Information Concerning Lead-Based Paint in Housing, Parts I and II (1996).* In-depth guidance on the disclosure requirements for real-estate professionals. (27 pages)	**K**
• *Resource Handbook on Lead Hazard Disclosure for Homes and Apartments (1996).** Comprehensive reference book on disclosure procedures including advice for renters and owners, a glossary of key terms, and copies of disclosure documents. (Approximately 300 pages)	**A**

Respirators?

Web Sites	
• National Institute of Occupational Safety and Health. Provides information on the proper use of respiratory protection and various types of NIOSH-approved respirators that are available.	**H**
• Occupational Safety and Health Administration. Provides information on OSHA regulations regarding the use of respiratory protection.	**J**

Where can I find…	Reference Letter
HUD's lead regulations?	
• 24 Code of Federal Regulations (CFR) 35 (Lead Rule). Contains lead hazard evaluation and reduction requirements for properties that receive HUD funding.	**B**
OSHA's lead regulations?	
• 29 CFR 1926.62 (Lead in Construction) and 29 CFR 1910.1025 (Lead in General Industry). These regulations cover Federal worker protection requirements for workers in industry, construction, remodeling, and renovation.	**J**
EPA's lead regulations?	
• 40 CFR 745 (Lead-Based Paint Poisoning Prevention in Certain Residential Structures). Contains the Federal regulations for the disposal of lead waste and contractor notification requirements.	**K**
• 40 CFR 745.80 (Residential Property Renovation). Federal rule requiring contractors to provide notification before the start of any work that disturbs a painted surface in pre-1978 homes.	**K**
Disclosure regulations?	
• 24 CFR 35 (HUD) and 40 CFR 745 (EPA). Regulations for disclosure of known lead-based paint and lead-based paint hazards by home sellers and landlords. This rule was published jointly by HUD and EPA.	**B, K**

State lead laws? Publication	Reference Letter
• *Summary of Lead Poisoning Prevention Statutes (February 1999).* A state-by-state listing of local lead-related regulations, such as waste disposal requirements. Available by fax. (24 pages)	E

Contacts

Reference Letter	Organization	Types of Resources
A	Alliance to End Childhood Lead Poisoning 227 Massachusetts Avenue, NE, Suite 200 Washington, DC 20002 202-543-1147 http://www.aeclp.org	Publications
B	Office of Healthy Homes and Lead Hazard Control; U.S. Dept. of Housing and Urban Development (HUD) 451 Seventh Street, SW, Room P-3206 Washington, DC 20410 202-755-1785 http://www.hud.gov/offices/lead	Publications Program development
C	HUD USER P.O. Box 6091 Rockville, MD 20849 1-800-245-2691 http://www.huduser.org	Publications
D	Leadlisting 1-888-Leadlist (1-888-532-3547) http://www.leadlisting.org	Technical consultation
E	National Conference of State Legislatures 1560 Broadway, Suite 700 Denver, CO 80202 303-830-2200 http://www.ncsl.org	Publications

Reference Letter	Organization	Types of Resources
F	National Center for Lead Safe Housing 10227 Wincopin Circle, Suite 205 Columbia, MD 21044 410-992-0712 http://www.leadsafehousing.org	Publications Technical consultation
G	National Institute of Building Sciences (NIBS) Publications Department 1201 L Street, NW, Suite 400 Washington, DC 20005-4014 202-289-7800 http://www.nibs.org	Publications Training
H	National Institute of Occupational Safety and Health (NIOSH) Hubert H. Humphrey Building, Room 7154 200 Independence Avenue, SW Washington, DC 20201 800-35-NIOSH (800-356-4674) http://www.cdc.gov/niosh/home-page.html	Publications
I	National Lead Information Center (NLIC) 8601 Georgia Avenue, Suite 503 Silver Spring, MD 20910 Information Clearinghouse: 1-800-424-Lead (1-800-424-5323) http://www.epa.gov/lead/nlic.htm	Publications Training

Reference Letter	Organization	Types of Resources
J	Occupational Safety and Health Administration (OSHA) U.S. Department of Labor, OSHA Publications Office 200 Constitution Avenue, NW, Room N3101 Washington, DC 20210 *OSHA Lead web page:* http://www.osha-slc.gov/SLTC/lead/index.html *OSHA Respirator web page:* http://www.osha-slc.gov/SLTC/respiratory_advisor/mainpage.html	Technical consultation Enforcement
K	Office of Pollution Prevention and Toxics (OPPT) U.S. Environmental Protection Agency (EPA) 401 M Street, SW (7401) Washington, DC 20460 202-260-3810 http://www.epa.gov/lead	Publications Program development
L	Society for Occupational & Environmental Health 6728 Old McLean Village Drive McLean, VA 22101 703-556-9222 http://www.soeh.org	Publications

C. GETTING THE WORD OUT

How Owners and Occupants Can Work Together to Improve Lead Safety In Homes

Gaining tenant cooperation can help rental property owners and managers respond promptly to conditions that could pose a health threat to occupants.

Owner Responsibilities

1. Check the building to be sure that:
   - ❑ The building shell is sound.
   - ❑ Water isn't coming in from the outside and causing damage.
   - ❑ Sources of moisture inside are not causing damage.
   - ❑ Painted surfaces are intact.
   - ❑ Doors and windows work properly.
   - ❑ All surfaces are clean and cleanable.

2. Maintain the building.
   - ❑ Train maintenance staff to minimize dust, clean up effectively, and protect themselves.
   - ❑ Conduct regular building checks for potential problems, such as:
     - Flaking or peeling paint
     - Water damage to paint, plaster, or wood
     - Plumbing or roof leaks
     - Painted doors and windows that do not operate smoothly

3. Educate occupants and gain their cooperation.
   - ❑ Fulfill Federal notice and disclosure requirements.
   - ❑ Have occupants inform you of damaged paint and other maintenance problems.

When Maintenance or Renovation Work is Done

Give occupants the Lead Safety pamphlet required by Federal regulations (see page 66).

Tell occupants:

- ✔ Why repairs are necessary.
- ✔ The work schedule.
- ✔ How they and their possessions will be protected.
- ✔ Why they may need to leave during the work.

- ❑ Explain to occupants why steps, such as regular cleaning, prevent lead-based paint hazards. (See below.)
- ❑ Consider providing cleaning supplies and tools (see page 75) to occupants to encourage cleaning.
- ❑ Remind tenants that it is a good practice to provide notice of problems in writing.
- ❑ Make sure occupants understand the property's maintenance reporting procedures and indicate that these problems require priority attention.

Precautions Tenants Can Take to Protect Their Family

Occupants should pay special attention to page 7 of the pamphlet *Protect Your Family From Lead In Your Home.* It describes steps that occupants can take to reduce the chance that they will be exposed to lead hazards. Suggestions from this pamphlet include:

- ❑ Clean floors, window frames, interior window sills, and other flat surfaces each week using warm water and an all-purpose cleaner.
- ❑ Clean up any paint chips immediately.
- ❑ Keep child play areas clean.
- ❑ Wash children's hands often.
- ❑ Keep children from chewing interior window sills and other painted surfaces.

Federal Notice and Disclosure Requirements
(24 CFR Part 35 or 40 CFR Part 745)

- ✔ Landlords and home sellers must notify future occupants about lead-based paint hazards by giving them the pamphlet *Protect Your Family From Lead in Your Home*.
- ✔ Landlords and home sellers must disclose information about known lead-based paint and/or lead-based paint hazards before dwelling leases or home sales contracts take effect. Leases and sales contracts must also include a form about lead-based paint that meets Federal requirements. Contact HUD or EPA for more information about these requirements (see Section 5B, p. 57).

Notice Prior to Renovation

Federal law requires contractors and owners of rental properties to inform occupants about the risks of lead-based paint before non-emergency repair, maintenance, and home renovation work begins. This law applies for all work on surfaces greater than 2 square feet per component. Contractors and property owners must distribute copies of the pamphlet *Protect Your Family From Lead In Your Home* before any work starts. See EPA's regulation at 40 CFR 745.80. Also see Section 5B, p. 57, for sources that can provide copies of this pamphlet.

Contractors and owners must make sure that occupants have received the pamphlet.

- For owner-occupied homes, the contractor must have the homeowner sign an acknowledgement form after receiving the pamphlet. Or, the contractor can send the pamphlet by certified mail.
- For tenants, the contractor or property owner must have an adult occupant sign an acknowledgement form after receiving the pamphlet. Or, the contractor or owner can send the pamphlet by certified mail. If the contractor cannot get a signed acknowledgement, the contractor must sign a statement documenting this.
- For work in common areas, such as the lobby, of an apartment building, the contractor must give the pamphlet to the owner and to the occupants of all affected areas and inform them of the nature, location, timing, and length of the job.

Why Lead Safety Makes Sense for Property Owners and Contractors

Property owners and contractors that use safe work practices benefit in several ways.

Advantages for Owners of Residential Rental Properties

Owners who maintain their rental properties using work practices that increase lead safety can use this information to attract tenants who are concerned for their child's health. Some local agencies may even maintain a listing of housing units that meet certain lead-safety standards. When giving prospective tenants the lead-based paint pamphlet and the required disclosure information, they can tell the tenant that the property has a program to minimize the risk of hazards from lead-based paint. A safety program would include:

- Educating and training maintenance workers.
- Examining property at turnover and then every year for deteriorating paint.
- Correcting conditions that may cause paint to flake and peel (excessive moisture, binding doors, etc.).
- Doing work safely and cleaning up well.
- Making sure surfaces are cleanable and doing a professional cleaning at turnover.
- Performing dust wipe tests before occupancy, and after every maintenance job that disturbs old paint. It is also recommended to perform a dust wipe sample test at least every two years. Keep the results on file.
- Encouraging tenants to inform property owners if there is a problem.

Advantages for Contractors

Doing work safely can enhance a contractor's reputation, maintain the safety of workers, and protect the health of customers and their children.

A program for lead safety can also help contractors when bidding new jobs. For example, contractors performing repairs and improvements in homes built before 1978 must give potential customers a pamphlet about the risk of lead-based paint during renovation. Contractors that follow practices for lead safety can demonstrate to customers that they understand the risks and show that their workers take specific precautions to protect against lead-based paint hazards. Lead-safety can help "*give you a leg up*" on the competition.

Safe work practices also offer benefits that are important to customers:

- Dust and debris are confined to the work area.
- A "clean" work area at the end of the job.
- Some work offers additional benefits. *(For example, repairs to windows can improve their operation, prevent damage from moisture, and lower energy and maintenance costs.)*
- Lead safety also helps protect you as a contractor. For example, having an independent, certified professional take dust wipe samples of the work area promptly after cleanup provides strong documentation that no lead hazards were present in the work area at the end of the job.

Respiratory Protection

Respiratory protection helps prevent workers from breathing harmful amounts of lead and other substances, touching their mouths with dusty hands, or swallowing paint chips.

When work creates high levels of dust in the air, properly trained and certified lead-based paint professionals should do these high dust jobs. If you work for someone, and plan on doing this type of work, your employer must meet the requirements of the OSHA Lead in Construction Standard (29 CFR 1926.62). These requirements include respiratory protection when work creates lead dust in air that exceeds the "permissible exposure limit" (PEL) — see Air Monitoring and Results sections below. See Section 5B, p. 57, for sources of information about OSHA requirements.

Respirators may be required for activities that generate high levels of dust such as:

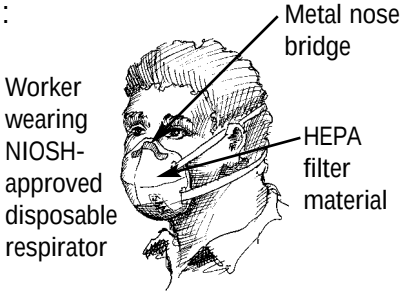
- Demolishing painted surfaces
- Opening up wall and ceiling cavities
- Using power tools on painted surfaces
- Dry scraping large painted areas

For this type of work, OSHA requirements include the following:

- Training workers on how to properly use and maintain respirators.
- Making sure proper respirators are always available and that workers have been fit tested. Where respirator use is required, workers must be part of a written respiratory protection program that meets OSHA standards (29 CFR 1910.134).

Many types of respirators can be used:

— Disposable respirators can be used if they are rated by NIOSH as N100 (or HEPA) — this information can be found on the respirator's package or the respirator itself.



  - — Non-disposable respirators, also rated by NIOSH as N100, often have replaceable cartridges and require regular maintenance.

Worker wearing a non-disposable respirator

- Having a trained person do air monitoring that measures the amount of dust in the air to determine if respirators are required by OSHA, and the appropriate level of protection. Workers must wear proper respirators while air monitoring is being done.

Air Monitoring

Air monitoring is done to ensure that workers are not being exposed to dangerous levels of lead dust in the air, and to comply with OSHA requirements. It must be done by a person with special training. A worker being monitored wears a small plastic canister clipped to his/her clothing near the face. A pump in a device clipped to the belt draws air and dust into the canister. The canister is then sent to a lab to measure how much lead dust was in the air.

What Do the Results Mean?

The results are measured in micrograms per cubic meter ($\mu g/m^3$). If the amount of lead dust in the air exceeds the permissible exposure limit (PEL) of 50 $\mu g/m^3$, workers must wear at least a half-face respirator with an N100 (or HEPA) rating and certain OSHA requirements must be followed.

Results may show that respirators are not necessary or that a greater level of protection is needed. If the results show lead dust levels in the air above 500 $\mu g/m^3$, a more protective respirator is required.

Other Protection

In addition to respiratory protection for activities that generate high levels of dust, compliance with OSHA's Lead in Construction Standard may involve blood tests for workers, medical monitoring, hand washing facilities, other personal protective equipment, shower and changing areas, and additional training.

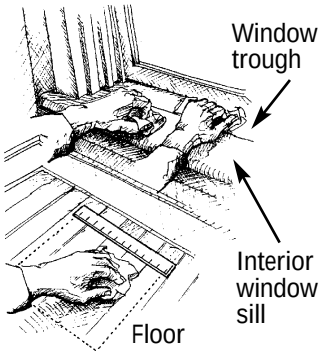
Testing Dust for Lead

By having dust wipe samples taken, job supervisors and property owners can locate dust lead hazards and test the effectiveness of cleaning at the end of a job.

Where Are Dust Samples Taken?

Samples are taken in the area of the dwelling where work has been completed. The following surfaces within the work area should be sampled:

- Floor
- Interior window sills *(also referred to as window stools)*
- Window troughs



When Should Dust Samples Be Taken?

- At the end of a job
- If there is a child or pregnant woman living in the home
- Before a family moves into a home

What Do the Results Mean?

The results of the laboratory analysis will show the amount of lead found in the dust from the area sampled. The results are measured in micrograms per square foot *(µg/ft²)*.

To determine if a lead-based paint hazard exists, based on EPA's requirements, compare the results to the following standards:

- 40 µg/ft² on the floor
- 250 µg/ft² on the interior window sill (stool)

If the results for a sample are higher than these standards, a dust lead hazard is present. For clearance puposes only, a value of 400 µg/ft² should be used for window troughs.

Who Can Take Dust Wipe Samples?

Following painting, home maintenance, and renovation work:

- In homes receiving Federal assistance, dust wipe samples, if required by regulations, must be taken by appropriately trained personnel who were not involved in the work. This "clearance" testing may be done by a lead-based paint inspector, risk assessor, or sampling technician certified by a State or the EPA. Clearance testing may also be done by a person trained as a sampling technician, as long as a certified lead-based paint inspector or risk assessor approves the technician's work and signs the clearance examination report.
- For all other homes, it is recommended that dust wipe samples be taken by a trained sampling technician, or, preferably, a certified lead-based paint inspector, risk assessor, or sampling technician. Some states require that dust wipe samples be taken by a certified person.

What Actions Do I Take Based On the Results?

If the results show dust lead levels higher than the standards listed above, the area where the work was performed should be cleaned to remove the dust lead hazard.

If the dust wipe samples were taken as part of ongoing monitoring by maintenance staff or the property owner, the surfaces where work was performed should be examined to see if the work has failed or new conditions that generate dust have developed. In either case, these conditions should be corrected using lead-safety principles and work practices.

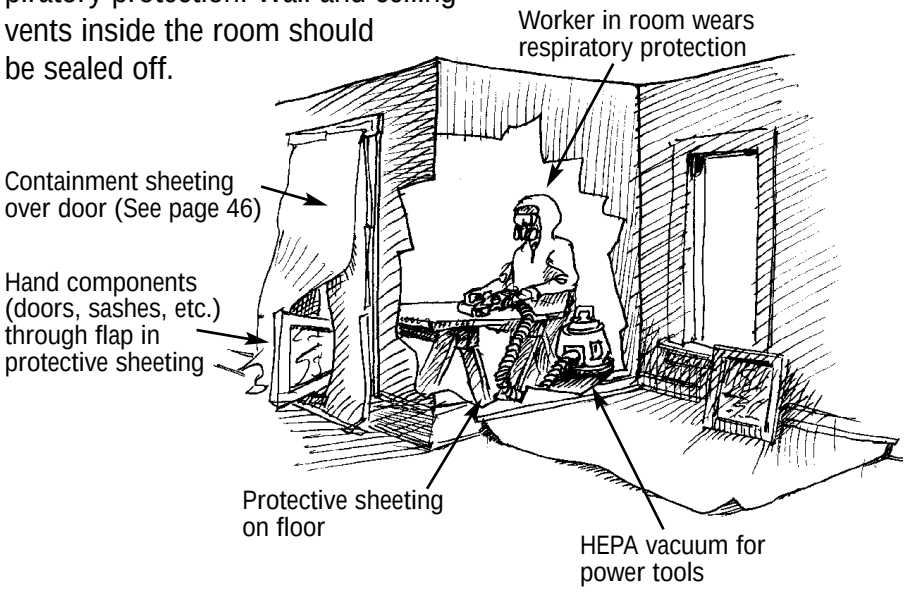
If the work required to correct the likely source of the dust lead hazard is beyond the scope of this guide, the property owner should seek the help of a lead-based paint professional trained to safely correct lead-based paint hazards.

Setting Up a Dust Room

A dust room can be useful for dusty work on building components that can be moved. For example, scraping or planing doors or window sashes can be done in a dust room. A dust room is particularly useful when working in occupied spaces.

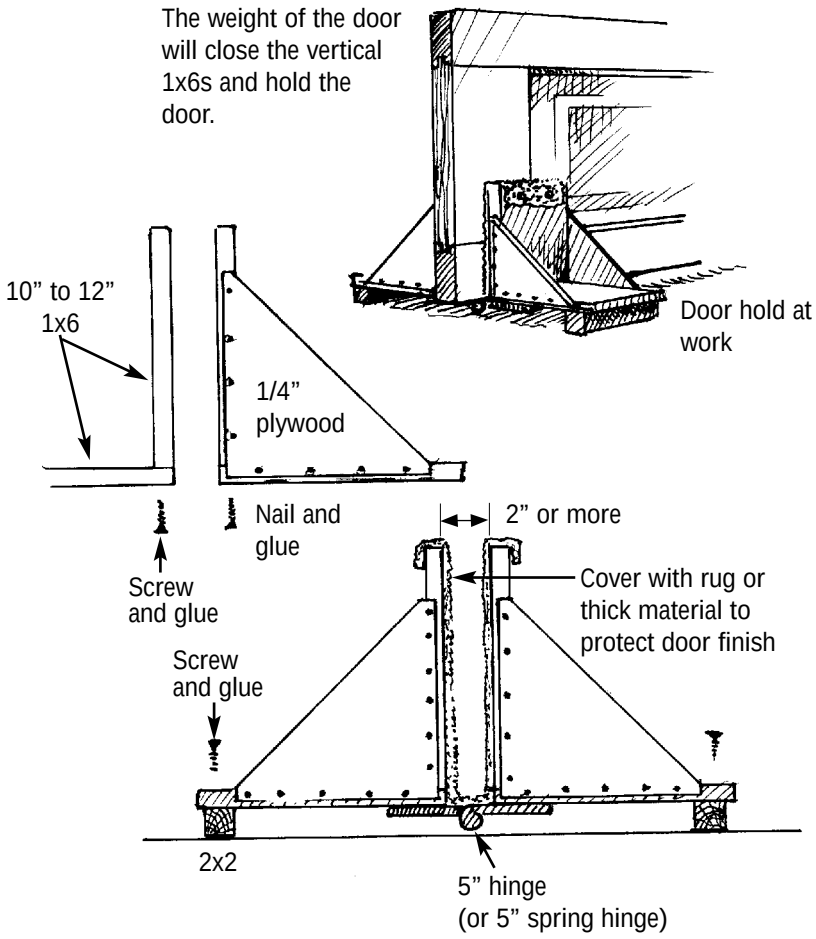
The dust room can be any room that can be closed off. The door can be covered with a flap system (see page 46) and the floor can be covered with protective sheeting taped to the baseboard.

Workers in this room should wear disposable clothing and wear respiratory protection. Wall and ceiling vents inside the room should be sealed off.



Building a Door Hold

A door hold makes working on doors easier and safer.



E. TOOL AND SUPPLY LIST

Additional Tools Needed for Lead-Safety Work
(Not every tool is needed for every job.)

Paint scrapers - A variety of scrapers are useful; carbon blades last longest. A mill file works well to keep scraper blades sharp.

Sanding sponges and wet/dry sandpaper - Where areas need to be smoothed or feathered, these abrasive tools, when used wet, keep dust to a minimum.

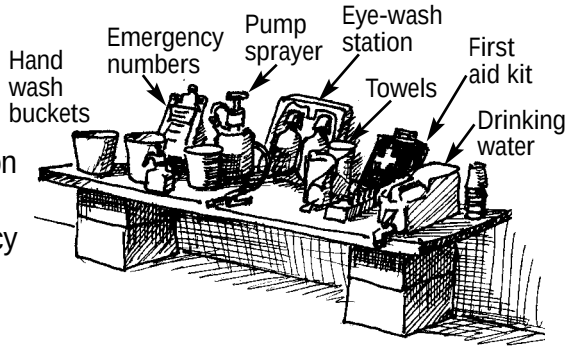
Mist bottles - Misting a surface being scraped or cut keeps down dust. Squeeze bottles work best in small areas. For larger jobs, a pump pressure sprayer in a knapsack works best.

Plane - A jack, smooth, or jointer (not block) plane. Hand planes are good for removing paint from edges such as the edge of a window, stool, or door. They create very little dust.

Cleanup station - A kitchen counter with a working sink is a good place for a cleanup station. If not available, set up a board with 3 buckets and a pump sprayer.

The station should have:

- Paper towels and soap
- Pads for cleaning respirators
- A 2-bottle eye-wash station
- A first aid kit
- Clipboard with emergency numbers
- Drinking water and cups



Personal Protective Clothing and Equipment

- A disposable respirator rated by NIOSH as N100 (or HEPA)
- A half-face, air cartridge respirator rated by NIOSH as N100 (or HEPA)
- Protective, lightweight, disposable suits with elastic sleeves and ankles
- Shoe covers (slip resistant is recommended)
- Safety glasses (vented goggles if working in high dust conditions or when using liquids or strippers)
- Ear protection if using power tools

Cleaning Equipment

- Bottle mister and pump sprayer for detergent
- Mops and buckets
- Tack cloths for wiping furnishings that may be damaged by water
- Heavy-duty paper towels and/or rags

Vacuums - At the end of a job, use a HEPA vacuum because it will capture even the finest dust. For regular household cleaning, use a HEPA vacuum if available. If one is not available, use a fine filter in your vacuum known as micron or allergen bags.

Painting Supplies

- Use commercial grade cleaners; there are also lead-specific cleaners. (Note: Trisodium phosphate [TSP] is banned in some states.)
- Degreasers may be necessary on some walls.
- Use deglosser or wet sanding supplies.
- Where wood is exposed, use a sealer and then apply a best grade primer or primer-sealer.

Other Tools

- Coil stock for covering window troughs. Coil stock is available with white and brown sides to match window trim color (see page 36).
- Window opening tool for windows that are painted shut (see page 29).
- Brace with screwdriver tips for removing and replacing hinge screws.
- Power planer with exhaust port that can be attached to HEPA vacuum. A power planer can be used for stripping window sashes and doors in a contained work area with respiratory protection.

F. NOTES AND SPECIAL INSTRUCTIONS

G. WORK CHECKLIST

Before Work Begins

- ❑ Are the possible risks to occupants identified?
- ❑ Are the occupants informed of the possible risks and their responsibilities?
- ❑ Are the causes of the problems located?
- ❑ Is the work area set up?
- ❑ Is the work area closed off from occupants?

During Work

- ❑ Are dust and debris being contained in the work area?
- ❑ Are workers wearing necessary protective clothing and equipment?
- ❑ Are workers cleaning up each time they leave the work site?

At the End of the Job

- ❑ Did workers fix the cause of the problem?
- ❑ Did workers remove visible dust and debris?
- ❑ Did workers properly dispose of dust and debris?
- ❑ Did workers wet wash the surfaces?
- ❑ Were dust samples taken to make sure that cleanup worked?

For Long-Term Maintenance

Is there a plan to:

- ❑ Maintain painted surfaces?
- ❑ Keep surfaces clean and cleanable?
- ❑ Prevent water and moisture damage?

Why Follow this Guide?

The Simple Work Practice Changes in this Guide Can Protect Children and Workers

- This Guide contains practical steps for lead safety.
- With small changes in work practices, workers can protect themselves, their families, and their customers, especially children, from lead exposure.

Painting, Home Improvement, and Maintenance Work in Older Homes Can Endanger Children

- Most homes built before 1978 contain lead-based paint.
- Doing work improperly can create a lot of paint chips and dust that may contain lead.
- Lead in paint chips, dust, and soil gets on children's hands and toys which they may put in their mouths.
- Lead can make children very sick and cause permanent brain and nerve damage, learning difficulties, and behavior problems.

Poor Maintenance Also Endangers Children

- Paint flaking and peeling is often caused by moisture.
- Rubbing or impact on doors, windows, and trim can cause paint failure.

Who Should Use This Guide?

- Building maintenance workers and supervisors
- Painters
- Repair, renovation, and remodeling contractors
- Property managers and owners
- Homeowners

Ordering Additional Copies

Single copies of *Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work* on paper or on CD-ROM can be ordered from the National Lead Information Center at 1-800-424-5323 or downloaded from the HUD Office of Healthy Homes and Lead Hazard Control web site at www.hud.gov/offices/lead.

For information about obtaining multiple copies, contact the National Lead Information Center.

March 2001
HUD-1779-LHC

Appendix 9: Skills Checklists for Hands-on Exercises

Module 2 Set-Up Exercise: Skills Checklist The participant should practice the following skills as appropriate to the work setting and specifications. Use the second column (✓) to check off skills performed and record any comments as necessary.	
Skill	✓
1. Determines a level of worksite preparation that is most appropriate for the project.	
2. Selects the appropriate supplies and materials needed to construct any required barriers or containment.	
3. Posts warning signs in proper locations.	
4. Places warning tape around perimeter, if needed	
5. Cuts proper size plastic sheeting for purpose intended. • Constructs required door airlocks. • Covers floor or ground appropriately for project. • Covers windows, if necessary	
6. Joins plastic properly.	
7. Turns off ventilation system and seals all vents to room with plastic sheeting, if necessary.	
8. Moves furniture and/or covers with plastic any furniture that can't be moved, if required.	

Module 3 Lead Safe Work Practice: Skills Checklist The participant should practice the following skills as appropriate to the work setting and specifications. For more information on how to perform specific tasks in a lead safe manner, consult the Lead Safety Field Guide in Appendix 8. Use the second column (✓) to check off skills performed and record any comments as necessary.	
Skill	✓
1. Use appropriate personal protective equipment and clothing for the job.	
2. Avoid dangerous practices. • Open flame burning or torching • Heat guns over 1100 degrees Fahrenheit • Power sanding, grinding, abrasive blasting without HEPA vacuum attachment • Extensive dry scraping and dry sanding	
3. Use safe practices • Wet scraping/wet sanding • Heat guns below 1100 degrees (F) • Chemical strippers (following manufacturer's instructions) • Power tools with HEPA vacuum attachments • Misting surfaces or using shaving cream prior to drilling, cutting or coring • Scoring paint • Pulling and prying (instead of pounding and hammering)	
4. Clean worksite on an ongoing basis. • Remove paint chips and debris from the site regularly. • HEPA vacuum horizontal surfaces • Wrap and dispose of large components as they are removed • Clean up worksite and tools at the end of each day	
5. Take proper precautions when leaving the worksite temporarily • Remove shoe covering, HEPA vacuum or wipe shoes • Use tack pads • Remove coveralls or HEPA vacuum clothes	
6. Package, label, and store waste properly. • Segregate hazardous and non-hazardous waste. • Place all removed plastic sheeting, tape and other contaminated work area materials in heavy duty disposal bags. • Place all used cleaning supplies (rags, mop heads, etc.) in heavy duty disposal bags. • Place all used disposable personal protective equipment in waste bags. • Wrap building components, such as removed windows, in heavy duty poly sheeting and seals all seams with duct tape.	
7. At the end of each day, decontaminate self, supplies and equipment. • Wipe off all tools and equipment. • HEPA vacuum all protective clothing before leaving contained area. • Remove protective clothing properly. • Remove work shoes and place in plastic bag. • Place used cleaning rags and clothing in a waste bag. • Wash at least face and hands, including fingernails.	

Module 4 Clean-Up: Skills Checklist The participant should practice the following skills as appropriate to the work setting and specifications. Use the second column (✓) to check off skills performed and record any comments as necessary.	
Skill	✓
1. Select the equipment needed to perform clean-up.	
2. Demonstrate final pre-clearance procedures in the correct order. • Pick up large debris with wet disposable cloths • Mist sheeting before folding • Fold dirty side inward • Tape shut to seal in dirty side • Places contaminated plastic into heavy duty plastic disposal bags.	
3. Demonstrate the proper order of final clean-up. • HEPA vacuum • Wet Detergent Wash and Rinse • HEPA vacuum (if necessary)	
4. Demonstrate proper use of the HEPA vacuum. • Vacuum all surfaces (ceiling, walls, trim, floors) using proper attachments for each surface type. • Start at the ceiling and works down. • Vacuum at least two feet beyond containment area	
5. Demonstrates proper washing techniques for hard surfaces. • Follow manufacturer's instructions for use of detergent and recommended dilution. • Thoroughly and completely washes all surfaces. • Work from ceiling down. • Rinse the area with clean water from the other side of the bucket. • Change rinse water often. • Dispose of dirty water and rags/sponges appropriately.	
6. Demonstrate how to package, label, and store waste. • Segregate hazardous and non-hazardous waste • Place all removed plastic sheeting, tape and other contaminated work area materials in heavy duty disposal bags. • Place all used cleaning rags, sponges, mop heads, paper towels, in heavy duty disposal bags. • Place all used disposable personal protective equipment in waste bags. • Wrap building components, such as removed windows, in heavy duty poly sheeting and seal all seams with duct tape.	
7. Decontaminate self, supplies and equipment. • Wipe off all tools and equipment. • HEPA vacuum protective clothing before leaving contained area. • Remove protective clothing properly. • Remove work shoes and place in plastic bag. • Place used cleaning rags and clothing in a waste bag. • Wash at least face and hands, including fingernails.	

Senate Bill No. 460

CHAPTER 931

An act to amend Section 1941.1 of the Civil Code, and to amend Sections 17961, 17980, and 124130 of, and to add Sections 17920.10, 105251, 105252, 105253, 105254, 105255, 105256, and 105257 to, the Health and Safety Code, relating to lead abatement.

[Approved by Governor September 26, 2002. Filed with Secretary of State September 26, 2002.]

LEGISLATIVE COUNSEL'S DIGEST

SB 460, Ortiz. Lead abatement.

(1) The State Housing Law deems a building or portion thereof to be substandard if certain conditions exist.

This bill would deem a building or portion thereof to be in violation of the State Housing Law if it contains lead hazards, as specified, that are likely to endanger the health of the public or the occupants.

(2) The State Housing Law requires the housing department or, if there is no housing department, the health department, of every city, county, or city and county, or a specified environmental agency to enforce within its jurisdiction all of the State Housing Law, the building standards published in the State Building Standards Code, and other specified rules and regulations. A violation of the State Housing Law, related published building standards, or any other rule or regulation adopted pursuant to the law is a misdemeanor.

This bill instead would require the housing or building department or, if there is no building department, the health department, of every city, county, or city and county, or a specified environmental agency to enforce within its jurisdiction all of the State Housing Law, the building standards published in the State Building Standards Code, and other specified rules and regulations. It would authorize the State Department of Health Services to enforce the provisions relating to lead hazards if specified conditions are met. By creating a new crime and imposing additional duties upon local officials, this bill would impose a state-mandated local program.

(3) The State Housing Law requires the enforcement agency to institute any appropriate action or proceeding to prevent, restrain, correct, or abate the violation of the law, published building standards, specified rules and regulations, or nuisance. It also requires an enforcement agency, when it has determined that a building is a

substandard building, to commence proceedings to abate the violation by repair, rehabilitation, vacation, or demolition of the building.

This bill would additionally require an enforcement agency, when it has determined that a building contains lead hazards, as described above, to commence proceedings to abate the violation by repair, rehabilitation, vacation, or demolition of the building.

(4) Existing law requires the State Department of Health Services to implement and administer a program that meets federal requirements regarding lead-based paint hazards, and requires the adoption of regulations regarding, among other things, the accreditation of providers of health and safety training to employees who engage in or supervise lead-related construction work.

This bill would make it a crime for a person to engage in specified acts relating to lead-related construction courses, and lead-related construction work, abatement, or lead hazard evaluation. It would also enact related inspection provisions.

The bill would also permit the department or a local enforcement agency, whenever it determines that a condition at a location or premises, or the activity of any person at the location or premises, is creating or has created a lead hazard at the location or premises, to order the owner of the location or premises to abate the lead hazard or to order the person whose activity is creating or has created the hazard, to cease and desist. It would make it unlawful to refuse to obey any order issued under this provision, with a violation of this requirement being an infraction punishable by a fine of not more than $1,000.

(5) Under existing law, a portion of the moneys collected for criminal offenses constitute state penalties, a portion of which is retained by each county and a portion of which is deposited into the State Penalty Fund, to be allocated as prescribed.

This bill would provide instead that all state penalties collected for violations of the provisions described in (4) shall be deposited in the General Fund.

(6) Existing law requires all medical laboratories to report to the State Department of Health Services each detected case of a blood lead level that exceeds specified parameters.

This bill would revise and recast these reporting requirements.

(7) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement, including the creation of a State Mandates Claims Fund to pay the costs of mandates that do not exceed $1,000,000 statewide and other procedures for claims whose statewide costs exceed $1,000,000.

This bill would provide that with regard to certain mandates no reimbursement is required by this act for a specified reason.

With regard to any other mandates, this bill would provide that, if the Commission on State Mandates determines that the bill contains costs so mandated by the state, reimbursement for those costs shall be made pursuant to the statutory provisions noted above.

The people of the State of California do enact as follows:

SECTION 1. Section 1941.1 of the Civil Code is amended to read:

1941.1. A dwelling shall be deemed untenantable for purposes of Section 1941 if it substantially lacks any of the following affirmative standard characteristics or is a residential unit described in Section 17920.3 or 17920.10 of the Health and Safety Code:

(a) Effective waterproofing and weather protection of roof and exterior walls, including unbroken windows and doors.

(b) Plumbing or gas facilities that conformed to applicable law in effect at the time of installation, maintained in good working order.

(c) A water supply approved under applicable law that is under the control of the tenant, capable of producing hot and cold running water, or a system that is under the control of the landlord, that produces hot and cold running water, furnished to appropriate fixtures, and connected to a sewage disposal system approved under applicable law.

(d) Heating facilities that conformed with applicable law at the time of installation, maintained in good working order.

(e) Electrical lighting, with wiring and electrical equipment that conformed with applicable law at the time of installation, maintained in good working order.

(f) Building, grounds, and appurtenances at the time of the commencement of the lease or rental agreement, and all areas under control of the landlord, kept in every part clean, sanitary, and free from all accumulations of debris, filth, rubbish, garbage, rodents, and vermin.

(g) An adequate number of appropriate receptacles for garbage and rubbish, in clean condition and good repair at the time of the commencement of the lease or rental agreement, with the landlord providing appropriate serviceable receptacles thereafter and being responsible for the clean condition and good repair of the receptacles under his or her control.

(h) Floors, stairways, and railings maintained in good repair.

SEC. 1.5. Section 17920.10 is added to the Health and Safety Code, to read:

17920.10. (a) Any building or portion thereof including any dwelling unit, guestroom, or suite of rooms, or portion thereof, or the

premises on which it is located, is deemed to be in violation of this part as to any portion that contains lead hazards. For purposes of this part, ''lead hazards'' means deteriorated lead-based paint, lead-contaminated dust, lead-contaminated soil, or disturbing lead-based paint without containment, if one or more of these hazards are present in one or more locations in amounts that are equal to or exceed the amounts of lead established for these terms in Chapter 8 (commencing with Section 35001) of Division 1 of Title 17 of the California Code of Regulations or by this section and that are likely to endanger the health of the public or the occupants thereof as a result of their proximity to the public or the occupants thereof.

(b) In the absence of new regulations adopted by the State Department of Health Services in accordance with the rulemaking provisions of the Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code) further interpreting or clarifying the terms ''deteriorated lead-based paint,'' ''lead-based paint,'' ''lead-contaminated dust,'' ''containment,'' or ''lead-contaminated soil,'' regulations in Chapter 8 (commencing with Section 35001) of Division 1 of Title 17 of the California Code of Regulations adopted by the State Department of Health Services pursuant to Sections 105250 and 124150 shall interpret or clarify these terms. If the State Department of Health Services adopts new regulations defining these terms, the new regulations shall supersede the prior regulations for the purposes of this part.

(c) In the absence of new regulations adopted by the State Department of Health Services in accordance with the rulemaking provisions of the Administrative Procedure Act defining the term ''disturbing lead-based paint without containment'' or modifying the term ''deteriorated lead-based paint,'' for purposes of this part ''disturbing lead-based paint without containment'' and ''deteriorated lead-based paint'' shall be considered lead hazards as described in subdivision (a) only if the aggregate affected area is equal to or in excess of one of the following:

(1) Two square feet in any one interior room or space.

(2) Twenty square feet on exterior surfaces.

(3) Ten percent of the surface area on the interior or exterior type of component with a small surface area. Examples include window sills, baseboards, and trim.

(d) Notwithstanding subdivision (c), ''disturbing lead-based paint without containment'' and ''deteriorated lead-based paint'' shall be considered lead hazards, for purposes of this part, if it is determined that an area smaller than those specified in subdivision (c) is associated with

a person with a blood lead level equal to or greater than 10 micrograms per deciliter.

(e) If the State Department of Health Services adopts regulations defining or redefining the terms ‘‘deteriorated lead-based paint,’’ ‘‘lead-contaminated dust,’’ ‘‘lead-contaminated soil,’’ ‘‘disturbing lead-based paint without containment,’’ ‘‘containment,’’ or ‘‘lead-based paint,’’ the effective date of the new regulations shall be deferred for a minimum of three months after their approval by the Office of Administrative Law and the regulations shall take effect on the next July 1 or January 1 following that three-month period. Until the new definitions apply, the prior definition shall apply.

SEC. 2. Section 17961 of the Health and Safety Code is amended to read:

17961. (a) The housing or building department or, if there is no building department acting pursuant to this section, the health department of every city, county, or city and county, or any environmental agency authorized pursuant to Section 101275, shall enforce within its jurisdiction all of this part, the building standards published in the State Building Standards Code, and the other rules and regulations adopted pursuant to this part pertaining to the maintenance, sanitation, ventilation, use, or occupancy of apartment houses, hotels, or dwellings. The health department or the environmental agency may, in conjunction with a local housing or building department acting pursuant to this section, enforce within its jurisdiction all of this part, the building standards published in the State Building Standards Code, and the other rules and regulations adopted pursuant to this part pertaining to the maintenance, sanitation, ventilation, use, or occupancy of apartment houses, hotels, or dwellings. Each department and agency, as applicable, shall coordinate enforcement activities with each other and interested departments and agencies in order to avoid unnecessary duplication.

(b) Notwithstanding subdivision (a), the health department of every city, county, or city and county, or any environmental agency authorized pursuant to Section 101275 may, in addition to the local building department, if any, enforce within its jurisdiction the provisions of Section 17920.10 and shall coordinate enforcement activities with other interested departments and agencies in order to avoid unnecessary duplication.

(c) The State Department of Health Services may enforce Section 17920.10 if any local agency or department specified in subdivisions (a) and (b) enters into a written agreement, approved and published pursuant to local government procedures, with the State Department of Health Services to enforce that section, or provides the State Department of Health Services with a written request to enforce that section for a

specific case following the identification of a lead poisoned child in that jurisdiction.

SEC. 3. Section 17980 of the Health and Safety Code is amended to read:

17980. (a) If any building is constructed, altered, converted, or maintained in violation of any provision of, or of any order or notice that gives a reasonable time to correct that violation issued by an enforcement agency pursuant to, this part, the building standards published in the California Building Standards Code, or other rules and regulations adopted pursuant to this part, or if a nuisance exists in any building or upon the lot on which it is situated, the enforcement agency shall, after 30 days' notice to abate the nuisance, institute any appropriate action or proceeding to prevent, restrain, correct, or abate the violation or nuisance.

(b) (1) Whenever the enforcement agency has inspected or caused to be inspected any building and has determined that the building is a substandard building or a building described in Section 17920.10, the enforcement agency shall commence proceedings to abate the violation by repair, rehabilitation, vacation, or demolition of the building. The enforcement agency shall not require the vacating of a residential building unless it concurrently requires expeditious demolition or repair to comply with this part, the building standards published in the California Building Standards Code, or other rules and regulations adopted pursuant to this part. The owner shall have the choice of repairing or demolishing. However, if the owner chooses to repair, the enforcement agency shall require that the building be brought into compliance according to a reasonable and feasible schedule for expeditious repair. The enforcement agency may require vacation and demolition or may itself vacate the building, repair, demolish, or institute any other appropriate action or proceeding, if any of the following occur:

(A) The repair work is not done as scheduled.

(B) The owner does not make a timely choice of repair or demolition.

(C) The owner selects an option which cannot be completed within a reasonable period of time, as determined by the enforcement agency, for any reason, including, but not limited to, an outstanding judicial or administrative order.

(2) In deciding whether to require vacation of the building or to repair as necessary, the enforcement agency shall give preference to the repair of the building whenever it is economically feasible to do so without having to repair more than 75 percent of the dwelling, as determined by the enforcement agency, and shall give full consideration to the needs for housing as expressed in the local jurisdiction's housing element.

(c) (1) Notwithstanding subdivision (b) and notwithstanding local ordinances, tenants in a residential building shall be provided notice of any violation described in subdivision (a) that affects the health and safety of the occupants and that violates Section 1941.1 of the Civil Code, an order of the code enforcement agency issued after inspection of the premises declaring the dwelling to be in violation of any provision described in subdivision (a), the enforcement agency's decision to repair or demolish, or the issuance of a building or demolition permit following the abatement order of an enforcement agency.

(2) Notice pursuant to this subdivision shall be provided to each affected residential unit by the enforcement agency that issued the order or notice, in the manner prescribed by subdivision (a) of Section 17980.6.

(d) All notices issued by the enforcement agency to correct violations or to abate nuisances shall contain a provision notifying the owner that, in accordance with Sections 17274 and 24436.5 of the Revenue and Taxation Code, a tax deduction may not be allowed for interest, taxes, depreciation, or amortization paid or incurred in the taxable year. In addition, in Los Angeles County, the notice shall contain a provision notifying the owner that within 10 days of recordation of a notice of substandard conditions or similar document, the owner is required to comply with Section 17997.

(e) The enforcement agency may charge the owner of the building for its postage or mileage cost for sending or posting the notices required to be given by this section.

SEC. 4. Section 105251 is added to the Health and Safety Code, to read:

105251. For purposes of this chapter, the following definitions shall apply:

(a) The following terms shall have the same meaning as contained in Chapter 8 (commencing with Section 35001) of Division 1 of Title 17 of the California Code of Regulations adopted by the State Department of Health Services pursuant to Sections 105250 and 124160: ''abatement,'' ''accredited training provider,'' ''certificate,'' ''course completion form,'' ''DHS-approved course,'' ''lead hazard,'' ''lead hazard evaluation,'' ''lead related construction work,'' ''public building,'' and ''residential building.''

(b) ''Department'' means the State Department of Health Services.

(c) ''Local enforcement agency'' means the health department, environmental agency, housing department, or building department of any city, county, or city and county.

SEC. 5. Section 105252 is added to the Health and Safety Code, to read:

105252. (a) It is unlawful for any person to offer lead-related construction courses to meet department certificate requirements unless that person is an accredited training provider as specified in Chapter 8 (commencing with Section 35001) of Division 1 of Title 17 of the California Code of Regulations, as adopted pursuant to Sections 105250 and 124160.

(b) It is unlawful for any person to issue, or offer to issue, a lead-related construction course completion form to any person except upon successful completion by that person of a DHS-approved course.

(c) The department or any local enforcement agency may, consistent with Section 17972, enter, inspect, and photograph any premises or facilities, and inspect and copy any business record, where any accredited training provider, or any person who offers lead-related construction courses or issues lead-related construction course completion forms, conducts business to determine whether the person is complying with this section.

(d) It is unlawful for any person who is an accredited training provider or who offers lead-related construction courses or issues lead-related construction completion forms, to refuse entry or inspection, the taking of photographs or other evidence, or access to copying of any record as authorized by this section, or to conceal or withhold evidence.

(e) A violation of this section shall be punishable by imprisonment for not more than six months in the county jail, a fine of not more than one thousand dollars ($1,000), or by both that imprisonment and fine.

SEC. 6. Section 105253 is added to the Health and Safety Code, to read:

105253. (a) Any person issued a certificate by the department to conduct lead-related construction work, abatement, or lead hazard evaluation, shall comply with regulations as specified in Chapter 8 (commencing with Section 35001) of Division 1 of Title 17 of the California Code of Regulations, as adopted pursuant to Sections 105250 and 124160.

(b) It is unlawful for any person to do either of the following:

(1) Falsely represent himself or herself as possessing a certificate issued by the department to conduct lead-related construction work, abatement, or lead hazard evaluation.

(2) Submit false information or documentation to the department in order to obtain or renew a certificate to conduct lead-related construction work, abatement, or lead hazard evaluation.

(c) The department or any local enforcement agency may, consistent with Section 17972, enter, inspect, and photograph any premises or facilities, and inspect and copy any business record, where any person issued a certificate by the department to perform lead-related

construction work conducts business to determine whether the person is complying with this section.

(d) A violation of this section shall be punishable by imprisonment for not more than six months in the county jail, a fine of not more than one thousand dollars ($1,000), or by both that imprisonment and fine.

SEC. 7. Section 105254 is added to the Health and Safety Code, to read:

105254. (a) The following persons engaged in the following types of lead construction work shall have a certificate:

(1) Persons who receive pay for doing lead hazard evaluations, including, but not limited to, lead inspections, lead risk assessments, or lead clearance inspections, in residential or public buildings.

(2) Persons preparing or designing plans for the abatement of lead-based paint or lead hazards from residential or public buildings.

(3) Persons doing any work designed to reduce or eliminate lead hazards on a permanent basis (to last 20 years or more) from residential or public buildings.

(4) Persons inspecting for lead or doing lead abatement activities in a public elementary school, preschool, or day care center.

(5) Persons doing lead-related construction work in a residential or public building that will expose a person to airborne lead at or above the eight-hour permissible exposure limit of 50 micrograms per cubic meter.

(b) Persons performing routine maintenance and repairs in housing are not required to have a certificate if they are not performing any of the activities listed under subdivision (a).

(c) The department may adopt regulations to modify certification requirements for persons engaged in lead construction work based on changes to state or federal law, or programmatic need.

(d) The department or any local enforcement agency may, consistent with Section 17972, enter, inspect, and photograph any premises where abatement or a lead hazard evaluation is being conducted or has been ordered, enter the place of business of any person who conducts abatement or lead hazard evaluations, and inspect and copy any business record of any person who conducts abatement or lead hazard evaluations to determine whether the person is complying with this section.

(e) A violation of this section shall be punishable by imprisonment for not more than six months in the county jail, a fine of not more than one thousand dollars ($1,000), or by both that imprisonment and fine.

SEC. 8. Section 105255 is added to the Health and Safety Code, to read:

105255. (a) No person shall perform lead-related construction work on any residential or public building in a manner that creates a lead hazard.

(b) The department and any local enforcement agency may, consistent with Section 17972, enter, inspect, and photograph any premises where lead-related construction work is being performed, enter the place of business of any person who performs lead-related construction work, and inspect and copy any business record of any person who performs lead-related construction work to determine whether the person is complying with this section and any regulations specified in Chapter 8 (commencing with Section 35001) of Division 1 of Title 17 of the California Code of Regulations adopted by the State Department of Health Services pursuant to Sections 105250 and 124160.

(c) Notwithstanding any other provision of law, whenever the department or a local enforcement agency determines that a condition at a location or premises, or the activity of any person at the location or premises, is creating or has created a lead hazard at the location or premises, the department or the local enforcement agency may order the owner of the location or premises to abate or otherwise correct, at the option of the owner, the lead hazard, and may order the person whose activity is creating or has created the lead hazard, to cease and desist and shall give that owner or person a reasonable opportunity to correct.

(d) It is unlawful for any person to refuse or disobey any order issued pursuant to subdivision (c).

(e) A violation of subdivision (d) shall be punishable by a fine not to exceed one thousand dollars ($1,000). Any penalties under this section shall be in addition to any other penalty or remedy provided by law.

SEC. 9. Section 105256 is added to the Health and Safety Code, to read:

105256. (a) Notwithstanding any other provision of law, whenever the department or a local enforcement agency determines that a condition at a location or premises, or the activity of any person at the location or premises, is creating or has created a lead hazard at the location or premises, the department or the local enforcement agency may order the owner of the location or premises to abate the lead hazard, and may order the person whose activity is creating or has created the lead hazard, to cease and desist.

(b) It is unlawful for any person to refuse to obey any order issued pursuant to this section.

(c) A violation of this section shall be an infraction punishable by a fine not to exceed one thousand dollars ($1,000). Any penalties under this section shall be in addition to any other penalty or remedy provided by law.

SEC. 10. Section 105257 is added to the Health and Safety Code, to read:

105257. Notwithstanding subdivision (f) of Section 1464 of the Penal Code, any state penalties paid for the violation of this chapter shall be deposited into the General Fund.

SEC. 11. Section 124130 of the Health and Safety Code is amended to read:

124130. (a) A laboratory that performs a blood lead analysis on a specimen of human blood drawn in California shall report the information specified in this section to the department for each analysis on every person tested.

(b) The analyzing laboratory shall report all of the following:

(1) The test results in micrograms of lead per deciliter.

(2) The name of the person tested.

(3) The person's birth date if the analyzing laboratory has that information, or if not, the person's age.

(4) The person's address if the analyzing laboratory has that information, or if not, a telephone number by which the person may be contacted.

(5) The name, address, and telephone number of the health care provider that ordered the analysis.

(6) The name, address, and telephone number of the analyzing laboratory.

(7) The accession number of the specimen.

(8) The date the analysis was performed.

(c) The analyzing laboratory shall report all of the following information that it possesses:

(1) The person's gender.

(2) The name, address, and telephone number of the person's employer, if any.

(3) The date the specimen was drawn.

(4) The source of the specimen, specified as venous, capillary, arterial, cord blood, or other.

(d) The analyzing laboratory may report to the department other information that directly relates to the blood lead analysis or to the identity, location, medical management, or environmental management of the person tested.

(e) If the result of the blood lead analysis is a blood lead level equal to or greater than 10 micrograms of lead per deciliter of blood, the report required by this section shall be submitted within three working days of the analysis. If the result is less than 10 micrograms per deciliter, the report required by this section shall be submitted within 30 calendar days.

(f) Commencing January 1, 2003, a report required by this section shall be submitted by hand, courier, postal mail, facsimile, or electronic

transfer. Commencing January 1, 2005, a report required by this section shall be submitted by electronic transfer.

(g) All information reported pursuant to this section shall be confidential, as provided in Section 100330, except that the department may share the information for the purpose of surveillance, case management, investigation, environmental assessment, environmental remediation, or abatement with the local health department, environmental health agency authorized pursuant to Section 101275, or building department. The local health department, environmental health agency, or building department shall otherwise maintain the confidentiality of the information in the manner provided in Section 100330.

(h) The director may assess a fine up to five hundred dollars ($500) against any laboratory that knowingly fails to meet the reporting requirements of this section.

(i) A laboratory shall not be fined or otherwise penalized for failure to provide the patient's birth date, age, address, or telephone number if the result of the blood lead analysis is a blood lead level less than 25 micrograms of lead per deciliter of blood, and if all of the following circumstances exist:

(1) The test sample was sent to the laboratory by another medical care provider.

(2) The laboratory requested the information from the medical care provider who obtained the sample.

(3) The medical care provider that obtained the sample and sent it to the laboratory failed to provide the patient's birth date, age, address, or telephone number.

SEC. 12. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution for certain costs that may be incurred by a local agency or school district because in that regard this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

However, notwithstanding Section 17610 of the Government Code, if the Commission on State Mandates determines that this act contains other costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code. If the statewide cost of the claim for reimbursement

does not exceed one million dollars ($1,000,000), reimbursement shall be made from the State Mandates Claims Fund.

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