How to Properly Remove Sheet Vinyl Flooring with Asbestos

IMPORTANT: Read these procedures from start to finish, making sure you thoroughly understand them, before any asbestos abatement is undertaken.

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Note: Homeowner removal procedures apply to an owner-occupied, single-family residence in which the owner of the home lives, both prior to and after renovation activities. The term does not include rental property, multiple-family units, mixed-use structures that contain a residential unit, and structures involved in commercial/government-related activities (i.e. commercial development, property management, real estate transactions, ordered demolition, etc.) For these activities, you must contact Benton Clean Air Agency (Benton Clean Air) prior to any renovation activity.

This publication is limited to the removal of sheet vinyl flooring with asbestos backing, one of the three most common asbestos abatement projects attempted by homeowners. Benton Clean Air has two additional guidebooks in this series, "Spray-on Popcorn Ceilings," and "Cement Asbestos Board Siding."

Before You Begin

Are you sure there is asbestos in your floor?

Make sure your sheet vinyl floor actually has asbestos backing. Not all sheet vinyl floors do. Take a floor sample and have it analyzed. Cost is minimal. Laboratories are listed in the yellow pages under "Environmental Services" and "Laboratories-Testing." Ask a lab technician for advice on how to safely take a sample.

Typically, taking a sample involves removing a piece of floor molding or a floor heat register. Using a razor blade utility knife, shave off a one-inch long, 1/8-inch wide sliver of flooring. Make sure the sample includes, in addition to the top layer of sheet vinyl flooring, all layers of flooring, backing and adhesives beneath it. Cut all the way down to the hard underlayment. While you're cutting the sample, a second person should mist the area with water from a spray bottle to ensure no fibers are released into the air. Put the sample in a zip-lock bag for delivery to a lab.

If you decide not to check for asbestos in a suspected floor, assume it contains asbestos and treat it accordingly.

If it contains asbestos, are you sure you really want to remove it?

Remember, asbestos is a problem only if fibers are released into the air. Unless your sheet vinyl flooring is being disturbed, it will not release fibers. Hence, the safest, easiest and less expensive option may be to leave it alone. Rather than removing it, consider installing a new floor directly on top of it. Another possibility is to lay ¼-inch underlayment on top of your existing floor and then lay new flooring on top of that. If your existing floor is in good condition, your best option may be to simply leave it alone.

Words of Caution

You are liable.

Your only legal options in having asbestos removed from your home are to hire a certified asbestos abatement contractor or do the work yourself. The law prohibits you from hiring anyone other than an asbestos abatement contractor to perform asbestos removal work. Family members and friends may participate legally, provided they do so as unpaid volunteers.

Be advised that the removal procedures described in this publication are intended to help homeowners minimize health risks associated with "do it yourself" asbestos removals. However, it should be understood that removing asbestos from your home can be dangerous. Some release of asbestos fibers into the air is unavoidable and there are no known safe levels of exposure.

No set of instructions can address all possible situations and variables that a homeowner may encounter in an asbestos removal project. In this publication, we have tried to address the more common and most important issues involved in removing sheet vinyl flooring with asbestos backing.

However, common sense dictates that unique and particularly challenging projects should not be undertaken by the homeowner. In such cases, it would be prudent to avoid the possibility of asbestos contamination by abandoning the "do-it-yourself" approach and hiring a certified asbestos abatement contractor.

The work will be difficult.

It is important to note that even under the best circumstances, homeowner-performed asbestos projects can be both physically demanding and potentially dangerous.

- Breathing through a respirator is more difficult than normal breathing, thus placing an added stress on heart and lungs.
- Protective clothing can be hot and uncomfortable.
- Work spaces become very humid due to the water used in wetting the asbestos.
- Work can involve ladders and high spaces, as in some ceiling and siding projects.
- Eye protection often results in reduced visibility.
- Caution must be taken with wiring and electrical power because of all the water being used to wet the asbestos.

Understand that as a homeowner, you do not have the equipment, materials, and experience of an asbestos abatement contractor to perform this work. Unlike contractors, who have special machines with high efficiency filters to remove fibers from the workplace air, you have few, if any, "back-ups" if something goes wrong.

Benton Clean Air Agency assumes no liability or responsibility for injuries, illnesses or related health problems arising from your performing an asbestos removal project. You assume all risks involved.

Is it safe to remove the floor?

Asbestos-backed sheet vinyl flooring was commonly installed in many ways, including over hardwood, softwood and concrete floors. It also was installed over tongue-and-groove wood floors, particleboard and plywood. The removal procedures described in this publication address the removal of asbestos-backed sheet vinyl only if:

- it can be peeled off without disturbing the asbestos containing backing, or
- the sheet vinyl was laid over plywood or particle board and can be removed with underlayment still attached.

If your laboratory test shows positive evidence of asbestos and you still want to remove your asbestos-back sheet vinyl floor, your next step is going to be to determine whether it's possible to remove the floor safely, and if so, which of the above two possible removal methods should be employed.

Using a utility knife, cut a test strip of the vinyl flooring approximately two inches wide by six inches long. It's best to do this at a floor heat duct opening or next to the wall in an inconspicuous corner of the room. Press hard to cut through all layers to the hard sub-flooring.

Next, using a putty knife, lift up the edge of the asbestos-backed flooring strip and slowly peel it back, spraying the backing as it is exposed. Peel no more than one or two inches.

If the strip of flooring comes up without tearing the backing, continue peeling and spraying. If the remainder of the test strip comes up without tearing the backing, you're in luck. It means little or no adhesive was used to hold the sheet vinyl in place. If this is the case with the rest of your vinyl, you will be able to use the "peeling method" to remove the remainder of the floor.

However, if the asbestos backing tears away as you peel—which is what usually happens—it means your asbestos-backed sheet vinyl flooring is tightly adhered and will have to be removed in sections with the underlayment attached. Abandon the test. Cut off the short peeled piece, wet and scrape off the floor any torn asbestos backing left over and dispose of the removed test materials by sealing them in a plastic bag and throwing them in the garbage. Removal procedures for the "in sections method" involves cutting out and removing sections of plywood or particleboard (with flooring attached) and disposing of the removed sections.

- ***Note:*** *If, in performing the above test, you discover your asbestos-backed sheet vinyl flooring is tightly glued to anything other than particleboard or plywood, there may be no safe way for you to remove it. Benton Clean Air recommends you use a certified asbestos abatement contractor for such removals.*

Removal Procedures

Basic Rules

- **Worker Protections:**

  During removal, you will need to protect yourself from breathing or spreading asbestos fibers by wearing an appropriate respirator, disposable coveralls, disposable gloves, and rubber boots (or shoes that may need to be thrown out at the end of the project).

- **Wetting:**

  Wetting is critical to asbestos fiber control. Before, during and after removal, asbestos materials should be thoroughly saturated with water in order to keep asbestos fibers out of the air. Once removed, asbestos debris should be kept wet until packaged and sealed for disposal.

- **Containment:**

  You will need to contain your asbestos debris and minimize the release of asbestos fibers. This entails min-imizing any disturbance of the sheet vinyl backing and contain-ing any asbestos debris, to the extent practical, on plastic to avoid spreading it beyond the project site. Additional plastic sheets must be hung to seal off the work area from the rest of the house.

- **Minimize Disturbance:**

  Sheet vinyl flooring should be removed to avoid or minimize disturbance of the asbestos containing backing. This will entail peeling the sheet vinyl from the flooring beneath if the backing does not separate in the process, or removing the sheet vinyl in sections with the underlayment attached.

Personnel & Supplies

Workers

It is recommended that three workers perform the job. Two should work within the contained work area and a third should be "standing by" outside the area to provide water, tools and other supplies as needed while work is in progress. This minimizes the need for workers to move in and out of the contained area.

> ***Note:*** *It is illegal to hire anyone other than a certified asbestos abatement contractor to perform, or assist in, this removal process.*

Protective equipment and clothing

Before beginning, you'll need to obtain the following items.

- **Respirators.** Half-face, dual-cartridge respirators each equipped with a pair of P100 filters (color-coded purple.) Request from the vendor a fit test to ensure a proper fit. Respirators provide little protection if not fitted properly. Respirators must be worn by all persons in the containment area.

> ***Note:*** *Persons with beards often cannot be adequately fitted with this type of respirator and should not participate in asbestos abatement work.*

- **Coveralls.** Several pairs of disposable coveralls with built-in booties should be purchased. Oversized coveralls make it easier for workers to move. One pair will be needed for each entry into the containment area. Every time a worker leaves a containment area during a removal, coveralls should be wetted and disposed of in sealed asbestos disposal bags.
- **Rubber boots.** These are recommended so that coverall booties don't wear through. Rubber boots can be washed off later.
- **Rubber gloves.** Several pairs of durable, disposable rubber gloves should be purchased. Rubber gloves should be worn by each person working within the containment area. Every time a worker leaves a containment area during a removal project, these gloves should be disposed of in properly sealed asbestos disposal bags. A new pair of gloves should be donned with each re-entry of the containment area.
- **Eye protection.** Each person performing flooring removal work should be equipped with a pair of non-fogging goggles or other approved eye protection.

Miscellaneous supplies

- **Tank sprayer (2-3 gallons).** This will be your means of wetting exposed asbestos-containing materials.
- **Liquid dish washing detergent.** This should be mixed with water for enhanced wetting capabilities.
- **Removal tools:**
  - ✔ Two sharp chisels with one-inch blades
  - ✔ Two heavy (16-20 ounce) claw hammers
  - ✔ Two putty knives with four-to-six inch blades
  - ✔ A razor blade utility knife with extra blades
  - ✔ A paint scraper or stiff-bladed wall or floor scraper
  - ✔ Two wrecking bars for prying up flooring materials
- **Six mil polyethylene sheeting.** This will be used to cover counter tops, open doorways, and an approximate six-foot square area of floor outside your designated exit. It also will be used to double wrap large pieces of removed flooring.
- **Asbestos waste disposal bags.** These bags will be used for containing asbestos contaminated debris and materials. The bags should be sized 33 inches by 50 inches and made of 6 mil polyethylene. Each should be pre-printed with required asbestos warnings. Assume you'll need a dozen bags for each 100 square feet of flooring removed.
- **Duct tape.** Several rolls of duct tape should be purchased for building containment area walls and sealing waste disposal bags.
- **Clean, disposable rags.** A large supply of rags should be on hand for assorted removal and clean-up purposes.
- **Bucket.** A bucket for washing tools at the end of the project.

Prep Work

As you prepare to remove the floor, remember that your most important objective is to minimize the disturbance of asbestos-containing materials.

First things first

1. Post signs warning any "drop in" friends, family and other visitors of the work taking place.
2. Turn off heating/air conditioning systems.
3. Remove all furniture, floor moldings, metal edge trim pieces, heat vents/grates, appliances, and other items that are on the floor. In bathrooms, this includes toilets and claw-foot tubs. Modern bathtubs are flush to the floor and against which flooring is laid, need not be removed.
4. Remove all loose items and small appliances from counters, shelves, or other horizontal surfaces in the room. Sweep and wash the floor to provide a clean working surface.
5. Cover counter tops and other surfaces with sheet plastic.
6. Cover doorways and other entry ways to the work area with sheet plastic to isolate the area from the rest of the house. For ventilation purposes, exterior doors and windows may be left open.

Prep Work continued

7. Designate a spot for entering and exiting the work area, preferably an outside exit. Immediately outside this entry/exit, lay a sheet of plastic approximately 6 feet square as a designated decontamination point. Keep a plastic disposal bag at this spot.
8. If there is no water supply located within or just outside the work area, you may need to run a hose to the decontamination point for refilling spray bottles or the tank sprayer.
9. Tape plastic inside open floor-mounted heat ducts to prevent debris from falling into the duct work.
10. Fill the tank sprayer or spray bottles with water and detergent—one teaspoon per spray bottle or ¼ to ½ cup per tank sprayer.

1. Using a crayon or marking pen, outline a section of flooring for removal. If your floor was laid on plywood, draw removal

Put on protective clothing and equipment

Removal workers should put on coveralls, respirators equipped with HEPA filters, gloves and eye protection.

- ***Note:*** *If you must leave the work area during the project, wet down and remove your protective equipment and clothing while standing on the plastic just outside the entrance/exit to the work area. Place your coveralls and gloves in a waste disposal bag. Then step off the plastic. Upon returning, put on new coveralls and gloves.*

Peeling Method

(to be used only if test strip was removed without tearing the asbestos backing)

If your sheet vinyl floor was installed with little or no adhesive, you may be able to peel the flooring off with little disturbance of its asbestos backing.

1. Using the utility knife and sufficient pressure to fully penetrate the thickness of the vinyl, cut a piece of flooring approximately one by two feet. Spray the starting edge. Lift and peel up the flooring, wetting as the backing is exposed.
   - ***Note:*** *You may discover there is more than one layer of flooring under the top layer you are attempting to remove. If the top layer is thoroughly glued but a lower layer is secured with little or no adhesive, you may be able to safely peel off sections of flooring at that level.*
2. If, as you're peeling, asbestos backing begins to pull apart in a small, isolated area, you may have come across an occasional "glue spot." Stop and thoroughly wet both backing and underlayment. Use a chisel or putty knife to dig under the torn area until you're past it.
3. Dispose of each piece of removed flooring (with backing thoroughly wetted) in an asbestos waste disposal bag. Repeat this process until the entire floor has been removed. You may peel off the floor in larger pieces as long as the backing does not tear and the backing is wetted upon exposure. Pieces larger than what will fit in a pre-marked asbestos disposal bag can be double wrapped in plastic, sealed with duct tape and tagged with asbestos disposal stickers.

If, at any point in the peeling process, you find your sheet vinyl backing is adhering tightly to the underlayment and tearing apart in more than just an occasional square inch or two, abandon this technique and follow the "in sections method" described in the next section.

In Sections Method

sections about one by three feet in size. If your floor was laid on top of particle board, make your removal sections about one by one foot in size. Because particle-board does not have the structural strength of plywood, it will have to be removed in smaller pieces.

2. Whenever possible, cut down on the amount of chiseling you'll have to do by using seams in the plywood or particle board underlayment as edges to the sections that you are removing. Whenever an underlayment seam is being followed, use a utility knife to cut the vinyl flooring instead of a hammer and chisel.
3. Using a hammer and chisel, make consecutive vertical cuts along the section you've marked for removal. Each vertical cut should go through all layers of vinyl and into, but not necessarily through, the plywood or particle board underlayment. As one person chisels, a second worker should follow, spraying each cut with water and detergent to wet exposed asbestos edges.
4. Using wrecking bars, pry up each cut section of plywood or particle board underlayment (with flooring attached and intact) form the sub-floor. As each piece is removed, re-wet the section edges and either stack them on 6 mil polyethyethylene for double wrapping or insert them into waste disposal bags.

Floor-mounted cabinets

If flooring-mounted cabinets with recessed toe plates are involved and the underlayment for your sheet vinyl floor extends under them, you may not be able to remove underlayment flush to the cabinet recessed toe plate. In this situation:

1. Remove the underlayment to a point following a line three or four inches away from the recessed toe plate. Once flooring has been removed up to this point, you'll be left with a narrow strip of sheet vinyl glued to the inaccessible underlayment underneath the recessed toe plate.
2. To remove the strip of sheet vinyl flooring from the remaining underlayment under the recessed toe plate, take hold of an exposed edge and slowly lift the vinyl flooring, wetting the asbestos backing as it is exposed. Slowly peel this strip of flooring by rolling the removed strip and continually wetting the backing as it is exposed. Deposit the peeled off flooring into waste disposal bags.
3. Before removing any asbestos backing left adhering to the underlayment under the recessed toe plate, thoroughly re-wet the material, allowing 20-30 minutes for the water/detergent solution to soak in. Then scrape the material off with a paint scraper or stiff-bladed wall/floor scraper. Continue to re-wet the left-over asbestos backing material as necessary.

▶ ***Note:*** *Later, before laying a new floor, underlayment of the same thickness as the old, removed underlayment can be laid flush with the underlayment left under the recessed toe plate to create a smooth, even surface.*

Cleaning Up

Contain debris

1. Spray water/detergent on any debris on the plastic sheets laid on counters, floors and other horizontal surfaces. Carefully roll or fold the debris up in these plastic sheets and deposit in disposal bags.
2. Wet any debris collected on plastic taped inside the open floor heat ducts. Remove the plastic, being careful not to drop debris into the furnace ducts, and deposit it in an asbestos disposal bag.
3. Make sure all loose debris is double bagged in 6 mil polyethylene plastic bags and sealed with duct tape. Large piece of debris, such as sections of flooring, can be double wrapped in 6 mil polyethylene plastic and sealed with duct tape.
4. Mist with water and take down and bag plastic sheets hung to separate the work area from the rest of the house.
5. Using clean rags, wet wipe all horizontal surfaces and floors. Wipe off scraping tools. Deposit contaminated rags in disposal bags.
6. Place all tools in a bucket or separate waste disposal bag for washing as needed.

Decontamination

1. At your designated exit, step onto the plastic.
2. While standing on this piece of plastic sheeting, spray yourself (or each other) with water to wet down any asbestos debris/fibers on the outside of your respirator and disposable coveralls.
3. Remove boots. Then remove your disposable gloves and coveralls by peeling them off and turning them inside out as your remove them. Step off the last plastic sheet.
4. Take off respirators and remove their filters for disposal. Then wash off and wipe down the tools used in removal, along with your respirators, goggles and boots. Move each item off the plastic as it is cleaned.
5. Double bag remaining debris and disposable items in properly labeled asbestos disposal bags or double wrap them in 6 mil plastic sheets. Tightly seal each bag or package tightly with duct tape. Use wet rags for any further clean-up. Never attempt to vacuum or sweep up asbestos debris. This will cause any fibers present to become airborne in your house.
6. Take a shower.

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Aug 2007

Disposal

1. Asbestos debris from an asbestos project may be disposed of only at disposal sites or transfer stations licensed to receive such waste. A list of sites may be obtained by calling Benton Clean Air, 509-783-1304. Call sites for fees.
2. A waste manifest is required for disposal. Waste manifest forms are available at the disposal sites, or call 783-1304, or download at www.bentoncleanair.org.
3. All debris must be properly packaged for disposal by double bagging your debris inside pre-labeled 6 mil bags designed specifically for asbestos disposal. You must write your last name, address, and date of removal on each container.
4. Debris must be legally disposed of within 10 calendar days of being generated. If you must store the packaged debris prior to disposal, ensure it is stored in a secured area, such as a locked basement or garage.
5. All double bagged or wrapped debris must be hauled to a disposal site or transfer station in a covered vehicle.

Illustrations

Using a tank sprayer to wet seams

Using a hammer and chisel

Prying up a section of flooring

Lifting up and removing a section of flooring