



Lewis County Department of Public Works

Erik P. Martin, PE, Director / County Engineer

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INSTRUCTIONS FOR DISPOSING OF ASBESTOS

CENTRAL TRANSFER STATION, 1411 S. TOWER AVE., CENTRALIA WA 98531

MAILING ADDRESS: P.O. BOX 180, CENTRALIA WA 98531

PHONE NUMBER: 360-740-1130

1. Asbestos is accepted at the **Central Transfer Station only and not the East Lewis County Transfer Station in Morton.** A Notice of Intent to Remove or Encapsulate Asbestos must accompany the asbestos material. A Notice of Intent form is attached, and is also available at the Central Transfer Station or the Southwest Clean Air Agency (SCAA), located at 11815 NE 99th St., Suite 1294, Vancouver WA 98682-2454. The SCAA phone number is 360-574-3058. The Notice of Intent must be completed by the person removing the asbestos and sent to the SCAA for approval. A fee of \$25 for residential projects must be included with the form sent to the SCAA, except for projects producing less than 10 linear feet or 48 square feet of asbestos. The SCAA will return the Notice of Intent, which must accompany the asbestos material when it is brought to the transfer station for disposal.
2. **Prior to delivery** of asbestos to the transfer station, all necessary permits must be obtained. Please notify the Operations Supervisor at 360-740-1130 or his designee at least **24-hours** in advance to obtain permission for asbestos to be brought to the transfer station.
3. Make sure you bring the approved SCAA Notice of Intent form with you when delivering the material to the Central Transfer Station at which time you'll also fill out the necessary shipment form.
4. The material must be wrapped in at least 12 mils of plastic. This may be accomplished by using two 6-mil bags and double bagging.
5. The tipping fee for asbestos at the Lewis County Central Transfer Station is \$150 per ton with a minimum fee of \$30 for 400 pounds or less. A 3.6% state refuse tax is also added.
6. The asbestos material must be moistened down to prevent dust.
7. Material must be secured within the plastic wrapping so that leaking does not occur.
8. Each bag/container must have the following message written on a brightly colored label:

CAUTION: CONTAINS ASBESTOS. AVOID BREAKING OR OPENING CONTAINER. BREATHING ASBESTOS MAY BE HAZARDOUS TO YOUR HEALTH.

Road Maintenance

476 West Main St.
Chehalis, WA 98532
O 360.740.3380
F 360.740.2741

Administration, Engineering, Utilities & Real Estate Services

2025 NE Kresky Ave.
Chehalis, WA 98532
O 360.740.1123
F 360.740.1479

Solid Waste Services

Post Office Box 180
Centralia, WA 98531
O 360.740.1451
F 360.330.7805

NOTICE OF INTENT TO REMOVE ASBESTOS

Southwest Clean Air Agency

11815 NE 99th Street, Suite 1294
 Vancouver, WA 98682
 Voice: (360) 574-3058
 Fax: (360) 576-0925
www.swcleanair.org

This notification *must* be present at all times at the asbestos project site

AGENCY USE ONLY

Date Notification Received _____

AGENCY USE ONLY

Date Paid: _____
 Fee: \$ _____
 Receipt #: _____
 Date of Submittal: _____

PROJECT CATEGORY (Check only one)

- Residential (any amount-owner occupant performed)
- Less than 10 linear feet, Less than 48 square feet
- 10 to 259 linear feet, 48 to 159 square feet
- 260 to 999 linear feet, 160 to 4999 square feet
- 1000 linear feet or more, 5000 square feet or more
- Emergency (Call SWCAA immediately for notification period waiver)

Advance Notification Period

- Prior Notification
- exempt per structure per year
- 10 working days
- 10 working days
- 10 working days

SWCAA FEE

- \$25.00
- 0-
- \$100.00
- \$250.00
- \$500.00
- (Double fee)

Quantity to be removed: _____ square ft. _____ linear ft. Workshift days: M T W TH F SA SU
 Project starting date: _____ Completion date _____ Workshift hours: _____
 Site address: _____ City _____ Zip _____ County _____
 Location of asbestos: _____
 Demolition of structure? _____ If yes, Notification of Demolition required

Asbestos survey conducted? YES NO If yes, include results summary page. If no, reason: _____

AHERA Inspector: _____ Certification #: _____

Material to be Removed:

- Fireproofing Popcorn Ceiling CAB Sheet Vinyl Boiler Insulation Duct Tape
- Duct Paper Mag. Pipe Insulation Air Cell CA Pipe VAT Other _____

Control Methods:

- N.P Enclosure Glove Bag Mini Enclosure Wrap & Cut Water
- HEPA Vac Other _____

Asbestos contractor: _____ Asbestos Certification # _____

Mailing address: _____

Owner/CEO: _____ Phone: _____

Onsite Supervisor: _____ Certificate #: _____ Phone: _____

Property owner: _____ Phone: _____

Mailing address: _____

City _____ State: _____ ZIP: _____

Asbestos disposal site and landfill address: _____

I DO HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS NOTIFICATION IS, TO THE BEST OF MY KNOWLEDGE, ACCURATE AND COMPLETE.

Signature

Date

Title

Representing

AGENCY USE ONLY

Case No. _____

Reviewed by _____

INSTRUCTIONS FOR FILING WRITTEN NOTICE OF INTENT TO REMOVE ASBESTOS

Written notice as required by SWCAA 476 "Standards for Asbestos Control" must be submitted on this form. If this notice is submitted by mail, the appropriate fee must be enclosed. A copy of your this notice must accompany the asbestos waste when deposited at a waste disposal site. The required "Advance Notification Period" approval date will be from the date that all required information is submitted to SWCAA.

TYPE OF PROJECT

Check the applicable box that pertains to your type of asbestos project.

PROJECT CATEGORY

Check the applicable box that indicates your project category and note the advance notification period and fee. Residential owner performed projects must be confined to owner occupied dwellings; other restrictions may apply.

QUANTITY TO BE REMOVED

Indicate amount of estimated asbestos material and attach appropriate fee.

PROJECT START AND COMPLETION DATES

Dates must be consistent with the required notification period identified in SWCAA 476-040. These dates are important as SWCAA performs periodic site visits. Unless you are notified otherwise, your project may begin on the scheduled starting date.

WORKSHIFT DAYS AND HOURS

Indicate days and hours scheduled to be on site. These times are important as SWCAA performs periodic site visits.

JOB SITE ADDRESS

Must be complete and include building numbers, school names, or any other identifying information.

TYPE OF MATERIAL TO BE REMOVED AND CONTROL MEASURES

Indicated by checking the appropriate box(es).

ASBESTOS INSPECTION REPORT BY AHERA CERTIFIED BUILDING INSPECTOR

Must be submitted with Notice of Intent to Remove or Encapsulate Asbestos, unless the material is presumed to be asbestos containing material which is therefore not required to be evaluated by an AHERA building inspector.

ASBESTOS CONTRACTOR (list the following)

1. Name and address of company.
2. Name of owner or chief executive officer and telephone number.
3. Site contact and asbestos contractor certification number.

PROPERTY OWNER (list the following)

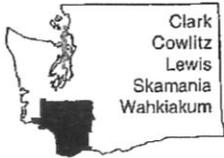
1. Name, address and telephone number of property owner.

DISPOSAL SITE NAME AND LOCATION

Specify the asbestos disposal site-including landfill address.

SIGNATURE AND TITLE OF RESPONSIBLE PERSON AND WHO PARTY IS REPRESENTING

Form must be signed and dated by responsible person or the notice is not valid.



Southwest Clean Air Agency

11815 NE 99th Street, Suite 1294 • Vancouver, WA 98682-2322
(360) 574-3058 • Fax: (360) 576-0925
www.swcleanair.org

Sample Asbestos-Containing Material List

- Acoustical ceiling texture ("popcorn")
- Asphalt flooring
- Base flashing
- Blown-in insulation
- Boiler/tank insulation
- Breaching insulation
- Brick mortar
- Built-up roofing
- Caulking/putties
- Ceiling tiles/panels/mastic
- Cement board/transite
- Cement pipes
- Cement roofing shingles
- Chalkboards
- Construction mastics
- Duct tape/paper
- Ductwork flexible connections
- Electrical cloth
- Electrical panel partitions
- Electrical wiring insulation
- Elevator brake shoes
- Erkot roofing material
- Fire blankets
- Fire curtains/hose
- Fire doors
- Fireproofing
- Furnace insulation
- Gray roofing paint
- High temperature gaskets
- HVAC duct insulation
- Incandescent light fixture backing
- Joint compound/wallboard
- Laboratory hoods/table tops
- Laboratory fume hood
- Mudded pipe elbow insulation
- Nicolet (white) roofing paper
- Packing materials
- Paper fire box in walls
- Paper on backside of fiberglass insulation
- Pipe insulation/fittings
- Plaster/wall joints
- Poured flooring
- Rolled roofing
- Roofing shingles
- Sink insulation
- Spray-applied insulation
- Stucco
- Sub flooring slip sheet
- Textured paints/coatings
- Vapor barrier
- Vinyl floor tile/mastic
- Vinyl sheet flooring/mastic
- Vinyl wall coverings
- Window glazing

Note: *This list does not include every product that may contain asbestos. It is intended as a general guide to show which types of materials may contain asbestos.*

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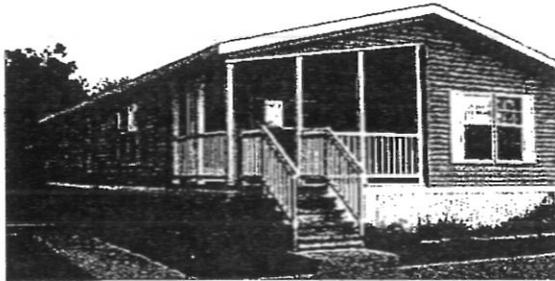


More Information

Asbestos-related resources are available on the Southwest Clean Air Agency website at www.swcleanair.org under the asbestos link:

- Notifications to SWCAA
- Look up a licensed asbestos abatement contractor
- Qualified AHERA building inspectors
- Asbestos hazard identification consulting firms
- Asbestos analytical laboratories
- How to safely take a sample of asbestos containing material
- Guidance for demolition or renovation
- Where to properly dispose of asbestos
- SWCAA 476 - Standards for Asbestos Control, Demolition and Renovation
- EPA information, 40 CFR Part 61 Subpart M, NESHAPS
- Asbestos Demolition Flow Chart
- Asbestos Structure Renovation Flow Chart

This list of links represents some basic information on asbestos containing materials, SWCAA required forms, asbestos contractors, labs and other helpful information. Please check with other local, state and federal agencies to see that all permit obligations have been met.



Mobile homes and manufactured homes are subject to proper asbestos notification and removal procedures as outlined in this brochure.

SWCAA Programs & Services

SWCAA offers information and assistance to individuals, homeowners and businesses in the following areas:

Public Information & Education

Complaint Response & Enforcement

Outdoor Burning

Wood Stoves

Asbestos

Business Assistance

Air Operating Permits

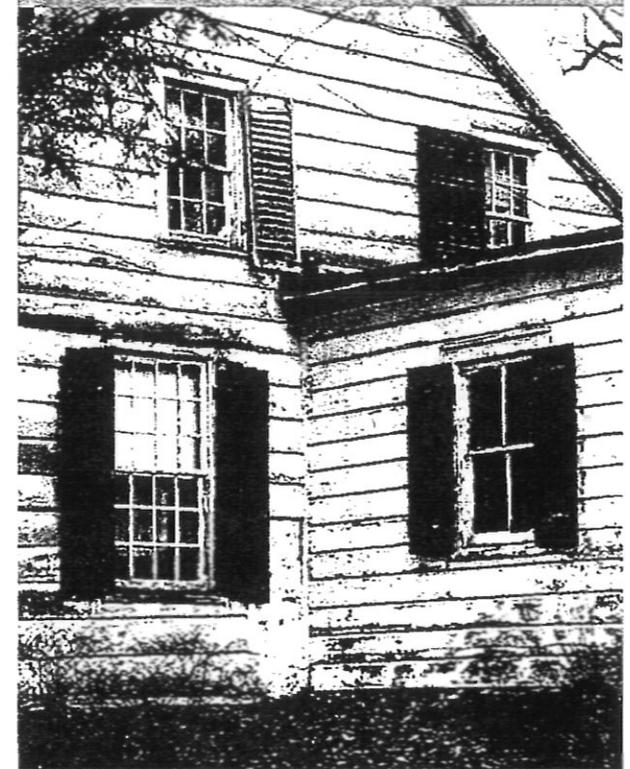
New Source Permitting



For more information:
Southwest Clean Air Agency
11815 NE 99th St., Suite 1294
Vancouver, WA 98682
360-574-3058
www.swcleanair.org

Revised September 18, 2008

Read this before beginning your remodeling or demolition project!



Information on the renovation or demolition of existing structures

A guide for
asbestos
projects

Regardless of the size of the renovation or demolition project, inspections for Asbestos Containing Material (ACM) must be performed and notifications must be submitted to the Southwest Clean Air Agency (SWCAA) and other local agencies prior to removal of ACM or demolition of any structure.

Contractors and home owners must comply with the asbestos regulations, SWCAA 476, before the renovation or demolition phase of any project. The Southwest Clean Air Agency (SWCAA) enforces the asbestos rules in Clark, Cowlitz, Lewis, Skamania and Wahkiakum Counties. Please check with other local, state and federal agencies to see that all other permit obligations have been met.

Asbestos is a regulated material that is still used today in more than 3,000 products and can be found in even the newest of structures. Common residential uses include electrical appliances and construction materials such as caulking, putties, firewalls/doors, sprayed insulation, wall board, cement board, adhesives, flooring tiles, grout, shingles, roofing and driveway coatings.

This brochure outlines the basic requirements and provides helpful information to get your project started on the right track. It is by no means meant to be all-inclusive or cover every circumstance. Please feel free to contact SWCAA at 360-574-3058 or 1-800-633-0709 or visit our web page at www.swcleanair.org for specific questions and requirements. Check with your county and city offices for other possible requirements.

Before starting the renovation or demolition (SWCAA 476-040)

Prior to any demolition or renovation of **any structure** (including barns, mobile homes, detached garages, etc.) a thorough asbestos inspection must be conducted by an AHERA certified inspector in order to determine the presence of asbestos containing material (ACM) in all affected structures or areas. Any materials presumed to be ACM are not required to be evaluated, but must then be handled and disposed of as ACM.

If asbestos is present

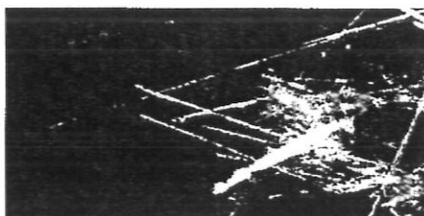
All ACM must be completely removed from affected areas by certified personnel in full accordance with SWCAA 476 and with 40CFR Part 61 Subpart M National Emission Standards for Hazardous Air Pollutants prior to structure demolition (including fire training) or structure renovation.

A *Notice of Intent to Remove or Encapsulate Asbestos* and a copy of the AHERA asbestos inspection report for each structure must be submitted to SWCAA. There is a fee and a federally-required 10 business day waiting period from the time notices are submitted before asbestos removal can begin.

Possible Exemptions

1. An asbestos notification is not required for contractors with asbestos projects involving less than 10 linear feet or 48 square feet per structure per year of any asbestos containing material unless the facility is to be demolished by intentional burning.
2. An asbestos notification is not required for the removal of non-friable roofing material.
3. Homeowners doing their own work **may** be exempt from certain requirements. Call SWCAA at 360-574-3058 for more information.

Airborne asbestos fibers can cause serious long-term health problems.



If asbestos is *not* present

Demolitions - A *Notification of Demolition* and a copy of the AHERA asbestos inspection report must be submitted to SWCAA regardless of the amount of asbestos found. There is a fee and a federally-required 10 business day waiting period from the time the notification is submitted before the demolition can start. If the building is being demolished by fire training, the local fire department must submit a fire training request or notification to SWCAA.

Renovations - SWCAA does not require notification for renovations. If ACM is to be removed during renovation, a *Notice of Intent to Remove or Encapsulate Asbestos* must be submitted to SWCAA. Please check with other local agencies for any other permit obligations.

Emergency Variances

SWCAA may waive the required 10 working day advance notification if it is demonstrated in writing that an asbestos project, maintenance, renovation or demolition activity must be conducted immediately because of any of the following: a sudden unexpected event that resulted in a public health or safety hazard; the project must proceed immediately to protect equipment, ensure continuous vital utilities or minimize property damage; or the project must proceed to avoid imposing an unreasonable burden. The application fee is doubled if emergency variance is approved.

How to Properly Remove Spray-on “Popcorn” Ceilings

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

Southwest Clean Air Agency

11815 NE 99th Street, Suite 1294
Vancouver, Washington 98682-2322
Phone: (360) 574-3058 Fax: (360) 576-0925
Website: www.swcleanair.org

**Note:* An Owner-Occupied, Single-Family Residence is one that the owner of the home lives in 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.).

This publication is limited to the removal of popcorn ceilings, one of the three most common asbestos abatement projects performed by homeowners. Southwest Clean Air Agency offers two additional “how to” manuals in this series, “Asbestos-backed Sheet Vinyl Flooring” and “Cement Asbestos-board Siding.”

Before You Begin

Are you sure your ceiling contains asbestos?

Not all spray-on “popcorn” ceilings contain asbestos. To know for sure, submit “popcorn” samples for laboratory analysis. Cost is minimal. Laboratories are listed in the yellow pages under “Environmental Services” and “Laboratories-Testing.”

Use a spray bottle to thoroughly wet three or four small ceiling areas with water mixed with a few drops of liquid detergent. Using a putty knife, take a composite sample by carefully scraping about one square inch of “popcorn” from each wetted area into a zip-lock plastic bag. If the laboratory reports are negative, meaning one percent or less asbestos was found in the sample, take two additional samples to confirm the analysis.

If you decide not to check for asbestos, assume the ceiling contains asbestos and treat it accordingly.

If so, are you sure you want to remove it?

Remember, asbestos is a problem only if fibers are released to the air. Asbestos-containing spray-on “popcorn” ceilings that are in good repair and not being disturbed will not release asbestos fibers. Hence, the safest, easiest and least expensive option may be to leave it alone. Sometimes, it is possible to work around asbestos without removing it. For example, “popcorn” ceilings that are in good condition can usually be painted (spraying is recommended). However, be aware that painting these ceilings may prevent you from safely removing them in the future. Do-it-yourself removal is highly dependent on your ability to thoroughly wet this material before disturbing it. Painting can seal the “popcorn” material, making it difficult or impossible to wet.

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 a certified asbestos abatement contractor to perform asbestos removal work. Family members and friends may participate legally, provided they do so on a voluntary, no-pay basis. Be advised that the removal procedures described in this publication are intended to help home owners 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 asbestos exposure.

Be aware that no set of instructions can address all possible situations and variables that a home owner 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 popcorn ceilings.

However, common sense dictates that unique and particularly challenging asbestos projects should not be undertaken by the home owner. 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 of circumstances, homeowner-performed asbestos projects can be physically demanding and potentially dangerous.

- Breathing through a respirator is more difficult than normal breathing and places an additional stress on your 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 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 home owner, 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, safety “back-ups” if something goes wrong.

The work may cause damage.

These procedures may result in damage to walls and ceilings. Duct tape can discolor wood paneling, tear wallpaper and remove paint and texture. Water may stain walls. Using metal scrapers on may result in tearing of the plasterboard paper.

Southwest 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.

If Your Ceiling Has Been Painted...

If your “popcorn” ceiling has been painted, you may not be able to penetrate the paint with water to thoroughly wet the asbestos-containing material prior to disturbance. Thorough wetting is critical for preventing the release of asbestos fibers during removal. Try one or more test areas to determine if you can penetrate the paint layer to thoroughly wet the material prior to disturbance. Use a plastic spray bottle containing a teaspoon or less of liquid detergent (wetting agent) in water. Spray water over a few square inches of ceiling, allowing up to 15 to 20 minutes for the water to soak in. Re-spray several times during this period. Then scrape off the material carefully with a small putty knife, catching the debris on a piece of sheet plastic held in your other hand. Examine the removed “popcorn” material carefully for wetness.

Dispose of the debris by carefully wrapping it in the plastic, sealing it with duct tape and placing it in an asbestos labeled bag (more disposal details are on the last page). If the removed “popcorn” was not thoroughly wet, try increasing the number of spray applications, the amount of wetting agent used and times for soaking in to determine the best way to achieve the maximum wetting of your spray-on material. If, after trying various spray procedures, you are unable to get water through the paint in order to saturate the “popcorn” to the ceiling substrate, do not undertake this project. Leave the ceiling alone or hire an asbestos abatement contractor to do the work. If you remove this ceiling dry, you will contaminate your home with asbestos and expose yourself and your family to potentially high concentrations of airborne asbestos fibers. These fibers may remain in your home indefinitely.

Removal Procedures

Basic Rules

- **Worker protection:** During removal, you will need to protect yourself from breathing or spreading asbestos fibers by wearing an appropriate respirator, disposable coveralls, goggles, disposable gloves, and rubber boots (or shoes that may need to be thrown out after the project).
- **Wetting:** Wetting is critical to asbestos fiber control. Before, during and after removal, asbestos containing material should be thoroughly wetted 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 by constructing a plastic containment around the ceiling areas you wish to remove. This is accomplished by covering walls and floors within the project room or rooms to ensure all debris is captured and remains on plastic sheeting during the removal process.

Personnel & Supplies

It is recommended that three workers perform the job. Two should perform the work and a third should be “standing by” outside the work area to provide water, tools and other supplies as needed while work is in progress. This will minimize the need for removal workers to remove disposable clothing and put on new for each exit and entrance to the work 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 your project, you’ll need to obtain the following items:

- **Respirators**—Half-face dual-cartridge respirators, each equipped with a pair of HEPA filters (color coded purple). Request a fit test from the vendor to ensure a proper fit.

Respirators provide little protection if they do not fit properly. One respirator is recommended for each person working within the containment area.

► *Note: Persons with beards 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 around. One pair will be needed for each entry into the containment area. Every time a worker leaves a containment area during a removal project, coveralls should be disposed of in a properly sealed asbestos disposal bag. This will help ensure all asbestos debris remains on plastic
- **Rubber boots**—Laceless, pull-on rubber boots without fasteners will protect coverall booties so they do not wear through. Rubber boots can be washed off later or disposed of as contaminated debris.

section continues on next page

Personnel & Supplies continued

- **Eye protection**—Each person within the containment area should be equipped with non-fogging goggles.
- **Durable 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 an asbestos disposal bag. A new pair of gloves should be donned with each re-entry into the containment area. This will further allow for the containment of all asbestos debris.

Tools and Supplies

- **Tank sprayer (2-3 gallons)**—This will be your means of wetting “popcorn” ceiling materials.
- **Liquid dish washing detergent**—Mixed at one cup per five gallons of water for best results in wetting.
- **Wallboard taping or “putty” knives**—The best sizes for scraping off “popcorn” ceiling materials have four-to-six inch blades.
- **Polyethylene sheeting**—This will be used to create containment areas. You’ll need enough 2 or 3 mil sheeting to cover 1.5 times

the area of the walls and enough 6 mil sheeting to cover 3 times the area of the floors in the work area.

- **Asbestos waste disposal bags**—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 at least four bags per 100 square feet of ceiling to be removed.
- **Duct tape**—Numerous rolls will be needed for building a containment area and sealing waste disposal bags.
- **Clean, disposable rags**—A large supply should be on hand for assorted removal and clean-up purposes.
- **Bucket**—This will be needed for washing tools at the end of the project.
- **Encapsulants**—These could be latex primer paint or an approved latex asbestos sealing product. They will be used for encapsulating areas after “popcorn” materials have been scraped off.

► *Note: Safety equipment and other supplies can be obtained from local “Safety Equipment” and hardware stores. (See the yellow pages for a complete listing.)*

Prep Work

First things first

1. Post signs warning any “drop-in” friends, family and other visitors of the work taking place.
2. Remove all furniture from the room(s) where the popcorn removal is to take place.
3. Turn off heating/air conditioning systems and tape all light switches in the off position.
4. Turn off electrical power to all ceiling light fixtures in the project area, then remove them. After removal, seal exposed wires with electrical tape. Be careful not to disturb the “popcorn” material during these activities.
5. Remove smoke alarms or other devices attached to or near the ceiling, being careful not to disturb “popcorn” material.

Build a containment area

1. Throughout the area of the house where the popcorn ceiling is to be removed, cover the floors with six mil polyethylene plastic sheeting. Place the sheets so that they overlap room edges by about a foot. Run the extra foot of sheeting up each wall and tape the edges there securely. Make sure there’s plenty of excess plastic—do not pull tight—so that plastic won’t pull away from the walls when you’re working near room corners

and edges. Tightly seal all seams between pieces of sheet plastic with duct tape.

If popcorn is to be removed from rooms that are joined by halls or spaces where no removal is to take place, lay 6 mil plastic sheets on the floor to create a path on which to walk between containment areas.

2. Hang 2 or 3 mil polyethylene plastic sheeting on the walls within approximately one inch of the ceiling, forming a tight seal with duct tape. Make sure the sheets overlap and extend to the floor. Seal all wall seams with duct tape. To minimize damage to wallpaper, consider using slender finishing nails to secure a piece of screen molding to the top of the wall and tape the plastic wall sheets to the wood strip.
3. Lay a second layer of 6 mil plastic on the floor. In larger rooms, install this second layer in pieces of 100-120 square feet. Lay the plastic in a loose, overlapping manner without using tape or adhesives.
4. Construct plastic “isolation” walls in doorways or room openings, if necessary, to separate the work area from the rest of the house. Create an entrance/exit to the work area, if needed, by cutting a five-to-six foot vertical slit in a plastic “isolation wall” and then taping a floor-length plastic flap over the slit on the inside of the containment area.

5. Once you've completed the plastic containment, make sure the entire area where the removal is to take place is isolated with polyethylene sheeting. The only exposed surfaces within the containment should be the ceiling and about an inch or less of wall below the ceilings. This ensures that all asbestos material is contained during removal.
6. If there is a door to the outside within the containment area, make this your point of entry and exit to the work area. Open the door and seal doorway with 6 mil plastic. Create an entrance/exit through the plastic by cutting a vertical slit as described above and covering it on the inside with a plastic flap. Then lay down a sheet of 4-6 mil polyethylene outside the door. At a minimum, have a water spray bottle, clean wet rags, a bucket and an asbestos waste disposal bag at this location. If there is no exit door to the outside within the containment, create an entrance/exit within the house—either through a door or through an “isolation” wall as described above. Lay down a sheet of 4-6 mil polyethylene outside the door and, as a minimum, have a water spray bottle and an asbestos waste disposal bag at this location.
7. Windows may be opened for ventilation. However, regulations require that there be no visible emissions to the outside air. Construct and tape an oversized plastic flap or canopy over the inside of each open window (or take other precautions) to ensure no debris passes through windows.

Wet the ceiling

1. If your “popcorn” ceiling was painted, use the wetting process determined to be successful in earlier tests. Apply the water plus wetting agent with the tank sprayer. However, if the testing procedures for wetting described earlier in this publication failed to penetrate the paint and thoroughly saturate the “popcorn” to the ceiling substrate, do not proceed. Leave the ceiling alone or hire an asbestos abatement contractor to do the work.

2. If your “popcorn” ceiling was never painted, spray the ceiling with liquid detergent and water using the tank sprayer. Mix liquid detergent with the water at a ratio of one cup to five gallons. Spray the “popcorn” material several times and ensure the popcorn is thoroughly wet before removal. Spray-on “popcorn” material is very porous and absorbs a lot of water. Thorough wetting will keep asbestos fibers out of the air.
3. Wait 15 to 20 minutes for the water to thoroughly penetrate.

► *Note: If someone outside the containment area is not available to refill sprayers, you may need a hose with automatic shut-off at the entrance to the plastic enclosure for refilling the tank sprayer(s).*

Put on protective clothing and equipment

Those who will enter the containment area to do the removal should put on disposable coveralls outside the containment area while standing on the entrance/exit plastic. They should then put on gloves, goggles and respirators equipped with HEPA filters. Tape your gloves to your disposable coverall sleeves around the wrists to ensure your arms and wrists remain covered.

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

Test for wetness

Once inside the containment area, test for wetness by scraping off a few inches of ceiling material. If it is thoroughly wet to the gypsum board or other ceiling substrate underneath, you're ready to begin removing. If the material is not thoroughly wet, re-apply water (with detergent) and allow time for it to soak in.

Again, if you find you are unable to thoroughly wet this material, do not proceed! Use a certified asbestos abatement contractor to perform any additional work.

Taking Down the “Popcorn” Ceiling

1. Cushion ladder legs by wrapping them with rags or a similar material, thereby preventing them from penetrating the plastic sheeting on the floor.
2. Using an eight-inch putty or wallboard taping knives, thoroughly scrape the spray-on “popcorn” material from the ceiling, allowing the debris to fall onto the plastic sheets below.
3. Wipe any remaining residue off with clean wet rags. Turn rags frequently so you are wiping with a clean surface. Otherwise, remaining asbestos material will be smeared around but not

removed. If the ceiling beneath is painted, wet wiping is very effective. With unfinished sheet rock, wiping is helpful but is less effective. Don't try to rinse contaminated rags. Dispose of them in an asbestos waste disposal bag.

4. Use clean rags to wet wipe the exposed portion of the wall between the top of the duct tape and the ceiling.
5. Keep plastic on the floor and walls wet at all times by periodically spraying them to prevent any debris from drying and becoming airborne.

Taking Down the “Popcorn” Ceiling, continued

► *Note: If your spray-on “popcorn” ceiling was applied as part of original construction, the ceiling was likely never finished for painting. Thus, even if you did no damage during the “popcorn” removal, you will likely need to refinish or*

re-texture the ceiling before painting. Under no circumstances should you sand ceilings after removal of sprayed on popcorn material. This will result in asbestos fibers being released into the air.

Cleaning Up

Remove debris from the floor

1. After you’ve removed all the “popcorn” ceiling material in one room within the containment area, carefully fold and roll up the top layer of loose plastic sheets to contain fallen debris.
2. Double bag the folded plastic, along with the ceiling debris it contains, into pre-marked asbestos waste disposal bags. The top level of floor plastic was put down in 100-120 square foot sections. Plastic plus wetted “popcorn” on this square footage will be quite heavy and may be all you want to carry in a single, doubled-bagged container. Make sure all contaminated wipe rags are also placed inside these bags. Follow this process for each subsequent room.
3. After removing all asbestos material from the project enclosure, thoroughly wipe down all tools and ladders with clean wet rags. Place tools in a bucket or plastic bag for more thorough cleaning later. Dispose of rags as asbestos debris.
4. Before you remove any plastic sheets that are taped to the walls and floor, encapsulate those ceiling areas from which “popcorn” material has been removed. Roll or spray these areas with a latex primer paint or an approved latex asbestos encapsulant. In spite of your best efforts to thoroughly remove the asbestos fibers, some fibers may remain on the ceiling. These asbestos fibers will be encapsulated by the paint primer or other spray application. Any future ceiling finishing work should not entail sanding these surfaces.

Remove plastic containment

1. Spray plastic walls and floors with water one last time, making sure any visible asbestos debris is thoroughly wet.
2. Beginning at the point most distant from your containment entrance/exit, remove all plastic. First, peel the plastic off the walls and lower them onto the floor. Then, carefully roll-up the plastic on the floor, being careful that all debris stays contained within the plastic. Work backward, toward your exit. Stay on the plastic flooring at all times during this process. In larger rooms, you may need to bag the wall plastic separately to avoid creating a bundle of plastic too large to bag. Roll and fold the plastic sheeting toward you while remaining on the plastic.

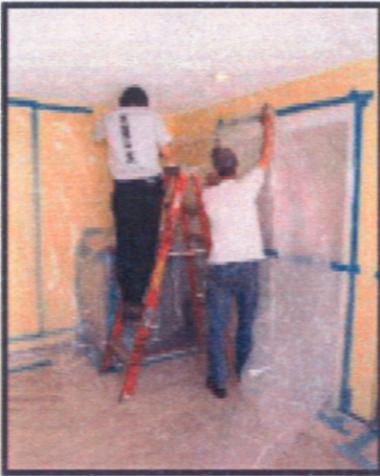
3. Place each roll of contaminated plastic inside asbestos waste disposal bags.
4. Place each bag of asbestos debris into a second, clean bag, carefully securing each by twisting the tops, bending the twisted part over and securing with duct tape.

Decontamination

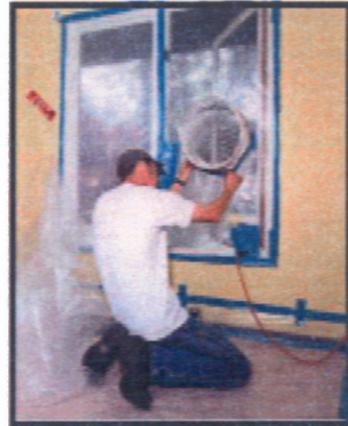
1. Make sure that you dismantle and bag the containment area in such a way that the last piece of plastic upon which you’re standing is the plastic sheet you placed on the floor outside what formerly was the entrance/exit to the containment area.
2. While standing on this last piece of plastic sheeting, 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. Double bag them in asbestos waste disposal bags for disposal, or, should you want to keep them, remove any gross accumulations of popcorn material and set them aside on the plastic sheet for further cleaning.
4. Remove your disposable gloves and coveralls by peeling them off and turning them inside out as you remove them. Step off the last plastic sheet.
5. Remove respirators and take out their filters. Discard the filters with other asbestos waste. Using clean wet rags, wipe down your respirator, goggles, tools used in the removal and, if you elect to keep them, your boots. Place your respirator, goggles, and tools in the bucket and your boots in a plastic bag for washing later.
6. Double bag remaining debris, cleaning rags, other disposable items and the last plastic sheet in properly labeled asbestos disposal bags. Tightly seal each bag 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.
7. Take a shower.

Disposal

1. Asbestos debris may be disposed of only at disposal sites or transfer stations licensed to receive such waste. A list of such sites may be obtained by calling Southwest Clean Air Agency at (360) 574-3058. Call sites for disposal fees.
2. A waste manifest is required for disposal. Waste manifest forms are available at the disposal sites.
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.



*This type
of removal
requires alot of
detailed prep
work*



*Scraping &
Spraying*



*Bagging
for
Special
Disposal*



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Dec. 2007

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 Southwest Clean Air Agency 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. Southwest Clean Air Agency 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 1/4-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.

Southwest 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. Southwest Clean Air Agency 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 minimizing any disturbance of the sheet vinyl backing and containing 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 HEPA 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.

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

1. Using a crayon or marking pen, outline a section of flooring for removal. If your floor was laid on plywood, draw removal 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) from the sub-floor. As each piece is removed, re-wet the section edges and either stack them on 6 mil polyethylene 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 you 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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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 Southwest Clean Air Agency, (360) 574-3058. Call sites for fees.
2. A waste manifest is required for disposal. Waste manifest forms are available at the disposal sites.
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

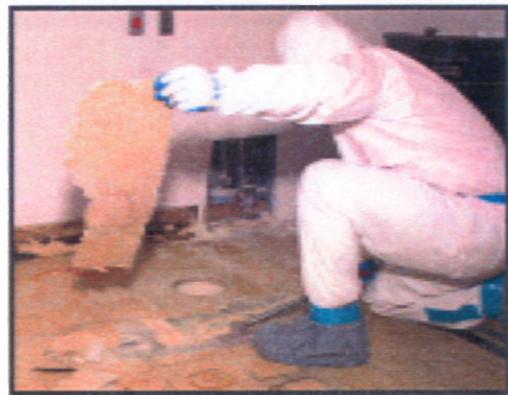
Using a tank sprayer to wet seams



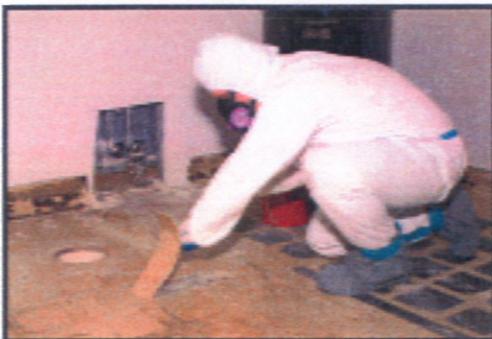
Using a hammer and chisel



Lifting up and removing a section of flooring



Prying up a section of flooring



Dec. 2007

How to Properly Remove Cement Asbestos Board Siding

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

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For these properties, you must contact Southwest Clean Air Agency prior to any renovation project.

This publication is limited to the removal of cement asbestos board siding, one of the three most common asbestos abatement projects attempted by homeowners. Southwest Clean Air Agency has two other guides available in this series, "Spray-on Popcorn Ceiling" and "Sheet Vinyl Flooring with Asbestos Backing."

Before You Begin

Are you sure that the siding contains asbestos?

Submit a small sample for laboratory analysis. Cost is minimal. Laboratories are listed in the yellow pages under "Environmental Services" and "Laboratories-Testing." To take a sample, wet and break off a small piece of siding (about one square inch) and place it inside a zip lock plastic bag.

If, for some reason, you decide not to check your siding for asbestos content, assume it contains asbestos and treat it accordingly.

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

Remember, asbestos is a problem only if fibers are released to the air. Unless cement asbestos board siding is being disturbed, it will not release asbestos fibers. Hence, the safest, easiest and least expensive option may be to leave it alone.

Sometimes, it is possible to work around asbestos without removing it. However, if asbestos-containing siding must be disturbed as part of a remodeling project, then removal may be your only option.

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 a certified asbestos abatement contractor to perform asbestos removal work. Family members and friends may participate, provided they do so on a voluntary, no-pay basis.

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 asbestos exposure.

Be aware that 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 cement asbestos board siding.

However, common sense dictates that unique and particularly challenging asbestos projects should not be undertaken by the home owner. 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 of circumstances, homeowner-performed asbestos projects can be physically demanding and potentially dangerous.

- Breathing through a respirator is more difficult than normal breathing and places an additional stress on your heart and lungs.
- Protective clothing can become hot and uncomfortable.
- Work can involve ladders and high spaces.
- 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.

Southwest 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.

Removal Procedures

Basic Rules

- **Worker protection.** During removal, you will need to protect yourself from breathing or spreading asbestos fibers by wearing an appropriate respirator, disposable coveralls, goggles, disposable gloves, and rubber boots (or shoes that may need to be thrown out after the project).
- **Wetting.** Wetting is critical to asbestos fiber control. Before, during and after removal, asbestos siding should be thoroughly wetted 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. The ground at the base of walls from which siding is removed must be covered with plastic sheeting to ensure all debris is captured and remains on plastic sheeting pending packaging for disposal.
- **Avoiding breakage.** Minimizing the breakage of asbestos siding during removal and handling will help keep asbestos fibers from being released into the air.

Personnel & Supplies

Workers

Although it is possible for one person to do a siding removal job, the task can be more effectively carried out by two workers. With two workers, one can concentrate on carefully removing pieces of siding while the other keeps materials wet and packages debris as it is generated.

- ▶ *Note: It is illegal to hire anyone other than an asbestos abatement contractor to perform, or assist in, the removal of asbestos.*

Protective equipment and clothing

Before beginning your project, you'll need to obtain the following items:

- **Respirators.** Half-face dual-cartridge respirators, each equipped with a pair of HEPA filters (color coded purple). Request a fit test from the vendor to ensure a proper fit. Respirators provide little protection if they do not fit properly. One respirator is recommended for each person working with the siding material.
 - ▶ *Note: Persons with beards cannot be adequately fitted with this type of respirator; therefore should not partake 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 around. Every time a worker leaves the removal area, coveralls should first be removed and disposed of in properly sealed asbestos disposal bags. A new pair of coveralls should be put on prior to each re-entry.
- **Rubber boots.** These are recommended so that coverall booties do not wear through. Rubber boots can be washed off later.
- **Eye protection.** Each person removing asbestos shingles should wear non-fogging goggles or safety glasses.

- **Durable rubber gloves.** Several pairs of durable, disposable rubber gloves should be purchased—enough to supply a pair to each worker per work shift. Every time a worker leaves the work 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.

Supplies

- **Garden hose.** A hose, equipped with an automatic shut-off spray nozzle, will be needed to supply water at the entrance to the work area.
- **Water sprayer.** A pint spray bottle or garden pump sprayer will be used to wet asbestos containing materials.
- **Liquid dish washing detergent.** Mix a little with water to produce the best results when wetting asbestos.

Removal tools

- **A pry bar** for lifting nails. A bar equipped with a blade at least two inches wide is best.
- **A nail puller** or nail-head cutter.
- **A knife or scissors** to cut polyethylene sheeting.
- **Six mil polyethylene sheeting** to cover a six-foot strip of ground at the base of walls from which siding is being removed and a transition zone for entering and exiting the work area. Other uses may include wrapping containers of removed siding if pre-marked asbestos waste bags are not used for this purpose.
- **Asbestos waste disposal bags** for bagging the removed siding. You'll need about a dozen bags per 100 square feet of siding removed. If siding is to be wrapped rather than bagged, these disposal bags may be needed only for daily disposal of sheet plastic ground cover, disposable coveralls, gloves, etc.

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■ **Debris containers** such as barrels, cardboard boxes, or other sturdy containers will be needed to help keep the sharp edges of siding debris from puncturing plastic bags. Perforated plastic containers will not be accepted by waste disposal sites.

■ **Duct tape.** Several rolls should be purchased for sealing plastic around windows, etc., in work area, and for sealing disposal bags or wrapped debris.

▶ *Note: Safety equipment and other supplies can be obtained from local safety equipment and industrial supply stores. (See the yellow pages for a complete listing.)*

Prep Work

As you prepare to remove the siding, remember that your safety objectives are to keep asbestos fibers out of the air by minimizing breakage, keeping the siding wet and containing all debris.

1. Post signs warning any “drop-in” friends, family and other visitors of the work taking place.
2. To the extent that landscaping and terrain will allow, lay a six-foot wide strip of 6 mil sheet plastic along the side of the house where removal is to occur. Try to work in the shade so wetted siding will remain wet.

3. Create an entrance/exit “transition” zone to the work area by laying down an additional six-by-six foot piece of sheet plastic in a convenient location next to the plastic strip along the wall. Keep a plastic disposal bag at this point.

4. Thoroughly hose down about 50 square feet of siding.

5. Mix approximately 1 tsp. of liquid dish-washing detergent with water in the pint spray bottle or about a half cup of detergent in a garden pump sprayer.

6. Removal workers should now put on a pair of disposable coveralls. They should then put on gloves, goggles, boots and respirators equipped with HEPA filters.

Removing the Siding

1. Remove pieces of siding by pulling nails or cutting nail heads so as to minimize breakage. If necessary, carefully lift siding pieces with pry tool to expose nail heads.
2. If siding should begin to crack or crumble, immediately wet the cracked or broken areas with the pint spray bottle or garden pump sprayer.
3. Wet the back side of each piece of siding as it is removed.
4. Carefully lower removed siding to the ground. Do not throw or drop it. Breakage releases asbestos fibers.

5. Keep all debris on the plastic strip at the base of the wall and keep it wet until packaged and sealed.

▶ *Note: Once removal work begins, do not leave the plastic/work area without first removing disposable coveralls and other protective equipment at the “transition zone.” Each re-entry into the plastic lined work area will require a new pair of coveralls and gloves.*

Cleaning Up

1. Load wetted debris and other contaminated materials into “sturdy containers” like steel drums/barrels, cardboard boxes or burlap sacks. Line containers with 6 mil polyethylene bags or sheets and leave enough excess plastic to cover the debris and seal with duct tape. Boxes should then be wrapped in one more layer of 6 mil plastic or inserted into a single pre-marked asbestos waste disposal bag.
2. Double bag or double wrap other filled containers in pre-marked 6 mil asbestos waste disposal bags. Twist top of each filled bag, bend twisted part in half, and seal it closed with duct tape. If

containers are to be wrapped rather than bagged, use 6 mil polyethylene plastic and ensure all seams are sealed with duct tape. Affix an asbestos warning label to each sealed package.

3. At the end of each work shift, re-wet any debris on the strip of plastic next to the wall. While standing on plastic in the work area, double bag or wrap all debris as described above. Then wrap or roll up the strip of plastic along the wall, working your way back to the entrance/exit “transition zone” strip of plastic. Step onto the transition zone plastic and double bag or wrap the last of the strip plastic.

Decontamination

1. **Stay on last piece of plastic and spray yourself (or each other)** with water to wet down any asbestos debris/fibers on the outside of your respirator and disposable coveralls.
2. **Remove boots, coveralls, and gloves** by peeling them off and turning them inside out as you remove them. Step off the last plastic sheet.
3. **Take off respirators and remove their filters for disposal.**
4. **Wash off and wipe down the tools, respirators, goggles and boots.** Move each item off the plastic as it is cleaned.
5. **Double bag remaining debris and disposal items** in properly labeled asbestos disposal bags or double wrap them in 6 mil plastic sheets.

Tightly seal each bag or package with duct tape. Immediately after sealing, each leak-tight container shall be permanently marked with the following information:

- the date that the material was collected for disposal
 - the name of the waste generator
 - the address where the waste was generated
6. **Use wet rags for any further clean-up.** Never attempt to vacuum or sweep asbestos debris. This will cause any fibers present to become airborne in your house.
 7. **Take a shower.**

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 such sites may be obtained by calling Southwest Clean Air Agency at (360) 574-3058. Call sites for disposal fees.
2. A waste manifest is required for disposal. Waste manifest forms are available at the disposal sites.
3. All debris must be sealed in two layers of 6 mil polyethylene plastic. Remember, siding pieces have sharp edges that can perforate this plastic material unless the siding is first loaded into sturdy containers. Packaged debris in punctured plastic will not be accepted by waste disposal sites. A common method for packaging siding debris is to place wetted pieces of siding into cardboard boxes lined with 6 mil polyethylene plastic.

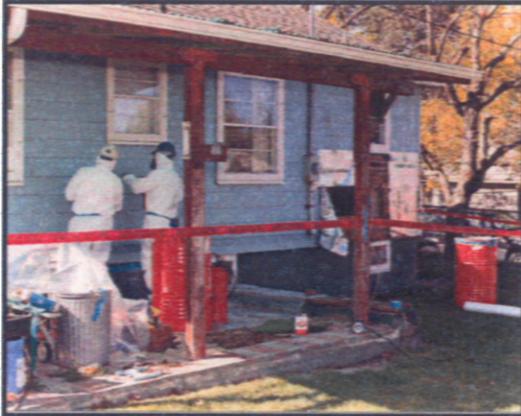
Leave enough polyethylene to cover the siding in the box. Wrap and seal the debris with plastic and duct tape. Next, insert the boxes into pre-marked asbestos waste disposal bags, twist the tops of the bags closed, bend the twisted parts in half and seal them with duct tape. Double bag other debris and seal as above with duct tape. 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.

After reading this booklet, if you have any hesitations about performing the work yourself, you should reconsider. Specially-trained and certified asbestos abatement contractors are always an option. If you have any questions, please contact the Southwest Clean Air Agency: (360) 574-3058.

Illustrations

Prying to expose nail heads



Pulling out nails



Removing siding



Disposal



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