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ASBESTOS CEMENT SHINGLES GUIDANCE DOCUMENT
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I. Background

The Massachusetts Department of Environmental Protection's (MassDEP's) asbestos regulations (310 CMR 7.15) protect public health and the environment by establishing safe handling practices for demolishing or renovating buildings to prevent the release of asbestos fibers from asbestos-containing building materials. MassDEP's regulations include notification, removal, handling, and disposal requirements for asbestos-containing material (ACM). Specific handling practices include removing ACM prior to demolition or renovation activities, wetting the materials prior to removal to prevent asbestos dust, fully containing the work area (e.g., with plastic sheeting) and drawing air out of the containment through a filter capable of capturing asbestos fibers, sealing the wetted asbestos waste in leak-tight containers with asbestos labeling, and properly disposing of the waste in a permitted landfill.

Common building materials that may contain asbestos include thermal insulation on boilers and pipes, vinyl floor tiles, ceiling tiles, various mastics (i.e., glues), and asbestos cement products, including cement shingles. Some of these materials are "friable," meaning the material can easily be crumbled and release asbestos fibers (e.g., insulation) and some are "non-friable," meaning the material cannot easily be crumbled and cannot easily release asbestos fibers (e.g., vinyl floor tiles and asbestos cement shingles in good condition). MassDEP regulates non-friable ACM because if these materials have deteriorated, are significantly damaged, and/or are mishandled, asbestos fibers may be released to the ambient air.

This guidance document¹ and attached Q&A explains how to safely remove and dispose of asbestos cement shingles. Asbestos cement shingles often are found on the exterior of residential homes and other buildings. Because these shingles are on the exterior of buildings and are non-friable if they are in good repair, the handling practices contained in MassDEP's asbestos regulations regarding containment of the asbestos work area and air cleaning (i.e., sealing the work area with plastic sheeting and drawing out air through a filter) are not necessary for their

¹ This document is intended solely as guidance for the removal and disposal of asbestos cement shingles. This guidance does not constitute final agency action, and is not "regulations" as that term is used in M.G.L. c. 30A. This policy may not be relied upon to create rights, duties, obligations or defenses, implied or otherwise, enforceable at law or in equity, by any person in litigation with MassDEP. It does not create any substantive or procedural rights, and is not enforceable by any party in any administrative proceeding with the Commonwealth.

safe removal provided the shingles are in good condition. Therefore, this guidance describes how to safely remove asbestos cement shingles that are in good condition without containing the work area and using air cleaning. If asbestos cement shingles are deteriorated and have become friable, this guidance is not applicable and the requirements for containment and air cleaning must be followed.

The Division of Occupational Safety (DOS) within the Massachusetts Department of Labor licenses asbestos contractors who can be retained by building owners to remove asbestos cement shingles. In general, DOS regulations require that a building owner hire a licensed asbestos contractor to remove friable asbestos-containing material. DOS regulations do not require a building owner to retain a licensed asbestos contractor to remove non-friable asbestos-containing building materials (which includes asbestos cement shingles), unless the cement shingles are deteriorated and have become friable, in which case the DOS regulations would apply. You can visit DOS's website at <http://www.mass.gov/dos/asbestos/index.htm> or call DOS at 617-727-7047 for additional information on DOS requirements.

MassDEP recommends that building owners consider hiring a licensed asbestos contractor to remove asbestos shingles even if the shingles are in good condition, since the handling standards in MassDEP's asbestos regulations (except for work area containment and air cleaning as specified in this guidance) must be fully met regardless of who removes the shingles. In MassDEP's experience, due to a lack of training and appropriate equipment, homeowners and other building owners who attempt to remove asbestos cement shingles often fail to meet MassDEP's regulations. Failing to meet MassDEP's asbestos regulations can result in increased health risk, as well as MassDEP enforcement actions that may include civil penalties and mandated cleanup work by a licensed asbestos contractor. Therefore, given the potential hazards to public health and financial risk posed by improper asbestos removal, building owners and managers should carefully consider hiring a licensed asbestos contractor to remove asbestos cement shingles.

II. Definitions

Asbestos cement shingles means hard, cement-like shingles containing 1% or more asbestos by area. Asbestos cement shingles generally are used to cover the walls, roof or decorative trim of a building. Asbestos cement shingles also are sometimes referred to as "asbestos shingles," "asbestos cement siding" and "asbestos siding." As used in this guidance, the term "asbestos cement shingles" does not mean flexible, asphalt-based shingles. Asphalt shingles are covered in a separate MassDEP policy (see "Policy Concerning Non-Friable Asbestos Containing Material").

6-mil polyethylene means plastic sheeting that is 0.006 inches thick.

III. Guidance Provisions

Building owners and/or asbestos contractors should follow all of the provisions below when removing and disposing of asbestos cement shingles. Prior to removing cement shingles, the person doing the work should visually inspect the shingles to make sure they are in good

condition and have not become friable. If the shingles have become friable, only an asbestos contractor may remove the shingles and work area containment and air cleaning must be used.

A. Notification

A notification must be submitted to MassDEP on an Asbestos Notification Form ANF-001 at least 10 working days prior to the commencement of asbestos cement shingle removal [see 310 CMR 7.15(1)(b)]. It is a violation of MassDEP's regulations to remove any asbestos cement shingles prior to the end of the 10 working day waiting period, unless an emergency waiver is obtained from MassDEP. The Asbestos Notification Form is available on MassDEP's web site at: <http://mass.gov/dep/air/asbhom01.htm>. The easiest way to file an asbestos notification is to file it online via MassDEP's website. For additional information about online filing, go to www.mass.gov/dep/service/compliance/edeponlf.htm. You can visit MassDEP's website or call 617-574-6888 for additional information about online filing.

A notification fee is required when filing an ANF-001. However, owner-occupied residential properties with four or fewer units, cities, towns, counties, districts of the Commonwealth, municipal housing authorities and other state agencies do not have to pay asbestos notification fees.

B. Personal Protection

MassDEP recommends that, at a minimum, anyone involved in removing asbestos cement shingles should wear respiratory protection and protective clothing. Respirators should be equipped with high efficiency particulate air (HEPA) filters and should be "fit tested" to your face. You should have training in the proper use of the respirator before trying to wear it, and you should consult a physician before wearing a respirator, since a respirator may not be suitable for use if you have certain health conditions or if it will prevent you from functioning normally.

C. Handling Practices

If you plan to remove asbestos cement shingles that are in good condition you do not need to construct a sealed work area and use air cleaning provided you otherwise comply with MassDEP's asbestos regulations at 310 CMR 7.15 and you adhere to the following handling practices:

1. The asbestos cement shingles should not be broken, sanded, sawed or drilled at any time during removal or subsequent handling.
2. The asbestos cement shingles must be carefully lowered to the ground after removal to avoid breaking the shingles [see 310 CMR 7.15(1)(c)2.b.].
3. A drop cloth should be used under the work area. MassDEP recommends that the drop cloth should be a minimum of five feet wide for buildings up to ten feet in height (1 story), and that an additional three feet in width be added to the drop cloth for each additional floor above the ten-foot level. The drop cloth should be periodically cleaned

during the removal of the shingles (i.e., pick up and properly package loose shingles) to prevent build up of debris and overflow onto the ground.

4. All doors and windows on the side of the building where the removal is taking place should be closed and covered with 6-mil (0.006 inch) polyethylene and sealed with duct tape. If a building is going to be completely demolished after removal of the asbestos cement shingles, all doors and windows should be closed but do not need to be covered with polyethylene.
5. The asbestos cement shingles must be wetted just prior to removal to minimize release of asbestos fibers to the ambient air [see 310 CMR 7.15(1)(c)2.a.]. MassDEP recommends that a pump-up type sprayer ("garden sprayer") be used for this purpose. It will deliver a controlled amount of water and prevent flooding, thereby minimizing slip hazards while working on ladders and drop cloths. A cup (8oz) of automotive windshield wash should be added to each gallon of water used as a surfactant or wetting agent to assist in wetting the asbestos shingles. Shingles that have been removed must be kept wet until properly packaged.
6. A bucket of warm soapy water should be maintained at the site for decontamination purposes. Workers' hands and faces should be rinsed before any coffee or meal break. All tools should be rinsed off at the end of each workday. The wastewater can be used to meet the wetting requirement described above or poured in small amounts into the asbestos waste bags to keep the shingles wet. Wiping and drying should be done with disposable materials such as paper towels. The paper towels should be disposed of as asbestos waste (see item D. 4. below).

D. Packaging, Labeling, and Disposal

1. After removal, the wetted asbestos cement shingles must be placed and sealed in leak-tight containers and properly labeled [see 310 CMR 7.15(1)(e)1.a.]. MassDEP strongly recommends using double containers/bags, which ensures that the waste remains confined in a leak-tight state.

Because asbestos shingles have sharp corners and edges, extra caution should be taken to ensure that the containers/bags are not punctured and remain leak-tight. Woven nylon grain bags or sturdy cardboard boxes are examples of materials resistant to puncturing/tearing and are suitable for use as inner containers. Workers should avoid overfilling the containers since asbestos cement shingles are heavy and containers may burst if overloaded. If using grain bags as an inner container, they should be placed into two 6-mil polyethylene asbestos waste bags and sealed with duct tape. Cardboard boxes should either be placed into two 6-mil polyethylene asbestos bags or wrapped in two layers of 6-mil polyethylene and sealed with duct tape. Another option is to place two 6-mil polyethylene asbestos bags inside a fiberboard drum, and after filling seal the bags with duct tape and lock the lid closed. The exterior of each container/bag should be appropriately labeled (see D.3. below).

2. Uncontained asbestos cement shingles should never be bulk loaded into a truck, dumpster or trailer for transport to disposal.
3. Each container of asbestos waste must be clearly identified with an asbestos warning label in accordance with 310 CMR 7.15(1)(e)1. The label must state:

CAUTION

Contains Asbestos

Avoid Opening or Breaking Container

Breathing Asbestos is Hazardous to your Health

The name of the property owner and address of the site of generation also should be on a label on the exterior of the container.

4. All materials used during the removal of asbestos cement shingles, such as drop cloths or window covers, paper towels, respirator cartridges, disposable protective clothing, etc., are considered asbestos-containing waste material and must be packaged and disposed of in the same manner as the asbestos cement shingles.
5. Asbestos-containing waste material, including asbestos cement shingles, are classified as a special waste under the provisions of the Massachusetts solid waste regulations, 310 CMR 19.061. Asbestos cement shingles must be disposed at a landfill that is permitted to accept asbestos waste. The asbestos shingles must be properly packaged and labeled during transport and delivery to the landfill. Asbestos shingles must not be disposed at a transfer station, processing / recycling facility, or municipal waste combustion facility.

FREQUENTLY ASKED QUESTIONS ABOUT ASBESTOS CEMENT SHINGLE REMOVAL

1. What is Asbestos? Is it hazardous to your health?

Asbestos is a naturally occurring, mostly fibrous mineral and may consist of any one of a number of silicates. Asbestos is used in a variety of products because of its physical properties, which make it resistant to heat, fire, and many caustic chemicals. Asbestos has been used extensively as fireproofing, an insulating agent, and for decorative purposes, among many other uses.

The physical properties that give asbestos its resistance to heat and decay are linked with several adverse human effects. Asbestos tends to break into a dust of microscopic fibers. Because of their size and shape, these tiny fibers can remain suspended in the air for long periods of time and can easily penetrate bodily tissue when inhaled. Because of their durability, these fibers can remain in the body for many years.

Asbestos is known to cause asbestosis and various forms of cancer. Asbestosis is a chronic disease of the lungs that makes breathing progressively more difficult, and can lead to death. Cancer can result from breathing asbestos fibers and lung cancer is the most frequent. Mesothelioma, an incurable cancer of the chest and abdominal membranes, almost never occurs without exposure to asbestos. Asbestos-related diseases have a long latency period and do not show up until 10 to 40 years after exposure. Each exposure increases the likelihood of developing an asbestos-related disease.

2. How do I know whether cement shingles contain asbestos?

Cement shingles are likely to contain asbestos and should be handled in accordance with MassDEP's asbestos regulations and this guidance document. It is the obligation of anyone removing materials that contain asbestos to handle them in accordance with applicable laws and regulations. Ignorance or avoidance of this responsibility does not remove this obligation.

If you want to be certain whether cement shingles do or do not contain asbestos, you can have the shingles tested by a certified laboratory. You can hire an asbestos consultant or laboratory to collect a sample and have it analyzed. You also may collect the sample yourself and bring it to a certified laboratory for analysis. Material that contains 1% or more asbestos by area is regulated asbestos-containing material. Prior to collecting samples, consult with the laboratory on how to properly collect the sample and how large the sample needs to be. The Division of Occupational Safety (DOS) of the Department of Labor certifies asbestos testing laboratories and other types of asbestos professionals. Visit DOS's website at www.mass.gov/dos/asbestos/index.htm or call DOS at (617) 727-7047 for a list of certified laboratories.

3. Can I remove the asbestos shingles myself?

Yes, if you follow all the procedures in this guidance document, prevent asbestos emissions and properly handle the asbestos material in accordance with the asbestos regulations (310 CMR 7.15) and the solid waste regulations (310 CMR 19.061).

However, MassDEP recommends that you consider retaining a licensed asbestos contractor to remove asbestos shingles, since the handling practice standards in the asbestos regulations (except for work area containment and air cleaning as specified in this guidance) must be fully met regardless of who conducts the removal. Improperly removing asbestos cement shingles can pose a health threat to those doing the removal and to others who may breathe fibers released into the air as a result of improper removal practices. If you do not feel completely comfortable following the handling practices and safety recommendations described in this guidance and the asbestos regulations, you should not do the removal and should hire a competent professional. Causing or contributing to a condition of air pollution is a violation of MassDEP regulations and may subject the violator to penalties or orders to clean up contaminated areas. It is important to remember that the cement shingles must be in intact condition before you start the removal. If the shingles are deteriorated at the start of the removal or break during the removal, then you should stop working, notify MassDEP and hire a professional asbestos contractor.

4. If I hire someone, do they have to be licensed by the state to do asbestos abatement work?

For most asbestos work, contractors must be licensed by the Division of Occupational Safety (DOS) of the Department of Labor. However, for removing asbestos shingles that are in good condition, a license from DOS is not required (please note that in cases where asbestos cement shingles are deteriorated and have become friable, a licensed contractor is required). Although not required for removing asbestos shingles that are in good condition, a licensed asbestos abatement contractor may be the best choice for doing the removal. As stated above, if the shingles are deteriorated you should hire a licensed asbestos contractor. Contact DOS for more information and a list of licensed asbestos abatement contractors.

5. Does MassDEP have to be notified prior to all asbestos shingle removal projects?

Yes. MassDEP must be notified prior to removing asbestos shingles. There are no exceptions. Notification is required no matter who is doing the removal or how many or how few asbestos shingles are being removed.

6. Is there a notification form I should use?

Notification must be made by completing and submitting to MassDEP the Asbestos Notification Form ANF-001 (also known as BWP AQ-04). The Asbestos Notification Form is available on MassDEP's web site at www.mass.gov/dep/air/approvals/aqforms.htm#asbestos. The easiest way to file an asbestos notification is to file it online via MassDEP's website. See question #11 below.

7. When must the notification be submitted?

The regulations require that the notification must be submitted at least 10 working days in advance of the start of the shingle removal project. "Working days" do not include Saturdays, Sundays or legal holidays.

8. When does the 10 working days waiting period begin and end?

The 10 working days waiting period begins on the day you file an asbestos notification online (and receive confirmation of electronic submittal) or on the day MassDEP receives a paper copy asbestos notification.

9. Will I be notified when I can begin work?

No. Unless MassDEP contacts you with a statement of deficiencies about your notification, you can begin work on the "project start date" you specified on the Asbestos Notification Form ANF-001. When completing the ANF-001, be sure that the "project start date" falls after the 10 working day waiting period.

MassDEP recommends that you keep a copy of the completed ANF-001 that you file online or, if you file a paper copy, a copy that shows the number on the notification decal you attached prior to submitting the form to MassDEP.

10. Is a fee required for filing an asbestos notification?

Yes, but not for work done by homeowners and/or their contractors and public agencies. MassDEP regulations (310 CMR 4.00, Timely Action and Fee Provisions) establish an \$85 fee per asbestos notification filed. However, owner-occupied residential properties with four or fewer units, cities, towns, counties, districts of the Commonwealth, municipal housing authorities or other state agencies are not subject to asbestos notification fees.

11. How do I submit the ANF-001 to the MassDEP?

To submit an Asbestos Notification Form ANF-001, do one of the following:

1. File the ANF-001 online at MassDEP's website. If you have not already done so, register online with eDEP at www.mass.gov/dep/service/compliance/edeponlf.htm. It should take no more than five minutes to complete the registration process, and you can begin online filing of your notifications right away.
2. For paper filers, follow the directions for the ANF-001 and mail the form (with attached notification decal – see question #12 below) to the specified post office box. Use either regular, certified or US Postal Service Express mail. Forms are picked up from the post office box every working day. Private delivery services cannot deliver to the Post Office box.
3. Hand deliver the ANF-001 (with attached notification decal – see question #12 below) to the receptionist on the 2nd floor of MassDEP's Boston Office at One Winter Street in Downtown Crossing in Boston.

12. What does "Affix Asbestos Notification Decal Here" on the paper copy of the ANF-001 form mean?

The upper right corner of the paper copy ANF-001 has a box containing the words "Affix Asbestos Notification Decal Here." Prior to submitting a paper copy ANF-001, a decal (sticker) must be obtained from MassDEP and attached to the ANF-001. The decal contains a unique number that is used to track the notification. Paper forms without decals cannot be accepted. Decals are not needed for online ANF-001 submittals.

If the project is subject to the notification fee, the decal will cost \$85. If the project is exempt from the notification fee, an "Exempt" decal that MassDEP will provide free of charge can be used. Projects are exempt from the fee if they are for owner-occupied residential properties with four or fewer units, cities, towns, counties, districts of the Commonwealth, municipal housing authorities and other state agencies.

Decals can be obtained by going to the reception desk on the second floor of MassDEP's Boston Office at One Winter Street, Boston. For decals requiring payment, payment must be made in the form of a check or money order made payable to "Commonwealth of Massachusetts." Cash cannot be accepted. See the instructions that come with the ANF-001 for more information about decals. For online ANF-001 submittals, a credit card must be used to pay the fee online.

13. Do I need to notify other government agencies in addition to the MassDEP?

You may be required to notify the city or town. Contact local officials (Board of Health and/or Building Department) to ask what notification or permits they require. Properly completing and submitting the ANF-001 to MassDEP satisfies state and federal notification requirements.

14. Where can I obtain the packaging and labeling materials?

Asbestos warning labels, asbestos waste bags, fiberboard drums and boxes are available at industrial supply houses, insulation supply houses, or may be purchased directly from asbestos contractors. Woven nylon grain bags are available at grain & feed supply stores. Polyethylene sheeting and duct tape are widely available from hardware, home supply and other stores.

15. Can I dispose of the asbestos shingles with my other trash?

No. The asbestos shingles must be handled as asbestos waste (requiring proper packaging, labeling, and disposal) and may only be taken to a facility that is permitted to accept asbestos waste.

16. How can I find a place to dispose of the asbestos shingles?

The best option is to hire a waste hauler or asbestos abatement contractor to transport the asbestos cement shingles to a disposal facility. Many waste haulers and asbestos contractors are familiar with various disposal facilities and frequently transport wastes to out-of-state facilities permitted to accept asbestos waste.

You also can contact a landfill directly and arrange to transport the waste to the landfill yourself. As of the publication date of this document, there are no landfills in Massachusetts that accept asbestos waste.

Asbestos wastes may not be sent to an incinerator or to a construction and demolition debris processing facility. Asbestos wastes also may not be sent to a transfer station unless the transfer station is specifically permitted by MassDEP to accept asbestos waste. Most transfer stations do not have such permits.

17. How do I find a Waste Hauler or Asbestos Abatement Contractor?

The Division of Occupational Safety (DOS) licenses asbestos abatement contractors and can provide you with a list. Visit DOS's website at www.mass.gov/dos/asbestos/index.htm or call DOS at (617) 727-7047. Waste haulers may be located in the Yellow Pages. Try looking under topics such as "Rubbish" or "asbestos." Any firm hauling asbestos waste must be registered with the Federal Highway Administration's Motor Carrier Division. Call the nearest regional MassDEP office for additional help.

18. Can I transport the asbestos shingles myself?

Yes, but the waste should be in a covered truck, trailer or van. If a van is used, the waste should be transported in a compartment separate from the driver or passenger seats. A pick up truck bed should be covered with a tarp and secured. The waste containers should not be loaded above the side rails in any truck or trailer.

19. Is there any paperwork required for transporting the asbestos shingles?

Yes. The U.S. EPA's National Emission Standard for Hazardous Air Pollutants (NESHAP) for asbestos requires that a Waste Shipment Record (WSR) document all asbestos waste transport. The WSR must be signed by each company or person involved with removal, transportation and disposal of the asbestos waste, including the facility owner or "generator" of the asbestos (including a homeowner). **Note: although NESHAP does not apply to residential buildings with 4 or fewer units, MassDEP strongly recommends that all residents complete WSRs.** The asbestos removal contractor must ensure that a copy of the WSR is returned to the generator within 30 days of removal. If the asbestos waste generator does not receive the WSR in that time then the generator should contact the nearest MassDEP office. The waste hauling company or asbestos removal firm should have these forms.

The U.S. Department of Transportation (DOT) requires that transporters of more than one pound of asbestos carry identification papers for all shipments. The state police enforce this requirement.

If you want to transport the waste yourself you can obtain a sample of a WSR from your regional MassDEP office. You should complete the form before you remove the waste from the work site. At the landfill ensure that the landfill operator signs the form. The landfill also needs a

copy of the form for its records. The completed WSR does not have to be submitted to any regulatory agency. These documents should be maintained in your permanent files.

20. Where can I obtain the recommended safety equipment?

Most protective equipment can be purchased in one of the larger hardware stores or at a local industrial supply center. You should consult with your doctor before wearing a respirator, since a respirator may not be suitable to use if you have certain health conditions or if it will prevent you from functioning normally.

21. Does MassDEP have a document containing general information about asbestos?

Yes. "Asbestos Information and Resource Guide" is available on MassDEP's website at www.mass.gov/dep/air/asbguid.htm. The guide includes contact information for various government agencies responsible for asbestos, a list of regulations governing asbestos, and general information about asbestos and asbestos removal.

22. How do I contact MassDEP for more information?

For questions about how to complete the Asbestos Notification Form ANF-001, how to electronically file the ANF-001, or how to comply with the requirements for removing asbestos shingles, please contact the MassDEP asbestos inspector in the MassDEP regional office that covers the municipality where the shingle removal will be done. The asbestos inspectors are the best source of information about any technical aspects related to asbestos removal.

Central Regional Office	(includes Worcester)	(508) 767-2768
Northeast Regional Office	(includes Greater Boston)	(978) 694-3262
Southeast Regional Office	(includes Cape and Islands)	(508) 946-2844
Western Regional Office	(includes Springfield)	(413) 755-2210

The Asbestos Notification Form ANF-001 and instructions are on MassDEP's website at www.mass.gov/dep/air/asbhom01.htm.

