

HOW TO HANDLE NON-FRIABLE ASBESTOS CEMENT PIPE

A Guide for Meeting Utah Department of Environmental Quality/Division of Air Quality Rules

Purpose

The Utah Department of Environmental Quality (DEQ) Division of Air Quality (DAQ) regulates the removal, handling, and disposal of asbestos-containing materials during renovation, abatement, and demolition activities pursuant to Title 40 Code of Federal Regulations (40 CFR) Part 61 Subpart M and Utah Administrative Code (UAC) R307-801. These Federal Regulations and State Administrative Rules provide that non-friable asbestos-containing material (ACM) is regulated only if it "...has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation" (40 CFR Part 61.141 and UAC307-801-3). Projects that remove or disturb greater than three linear feet and less than 260 linear feet of regulated asbestos-containing material (RACM) are regulated under Utah State law (See UAC R307-801-3 definition of "Small-Scale, Short-Duration (SSSD) Project"). Projects that remove or disturb 260 linear feet or more of asbestos cement (AC) pipe are potentially subject to both Utah State Asbestos Administrative Rules (R307-801-3) and Federal Regulations (40 CFR Part 61.145(a)(1)).

This document provides guidance for handling or removing AC pipe as non-friable ACM and as friable RACM which is subject to State and Federal standards if it meets the above stated regulatory thresholds. AC pipe is generally considered non-friable because, when dry, it cannot be crumbled, pulverized, or reduced to powder by hand pressure or has not become crumbled, pulverized, or reduced to powder. Non-friable material becomes regulated when the forces expected to act on the material have a high probability of crumbling, pulverizing, or reducing the material to powder.

How to Determine if a Material Contains Asbestos

The only way to determine if a material contains asbestos and comply with Utah Administrative Rules is to have a Utah certified inspector take a sample and have it analyzed by an accredited laboratory.

What is AC Pipe?

AC pipe was used widely in the mid-1900s in potable water distribution and sewer systems. Since the lifetime of this product is approximately 70 years, many projects to update this infrastructure involve removal of this product. The cement acts as a binder that holds the asbestos fibers within a solid matrix. This will prevent asbestos fibers from being released easily, unless mishandled, damaged, or in badly weathered condition. In most cases, AC pipe is considered non-friable.

Before You Start

Ensure you understand the Utah Asbestos Rule (UAC R307-801) and Federal Asbestos Regulations (40 CFR Part 61 Subpart M). Contact the DAQ at 801-536-4000 for information on complying with asbestos environmental program Administrative Rules. Contact the Utah Occupational Safety and Health (UOSH) at 801-530-6855 regarding current occupational rules and policy information for working with asbestos-containing materials.

Removal and Maintenance of Non-friable AC Pipe

Removal and maintenance activities involving AC pipe in good condition and in whole sections are not regulated by DAQ Administrative Rules or Federal Regulations. Specifically, as long as the AC pipe is not crumbled, pulverized, or reduced to powder and does not have a high probability of becoming crumbled, pulverized, or reduced to powder, you do not need to be a DAQ certified asbestos company or use DAQ certified asbestos workers to perform AC pipe removal or maintenance activities.

If you perform removal or maintenance activities on AC pipe following the hand methods in this guide, the ACM does not have a high probability of becoming crumbled, pulverized, or reduced to powder and therefore the work would not be subject to Utah Asbestos Administrative Rules or Federal Asbestos Regulations. When counting linear feet of RACM at a project site for the purposes of determining the three linear foot threshold, only count material crumbled, pulverized, reduced to powder, or otherwise reduced to a friable state. For disposal, one cannot separate friable from non-friable asbestos-containing material, so the entire length of AC pipe must be disposed of as friable ACM.

If more than three linear feet of AC pipe becomes friable during removal or maintenance activities, stop work immediately and promptly contact a DAQ certified asbestos company that employs Utah certified asbestos supervisors and workers.

Options for Managing, Maintaining, and Removing Non-friable AC Pipe

AC pipe must be removed, handled, and disposed of in a manner that keeps the material in whole pieces to be considered non-friable. Sanding, sawing, grinding, or chipping with hand methods will make AC pipe friable and must be minimized. Power tools make AC pipe friable, can generate large amounts of dust, and must be avoided. The AC pipe must be kept wet during removal. Wetting minimizes asbestos fibers from being released. Please remember to use amended water (a mixture of water and a chemical wetting agent) whenever possible to minimize asbestos fiber release. Use plastic sheeting or bags to collect AC pipe and any soil or debris contaminated by AC pipe for disposal as friable asbestos waste.

DAQ recommends that facilities with AC pipe use the following methods to manage, maintain, or remove AC pipe:

Snap cutters - Snap cutters (“squeeze-and-pop” equipment) operate by means of cutting wheels mounted in a chain wrapper around the pipe barrel. Hydraulic pressure, applied by means of a remote, pneumatically, or manually operated pump, squeezes the cutting wheels into the pipe wall until the cut is made.

Carbide-tipped blade cutters - Blade cutters are frame adjustable to the circumference of the pipe and have a number of self-tracking rollers that align one or more carbide-tipped cutting blades. Because of the relatively low mechanical input and clean cutting action, hand operated blade cutters produce lesser amounts of airborne asbestos dust.

Manual field lathes - Manual field lathes are designed to end-trim and re-machine rough pipe barrels to factory-machined end profiles. The lathe consists of an adjustable, self-aligning arbor inserted into the pipe bore (which acts as a mandrel upon which the turning handle operates), a screw-fed turning frame, carbide machining blades, and manual (hand or ratchet) turning handles.

Wet tapping AC pressure pipe - Pressure or “wet” tapping for service connections is performed in the trench while the pipe is under pressure. The equipment (manual driven) is affixed to the pipe by means of a chain yoke. A combination boring-and-inserting bar drills and taps the pipe wall and inserts a corporation stop or pipe plug. The pressure chamber, which protects against water leakage, also catches the asbestos-cement chips, so this is essentially a dust-free operation.

Dry tapping AC pressure pipe - Non-pressure or “dry” tapping for service connections may be performed in or out of the trench. The equipment is affixed to the pipe by means of a chain yoke. Separate drills and taps or a combination tool is used to drill and tap the pipe wall. Corporation stops or other connections may then be affixed to the pipe.

Manual rasp - Short lengths of AC pipe, machined-end exclusively and machined overall, can be cut to make closures and repairs and to locate fittings exactly. Field-cut ends may be re-beveled with a coarse wood rasp to form a taper approximating the profile of the factory-beveled end.

Chisel and rasp - Holes may be cut into AC pipe with a hammer and chisel. The edge of a plumber's wood chisel is used to cut completely around the hole outline, about ¼ in. (7 mm) from the prescribed line. The operation is repeated and the cut deepened until through. The edges of the hole are then dressed with a coarse wood rasp.

Hammer and chisel - Replacement of damaged pipe may necessitate excavation, exposure, and removal. AC coupling removal may be accomplished by gradually splitting the coupling lengthwise using a chisel and hammer. After the top of the coupling has been split, a crowbar or similar tool is used as a lever to split the bottom of the coupling.

The Utah DAQ considers using power tools, crushing, or pipe bursting AC pipe subject to the regulatory requirements of Utah State Administrative Rules and Federal Regulations when regulatory thresholds have been met because it makes the AC pipe RACM.

Non-Friable AC Pipe Disposal

Though non-friable AC pipe is not regulated, it must be removed, handled, and disposed of in a manner that keeps the material in whole pieces to remain non-friable and non-regulated. AC pipe can be abandoned and buried in place so long as it is not actively crushed, crumbled or pulverized. If removing AC pipe for disposal, locate a landfill that is authorized to accept non-friable asbestos waste and be sure to inquire about any special packaging requirements the landfill may require. The landfill must be aware that the AC pipe is Category II non-friable asbestos-containing material to ensure proper handling and disposal.

If the AC Pipe Is or Becomes Friable

If the AC pipe becomes crumbled, pulverized, or reduced to powder during removal or maintenance activities or is badly weathered (inside or out) such that it has a high probability of becoming crumbled, pulverized, or reduced to powder, it is considered friable and may release asbestos fibers. Friable AC pipe must be removed by properly trained and DAQ certified facility personnel or by a DAQ certified asbestos company using DAQ certified asbestos supervisors and workers.

If the AC pipe becomes friable, applicable asbestos work practice rules under UAC R307-801-14 must also be followed. A DAQ one working day notification form must be submitted before the removal of more than three linear feet and less than 260 linear feet of friable AC pipe. The notification form for a removal or maintenance project of 260 linear feet or more must be received by the DAQ with the applicable fee at least 10 working days prior to starting project. For emergency situations, the 10 working day waiting period is waived, but DAQ must be notified as soon as possible, but no later than the next working day.

The use of power tools on AC pipe during projects subject to State and Federal Asbestos Rules and Regulations is not allowed without full airtight containment or properly designed local exhaust ventilation.

Training Requirements

If handling three feet or less of friable AC pipe, DAQ requires no training or work practices. DAQ expects that most maintenance or emergency work will not be regulated. DAQ strongly recommends, based on the Asbestos Hazard Emergency Response Act (AHERA) 40 CFR Part 763.92 that all workers receive two hours of asbestos awareness training and that workers handling up to three linear feet of friable AC pipe have an additional 14 hours asbestos training. Please note that OSHA training found in 29 CFR Part 1926.1101(o)(4)(ii) requires Class III maintenance personnel be trained to the AHERA 40 CFR Part 763.92(a)(2) standard.

Workers handling more than three feet of friable AC pipe are required to have 32 hours of asbestos worker training and be certified as a worker by the DAQ. At least one 40 hour trained and DAQ certified supervisor needs to be on-site to supervise regulated work activities (wetting, cutting, cleanup, loading, etc.).

Notification

File a DAQ notification form for removal of AC pipe if more than three linear feet of RACM is expected to be disturbed. The notification form must be received by the DAQ at least one working day prior to starting the removal project. If 260 linear feet or more of RACM is expected to be disturbed, then a ten working day notification form and fees are required. If 260 linear feet or more of AC pipe becomes RACM in separate non-scheduled activities at a facility during a calendar year, then an annual notification form is required to be submitted to the DAQ.

Friable AC Pipe Disposal

Friable asbestos waste must be collected, packaged, labeled, and disposed of properly. Place small quantities of friable AC pipe fragments and dust from removal in leak-tight containers. Wrap and encapsulate friable components of large pieces. Mark all waste with the warning statement "DANGER ASBESTOS-CONTAINING MATERIAL" and waste generator information. Locate a landfill that is approved by the Utah DAQ and/or operated under 40 CFR Part 61.154 that is authorized to accept friable asbestos waste material. Be sure to inquire about any special packaging requirements the landfill might have. Fill out a waste shipment record and give it to the landfill upon arrival.

Leaving AC Pipe in Place

The crushing or bursting of AC pipe causes the material to become RACM and subject to Federal Asbestos Regulations and Utah State Administrative Rules. The backfilling and burial of crushed or burst AC pipe would also potentially be subject to both federal and state civil and criminal penalties.

Alternative methods for leaving AC pipe in place when no longer in service include abandoning and burying empty pipe or pumping grout into the pipe before burying. Abandoning uncrushed or unburst empty pipe or the pumping of grout into buried lines is not a process which, in and of itself, would cause AC pipe to become RACM. However, both the present condition of the pipe and the method used to take the pipe out of service should be considered to determine the applicability of the Utah State Asbestos Administrative Rules and Federal Asbestos Regulations.

For More Information

For more information or questions, please contact Utah DAQ at 801-536-4000.

Applicable Regulations

40 CFR Part 61.145(a) and UAC R307-801-9 and 10 provides inspection requirements.

40 CFR Part 61.145(b) and UAC R307-801-11 and 12 provides notification requirements.

UAC R307-801-13(2) requires use of certified asbestos workers or supervisors certified under UAC R307-801-6.

UAC R307-801-14-1 provides work practices for all projects greater than three linear feet.

UAC R307-801-14-2 provides work practices for projects 260 linear feet or more.

40 CFR Part 61.150 and UAC R307-801-15 provides federal and state requirements for asbestos waste disposal.