

## How Many Asbestos Samples Should I take?

Sample any material building that reasonably contain asbestos. Building built after the early 1980's are not normally sampled because the use of asbestos was no longer common practice. Any areas of a building that had been renovated after this time also would not likely have used products that contain asbestos.

### **Sometimes there is a Lot of Pipes. Do I have to sample them all?**

Mechanical rooms can have what can seem like a hundred different pipes going in all directions. The pipes turn so that there are elbows and straights everywhere. It is not normally necessary to sample every pipe / every elbow.

In most cases, the insulation was all put in at the same time by the same contractor using the same materials. So three samples taken from straight pipes and three samples taken from elbows should tell you if there is asbestos present. If there are distinctly different types of insulation (e.g., hot water pipe insulation and boiler chimney insulation), each of these areas would be considered a new or "different" location.

If some sections look older/newer, or different or you know that they were done at a different time, they may well have a different composition so these areas should also be tested.

### **What about large areas of the same thing?**

There can be an advantage of taking multiple samples of materials that cover large areas. Areas such as spray on insulation should be tested multiple times. This is because they were likely prepared or mixed by hand and their composition can vary.

The province of Manitoba provides a guideline on managing asbestos in a building. This document includes information on preparing an asbestos inventory. As part of this information, it references an ASTM guideline on how many samples it would be reasonable to collect for different types of potential asbestos-containing material. The table is provided below.

## Safety in Numbers – Asbestos Building Audits

As outlined by ASTM, a practical number of samples are to be obtained for each kind of material or area of the building. A sample collection practice is presented below:

Item	Type of material	Size of area of homogeneous material	Minimum number of bulk material samples to be collected
1	Surfacing material, including without limitation to material that is applied to surfaces by spraying, by troweling or otherwise, such as acoustical plaster on ceilings and fireproofing materials on structural members	Less than 90 square metres	3
		90 or more square metres, but less than 450 square metres	5
		450 or more square metres	7
2	Thermal insulation, except as described in item 3	Any size	3
3	Thermal insulation patch	Less than 2 linear metres or 0.5 square metres	1
4	Less than 2 linear metres or 0.5 square metres	Any size	3

In accordance with recognized hygiene practice:

- Manufactured products that are homogeneous (such as floor tiles, linoleum, identical ceiling tiles, cement board) may only require one sample to show that a specific material is asbestos free (example of “specific” – a green patterned tile will be considered different from a yellow patterned tile).
- Batch-mixed materials (such as drywall joint compound, stucco, textured coating), may not have been uniformly mixed when they were applied and sections may vary in concentrations (i.e. they may not be homogeneous).
- A single positive finding confirms the presence of asbestos. Further sampling cannot deny its presence at the location of the positive finding.
- Best practice is to sample, at a minimum, in accordance with the table above.

For manufactured items (i.e., made in a factory), products should have the same composition throughout (although they may have different layers of different materials). This can include flooring, floor tiles, etc. Manitoba suggests that these types of materials “may only require one sample to show that a specific material is free of asbestos”. The Manitoba guideline does not provide direction for how many samples should be taken for other types of products but some of the other provinces do. It would seem reasonable to use the guidance provided by one of the other provinces.

British Columbia has a good table that lays out how many samples are recommended depending on the nature and area of the product. It is very similar to the Manitoba table but does provide some additional recommendations for different types of materials. A copy of that table is provided below.

WorkSafe BC Guidelines Regarding Demolition and Asbestos Waste Materials. February 1, 2012

Type of Material	Size of Area of Homogeneous Material	Minimum Number of Bulk Material Samples To Be Collected*
Surfacing materials, including textured coatings, drywall mud, plasters, and stucco	less than 90 square metres (approx. 1,000 square feet)	At least 3 samples of each type of surfacing material
	between 90 square metres and 450 square metres (approx. 5,000 square feet)	At least 5 samples of each type of surfacing material
	greater than 450 square metres	At least 7 samples of each type of surfacing material
Sprayed insulation and blown-in insulation, including sprayed fireproofing and vermiculite insulation (including vermiculite insulation within concrete masonry units - CMUs).	less than 90 square metres (approx. 1,000 square feet)	At least 3 samples
	between 90 square metres and 450 square metres (approx. 5,000 square feet)	At least 5 samples
	greater than 450 square metres.	At least 7 samples
Flooring, including vinyl sheet flooring (and backing) and floor tiles	Any size	At least 1 sample per flooring type in each room (and 1 from each layer of flooring)
Mechanical insulation, including duct taping, pipe insulation, elbows, and boiler/tank insulation	Any size	At least 3 samples per house or mechanical or boiler room
Mastics and putty, including duct mastic (around penetrations) and window putty	Any size	At least 3 samples per house or mechanical or boiler room
Roofing materials, including felting and shingles	less than 90 square metres (approx. 1,000 square feet)	At least 1 sample (each layer of material must be sampled)
	between 90 square metres and 450 square metres (approx. 5,000 square feet)	At least 2 samples (each layer of material must be sampled)
	greater than 450 square metres	At least 3 samples (each layer of material must be sampled)
Asbestos cement (transite) board and pipe	Any size	At least 1 sample
Other materials	Any size	At least 1 sample per type of material