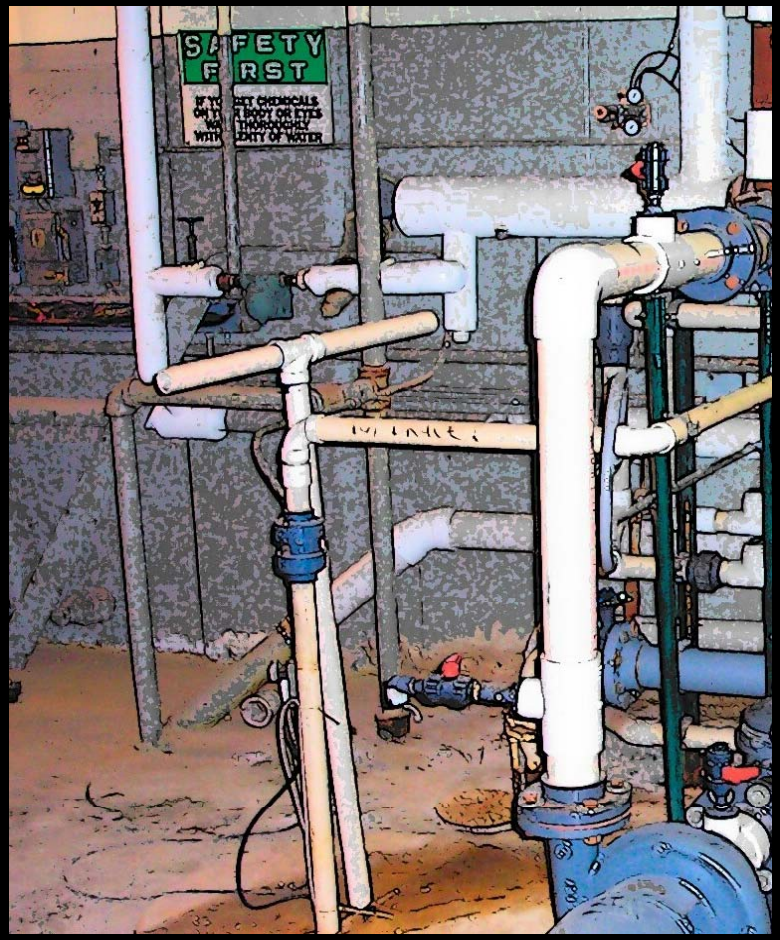
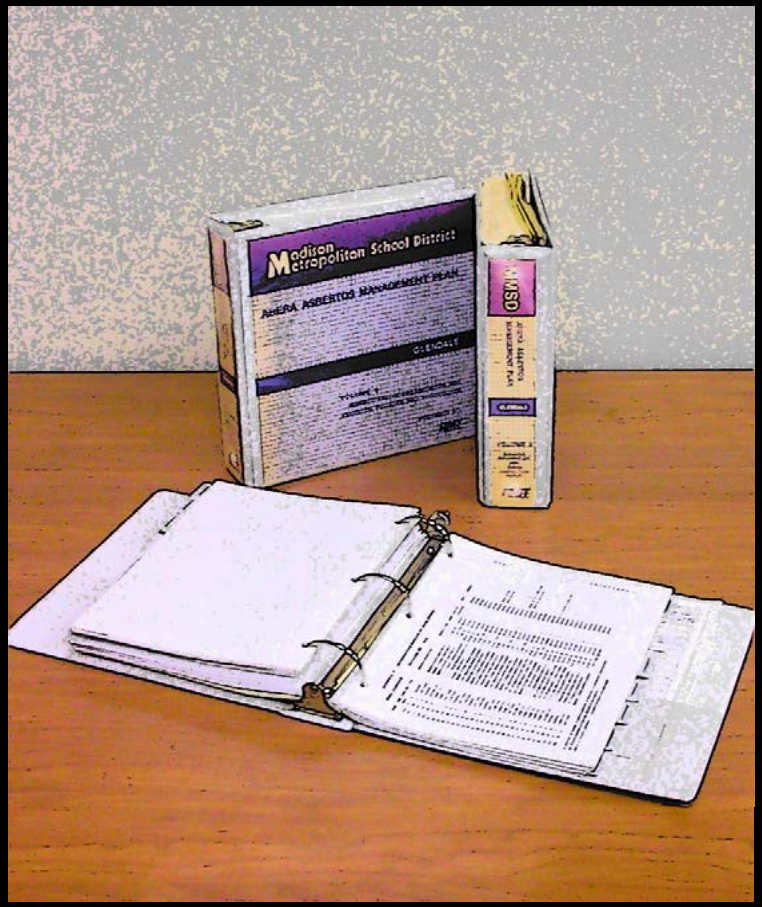
Asbestos Training

Today we will review



- Where asbestos is in your assigned work locations.
- How to protect your safety and the safety of building occupants.
- How to prevent accidental release of asbestos into the environment.

Overview



- Location of Management Plan
- Organization of Management Plan
- Definitions
- Location of Asbestos in Work Locations
- Health Effects
- Quiz

What is asbestos?

Chrysotile, a member of the serpentine group of minerals.

Asbestos is the name given to a group of naturally occurring minerals used in certain products, such as building materials and vehicle brakes, to resist heat and corrosion. Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these materials that have been chemically treated and/or altered.

•Photograph by Garrett Hyde from U.S. Bureau of Mines Information Circular 8751, 1977.

Location of Management Plans

- At each Work Location.
  - Asbestos management plans are located in the CUSTODIAL OFFICE.
- At Building Services.
  - Building Services maintains a complete set of Asbestos Management Plans for every facility in the District.

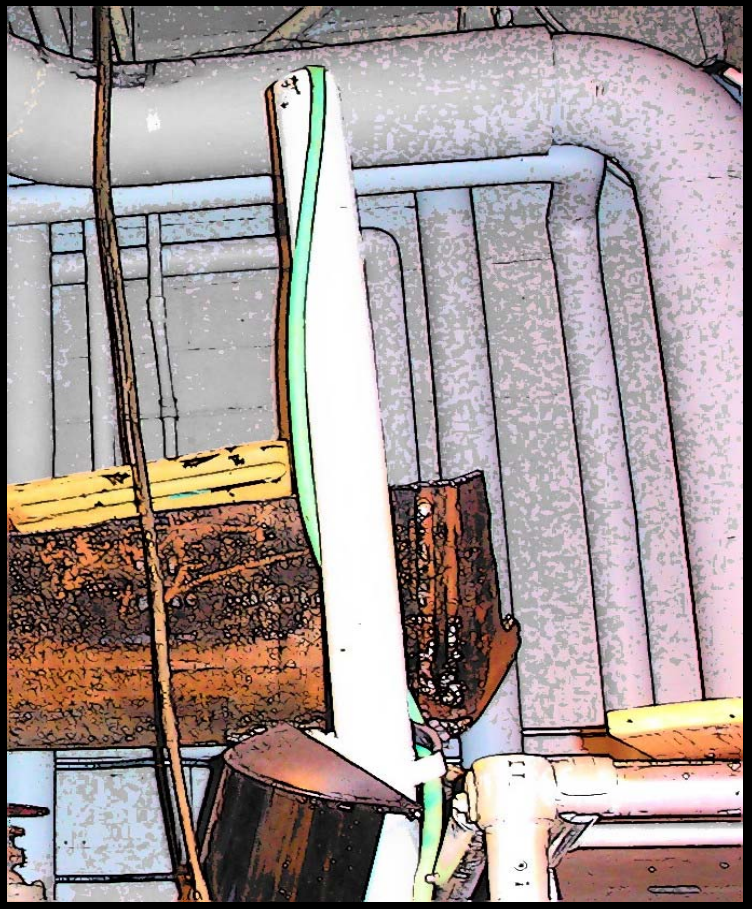
Organization of Asbestos Management Plan

- The Asbestos Management Plan contains three (3) volumes.
  - Volume 1 is the same for every building, it contains policies & procedures of MMSD as it relates to the regulation.
  - Volume 2 contains information related to the original building inspection including, asbestos bulk sample results.
  - Volume 3 contains information related to reinspections.

Volume 1 - Policies & Procedures

- Definitions
- Designated Person
- Operations & Maintenance (O&M) Procedures.
- Copies of the Asbestos Hazard Emergency Response Act (AHERA).

Definitions

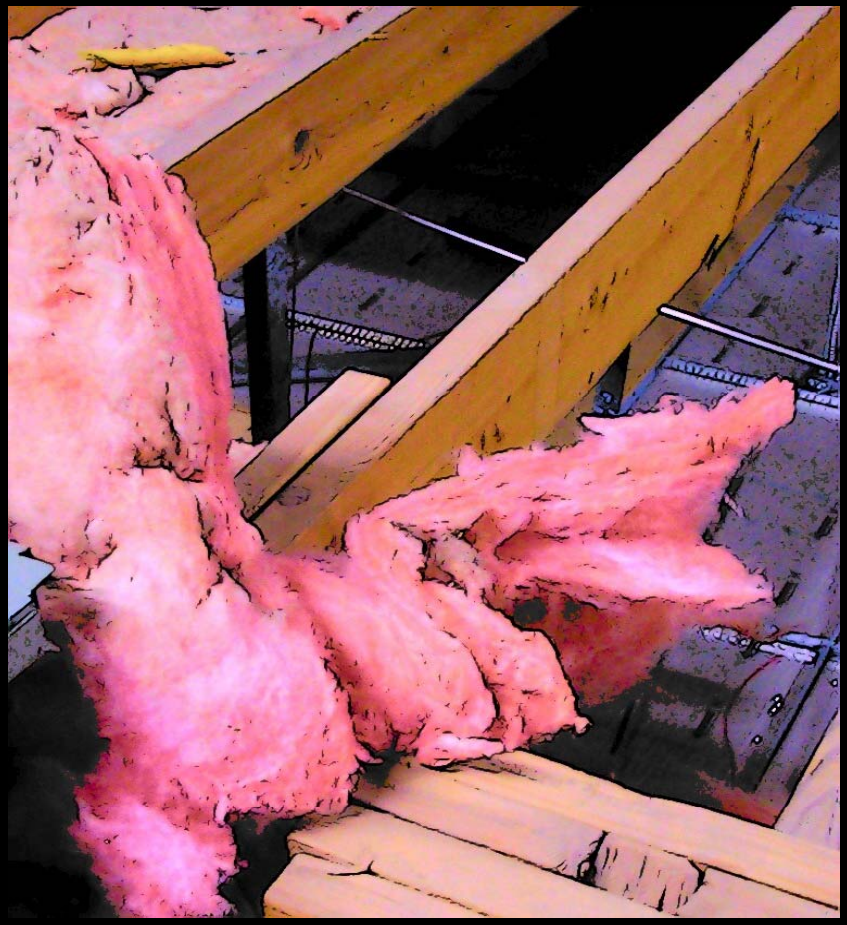


- Asbestos-Containing Material
- Asbestos-Containing Building Material
- Homogeneous Area
- Bulk Sample

Asbestos-Containing Material (ACM)

- When referring to school buildings, means any material or product which contains more than one percent asbestos

Asbestos-Containing Building Material (ACBM)



- Surfacing ACM, Thermal System Insulation ACM, or Miscellaneous ACM that is found in or on interior structural members or other parts of a school building.

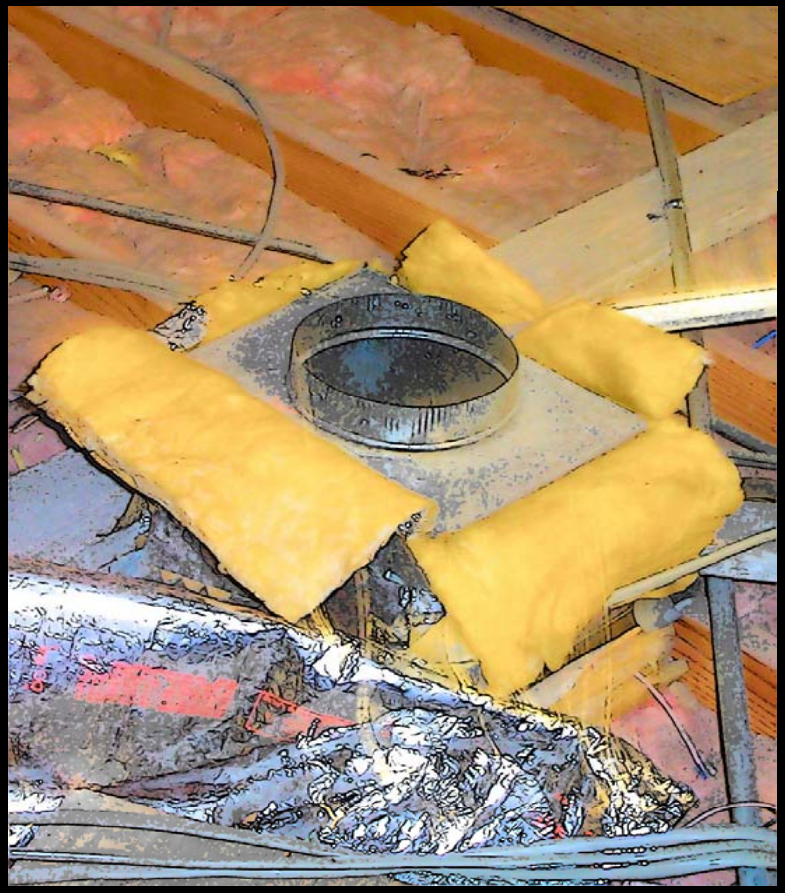
Surfacing Material

- Material in a building that is either sprayed-on, troweled-on, or otherwise applied to a surface, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing or other purposes.

Thermal System Insulation

- Material in a building applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain, or water condensation, or for other purposes.

Miscellaneous Material



- Interior building material on structural components, structural members, or fixtures, such as floor and ceiling tiles and does not include surfacing material or thermal system insulation.

Sample of Asbestos Containing Materials

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

- Cement Pipes
- Elevator Brake Shoes
- Cement Wallboard
- HVAC Duct Insulation
- Cement Siding
- Boiler Insulation
- Asphalt Floor Tile
- Breaching Insulation
- Vinyl Floor Tile
- Ductwork Flexible Fabric Connections
- Vinyl Sheet Flooring
- Cooling Towers
- Flooring Backing
- Pipe Insulation (corrugated air-cell, block, etc.)
- Construction Mastics (floor tile, carpet, ceiling tile, etc.)
- Heating and Electrical Ducts
- Acoustical Plaster
- Electrical Panel Partitions

- Decorative Plaster
- Electrical Cloth
- Textured Paints/Coatings
- Electric Wiring Insulation
- Ceiling Tiles and Lay-in Panels
- Chalkboards
- Spray-Applied Insulation
- Roofing Shingles
- Blown-in Insulation
- Roofing Felt
- Fireproofing Materials
- Base Flashing
- Taping Compounds (thermal)
- Thermal Paper Products
- Packing Materials (for wall/floor
- penetrations)
- Fire Doors

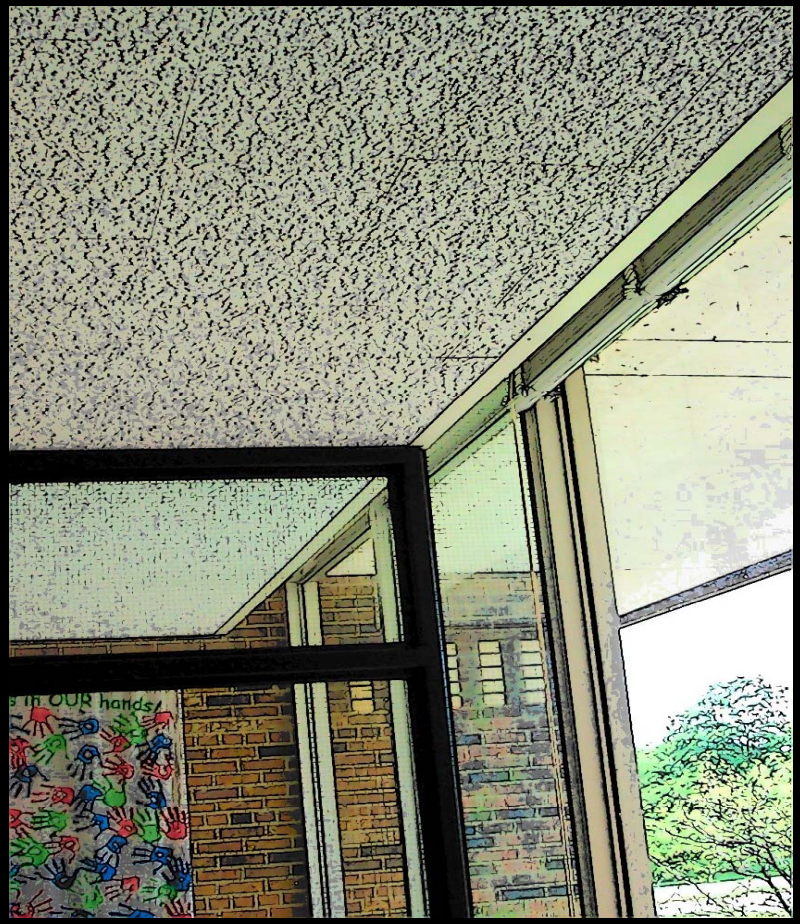
- High Temperature Gaskets
- Caulking/Putties
- Laboratory Hoods/Table Tops Adhesives
- Laboratory Gloves
- Wallboard
- Fire Blankets
- Joint Compounds
- Fire Curtains
- Vinyl Wall Coverings
- Elevator Equipment Panels
- Spackling Compounds

- *http://www.epa.gov/Region06/6pd/asbestos/asbmatl.htm*

Location Name	Gross Area (Sq. Ft.)	Surfacing			Thermal			Miscellaneous		
		Spray on Friable (Sq. Ft.)	Plaster	Other (2)	Piping (lf)	Fittings (#)	Tanks (Sq. Ft.)	Floor Tile (Sq. Ft.)	Ceiling Tile (Sq. Ft.)	Other (3)
ALLIS	82,000	N.D.	N.D.	YES	179	47	50	36,005	N.D.	YES
CRESTWOOD	67,675	N.D.	N.D.	N.D.	545	460	30	32,562	N.D.	YES
ELVEHJEM	72,234	N.D.	N.D.	N.D.	45	1,153	499	40,898	N.D.	YES
EMERSON	70,600	N.D.	YES	N.D.	27	7	112	37,009	N.D.	N.D.
FALK	68,541	N.D.	N.D.	N.D.	N.D.	652	154	31,403	N.D.	YES
FRANKLIN	52,000	N.D.	N.D.	N.D.	1,064	228	112	14,913	N.D.	YES
GLENDALE	78,875	N.D.	N.D.	YES	3,976	1,369	230	55,920	N.D.	YES
HAWTHORNE	54,091	N.D.	N.D.	N.D.	60	934	192	31,695	N.D.	YES
HOYT / RECREATION	33,900	4,315	N.D.	N.D.	1,182	968	480	23,622	N.D.	YES
HEUGEL	64,000	N.D.	N.D.	N.D.	1	16	N.D.	16,241	N.D.	N.D.
KENNEDY	66,950	N.D.	N.D.	N.D.	33	750	144	46,335	N.D.	N.D.
LAKEVIEW	40,500	N.D.	N.D.	N.D.	40	607	110	31,437	11,183	YES
LAPHAM	73,744	49,748	N.D.	N.D.	2,964	133	1,000	40,078	N.D.	N.D.
LEOPOLD	84,955	N.D.	N.D.	N.D.	N.D.	332	N.D.	23,875	N.D.	N.D.
LINCOLN	58,822	N.D.	N.D.	N.D.	N.D.	506	32	37,372	N.D.	YES
LINDBERGH	34,475	N.D.	N.D.	YES	3	251	N.D.	11,298	N.D.	YES
LOWELL	67,750	N.D.	N.D.	N.D.	1,799	264	200	16,655	N.D.	N.D.
MENDOTA	49,400	N.D.	YES	N.D.	1,050	304	570	35,619	8,109	YES
MIDVALE	64,950	N.D.	N.D.	N.D.	3,632	88	931	39,198	3,877	YES
MUIR	67,400	N.D.	N.D.	YES	3	203	N.D.	10,496	N.D.	YES
RANDALL	61,540	N.D.	N.D.	YES	3,406	116	153	24,280	46	YES
SANDBURG	42,000	N.D.	N.D.	N.D.	N.D.	392	315	25,745	N.D.	YES
SHOREWOOD HILLS	60,950	N.D.	N.D.	N.D.	70	17	N.D.	30,543	N.D.	YES
STEPHENS	72,000	N.D.	N.D.	N.D.	2	N.D.	N.D.	18,806	N.D.	YES
THOREAU	58,500	N.D.	N.D.	N.D.	N.D.	204	N.D.	15,567	N.D.	N.D.

Location Number	Location Name	Gross Area (Sq. Ft.)	Surfacing			Thermal			Miscellaneous		
			Spray on Friable (Sq. Ft.)	Plaster	Other (2)	Piping (lf)	Fittings (#)	Tanks (Sq. Ft.)	Floor Tile (Sq. Ft.)	Ceiling Tile (Sq. Ft.)	Other (3)
210	BLACK HAWK / GOMPERS	115,040	N.D.	N.D.	N.D.	239	163	217	83,361	N.D.	YES
220	O'KEEFFE / MARQUETTE	137,110	N.D.	YES	N.D.	51	N.D.	N.D.	54,226	N.D.	N.D.
225	TOKI / ORCHARD RIDGE	110,463	482	YES	N.D.	N.D.	64	N.D.	80,818	N.D.	N.D.
227	WHITEHORSE / SCHENK	118,353	N.D.	YES	YES	101	40	27	82,939	N.D.	YES
234	HAMILTON / VAN HISE	124,977	N.D.	YES	N.D.	N.D.	N.D.	14	74,324	1,610	YES
203	CHEROKEE	89,390	N.D.	YES	YES	6,642	446	700	45,092	355	N.D.
245	JEFFERSON	81,029	N.D.	N.D.	N.D.	N.D.	1,110	150	24,863	N.D.	YES
242	SENNETT	98,300	N.D.	N.D.	N.D.	38	526	787	34,762	N.D.	YES
228	SHERMAN	131,490	1,580	N.D.	N.D.	3,784	711	2,052	73,098	12,477	YES
231	SPRING HARBOR	32,234	2,809	N.D.	N.D.	20	889	689	23,996	N.D.	YES
141	EAST	458,816	15,854	YES	YES	5,702	5,509	19,570	133,866	N.D.	YES
142	LA FOLLETTE	326,940	N.D.	N.D.	N.D.	88	3,954	894	136,882	N.D.	YES
145	MEMORIAL	365,868	1,710	YES	N.D.	18	158	N.D.	152,763	8,698	YES
143	WEST	330,845	67,458	N.D.	N.D.	4,526	2,047	780	96,855	11,538	N.D.
301	ADMINISTRATION	84,200	45,869	N.D.	YES	6,228	1,392	2,184	45,525	1,175	YES
307	ALLIED DRIVE	10,500	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
670	BEARLY	16,900	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
147	LUSSIER	4,011	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
305	MAINTENANCE	68,160	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	4,079	N.D.	N.D.
144	MANSFIELD STADIUM	3,000	N.D.	N.D.	N.D.	N.D.	95	N.D.	N.D.	N.D.	YES

Homogeneous Area



- An area of asbestos-containing material where the material is consistent in
  - texture,
  - color, and
  - age.

Bulk Sample

- Samples of suspect asbestos-containing materials, analyzed by polarized light microscopy.
- Results of bulk sampling are provided in Volume 2.

Designated Person

- AHERA requires that the District designate a person, with the required asbestos training, to ensure the requirements are properly implemented.
- Tom Kannal, Director of Building Services is the Designated Person for MMSD.

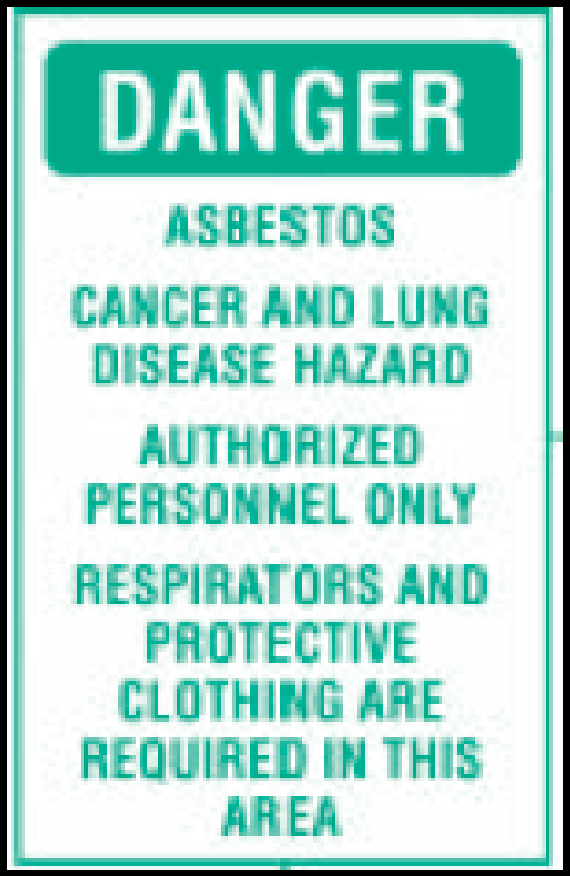
Health Effects of Asbestos Exposure

The inhalation of asbestos fibers can cause diseases of the lungs and other organs that may not appear until years after the exposure has occurred.

Asbestos-Related Disease

- Asbestosis
- Cancers
- Mesothelioma

Asbestosis



Asbestosis can cause a build-up of scar-like tissue in the lungs and result in loss of lung function that often progresses to disability and death.

The first diagnosis of asbestosis was made in 1924. A woman had been working with asbestos since she was thirteen. She died when she was thirty-three years old, and an English doctor determined that the cause of death was what he called "asbestosis"

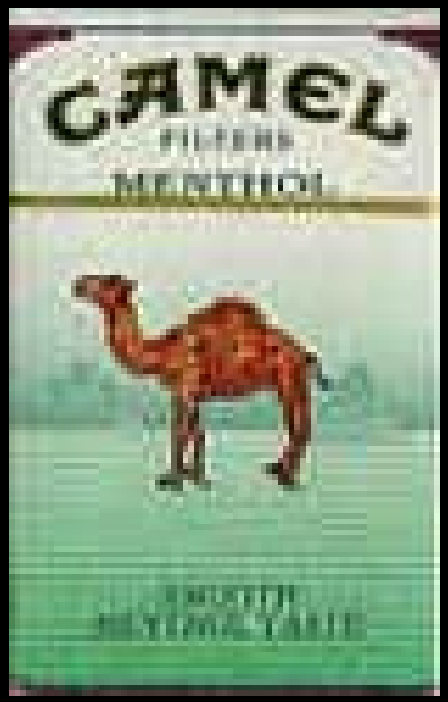
•http://www.asbestosresource.com/history/

Routes of Exposure

- The primary routes of potential human exposure to asbestos are inhalation and ingestion.

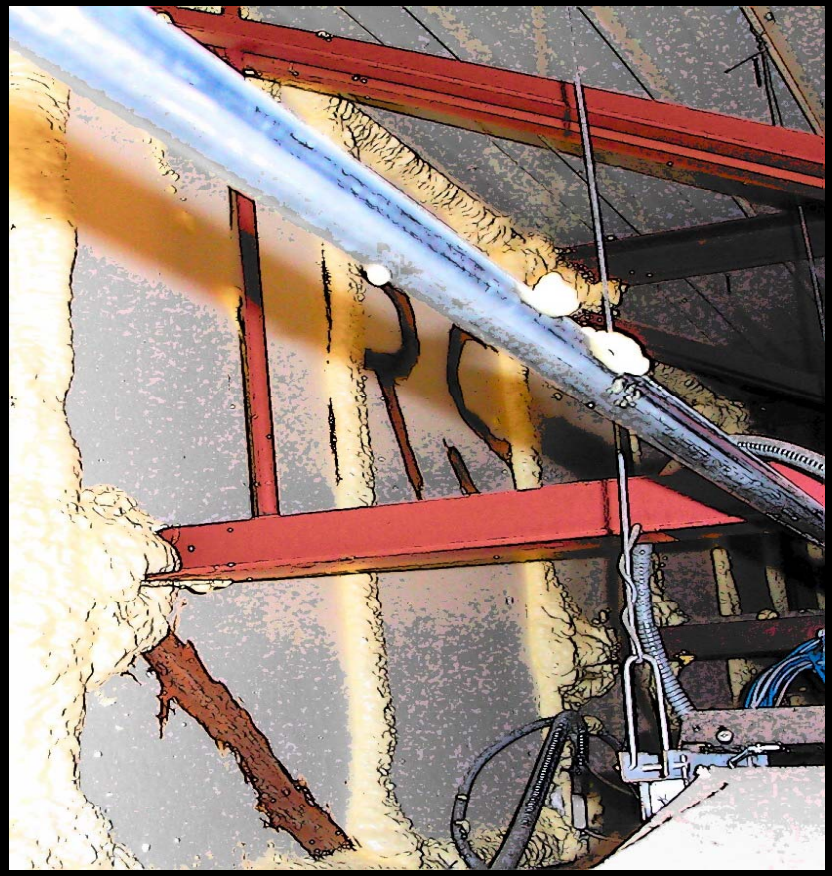
- Skin absorption of asbestos is minimal, but skin contact may lead to secondary ingestion or inhalation of dust.

Synergistic Effects



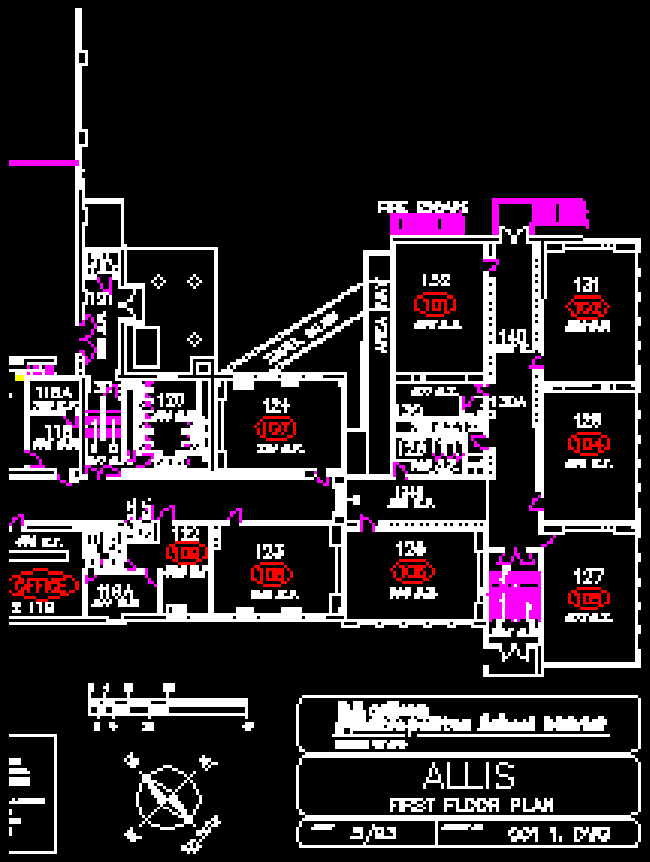
Asbestos fibers associated with these health risks are too small to be seen with the naked eye, and smokers are at higher risk of developing some asbestos-related diseases.

Location of ACBM



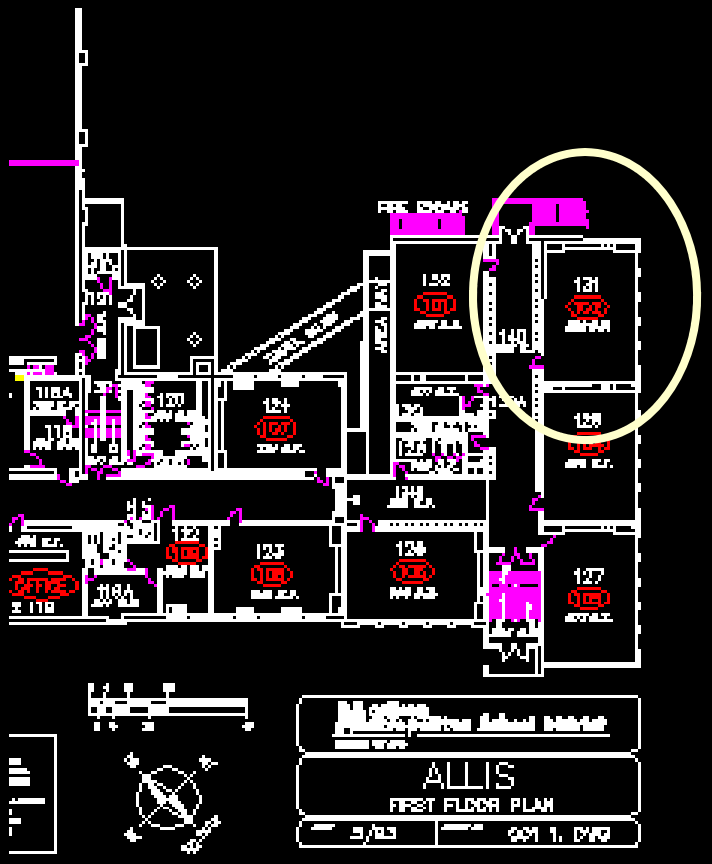
- Volume 1, Table 1-3 Summarizes Locations Asbestos-Containing Building Material was found in District Buildings.

Floor Plans - Room Numbering



- Asbestos Management Plans use Facility Management Numbers assigned by Building Services. These numbers along with the School Assigned Numbers are shown in ovals on the plans.

Example



- Appendices are from Volume 3 - Allis.
- In handouts use Appendix J - Floor Plan.
- Find Room 131.
- Go to Appendix D - Reinspection Results by Room Number.
- Find Room 131 in left hand column.

Appendix D Reinspection Results by Room Number

Allis — Building Number. 001

Room	Hmg Area	ACBM	Material Type	Material Description	Quantity	Unit	Assmt
131	20	P	Floor Tile	9"x 9" Red w/ white streaks	386	SF	AEILQXT
131	22	A	Floor Tile	9"x 9" Beige w/ white streaks	40	SF	AEILQXT
131	26	P	Floor Tile	9"x 9" off white with Black Swirls	386	SF	AEILQXT
131	42	P	Floor Tile	9"x 9" Brown Gray w/ dk brown	3	SF	AEILQXT
131	18	N	Plaster	Smoothe Plaster 3rd Addition	0	SF	ZZZZZZZ

Example (cont.)

- Table inventories 5 materials.
- Column 2 indicates Homogeneous Area Number
- Column 3 “ACBM” indicates Bulk Sample Results
  - N - Negative for asbestos
  - P - Positive for asbestos
  - A - Assumed to contain asbestos

Example (cont.)

- Go to Appendix B - Detailed Homogeneous Area Report
- Homogeneous Area Number 20 is provided. They are in numerical order in appendix.
- Table shows all areas that were identified as containing this material.
- Sample numbers are provided as well as quantities.

Appendix B Detailed Homogeneous Area Report										
Allis										
Hmg Area	Material Type	Material Description				Results	Sample #	Rep Location	Ref #	
20	Floor Tile	9"x 9" Red with White Swirls				POS	*7255	221	001017	
Building	Floor	Room	Population	Activity	Material Type	Quantity	Unit	Ref #	Sheet #	Assmnt
001	2	221	9-50	>4 hrs	Floor Tile	383	SF	001017	000968B	AEILQXT
001	2	225	9-50	>4 hrs	Floor Tile	395	SF		000973B	AEILQXT
001	2	228	>50	2-4 hrs	Floor Tile	80	SF		000974A	AFILQXT
001	2	227	>50	2-4 hrs	Floor Tile	125	SF		000991C	AFILQXT
001	2	228A	>50	2-4 hrs	Floor Tile	83	SF		000968B	AFILQXT
001	1	133	>50	2-4 hrs	Floor Tile	113	SF		000968B	AFILQXT
001	1	127	9-50	>4	Floor Tile	400	SF		000968B	AFILQXT
001	1	131	9-50	>4	Floor Tile	386	SF		000968B	AEILQXT
001	1	140	>50	2-4 hrs	Floor Tile	168	SF		000968B	AEILQXT
001	1	134A	>50	2-4 hrs	Floor Tile	95	SF		000968B	AEILQXT
001	1	116B	9-50	2-4 hrs	Floor Tile	0	SF		000968B	ZZZZZZZ
001	BSMT	20	9-50	>4	Floor Tile	395	SF		000968B	AGILQXT
001	BSMT	26	9-50	>4	Floor Tile	150	SF		001329B	AEILQXT
001	BSMT	22C	0-9	0-2	Floor Tile	56	SF		001332A	AGILQXT
001	2	226	0-9	2-4 hrs	Floor Tile	30	SF		020202B	AFILQXT
001	2	231	>50	2-4 hrs	Floor Tile	330	SF		000984A	AEILQXT
001	1	134B	>50	2-4 hrs	Floor Tile	60	SF		030019C	AEILQXT

Work Shop Time

- Find Room 100 in your set and complete questions work sheet.

Operation & Maintenance (O&M)

- Building Custodians and Maintenance Workers receive 16 hour O&M Training
- Building Custodian should be contacted if You have an Asbestos Related issue or concern.
- Only those with a minimum of 16 hour O&M training are to clean-up damaged asbestos.

What to do if asbestos is damaged

- Isolate area to prevent occupant access
- Turn off ventilation serving the area
- Contact Building Custodian or in an emergency, contact Building Services
- Do not attempt to clean-up damaged asbestos.

Basic Asbestos Handling Procedures

- Use HEPA vac or wet methods
- Properly dispose of wet method item used during clean-up
- Use disposal bags marked with the following: (Caution: Asbestos Waste).
- Only those with a minimum of 16 hours of O&M training can clean-up minor asbestos damage.

What can you do to minimize asbestos exposures

- Know where asbestos is located in your work space
- Do not disturb or damage Asbestos-Containing Materials
- Recognize damaged or deteriorated Asbestos-Containing Building Materials.

Recognizing Damage

- Water Damage (example: pipe leak or roof leak)
- Damage from repairs or construction related activities
- Damage from impact (ball damage to ceiling)
- General deterioration (example: broken floor tile)
- Damage from physical or mechanical means (air movement or vibration)

Questions & Answers?

Quiz Time