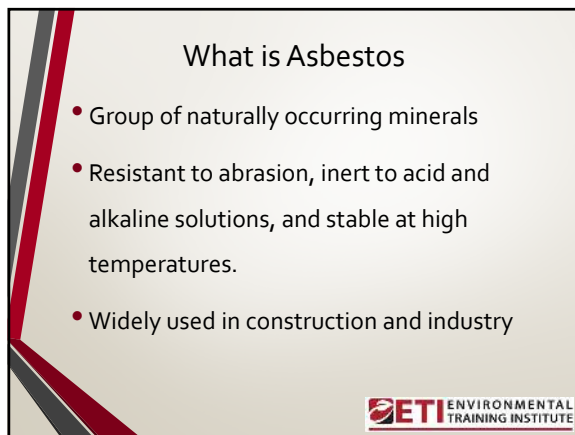




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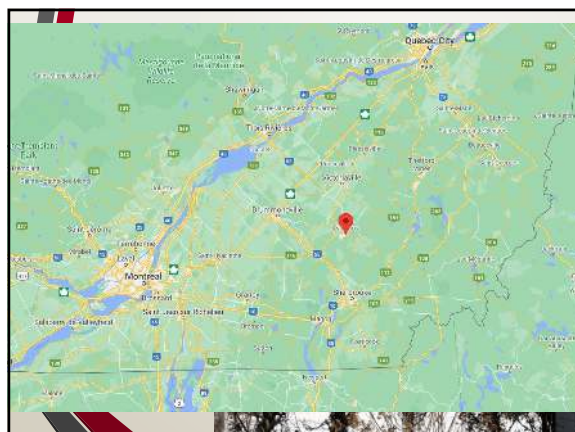
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Types of Asbestos

Serpentine

- Chrysotile – “white”

Amphibole

- Amosite – “brown”
- Crocidolite – “blue”
- Anthophyllite, tremolite, actinolite

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Properties

- Asbestos fibers are also virtually indestructible.
- They are resistant to chemicals and heat.
- They are very stable in the environment.
- They do not evaporate into air or dissolve in water.
- They are not broken down over time.
- Asbestos is probably the best insulator known to man.

Because asbestos has so many useful properties, it has been used in over 3,000 different products.

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Friable vs Nonfriable

Friable

- Can be crumbled or reduced to powder by hand pressure.

Non-friable

- Can become friable or release fibers if disturbed.

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WHAT IS THE PROBLEM WITH ASBESTOS?

- Working with or disturbing asbestos increases your risk for developing asbestos associated diseases.
- No known safe level of asbestos exposure.
- Asbestos fibers are so small, once released into the air, they may stay suspended there for hours or even days.

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20,000 Fibers

2-3 rice grains

20,000 Asbestos Fibers

5-6 human hairs


Compared to rice and hair

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WHERE CAN ASBESTOS BE FOUND?

Asbestos Containing Materials (ACM):

- Contain greater than 1% asbestos by weight
- Determined only by bulk sample analysis
 - PLM (polarized light microscopy)



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ASBESTOS IDENTIFICATION




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HOW HAS ASBESTOS BEEN USED IN THE U.S.?


- Most products made today do not contain asbestos.
- Mined since late 1800s
- More than 5,000 products contain or have contained asbestos.
- EPA Ban & Phase Out – banned new uses



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EPA Ban & Phase Out Rule


- Spray-applied Surfacing Material, banned since 1973
- Thermal System Insulation, since 1975
- Spray-applied decorative materials, since 1978
- 6 materials listed in the original Ban & Phase out rule remained despite the fact that most of the ban was rescinded. These materials are
 - Flooring felt
 - Rollboard
 - Commercial paper products
 - Corrugated paper
 - Specialty Paper and
 - All new uses of asbestos



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EPA Categories - ACBM

Surfacing Material	Sprayed or troweled onto surfaces
Thermal System Insulation (TSI)	Used to inhibit heat transfer or prevent condensation
Miscellaneous Material	Other non-friable materials such as floor tile, ceiling tile, roofing felt, concrete pipe, outdoor siding and fabrics



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Surfacing Materials



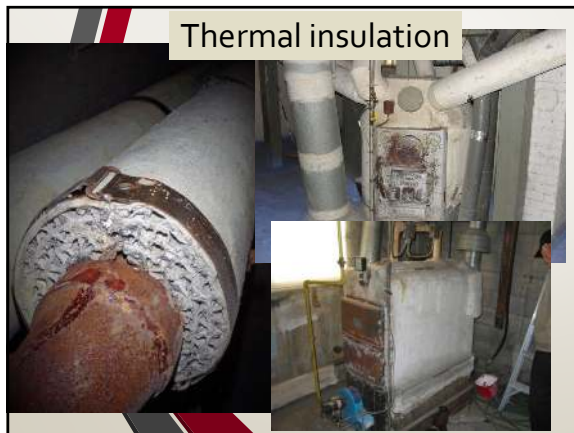

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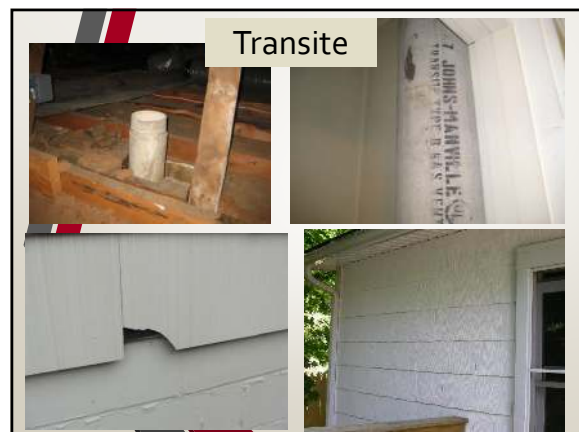
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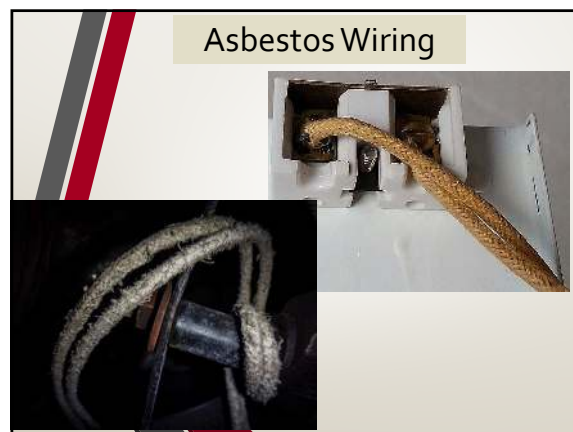
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Some asbestos-containing materials
(NOTE: This list does not include every product/material that may contain asbestos. It is intended as a general guide to show which types of materials may contain asbestos.)

<ul style="list-style-type: none"> • Cement Pipes • Cement Wallboard • Cement Siding • Packing Materials (for wall/floor penetrations) • Electrical Panel Partitions • High Temperature Gaskets • Electrical Cloth • Laboratory Hoods/Table Tops • Electric Wiring Insulation • Laboratory Gloves • Chalkboards • Vinyl Floor Tile • Fire Blankets • Roofing Shingles • Vinyl Asbestos Floor Tile 	<ul style="list-style-type: none"> • Vinyl Sheet Flooring • Flooring Backing • Fire Curtains • Roofing Materials • Elevator Equipment Panels • Base Flashing • Elevator Brake Shoes • Thermal Paper Products • Acoustical Plaster/Insulation • HVAC Duct Insulation • Fire Doors • Decorative Plaster • Caulking/Putties • Textured Paints/Coatings • Breaching Insulation • Adhesives 	<ul style="list-style-type: none"> • Ceiling Tiles & Panels • Ductwork Connections • Wallboard • Wallboard Joint Compounds • Spray-Applied Insulation • Cooling Towers • Blown-in Insulation • Pipe Insulation (corrugated air-cell, block, etc.) • Boiler Insulation • Vinyl Wall Coverings • Fireproofing Materials • Heating and Electrical Ducts
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Presumed (or assumed) Asbestos Containing Material (PACM)
Material must be handled as if **it is ACM** (unless proved otherwise)

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Spilled that chip fat again mummy?!

NO PROBLEM!

Thanks to:
Asbestos
Baby Sute!

I can play with matches YIPPEE!

No more cigarette burns on my skin when I cry too much!

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READY TO USE!

PUTS AN UMBRELLA OVER Your BUILDING

DEVELOPERS

HEAT-SEALING ASBESTOS CUTS IRONING TIME IN HALF!

Reflecto-Heat

IRONING BOARD PAD

ASBESTOS HOT MITT

35

Carousel

ASH TOWER

20% ASBESTOS

ROYAL FRANK MILLS COMPANY

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AIRBORNE FIBER CONCENTRATIONS

Regulatory Levels

- OSHA Permissible Exposure Limit (PEL)
 - 0.1 f/cc 8 TWA
 - 1.0 f/cc 30 minute Excursion Limit
- MDH Clean Indoor Air Standard
 - 0.01 f/cc.

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AIRBORNE FIBER CONCENTRATIONS



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Health Effects

- What areas of the body are most affected by exposure to asbestos dust?
- Asbestos exposure can cause?

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ASBESTOS RELATED DISEASES

- Asbestos causes cancer
- Long Latency Period – 15 to 40 years
- Smoking and asbestos exposure
- Only caused by inhalation

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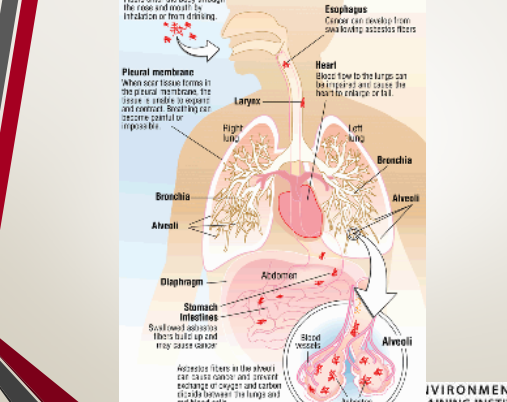
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ASBESTOS RELATED DISEASES

- **Asbestosis:** A chronic lung ailment caused by the build up of scar tissue inside the lungs. Asbestosis can cause shortness of breath, permanent lung damage, and increases the risk of lung infections.
- **Mesothelioma:** Cancer of the lining of the chest cavity lining or abdomen.
- **Cancers:** Cancer of the lung, esophagus, stomach, colon, and pancreas.

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Your defenses against asbestos

- Nose – hair and mucus
- Throat – mucus in your throat, you can cough it up to get rid of it
- Windpipe – small hair called cilia
- White blood cells – dead cells encase the fibers, and your body forms a scar

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Prevention is the only cure

- Keep the fibers out of the air, and out of your lungs.
- Avoid Exposure
- Quit Smoking
- Protective clothing and respirators prevent asbestos related diseases

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SAFE WORK PRACTICES

- Assume all coating to be asbestos-containing
- Wet the material before disturbance.
- Wear appropriate PPE.
- Only trained personnel
- Minnesota Department of Health Certification

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Prohibited Activities

- Use of saws or sanders without HEPA filters
- Use of compressed air
- No spray application of ACM materials
- No employee rotation to achieve lower TWA fiber levels

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How to Avoid Asbestos Exposure

- If you do not know that a building material is asbestos free.....DON'T DISTURB IT.

Never

Drill	Break
Hammer	Damage
Cut	Move
Saw	Disturb

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Asbestos Spills

- Report damaged asbestos-containing materials to the Designated Person immediately.
- Damaged materials or "spills" need to be cleaned up immediately by qualified personnel
- Do not attempt to clean up spills yourself!
- Seal off the area and isolation ventilation

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Dealing with Asbestos

- Primary Regulatory Agencies
 - Occupational Safety & Health Administration
 - Environmental Protection Agency
 - Minnesota Department of Health



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General Recommendation

EPA and OSHA recommend that asbestos containing materials (ACM) be maintained in good condition. Only recommend removal when necessary



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SAFE WORK PRACTICES

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ASBESTOS PROTECTION



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Primary Rules for School – MDH/AHERA

- Ensure that Minnesota certified individuals perform inspections, prepare management plans and conduct asbestos abatement;
- Ensure that whenever greater than 3 linear feet or 3 square feet of ACM is disturbed the proper abatement action is carried out; and
- Provide custodial staff with asbestos-awareness training.



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Diocese/Catholic Mutual Recommendation

No asbestos-related work should be performed by Parish/School employees



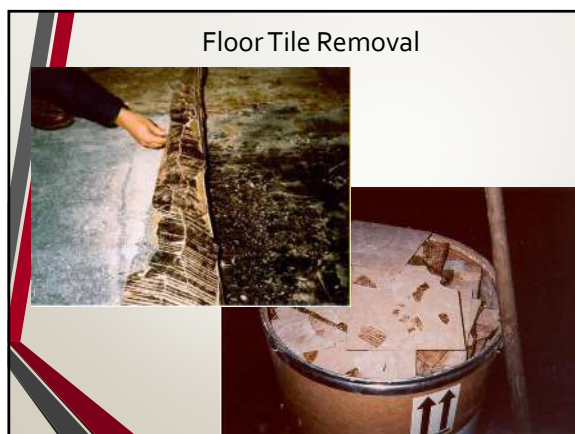
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Questions

- Ask your supervisor if you have questions or concerns, or
- Contact us:

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(701) 777-0384



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