

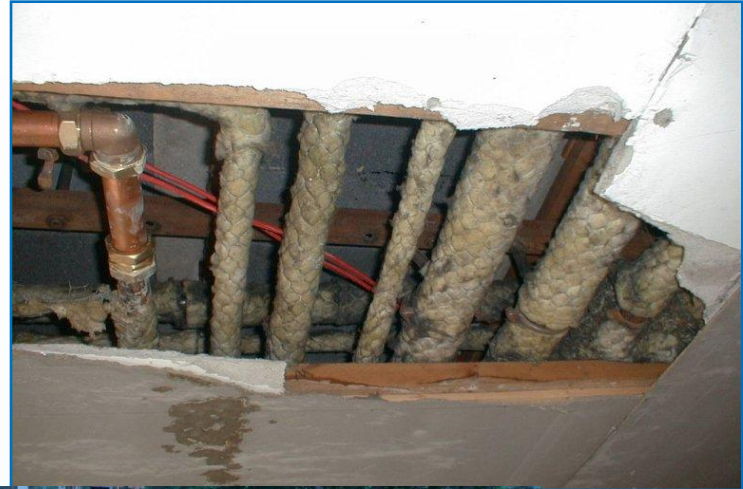
Management of Asbestos

Darren Arkins
Senior Inspector
Occupational Hygiene Unit
Chemical Business Services Division



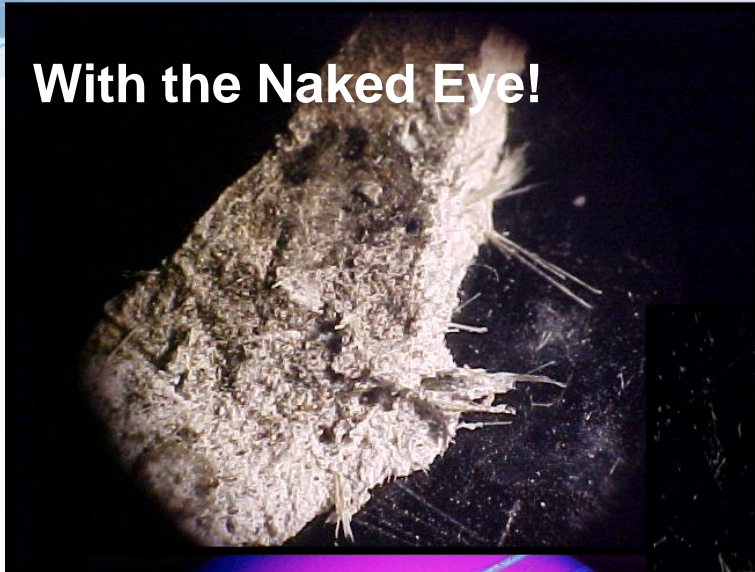


Getting it Wrong!



Asbestos – What is it?

With the Naked Eye!



**‘Respirable’ fibres
under a microscope**

- **Naturally occurring silicates**
- **Fibres**
- **3 most common types**
 - Chrysotile (white)
 - Amosite (brown)
 - Crocidolite (blue)
- **Unique Qualities**



Asbestos – Who is at risk?

Who is likely to be exposed to asbestos fibres?

- demolition contractors;
- electricians;
- roofing contractors;
- painters and decorators;
- construction contractors;
- joiners;
- heating and ventilation engineers;
- plumbers;
- telecommunications engineers;
- gas fitters;
- fire and burglar alarm installers;
- plasterers;
- general maintenance staff;
- builders;
- computer installers;
- shop fitters;
- building surveyors.





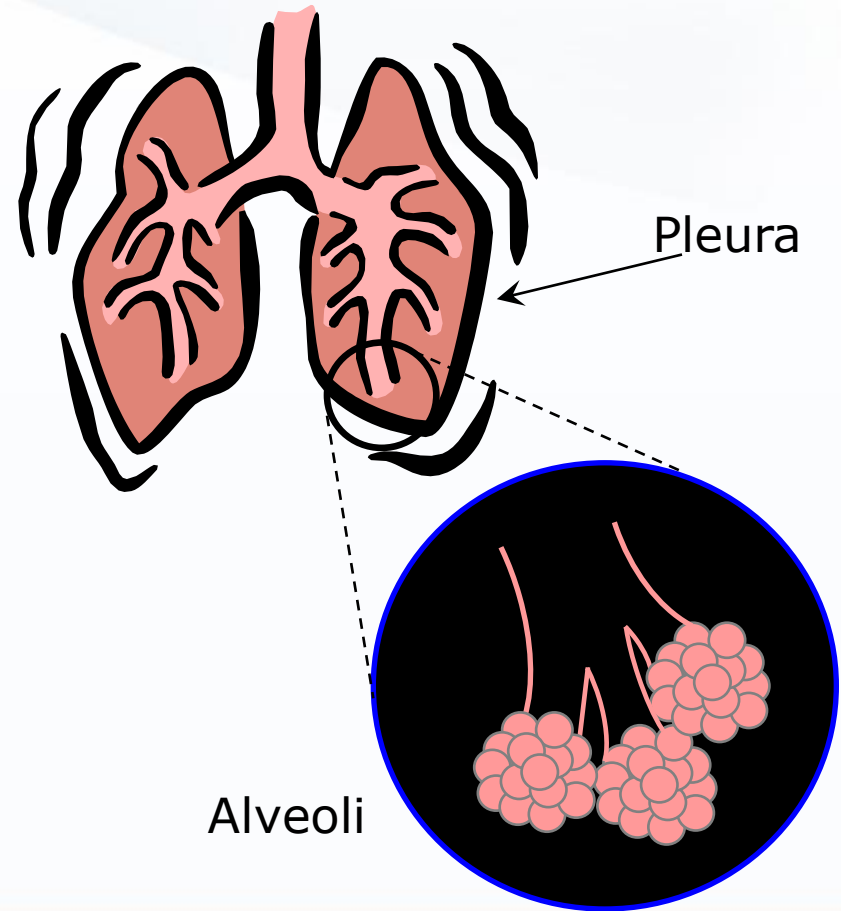
Asbestos–At Risk if:

- Unfamiliar building
- Building built before 2000
- Asbestos materials were not identified
- Information was not passed on
- Don't know how to recognise and work safely with asbestos
- Know how to work safely with asbestos but choose to put yourself at risk



Asbestos – Health Effects

- **Asbestosis**
- **Mesothelioma**
- **Lung Cancer**
- **Other cancers**
- **Pleural plaques/
effusions**





Asbestos - Where is it?

>3000 products

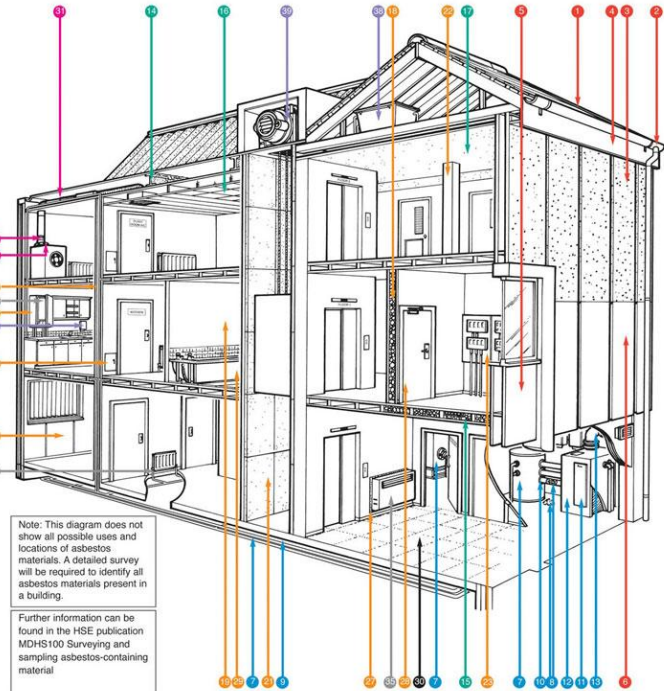
- Commercial buildings
- Public buildings
- Domestic buildings
- Vintage cars
- Ships/Boats
- Lighthouses
- Watermains

HSE (UK) asbestos building

ASBESTOS BUILDING

TYPICAL LOCATIONS FOR THE MOST COMMON ASBESTOS-CONTAINING MATERIALS

- KEY**
- ROOF AND EXTERIOR WALLS**
 - 1 Roof sheets and tiles
 - 2 Guttering and drainpipe
 - 3 Wall cladding
 - 4 Soffit/facade boards
 - 5 Panel beneath window
 - 6 Roofing felt and coating to metal wall cladding
 - BOILER, VESSELS AND PIPEWORK**
 - 7 Lagging on boiler, pipework, calorifier etc.
 - 8 Damaged lagging and associated debris
 - 9 Paper lining under non-asbestos pipe lagging
 - 10 Gasket in pipe and vessel joints
 - 11 Rope seal on boiler access hatch and between cast iron boiler sections
 - 12 Paper lining inside steel boiler casing
 - 13 Boiler flue
 - CEILINGS**
 - 14 Spray coating to ceiling, walls, beams/columns
 - 15 Loose asbestos in ceiling/floor cavity
 - 16 Tiles, slats, canopies and firebreaks above ceilings
 - 17 Textured coatings and paints
 - INTERIOR WALLS/PANELS**
 - 18 Loose asbestos inside partition walls
 - 19 Partition walls
 - 20 Panel beneath window
 - 21 Panel lining to lift shaft
 - 22 Paneling to vertical and horizontal beams
 - 23 Panel behind electrical equipment
 - 24 Panel on access hatch to service riser
 - 25 Panel lining service riser and floor
 - 26 Heater cupboard around domestic boiler
 - 27 Panel behind/under heater
 - 28 Panel on or inside, fire door
 - 29 Bath panel
 - FLOORING MATERIALS**
 - 30 Floor tiles, linoleum and paper backing, lining to suspended floor
 - AIR HANDLING SYSTEMS**
 - 31 Lagging
 - 32 Gaskets
 - 33 Anti-vibration gaiter
 - DOMESTIC DEVICES/APPARATUS**
 - 34 Gaskets, rope seals and panels in domestic boilers
 - 35 'Caposil' insulating blocks, panels, paper, string etc in domestic heater
 - 36 String seals on radiators
 - OTHER**
 - 37 Fire blanket
 - 38 Water tank
 - 39 Brake/clutch lining





Asbestos - Where is it?

• **Spray insulation**

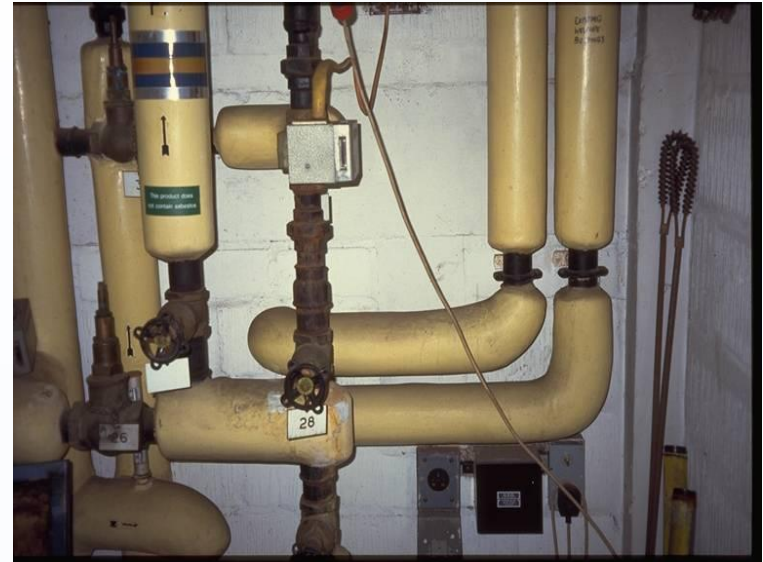
- Brown, White, or Blue
- Greater than 70% asbestos fibre
- Used for thermal and acoustic insulation as well as fire protection of steel work and concrete





Asbestos

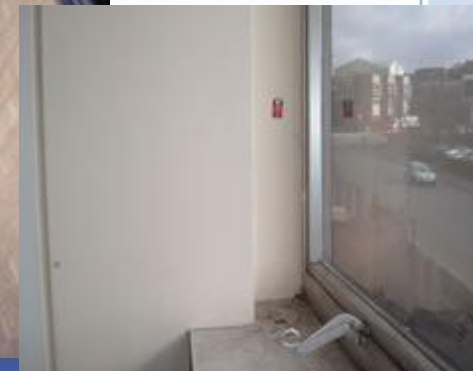
- **Asbestos lagging**
- Lagging on pipework, boilers, calorifiers, heat exchangers etc





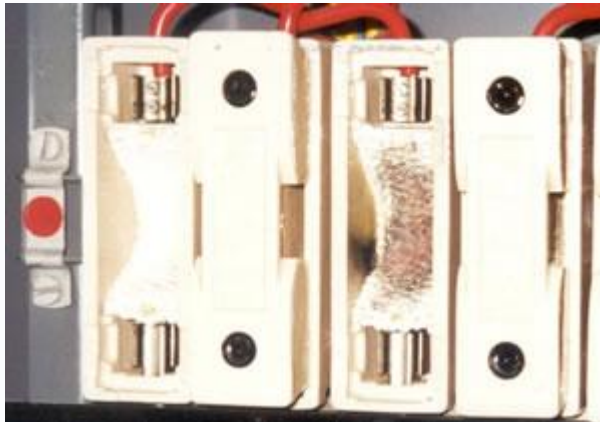
Asbestos

- **Asbestos insulating boards**
- ceiling tiles, partition walls, service duct covers, fire breaks, heater cupboards, door panels, lift shaft lining, fire surrounds, soffits





Asbestos



- **Asbestos textile products**
- Asbestos textile products were also extensively used in electrical equipment, firebreaks, rope seals in boilers & ductwork, flexible duct connectors





Asbestos

- **Textures coatings, or decorative finishes to walls or ceilings.**
 - 3-5% white content.
 - Added until 1984.
 - Non asbestos versions available from mid 70's.





Asbestos

- **Asbestos cement products**
- roof and wall cladding, bath panels, boiler and incinerator flues, fire surrounds, gutters, rainwater pipes, water tanks etc





Asbestos

- **Asbestos Cement Tiles**
 - mainly containing white around 15%





Asbestos

- Reinforced plastics
 - vinyl floor tiles and black toilet cisterns
 - Floor tiles mainly contain white asbestos
 - Amosite sometimes in black 'shires lynx' toilet cisterns





Asbestos



Less obvious example - Asbestos paper below man made mineral fibre pipe insulation



Asbestos Management

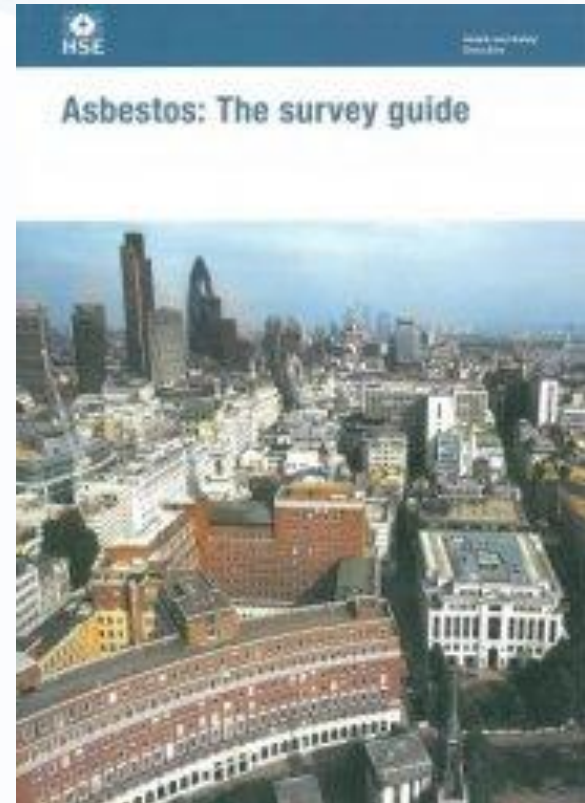
- Employers **must** do risk assessment
- Ask “**Has an asbestos survey been carried out?**”
- **Plan work** to avoid disturbing ACMs
- ACMs should only be worked on if **absolutely necessary.**





Asbestos Management

- Buildings built or refurbished before 2000.
- How do you identify it ?–
Survey carried out to UK HSE **HSG 264 The Survey Guide** standards by a competent person with suitable insurance
 - **Management Survey**
 - **Pre-demolition/ refurbishment survey**





Asbestos Management

- **Survey report** – contains a register with risk assessments for Asbestos Containing Materials (ACMs) identified (ACMs)

The risk assessment includes a material assessment and a priority assessment.

- The **Material Assessment** looks at the type and condition of the ACM and the ease with which it will release fibres if disturbed.
- The **Priority Assessment** looks at the likelihood of someone disturbing the ACM. (Client should be involved)





Asbestos Management

Material Assessment

- product type;
- location;
- extent (or quantity);
- asbestos type;
- accessibility;
- amount of damage or deterioration; and
- surface treatment (if any).

The last three will not usually be required for a (Type 3) pre-demolition survey.





Asbestos Management

● **Priority Assessment**

- maintenance activity;
- occupant activity;
- likelihood of disturbance;
- human exposure potential.

Materials score + priority score = Risk assessment score





Asbestos Management

Minor damage	Good condition
<ul style="list-style-type: none">■ The material should be repaired and/or encapsulated■ The condition of the material should be monitored at regular intervals. Where practical the material should be labelled■ Inform the contractor and any other worker likely to work on or disturb the material	<ul style="list-style-type: none">■ The condition of the material should be monitored at regular intervals■ Where practical the material should be labelled■ Inform the contractor and any other worker likely to work on or disturb the material
Poor condition	Asbestos disturbed
<ul style="list-style-type: none">■ Asbestos in poor condition should be removed	<ul style="list-style-type: none">■ Asbestos likely to be disturbed should be removed

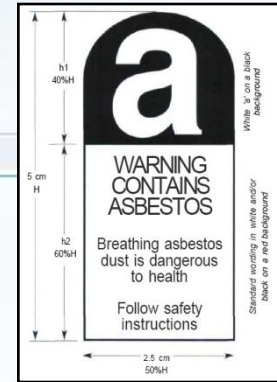




Asbestos management

Managing asbestos left in place

- Develop Asbestos Management Plan
- Maintain the asbestos register
- Inform those who may inadvertently disturb the ACMS e.g. use Permit to Work, Job Card, labelling etc
- Monitor condition of material e.g. as part of maintenance inspections, 6th monthly, annually
- Emergency arrangements e.g. specialist contractor



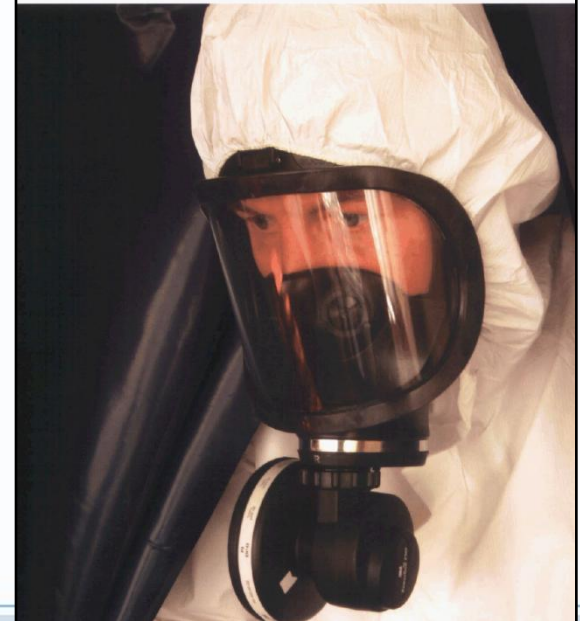


Asbestos removal



- **'Specialist' contractors** – No licensing regime for contractors in the Republic of Ireland
- **Assess ability to do work**
 - Safety statement
 - Previous experience
 - Training policy and records
 - Equipment and Face Fit records
 - Insurance*
 - Sample method statement*
 - Trade Association Membership*

Asbestos: The licensed contractors' guide





Asbestos removal



- **A specialist asbestos contactor will ensure**
 - Work is **risk assessed** for all inherent hazards
 - **Method statement** detailing work method and control measures (wet stripping, shadow vacuuming) is provided
 - Work is correctly notified to HSA
 - Correct site management – segregation and spread of contamination is eliminated by use of **enclosures** and **negative pressure units**
 - Appropriate insurances are held
 - Correct arrangements for waste disposal – Waste Transfer Forms





Asbestos Removal





Asbestos removal





Asbestos Removal





Asbestos removal ✘



Asbestos removal – The Analyst



Health and Safety
Executive

Asbestos: The analysts' guide for sampling, analysis and clearance procedures



- Independence
- Air monitoring (WHO Rules)
- Visual Inspections
- Site clearance certification
- Qualifications – S301, P403, P404, Certificate of Competence
- ISO17025/ Quality Assurance
- HSG 248 'The Analyst Guide'





Further Info

List of Best Practice Guidance Documents

- H.S.A (2005) Guidelines on Working with Materials Containing Asbestos Cement (ACOP)
- European Commission, Senior Labour Inspectors Committee (SLIC) (2006) *A practical guide on best practice to prevent or minimise asbestos risks in work that involves (or may involve) asbestos: for the employer, the workers and the labour inspector.*
- H.S.E (UK) (2006) HSG247 Asbestos: The Licensed Contractors' Guide
- H.S.E (UK) (2005) HSG248 Asbestos: The analysts' guide for sampling, analysis and clearance procedures.





Further info

• <http://hw.osha.europa.eu>



SAFE MAINTENANCE – ASBESTOS IN BUILDING
MAINTENANCE

• www.hsa.ie

• <http://www.hse.gov.uk/asbestos/essentials/index.html>



a25
asbestos
essentials

Removing compressed
asbestos fibre (CAF) gaskets
and asbestos rope seals





Management of Asbestos

Thank You

For Queries or copy of draft guidelines please email
Chemicals@hsa.ie

