Asbestos in the 21st Century

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www.acsrisk.com

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ACS Physical Risk Control Ltd

- Founded in 1978
- First private Asbestos Test House in Scotland
- Research, Consultancy, Measurement, Training, Legal Services (Expert Witness)
- Over 120 000 asbestos contracts in 44 yrs. UK, Europe, US,A, Canada,Turkey Africa, India, Japan, Falklands, South America

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Asbestos

- What is it, why and where was it used
- What are the REAL risks?
- What has happened recently?
- What does the law say ?
- What do I do?

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What is Asbestos ?

A FAMILY NAME GIVEN TO THE FIBOUS FORMS OF A GROUP OF NATURALLY OCCURING MINERAL SILICATE FIBRES.

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Asbestos Types

Common	Rare
Chrysotile (white)	tremolite
Amosite (brown)	actinolite
Crocidolite (blue)	anthophyllite

Chrysotile – serpentine

Others - amphiboles

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Why was it used ?

- Good insulator against:

  Heat, electricity, noise, vibration.

- Impervious to attack by:

  Acid, weather, vermin

- Cheap to produce and import

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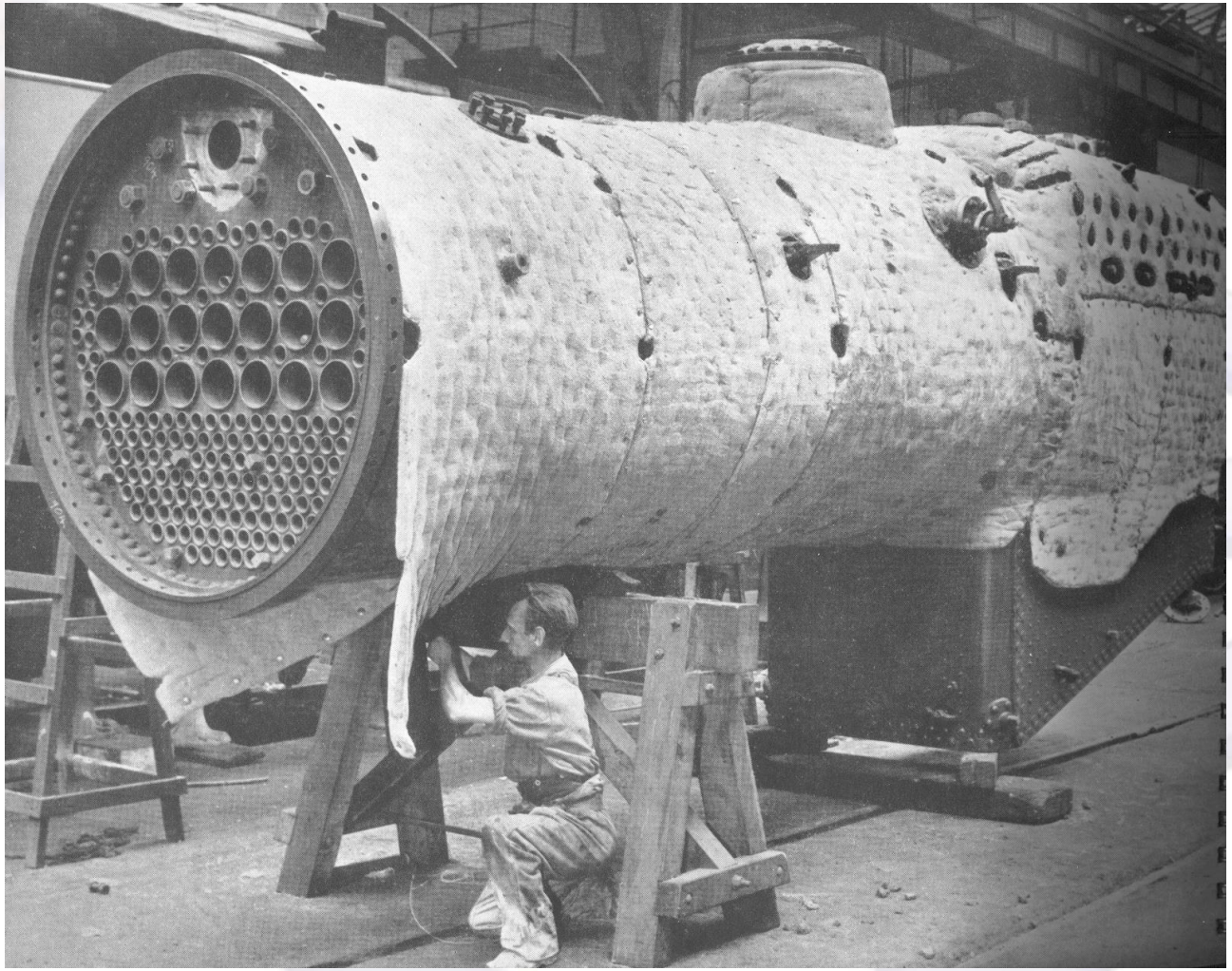

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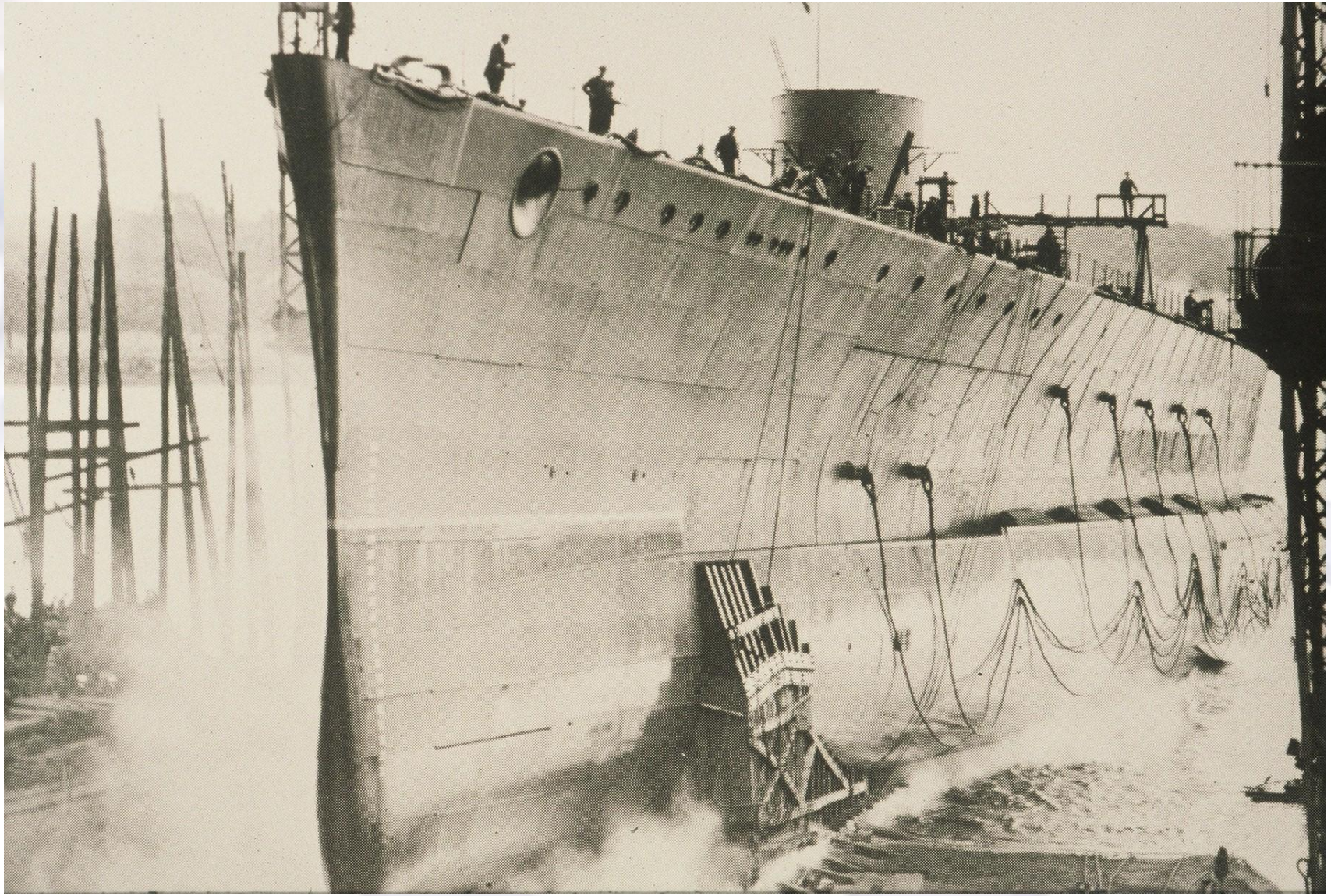

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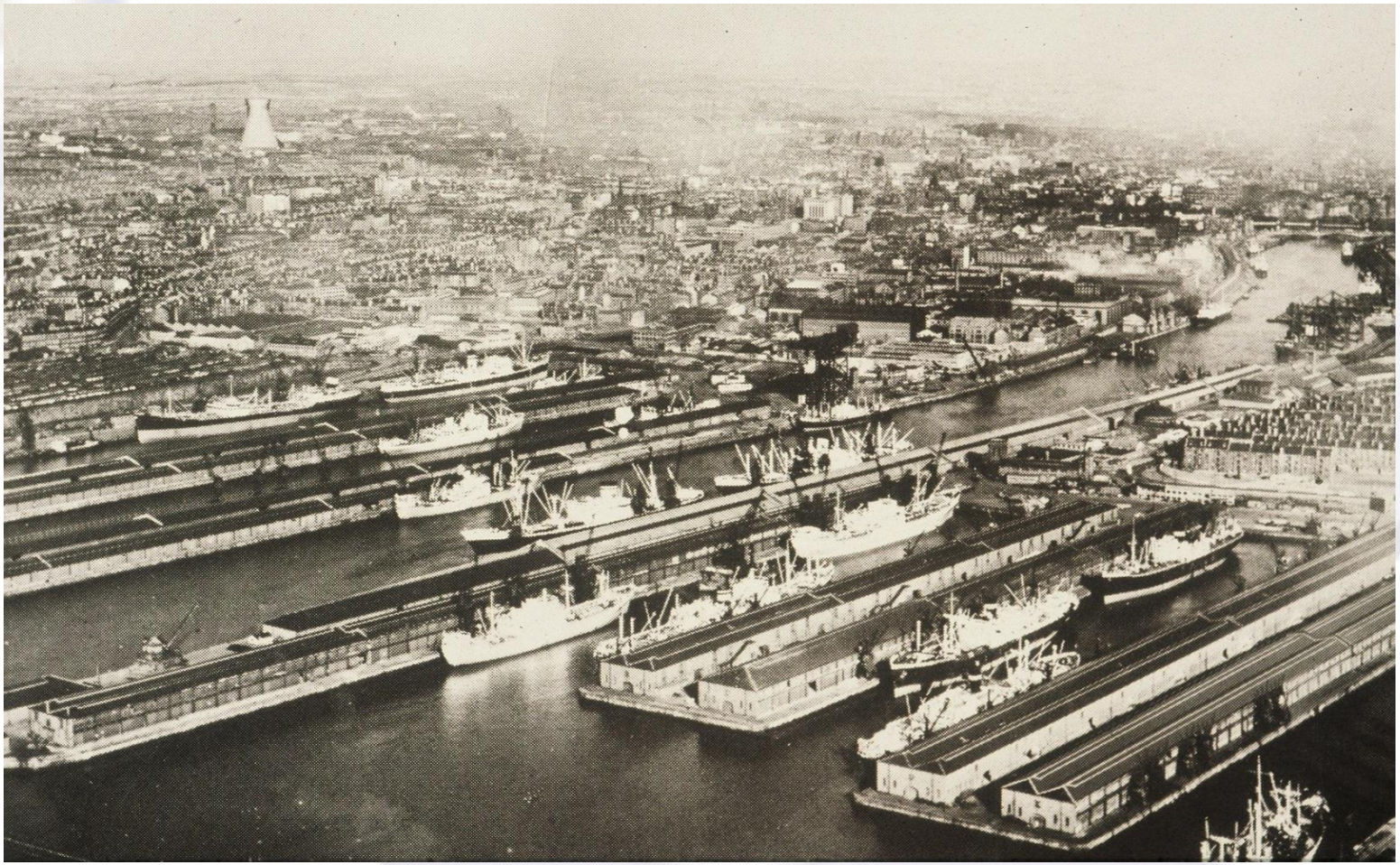

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The Black Triangle

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The post war problem

- Immediate post war years there was a real shortage of stone, brick and wood.
- Also, the country was bankrupt.
- How do you quickly and cheaply re-house tens of thousands of displaced people?

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Attractive home safeguarded with modern asbestos siding, fireproof, rotproof, and termite-proof

dry and 4 tons wet, compared with 10

Bristol 2022

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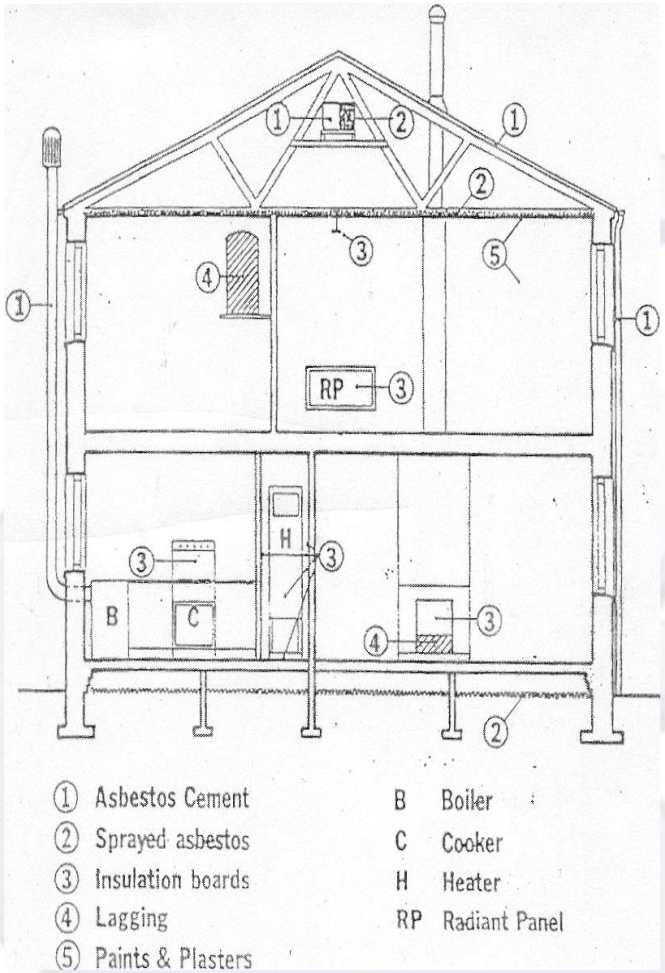
COMMON LOCATIONS IN PUBLIC SECTOR HOUSING



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Asbestos usage (UK)

- 17 million tonnes imported (from 1871)
- Hundreds of uses.
- 4 million tonnes used in construction industry.
- 9.4 million properties

- Particular use in public buildings
  especially 50s,60s,70s.
  (best quality, lowest price).

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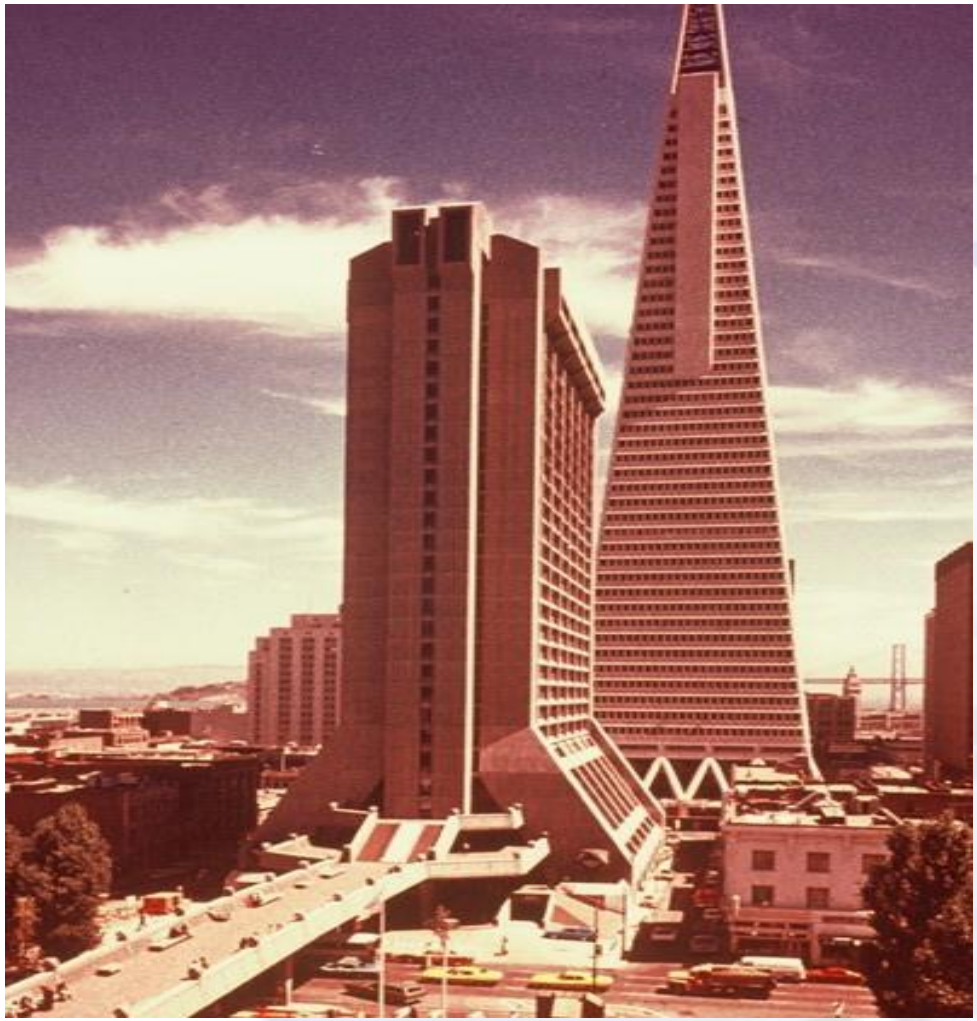

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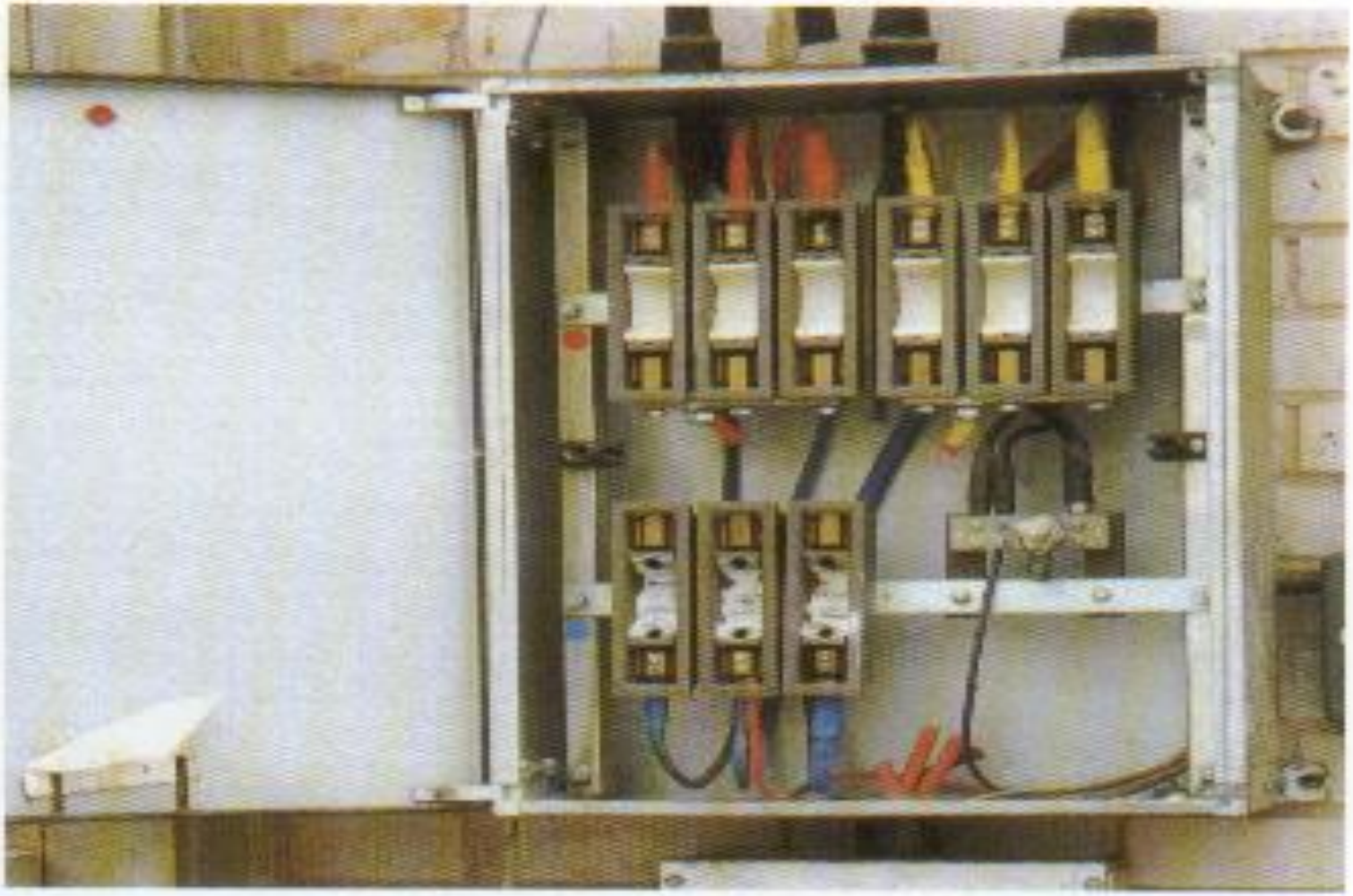
8e Asbestos rope used as packing/seal where pipe passes through a wall.



18c Asbestos tape flash guards in a fuse box.

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Who is most affected ?

- Not such a big problem in privately built houses/buildings
- A significant problem in publicly funded housing stock/buildings.
- Therefore, a significant problem for L.A., H.A., NHS MOD, Educ. Establishments in particular – especially when built in 1950's, 60's, and 70's.

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Also, non building uses – car brakes

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Exposure to Asbestos

- Most of us were born in a hospital
- Lots of us brought up in Social Housing
- All of us went to school
- A lot of us went to college or university
- Lots of us use sport centres, libraries, hospitals, clinics
- All of us are exposed to vehicles

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The Result
(Prof Seaton, Aberdeen Univ.)

- We are surrounded by asbestos products and have been breathing them in from birth.

- Post mortem studies show that more than 60% of people in the UK have asbestos fibres in their lungs at point of death – 100% in urban environments

  (over 36 000 000 people).

- It was nothing to do with cause of death.

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Asbestos Diseases

Real Risk and Perceived Risk

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What are the risks ?

INHALATION **OF ASBESTOS FIBRES CAN LEAD TO:**

- **ASBESTOSIS** **MASSIVE OVER EXPOSURE**
- **LUNG CANCER**
- **MESOTHELIOMA** **"LOW LEVEL"**

LATENT PERIOD BETWEEN 10 - 40 YRS,

typically 25/35

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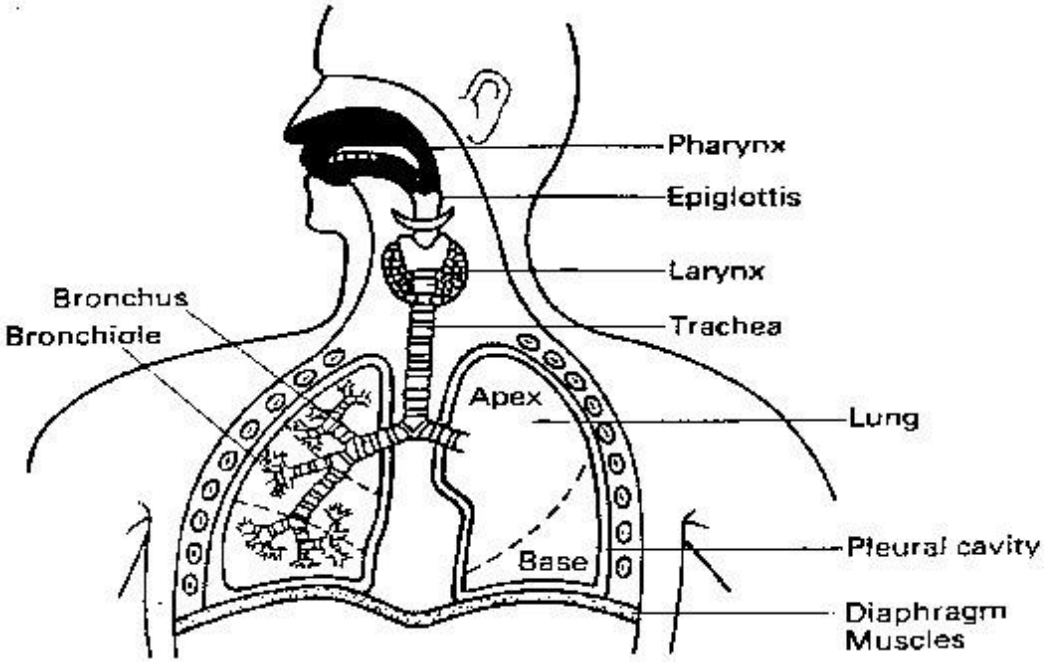
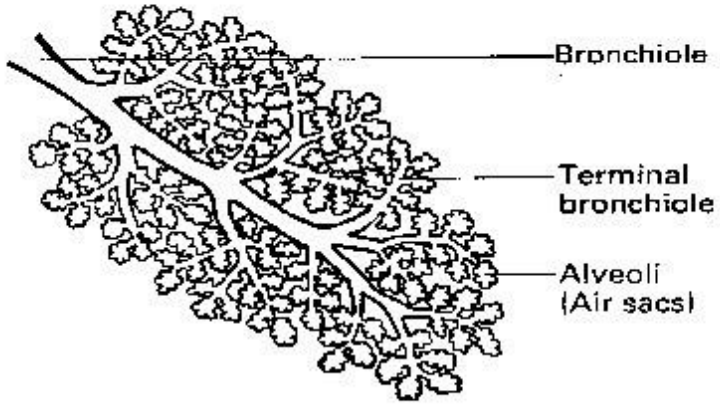
Protective mechanisms against inhalation of solid materials





Enlarged section of terminal bronchiole

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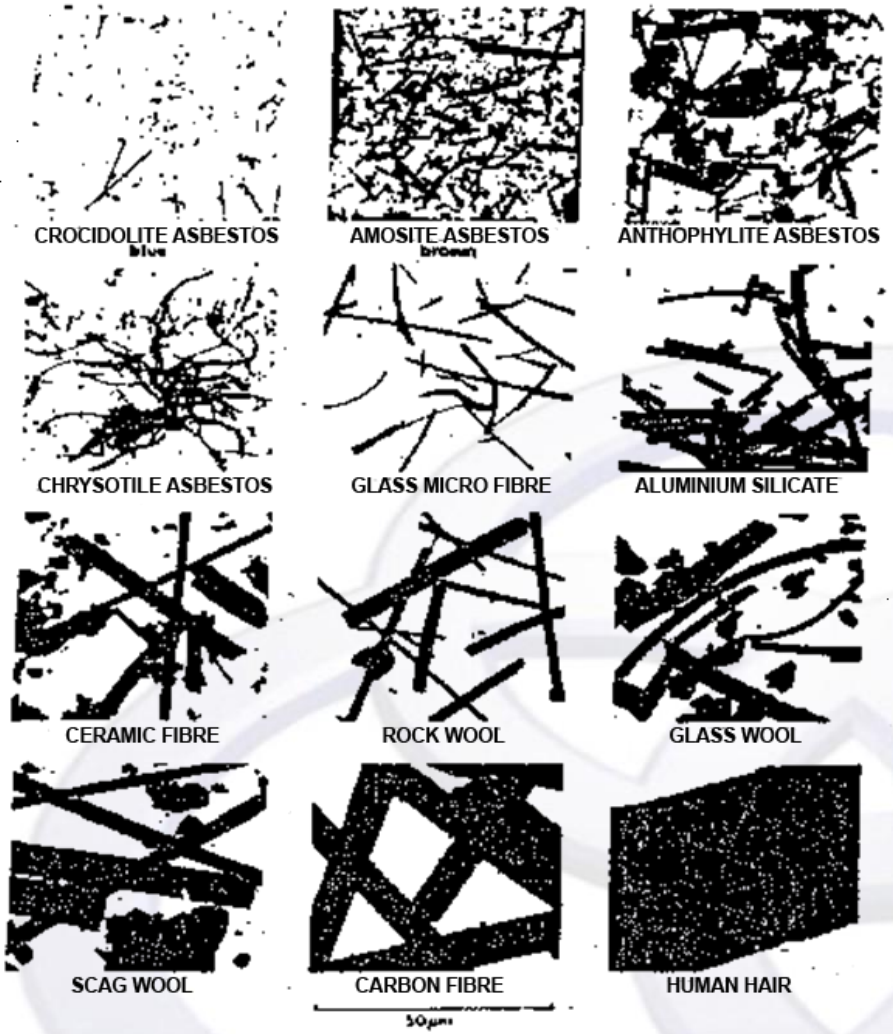

A comparison of the sizes of different types of common industrial fibres (including asbestos) with a human hair

The Asbestos Paradox

- Respirable fibres (those that evade the traps and get down into the lung) are about one thousand times smaller than a human hair.
- These are too small to be seen with the naked eye.
- If you can see asbestos then it is not dangerous – it will be trapped and then coughed/spat out.

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Asbestos: how dangerous?

HSE PROJECTIONS FOR ENGLAND & WALES

TYPES OF DEATH	NUMBERS
HEART DISEASE	165 000
CANCER	140 000
RESPIRATORY DISEASE	56 000
HOME ACCIDENTS	6 000
SUICIDES	5 000
ROAD ACCIDENTS	1 800
WORK ACCIDENTS	144
ASBESTOS DEATHS (pre 1999)	2 000

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Prof Seaton's Work

- >60% of people in UK have asbestos fibres in their lungs at point of death.
- There are over 60 000 000 people in the UK
- If 1 fibre kills then at least 36m people would die
- Takes about 30 years, giving 1 200 000 pa

- In practise post mortem studies show 2 000 die each year

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One Fibre Kills ?

- We have lived in a scientific age for over 300 years
- Test the theoretical prediction against the experimental result
- Theory 1 200 000 asbestos deaths p.a.
- Experimental result 2 000 p.a.
- One of them must be wrong.
- The post mortem results must be correct
- Therefore the theory is wrong

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Recent Medical Research

- Recent medical studies have involved looking at lung tissue from lungs where the person has died of mesothelioma.

- Electron microscopy studies have shown total fibre concentrations in excess of 102 million fibres in the diseased lung.

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One fibre kills ?

- Not only is there no scientific evidence to suggest this is true, there is a massive amount of evidence to show it cannot be true.

- Single fibre kills – I think not!!!!!!

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Real and Perceived Risk

- To make the correct decision on policy and action you must understand the difference between REAL and Perceived risk.

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Real and Perceived risk

- Risk = Hazard x Exposure
- Hazard is asbestos
- Exposure is f/ml
- Risk is asbestosis, lung cancer mesothelioma

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Exposure Levels

- Limpet 400 – 1000 f/cc HIGH
- AI 20 – 400 f/cc HIGH
- AIB 2 – 20 MED
- AC usually less than 0.5 f/cc LOW
- AVT usually less than 0.1 f/cc LOW

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The Helsinki Criteria

- International Expert meeting on Asbestos, Asbestosis and Cancer, Helsinki, January 1997.

- Purpose was to discuss disorders of the lung and pleura and to agree contemporary criteria for their diagnosis and attribution with respect to asbestos.

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Helsinki Criteria

- Important parameter is cumulative fibre dose i.e. (f/ml) X (yrs) express as (f/ml).yrs

- Accepted that the threshold dose for the doubling of risk of asbestosis and lung cancer was approx. **25 (f/ml).yrs**

- Modern res. work: about 200 f.yrs /ml exposure to chrysotile.
- About 5 f.yrs/ml for mesothelioma

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Practical Use

- If we know the exposure level then we can calculate (approx) how long the exposure period would be to double the risk of lung disease.

- $(f/ml) \times (Yrs) = 25$

- $Yrs = 25/(f/ml)$

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Practical Use

product	f/ml	Time	
Limpet	1000	1.3	**wks**
Insulation	2/400	3 to 6.5	**wks**
AIB	2-20	1.3 to 13	yrs
AC	<0.05	> 500	yrs
clearance	<0.01	>2 500	yrs
Envir.*	0.0005	50 000	yrs

* 1997 Medical Research Council, UK

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Real Risk

- No one is suggesting that asbestos is not dangerous.
- What this section has done is to put it into proper context

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The Result

Based on REAL risk you now know exactly what to concentrate on and where to spend your limited time and funds.

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Some Words of Warning

- 1978 in UK the asbestos testing & removal industry did not exist.
- Within two years it was a multimillion pound industry.
- Within ten years a billion pound industry.

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A Problem

- 1978 Immature legislative control by UK Government.
- Very large numbers of new companies entering the market place.
- Some of them of very dubious quality.

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The Result

- Suspect practices, suspect systems (Bulk analysis, air tests, surveys, removal)
- Very poor quality work carried out.
- Asbestos materials missed.
- Wrongly identified
- Poor advice to clients
- Very poor asbestos removal work leading to exposure of people in the vicinity e.g. schools, hospitals.

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What Happened Next?

- The Government was forced to act and to introduce new Legislation AND control of Quality.

  In the UK:

- Legislation is made by the Government
- Enforcement is carried out by the Health and Safety Executive (HSE) & EHO's

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(Strict?) Control

- We now (after many years) have a strictly controlled industry.
- Legislation Control of Asbestos Reg.s
- HSE Approved Codes of Practise (Explains the legislation)
- HSE Guidance Notes (Technical notes which explain exactly what to do)

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Some HSE Guidance Notes

- HSG 264 Asbestos: the survey guide.
- HSG 248 Asbestos: the analysts guide.
- HSG 247 Asbestos: the licensed contractors' guide.
- HSG 210 Asbestos Essentials.
- L143 Managing & Working with Asbestos

www.hse.gov.uk download free

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Not enough

- HSE Licence for Asbestos Removal Contractors.
- Contractor is vetted by HSE and, if successful, is given a one year licence.
- Must notify jobs to HSE 14 days before start.
- Inspected during the year.
- Licence may be renewed

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Still not enough

- Labs and survey organisations must be accredited by UKAS (United Kingdom Accreditation Service) to ISO 170205 and 17020 respectively.

- No accreditation – no work.

- www.ukas.org

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UKAS accreditation

This is available for:

- bulk sampling
- fibre identification
- air sampling
- fibre counting
- asbestos surveying

i.e. FIVE different accreditations

UKAS TESTING

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Still not enough

- All staff must have formal qualifications to meet HSE and/or UKAS accreditation.
- Range of approved trainers, e.g.
- United Kingdom Asbestos Trainers Association (UKATA),
- Asbestos Removals Contractors Association (ARCA),
- British Occupational Hygiene Society (BOHS).

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My Opinion?

- At last (after some 40 years) we have a mature industry with mature control.
- We have good legislation, supported by Codes of Practise, Guidance Notes and general information.
- We have good quality control via HSE and UKAS.
- Still have some problems, of course, but now so much better than before.

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Part 2

The 21st Century Problem

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Asbestos Related Death Rates

- Death rate was relatively constant at 2000 per annum for many years.
- In the past few years the death rate has climbed from 2000 to 3000 to over 5000 and is now the biggest single industrial killer the UK has ever seen.
- Prof Peto's prediction.

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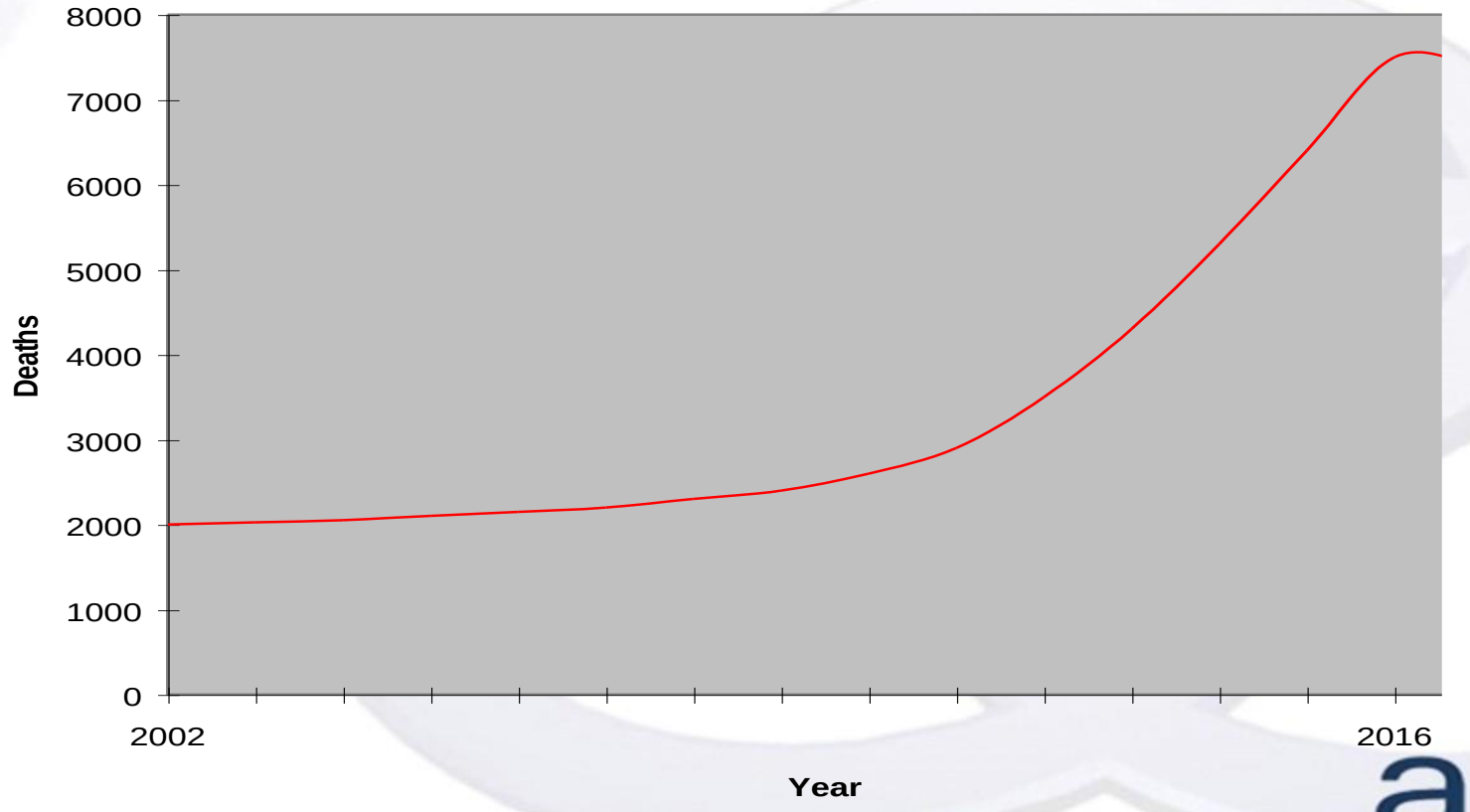
The PETO prediction (1995)

THE NUMBER OF ASBESTOS DEATHS WILL RAPIDLY INCREASE OVER THE NEXT DECADE.

PEAK COULD BE AS HIGH AS 7000 P.A. (UP FROM 2000 P.A.)



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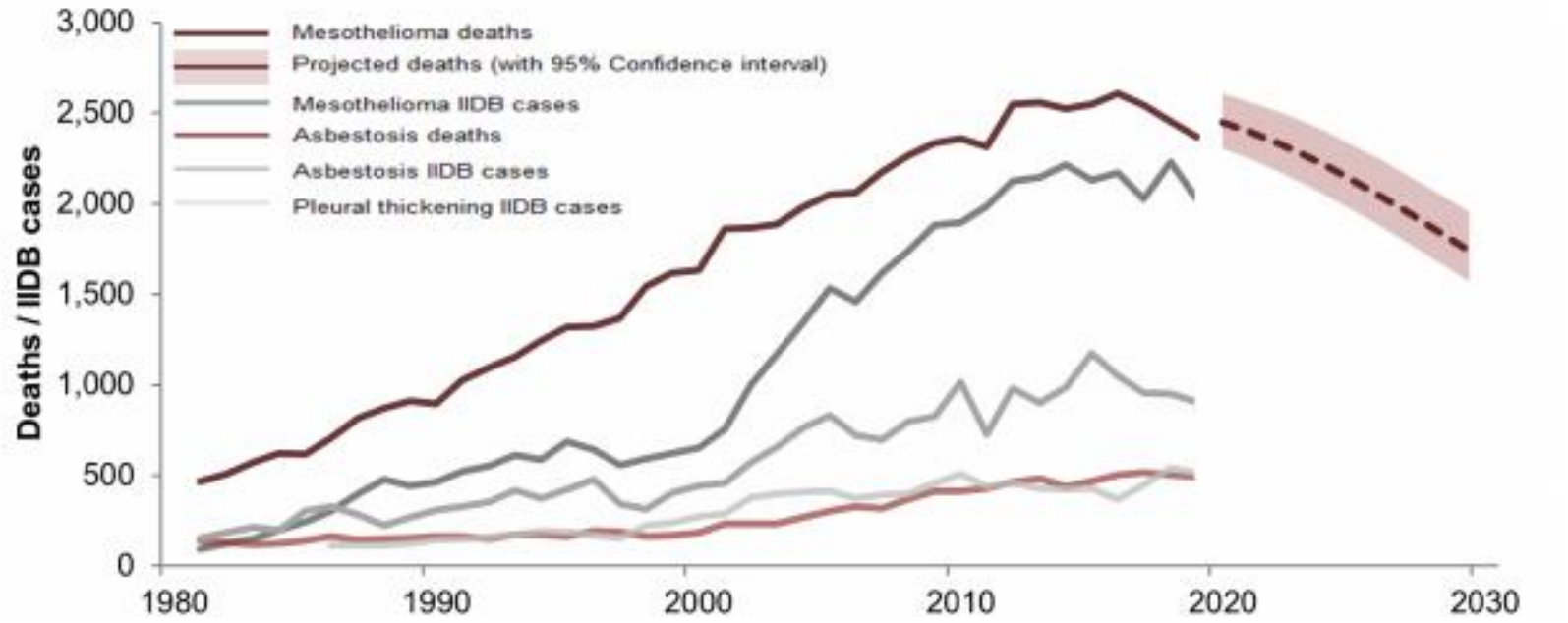
Mesothelioma, asbestosis, and pleural thickening: time trends in annual deaths and Industrial Injuries Benefit Disablement (IIDB) cases.



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Latest HSE Statistics (2019)

- There were **2,369** mesothelioma deaths in 2019 and it is estimated that there were, in addition, **a similar number of deaths due to asbestos-related lung cancer.**

- Also, **490** Asbestosis deaths in 2019 due to past exposures to asbestos

- Total deaths in 2019 were some 5000.

Who are these people ?

- The additional deaths occur NOT in the conventional group e.g. heavy industry.
- Deaths occur primarily in tradesman e.g. electricians, plumbers, carpenters.
- Largest single group is “tradesmen working for L.A.’s”
- We need new asbestos regulations to protect these people.

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HSE Asbestos Campaign 2008 on

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The Asbestos Regulations Nov 2002 (no difference in substance in CAR 2012)

- Exactly same as old Regulations (1987), except for Regulation 4 - effective May 2004.

- Reg. 4 : duty to manage asbestos in premises.

- Duty is for non-domestic premises only except common areas (do not forget Duty of Care of the HASAWA)

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The Duty?

- This is a duty to manage, not just a duty to survey.
- Carry out the survey (capture the info.)
- Give the information to the tradesman before the asbestos is disturbed.
- A management Plan.

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The Asbestos Survey

- The asbestos survey and the asbestos register are critical in providing information:

(a) for the safe management of the building and its occupants,

(b) for the safe management of tradesmen and construction workers

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The Asbestos Survey

Two types of survey

- Management survey
- Refurbishment or Demolition survey.

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The Management Survey

- A Management Survey is the standard survey.
- Locate as far as is reasonably practicable the presence and extent of any suspect ACMs which could be damaged/disturbed during normal occupancy, maintenance, and installation.
- Assess their condition

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The Refurbishment or Demolition Survey

- This is needed before any refurbishment or demolition work is carried out.

- Fully intrusive and involves destructive/ intrusive inspection, as necessary, including areas difficult to reach.

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The Refurbishment or Demolition Survey

- Disruptive and fully intrusive.
- Should only be conducted in unoccupied areas (ideally building not in service).
- Under no circumstances should staff remain in rooms when intrusive sampling is being undertaken.
- Area must be shown to be fit for re-occupation – visual inspection - if appropriate: air testing.

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Caution

HSG 264 Section 37

areas not accessed or not inspected

must be presumed to contain asbestos, unless there is evidence that it does not.

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Who does the Survey?

HSG 264 Section 17

- The Duty Holder should not appoint or instruct an independent surveyor to carry out a survey unless the surveyor is COMPETENT.

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Who does the Survey?

- The only route now to demonstrate competence is via UKAS accreditation.

- UKAS accredited to ISO 17020 (note ISO 9001 is NOT sufficient)

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What do we Survey?

- In the non-domestic sector HSE expect EVERY building to be surveyed on an individual basis.

- In the domestic sector L.A.'s and H.A.s have very large numbers of properties.

  What is reasonable and practicable?

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Surveys in the Domestic Sector

- A proportion of properties in each category and group should be surveyed.

- Exact sampling ratios can not be specified.

  (HSE suggest starting at 5% of each group)

- Keep surveying each group until results demonstrate consistency (trend analysis).

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The Duty Holder?

- Very crudely: the person who commissions the work is the duty holder.

- Example 1: ACS @ Clutha House

  Tenant requests work from Factoring Co.

- Example 2: ACS @ The Claremont Centre

  Tenant commissions work directly

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What needs to be done ?

- management plan to give the information to tradesmen before they start work.

- management plan to prevent work without the information

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The Response

- policy and procedures.
- asbestos surveys of all suspect buildings
- asbestos register produced for each building.
- register on disc and/or hard copy.

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When would you access the data base/Register ?

- Will the work interfere with the fabric of the building ?
- No …… get on with it.
- Yes …… check the Register

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When would you access the data base/Register ?

- No asbestos present …. get on with it.
- Asbestos present ….. Stop, think, plan. organise.

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Information & Management

CRITICAL that information is given to tradesmen **PRIOR** to start of works.

Give as part of purchase order or works requisition order or, in larger jobs, as part of the tender documentation.

If you have no information and you are suspicious…..

STOP

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Damaged/suspect material ?

- Stop work immediately
- Vacate the immediate area
- Lock off the area
- Tell your supervisor and the client

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A little bit more legislation

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Primary Legislation

1974 Health & Safety at Work Act

- Set up the modern framework
- Make it safe, keep it safe
- HSE/EHO are the Enforcers

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Regulations

1992/2006 H&S Management Regs

Risk Assessments for all tasks

H&S Management System

Asbestos Regs (CAR 2012)

Noise at Work Regs

COSHH Regs

Lead Regs

etc. etc. (hundreds of them!!!)

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The Hierarchy

- Each Regulation has a Code of Practise
  This explains in normal language what the Regulations say in legal jargon.
  e.g. L143 for CAR 2012
- Below these are the Guidance Notes.
  These tell you in detail what to.
  e.g. HSG 264 how to do asbestos surveys

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Control of Asbestos Regulations 2012

37 different regulations in total!!!

- Reg 4 Duty to Manage.
- Reg 5 Identification of presence of asbestos before work starts.
- Reg 6 Carry out a risk assessment before work starts.
- Reg 7 Plan of work before work starts.
- Reg 10 Info, Instruction Training.

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Asbestos Importation

- 1970 Voluntary ban on crocidolite.
- 1980 Voluntary ban on amosite
- 1985 Asbestos (Prohibition) Regs
- 1988 Asbestos (Prohibition)(Amendment) Regs
- 1999 Asbestos (Prohibition)(Amendment) Regs

  (Comprehensive ban on ALL forms of asbestos)

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Asbestos Categories

- Asbestos insulation (Content varies, usually 6-85% asbestos)
- Asbestos insulating board (Usually 15–25% amosite)
- Asbestos cement (typically 10–15% chrysotile in corrugated sheets)
- Asbestos vinyl tiles (Up to 25% asbestos)
- Textured coatings (artex) (3–5% chrysotile)
- Asbestos rope (Asbestos content approaching 100%)
- Asbestos gaskets (usually around 90% asbestos)

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A little bit of legislation

Asbestos	crocidolite, amosite, chrysotile, fibrous forms of actinolite, anthophyllite, tremolite.
Asbestos **cement**	asbestos, cement, water absorption <30%
Asbestos **insulating board**	sheet, tile, board with asbestos & anything else (not cement or bitumen)
Asbestos **insulation**	low density material.

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Asbestos Categories

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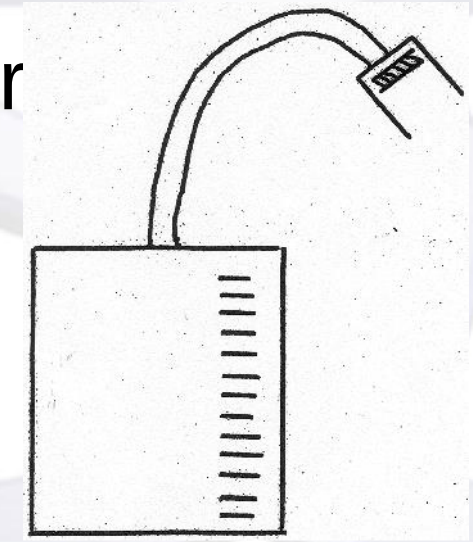
The Risk

- Risk depends on the amount of fibres you can breath in i.e. the airborne fibre concentration in f/cc.

- The Clearance indicator

  less than 0.010 f/cc



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The Risk

Limpet	400 – 1000 f/cc	HIGH
AI	20 – 400 f/cc	HIGH
AIB	2 – 20 f/cc	MED
AC	usually less than 0.5 f/cc	LOW
AVT	usually less than 0.1 f/cc	LOW

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Working Procedures

Asbestos Insulation

- must use a **licensed** contractor.
- must notify regulator at least 14 days in advance (and supply method statement).

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Working Procedures

Asbestos insulating board

major works: licensed contractor plus notification (as above).

minor works: 1 hour in 7 days, any contractor, no notification, safe working.

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Working Procedures

Asbestos cement

any contractor, no notification, no time limits, safe working systems

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Summary

Basic legislation on asbestos works:

Asbestos Insulation (AI)

licensed contractor, 14 days notification.

Asbestos insulating board (AIB)

> 1 hour in 7 days - as per AI

< 1 hour in 7 days - DIY with suitable precautions

Asbestos Cement (AC)

DIY, any contractor, no notification, suitable precautions

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Summary

AI	**lic. contr, notification**
AIB >1hr	**lic. contr., notification**
AIB <1hr	**any contr., NO notification**
AC	**any contr., NO notification,**
AVT	**no time limits**
Rope	
Gaskets	
Artex	**some times, not always**

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The Result

- Who does the job.
- How much it costs.
- When it starts.

- All depend on the CATEGORY of the material and NOT on the type or concentration.

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Insulation, board, cement ?

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Insulation, board, cement ?

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Insulation, board, cement ?

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Insulation, board, cement, or ?

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Insulation, board, cement, or ?

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Project costs & Time Lines

- Who does the job.
- How much it costs.
- When it starts.

- All depend on the CATEGORY of the material and NOT on the type or concentration.

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A poor example of a survey

Loc. No.	Sample No.	Location	Area Surveyed	Position	Asbestos Type	Quantity
1	1	G Floor	Gym	Ceiling Tiles	Amosite	50 SQ M
2	As 1	G Floor	Hall	Ceiling Tiles	Amosite	100 SQ M
3	2	G Floor	Kitchen	Red Floor Tiles	Amosite	100 SQ M

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An asbestos management system

Loc No	Sample No	Location	Area Surveyed	Position	Product	Asbestos Type	Quantity	Surface	Vuln.	Damage	Mats RA	Priority
1	1	G Floor	Gym	Ceiling Tiles	AIB	Amosite	50 M^2	Unseal	High	Good	6	1
2	As 1	G floor	Hall	Ceiling Tiles	AIB	Amosite	100 M^2	Unseal	Low	Good	6	3
3	2	G Floor	Kitchen	Red Floor Tiles	AVT	Chryso	100 M^2	Good	Med	Good	1	2

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Some Changes

The 2012 Regulations

- High Risk: NO CHANGE

  notifiable, licensed contractor, 14 days
- Medium Risk:

  notifiable (< job starts), non- licensed contractor, trained, SWP. CHANGE
- Low Risk:

  not notifiable, non-licensed contractor, trained, SWP. NO CHANGE

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The Change

New Category of work:

Notifiable, Non Licensed Work

NNLW

Work can be carried out by a non licensed contractor (as before), but

notification must take place

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What does this mean?

- **No change in licensable work**
- **The problem now is to decide whether work is NNLW or simply "normal" work**

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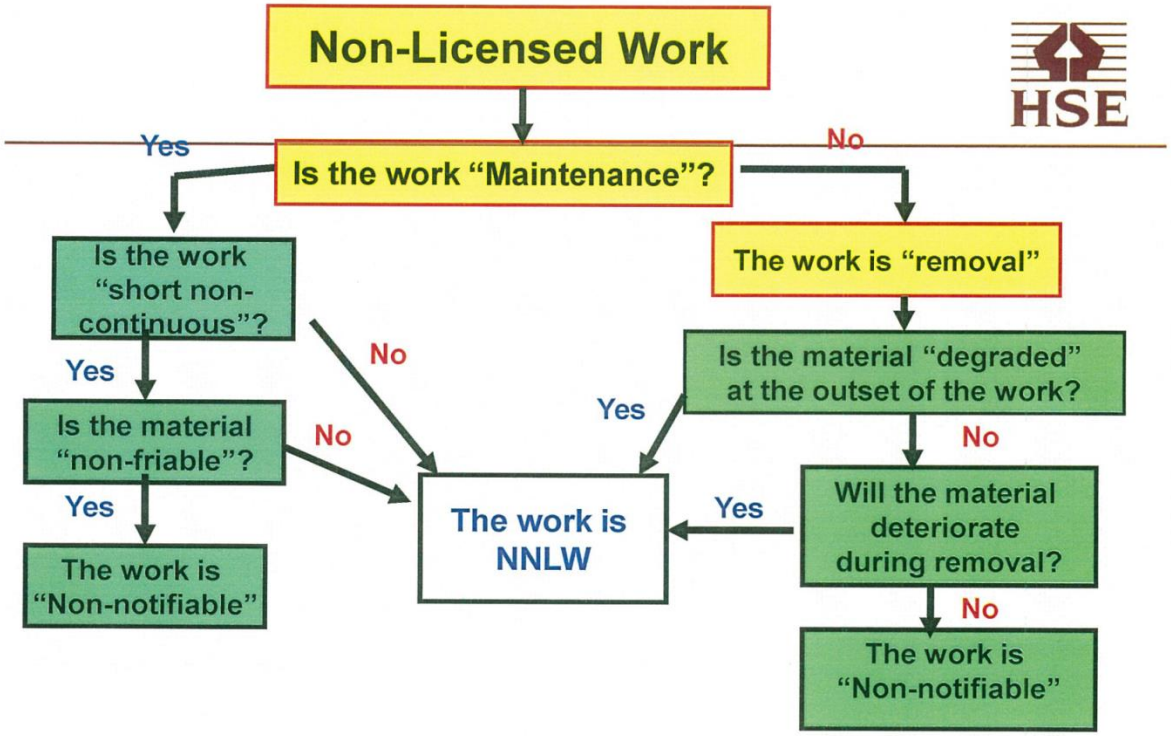
The Regulations



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Notification for NNLW

- **Completion of an online form**
- **New form is “ASB NNLW1”**
- **Form is available from “forms” section of HSE website**
- **Notification must be before the start of work**

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The Contractor

Medical examinations:

- **Must include an examination of the chest and be carried out by a registered medical practitioner (not EMAS)**
- **Carried out every three years**
- **Three-year implementation period (April 2015)**

Registers of work (health records):

- **Must contain:**
  - **Details of the individual worker**
  - **The nature and duration of work with asbestos and exposure**
  - **Dates of the worker's medical examinations**
- **More detailed medical records will be kept by the doctor**
- **Registers of work (health records) must be kept for 40 years**

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Who is most affected?

- **Organisations carrying out AC roof removal or demolition**
- **Organisations which deal with “non-licensed” rubble**
  eg AC
- **Companies who carry out “larger-scale” removal of textured coatings**
  eg insurance related work
- **Companies who do short-duration work on asbestos insulation**
- **Companies who do short-duration removal of AIB**
  eg demolition

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Part 3

If you have to work with asbestos

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UK Control of Asbestos at Work Regulations 2012

Place duties on an employer whenever his employees manipulate asbestos.

Cover all work where an employee is exposed to dust.

Working criteria:

is it reasonably foreseeable that asbestos will be disturbed?

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Summary

AI	**lic. contr, notification**
AIB >1hr	**lic. contr., notification**
AIB <1hr	**any contr., NO notification**
AC	**any contr., NO notification,**
AVT	**no time limits**
Rope	
Gaskets	
Artex	**some times, not always**

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Types of asbestos work

- Major works (high risk)
- Minor works (low risk)

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L143 Managing and Working with Asbestos

Consider

- The work area
- The people
- The waste material

Working Procedures

Asbestos Insulation and AIB >1 hour

- must use a **licensed** contractor.
- must notify regulator at least 14 days in advance (and supply method statement).

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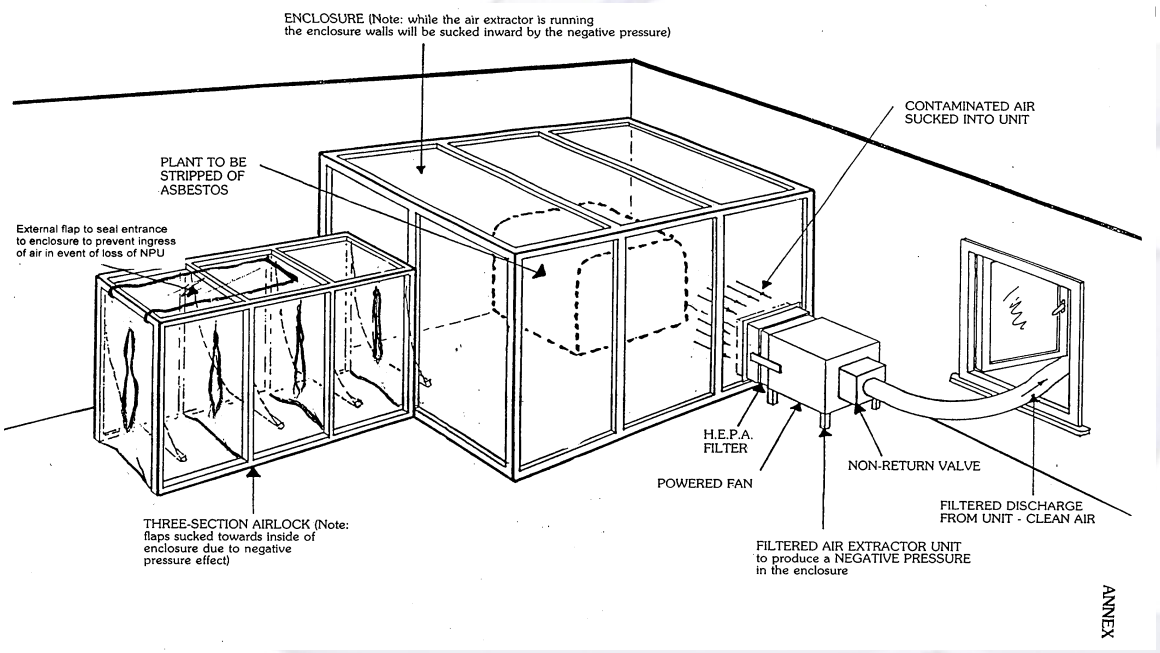
Systems of Work
Major Works, licensed contractor

1. Work Area

containment (enclosure/critical barrier)

smoke test, negative air system.



Systems of Work

Major Works, licensed contractor

People

Coveralls, respiratory protection (face fit test),

decontamination facilities.

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Systems of Work
Major Works, licensed contractor

People

Coveralls, respiratory protection,

decontamination facilities, transit coveralls

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Systems of Work
Major Works, licensed contractor

3. Waste Disposal

double bagged, labelled

Consignment note (from SEPA)

haulier registered (with SEPA)

landfill site licensed (SEPA)

SEPA

Scottish Environment

Protection Agency

Systems of Work
Major Works, licensed contractor

1. **Work Area**

   containment (enclosure/critical barrier)

   smoke test, negative air system.

2. **People**

   Coveralls, respiratory protection (face fit test),

   decontamination facilities, transit coveralls.

3. **Waste Disposal**

   double bagged, labelled

   consignment notes (from SEPA)

   haulier registered by SEPA

   landfill site licensed by SEPA

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At the end of the job ?

- The enclosure and surrounding area must be examined/tested by an independent laboratory.
- The laboratory MUST be accredited by UKAS.
- Tests must be in accordance with HSE publication HSG 248.

UKAS TESTING

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UKAS accreditation

This is available for:

- bulk sampling
- fibre identification
- air sampling
- fibre counting
- asbestos surveying

i.e. FIVE different accreditations

Four stage clearance test

Stage 1: contract compliance

Stage 2: visual inspection

Stage 3: air testing

Stage 4: inspection after removal of enclosure

Can ONLY hand back area after completion of all FOUR stages

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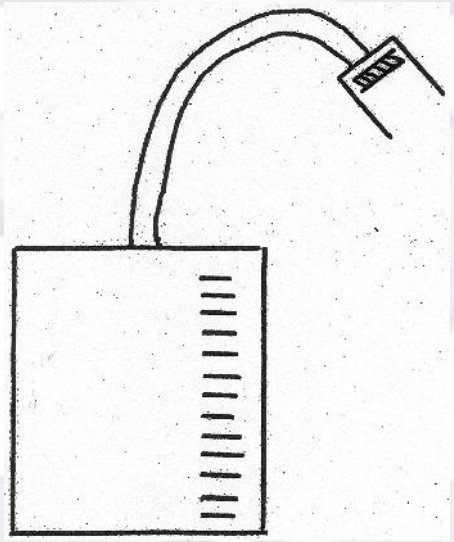
Air Testing

SAMPLE FIXED KNOWN VOLUME (cc)
COUNT NUMBER OF RESPIRABLE FIBRES (f)

RESULT EXPRESSED IN f/cc

Normally all samples <0.010 f/cc
(the Clearance Indicator)



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Fibre Counting

- Described in HSG 248

- Counting to be carried out according to the World Health Organisation (WHO) Method
- Not the European reference Method (ERM)

The WHO Method

Countable fibres are defined as:

- length greater than 5 micron
- width less than 3 micron
- aspect ratio (l:w) of greater than 3:1
- include those which touch a non fibrous particle with dimensions greater than 3um.

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The Result

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Limits & Typical Values

- OCCUPATIONAL EXPOSURE 0.1 f/ml
- " ENVIRONMENTAL" EXPOSURE 0.01 f/ml

TYPICAL AIRBORNE CONCENTRATIONS f/ml

- DRY STRIPPING UP TO 200
- REMOVAL OF LIMPET UP TO 1000

WORKING WITH TILES

- BREAKING AND REMOVAL 5 - 20
- DRILLING OVERHEAD 4 - 10
- HAND SAWING 5 - 12

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Asbestos Minor Works and Notifiable Non – Licensed Works (NNLW)

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If it goes wrong

1. **Birmingham, Summer 1998**.
   Removal of asbestos from a factory.
   300 bags of asbestos insulation found in lay by.

2. **Charges**
   use of unlicensed contractor
   fly tipping

3 Result

3.1 Rollco Screw & Rivet Company
Fine: £40 000 Costs: £30 000 Clean up: £50 000
6 weeks lost production during clean up.

3.2 Mr Joyce: fine £20 000, holiday of 2 years

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Asbestos Minor Works

Consider the three elements:

- Work place
- People
- Waste

HSG210 Asbestos Essentials Task Sheets, free to download at http://www.hse.gov.uk/asbestos/essentials/

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Asbestos Minor Works an Example - electrician

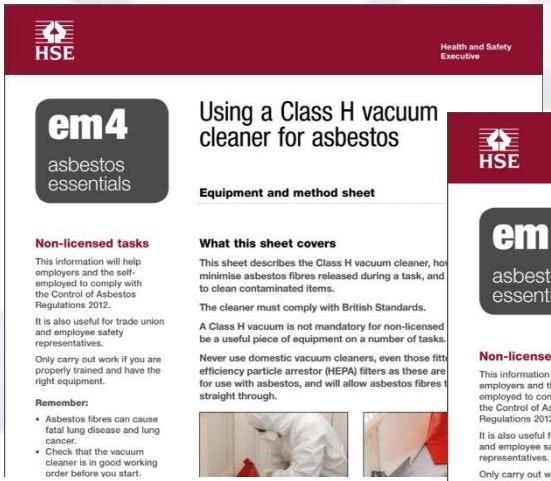
1. Work Area

- segregate area
- prevent dust getting into the atmosphere

  vacuum extractor at source (Type "H") EM 4

  wetting agent EM 5

  damp rags EM 7


HSE

Health and Safety Executive

em4 asbestos essentials

Using a Class H vacuum cleaner for asbestos

Equipment and method sheet

Non-licensed tasks

This information will help employers and the self-employed to comply with the Control of Asbestos Regulations 2012.

It is also useful for trade union and employee safety representatives.

Only carry out work if you are properly trained and have the right equipment.

Remember:

- Asbestos fibres can cause fatal lung disease and lung cancer.
- Check that the vacuum cleaner is in good working order before you start.

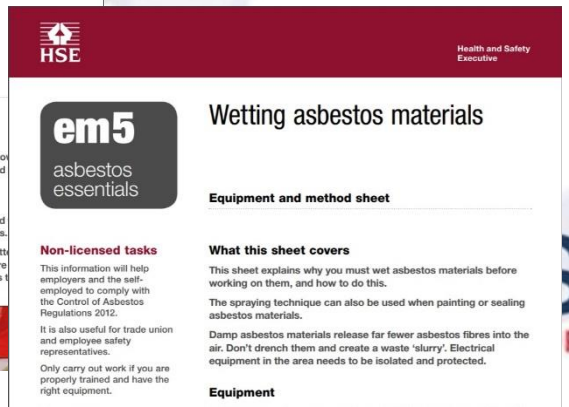
What this sheet covers

This sheet describes the Class H vacuum cleaner, ho minimise asbestos fibres released during a task, and to clean contaminated items.

The cleaner must comply with British Standards.

A Class H vacuum is not mandatory for non-licensed be a useful piece of equipment on a number of tasks.

Never use domestic vacuum cleaners, even those fitt efficiency particle arrestor (HEPA) filters as these are for use with asbestos, and will allow asbestos fibres t straight through.


HSE

Health and Safety Executive

em5 asbestos essentials

Wetting asbestos materials

Equipment and method sheet

Non-licensed tasks

This information will help employers and the self-employed to comply with the Control of Asbestos Regulations 2012.

It is also useful for trade union and employee safety representatives.

Only carry out work if you are properly trained and have the right equipment.

What this sheet covers

This sheet explains why you must wet asbestos materials before working on them, and how to do this.

The spraying technique can also be used when painting or sealing asbestos materials.

Damp asbestos materials release far fewer asbestos fibres into the air. Don't drench them and create a waste 'slurry'. Electrical equipment in the area needs to be isolated and protected.

Equipment

Asbestos Minor Works

1 **Work Area**

segregate area

dust suppression

2 **People**

disposable coveralls, respirator (type P3) EM 6

washing facilities.

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Asbestos Minor Works

1. **Work Area**

   segregate area

   dust suppression at source

2. **People**

   disposable coveralls, respirator (type P3) - HSG 53,

   washing facilities.

3. **Waste disposal EM 9**

   The Special Waste (Scotland) Amendment Regulations 2004

   double bagged, labelled,

   consignment notes (not for small quantities),

   haulier registered by SEPA (not for small quantities)

   Licensed land fill site ALWAYS

4. Normally no requirement for air testing.

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Small Quantities

TRANSPORTATION

You do not require to use a registered carrier, or submit notifications for loads of:

- Less than 25 litres / 25 kilograms of chrysotile asbestos.
- Less than 10 litres / 10 kilograms of amphibole asbestos.

STORAGE

- Non-liquid special waste may be stored for up to one year:
- In a secure container <80 cu. m, or
- In a secure place < 50 cu.m.

REGISTRATION

- In England & Wales you will have to register with the Environment Agency as a “waste generator”. This can be done on the EA website. This requirement does not currently apply in Scotland

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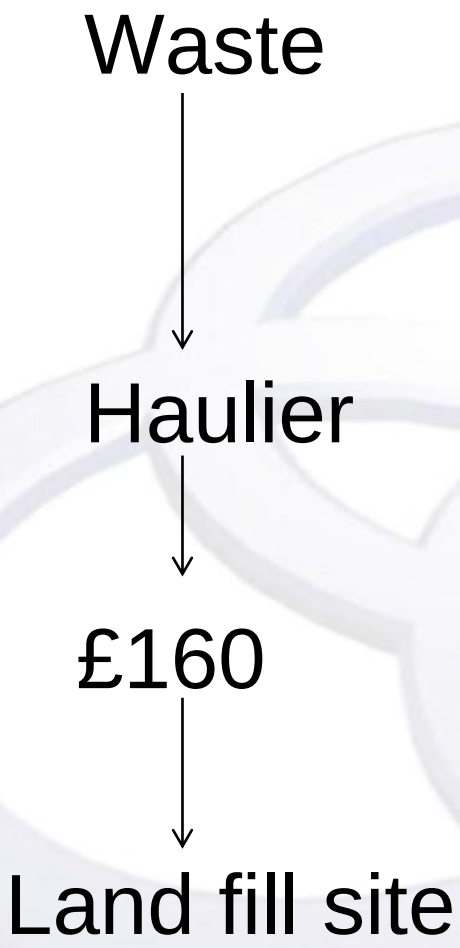
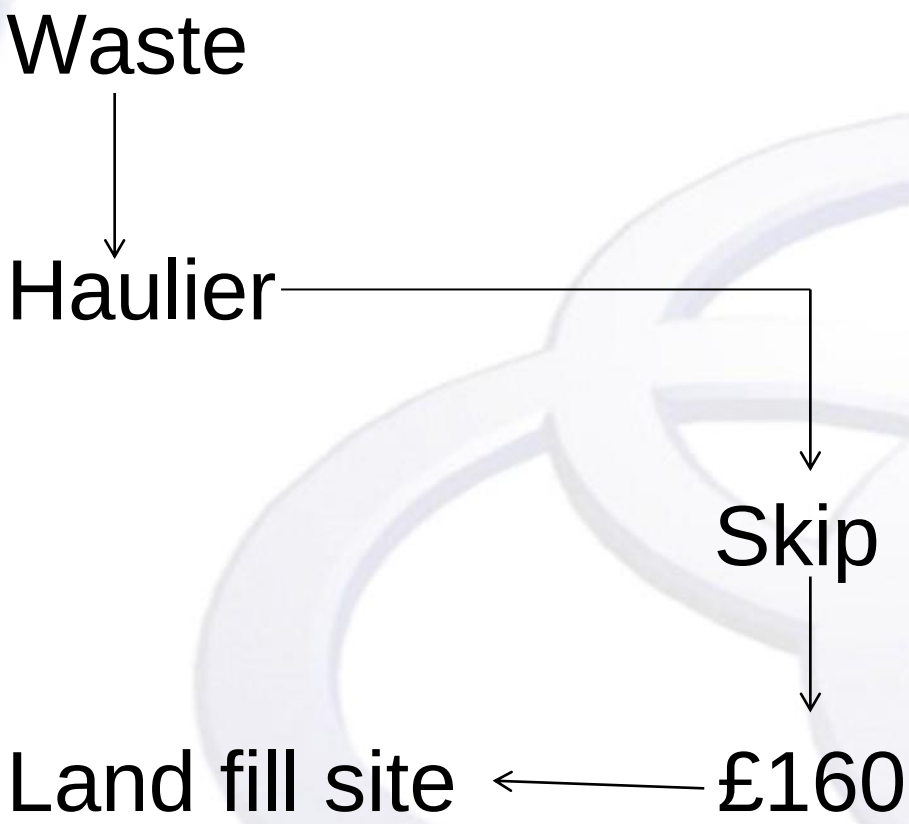
Waste Disposal



Waste Disposal



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Example (cleaning up small debris)

- Segregate the area – warning sign ?
- Put on your p.p.e. (suit & mask).
- Put out all the kit (bags, wetting agent, type H, etc).
- Wet area to be worked on (small hand spray).
- Hand pick any debris and put in red bag.
- Use “wet wipes” if necessary, put used wipes in bag.
- Hoover area with Type H

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Example (cleaning up small debris)

- Make sure area is clean – no trace of debris.
- Clean all equipment with “wet rags”.
  (all debris and rags into red sack)
- Remove cleaned equipment.
- Final check of area.

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Decontamination

- Clean boots with wet rag.
- Use Type H vacuum to clean overalls.
- If no Type H available then “pat down” with a wet rag.
- Remove coveralls by turning inside out.
- Put into red sack and then double bag
- LASTLY take off P3 and put into red sack.
- WASH before you leave the area.

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Example (cleaning up small debris)

- Bags to container, lock container.
- Bags and equipment to van.
- No legal requirement for air testing.
- Deliver waste bags to Depot and lock in designated asbestos skip.
- WASTE MUST NOT BE STORED IN VANS OVERNIGHT.

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Summary

- Make it safe – keep it safe.
- Safe for you
- Safe for everyone else

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And finally……..

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New Enforcement Policy

- Enforcing authorities should …prosecute…individuals if they consider that a prosecution is warranted.
- …consider the management chain and the role played by individual directors/managers…
- …take action against them where inspection reveals the offence was committed with their consent, connivance or neglect (n.b. Barrow Case)

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It is not about legal defence:

THIS is what it is about!

It could be your Dad.

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Thank you folks – any questions?
Please make them easy – or else!