ASBESTOS
WHAT ARE THE ISSUES?

By **Mark Doyle**

There are six main types of asbestos with varying material uses and associated causes for concern to human health. The mere mention of the word asbestos is emotive, and it is very commonly found throughout properties in a variety of materials and in places most of us wouldn't guess (most of us with homes in the UK older than 2000 have it in our properties and wouldn't know it!). It will be an issue for property investors and developers over the next century and to identify it correctly and know what to do with it, you will need the support of a specialist asbestos consultant & testing laboratory. But do we need to know about it or is ignorance bliss – and if we've got it on a project what do we do about it?

Asbestos fibres are so strong they cannot be broken down by the human body!

You cannot see asbestos and there is no 'SAFE LEVEL' of asbestos exposure!

A BRIEF HISTORY OF ASBESTOS AND ITS USAGE

Asbestos is a naturally occurring mineral deposit (see photo 1) that has been and is still cheaply mined usually from large open cast pits (see photo 2) in approximately 30 countries. It occurs as thin crystal fibres and is normally crushed and processed close to the mine, then transported as a bulk powder for addition to various materials. It has been attractive for use due to its cheap cost, durability and as an insulator or barrier product due to its chemical and high heat resistance.

The three most commonly utilised types of asbestos are Chrysotile (white asbestos), Amosite (brown asbestos) and Crocidolite (blue asbestos). Less commonly used have been Anthophyllite, Actinolite and Tremolite.

The use of Amosite and Crocidolite was finally banned in the UK in 1985, but Actinolite, Anthophyllite and Tremolite were legally in use until 1992. Finally in November 1999, Chrysotile was banned in the UK, but continued to be used throughout the EU until 2005. Asbestos still remains the single greatest cause of work-related deaths in the UK.

The death rate from mesothelioma (a cancer of the lining of the organs caused almost exclusively by the inhalation of asbestos fibres) has been steadily rising since 1970 in the UK. Sadly, in 2017 2,523 deaths were reported by the HSE.

Just because it's banned doesn't mean it's gone.

Amazingly, even with the known threat to human health, asbestos is still mined today. It is widely utilised in Russia, China, Kazakhstan and India, and the World Health Organisation (WHO) is undertaking additional specialist research into what it considers to be a 'health time bomb' in the making (see Image 1).

WHAT'S THE ISSUE WITH ASBESTOS?

Asbestos fibres are so tiny that they are completely invisible to the naked eye (a thousandth of the diameter of human hair) and are easily inhaled when disturbed. When inhaled they can stick to the lining of the lungs; over time this can cause serious illnesses and is one of the most important occupational carcinogens, causing about half of the deaths from occupational cancer. Exposure to asbestos can cause cancer of the lung, larynx and ovary, mesothelioma (a cancer of the pleural and peritoneal linings) and asbestosis (fibrosis of the lungs). It is currently thought that at least 107,000 people die every year with asbestos related illnesses (WHO Chrysotile Asbestos Report 2014), and not surprisingly its use is now completely banned in the UK and throughout the EU.

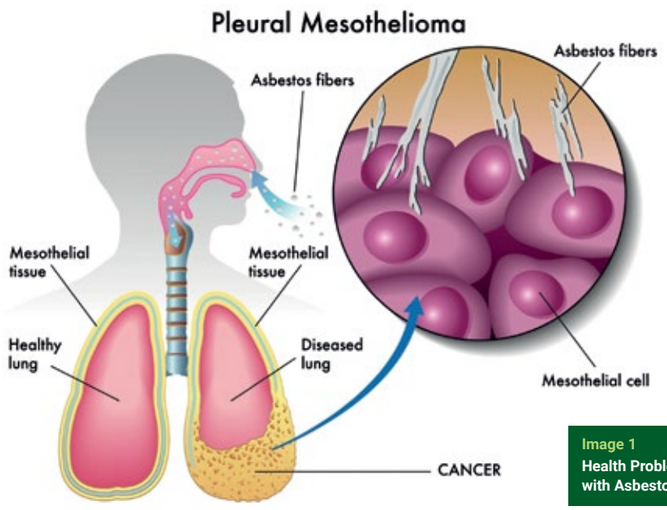

Image 1
Health Problems with Asbestos

WHERE DO YOU FIND ASBESTOS?

In the UK, asbestos is commonly found in produced goods such as adhesives, bitumen felts, fibre cement, floor tiles, friction surfacing, gaskets, insulating boards, laggings, mastics, paints, papers (millboard), putties, sealants, reinforced plastics, spray coatings, textured coatings, yarns … and this list is by no means exhaustive.

The Health and Safety Executive (HSE) have produced a substantive series of guides, easy to follow flowcharts and various task sheets covering the usage, retention and removal of asbestos (www.hse.gov.uk/asbestos/essentials). Briefly, these guides group the historical usage of the wide variety of material into the following commonly found groups:

- **Dealing with asbestos cement sheets and products, including asbestos-containing plastic products**
- **Dealing with asbestos insulating board (AIB), millboard, marine board, insulating blocks, etc,**
- **Dealing with asbestos lagging on pipes, boilers, etc**
- **Dealing with sprayed asbestos – 'limpet', etc**
- **Dealing with textured coatings, etc**
- **Dealing with other asbestos-containing materials, eg fabric, paper, gasket**

WHERE DOES ASBESTOS COME FROM?

Photo 1: Asbestos fibre crystal

Photo 2: Jeffrey Asbestos Mine, Quebec

Photo 3: Bulk asbestos transport

Photo 4: Just how small is asbestos? It's much smaller than a grain of rice!

HOW DO YOU RECOGNISE ASBESTOS?

Firstly, you simply can't identify asbestos fibres with the human eye (see photo 4), but sometimes a material just looks different, perhaps its slightly fuzzy or furry to look at so you may think you can see something within its constituent mix. However, it's impossible to tell just on sight (no matter what your builder may say), that's why experienced asbestos consultants take samples and send them away to a laboratory for analysis.

YOUR PROPERTY AND ASBESTOS

If, like most of us, you have a pre-2000 property, whether a house or a large commercial building, then you should expect it to contain asbestos. It then becomes a question of how much are you going to disturb the fabric of the property. If you're simply decorating (eg painting the artex) and your property is a single house, then you should be fine. However if you're undertaking a larger project with a full ripout, renovation or conversion then others may want to see evidence of your asbestos survey.

So who might ask for evidence of your asbestos survey?

- Some contractors (eg demolition, main and drywall), insurance and warranty providers, mortgage brokers and companies, principal designer, skip and waste removal companies, site agent/engineer.
- If your works fall under the requirements of the building regulations, then your inspector will ask for information regarding asbestos prior to you starting on site and issuing your completion certificate.
- Council officers, such as Environmental Health & Housing Standards are flexing their muscles more since the devastating Grenfell fire.

HOW DO YOU HANDLE ASBESTOS?

The golden rule is to always leave any material containing asbestos where it is undisturbed 'if you can'. The second choice would be to cover it over, protect it (and again leave it undisturbed). However, if it absolutely has to be removed, it's generally thought to be fine to handle so long as you don't break or disturb the material. For small amounts of asbestos, it will need to be carefully placed in a correctly labelled 'fit for purpose' plastic bag (usually red in colour), then placed in a second labelled bag and sealed.

Asbestos usage has been so widespread throughout the UK that many local councils still offer a 'free' service, where you can either take your 'double bags' of asbestos waste to the local tip and place it in a dedicated container, or the Environmental Health Officer could arrange for collection for a fee (Note: Essex Council charge £40 to remove a 40kg bag whereas Richmond upon Thames will charge £44 for up to 200kg and you should expect to pay £50/ bag for a private contractor collection service).

CASE STUDY 1: 2-BEDROOM BUNGALOW FLIP IN CHESHIRE

Asbestos was found in four main locations, as determined by a £200 asbestos consultants' survey: 1960's kitchen floor vinyl tiles, artex on the ceilings, cement board around the old floor standing boiler and the boiler flue pipe. The cement board and flue pipe were removed and the other items were covered over.

Photo 5: Before

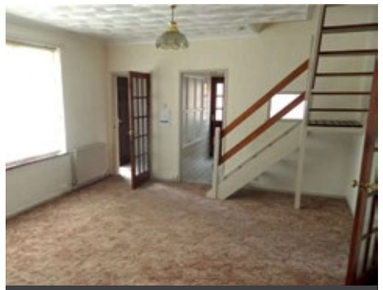

Photo 6: Existing lounge

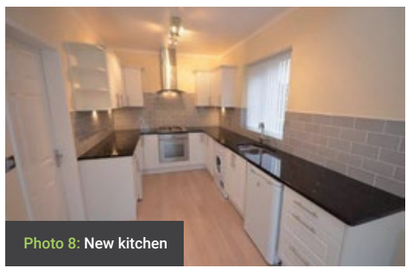

Photo 8: New kitchen

Photo 7: Asbestos waste collection

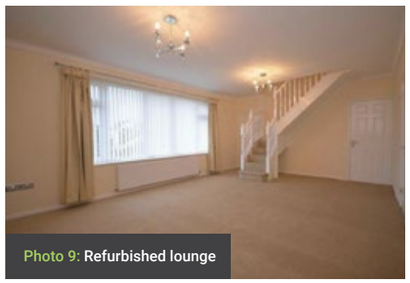

Photo 9: Refurbished lounge

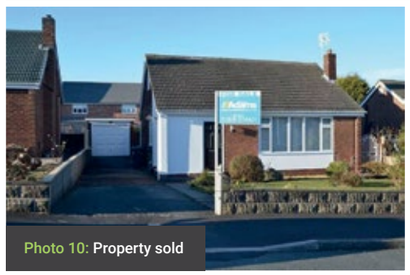

Photo 10: Property sold

Some x10 bags of approximately 25kg each (think of a bag of cement or builders sand) were double bagged on site in red & white plastic sacks & sealed. These were collected by a registered waste disposal contractor for £500.

BUT SHOULD WE JUST REMOVE IT OURSELVES?

Asbestos is categorised as both licensable and non-licensable by the 2012 'Control of Asbestos Regulations'. So some materials such as vinyl flooring and asbestos cement panels may be removed by non-HSE licence holders. However other works must be carried out in accordance with HSE requirements by a registered and licensed hazardous waste contractor.

HOW IS ASBESTOS REMOVED CORRECTLY?

Following a professional asbestos survey, a suitable contractor registered with the HSE can be appointed to remove waste to an Environment Agency licensed asbestos landfill site. Works must give 14 days' advance notice to the HSE prior to work commencing. Contractors must monitor air quality, isolate the areas with plastic sheeting, create positive air zones, airlocks and an onsite decontamination facility must be provided. These firms also have in house schemes whereby all workers are under health supervision by a doctor.

ASBESTOS SURVEYS

To identify the scale of the issue, you need an asbestos consultant, who's simplest, most basic visit starts at around £100+Vat (outside London and the South East). Once your consultant starts to compile a report and take samples for lab analysis you can expect your costs to start at around £450-£600 for a survey, laboratory analysis and detailed report on a building up to say four-six units. However, what you're really paying for here is the guidance and recommendations to remediate and sort out the problem.

Not surprisingly the attention to detail required with the survey and assessment of asbestos, then determination of the removal process and the contract to do so, is time-consuming and costly.

CASE STUDY 2: DEMOLITION OF MAGISTRATES COURT, MERSEYSIDE

This 'Stilt' design building had various access, accommodation and structural stability issues leading to closure and requiring demolition. The primary issues with asbestos were the utilisation of concrete panel board in multiple layers around the 1960's exposed steel structure to protect from fire damage.and flue pipe were removed and the other items were covered over.

Photo 11: Magistrates Court

Photo 12: Skip tipper liner

Photo 14: Typical spraying down dust & bag sealing

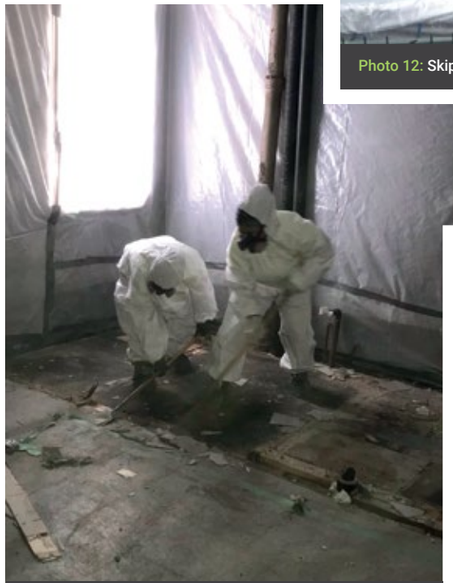

Photo 13: Typical sealed room

This had a 12-month delay while the asbestos survey was undertaken and substantial remediation works determined.

Although some minor asbestos removal work was required the bulk of the work involved larger sheets of material. In this case some 150cum of asbestos waste material, mainly 'Chrysotile' or White Asbestos impregnated sheets or boards. As a solution the contractor placed a 20 ton skip on site with a double plastic 'container bag' liner inside. Each of these skips cost £800 + Vat.

CURRENT STATUS OF THE UK ASBESTOS PROBLEM

Asbestos was known to be utilised in UK homes prior to 2000 and it's currently thought that at least 1.5m homes still contain asbestos in the UK. It is also estimated that some 80% of schools and a large percentage of higher education buildings and hospitals have a substantial asbestos problem (see the non-partisan independent think tank: ResPublica, see **www.airtightonasbestos.uk/research**).

Currently in the UK some 20 tradesmen a week die due to past exposur.

WHAT CAN I DO?

Be sensible; always wear a mask on a dusty project! If you suspect an issue exists, then call in an asbestos consultant for a survey, and if you need to spend time and money to sort out an issue then factor in the costs as we would any other aspect of work.

CONTACT

Mark is happy to chat with anyone that may need some assistance and can be contacted at: **mark@cheshlancs.co.uk**, **www.cheshlancs.co.uk**

Mark and his wife Claire have well over 20 years' experience in BTLs, HMOs, developments and conversions.
Today, Claire runs their business while Mark's chartered engineering background allows them to work on properties in poor condition.