What is asbestos?

Asbestos is a name used to describe a group of fibrous hydrated mineral silicates, which are naturally occurring minerals. Asbestos fibres are contained within the rock and depending on the type of asbestos involved they appear as a mass of strong, flexible fibres that can be separated into thin threads and actually woven.

Types of asbestos:

Chrysotile (white)

Amosite (brown)

Crocidolite (blue)

Tremolite

Anthophyllite

Actinolite

Asbestos properties:

- Good electrical insulator
- High mechanical strength
- Chemically inert
- Good thermal/fire/sound insulator

Asbestos usage:

Used because of its unique physical properties for:

- Insulation (electrical and thermal)
- Roofing and flooring
- Reinforcing to cement, mortars and other coatings

Two distinct types of asbestos:

Amphibole:	Has sharp needle like fibres. Not easily wetted with water.
Serpentine:	Has snake-like curly fibres. Easily wetted by water.

In order to accurately determine the type of asbestos it is necessary to carry out analysis on a small sample.

Major Producers of Asbestos
Canada
Russia
Brazil
China
Australia
Zimbabwe
South Africa

World production: (in 2005: tonnes)	
Russia	875 000
China	360 000
Kazakhstan	350 000
Canada	240 000
Brazil	195 000
Other	180 000
Total	**2 200 000**

World consumption (est 2003: tonnes)	
Far East	80 000
Russia and Central Asia	530 000
Middle East and Indian sub-continent	320 000
Africa	80 000
Central and South America	180 000
North America	50 000
Europe	40 000
Total	**2 080 000**

Asbestos – a brief history

The first reference to asbestos can be traced back to ancient Greece in around 300 BC when an ancient philosopher wrote about an unnamed substance resembling rotten wood that, when doused with oil, would burn without being harmed. In the first century at least three other philosophers indicated that the eternal flames in the Acropolis were created with asbestos lamp wicks.

A first century manuscript refers to *'asbestinon'* meaning 'unquenchable'. According to this manuscript asbestos was used in a number of woven products, from easy-to-clean tablecloths and napkins to shrouds for deceased royalty placed in funeral pyres (the bodies would be incinerated by the heat even though the shrouds did not burn)

Over the next 1000 years asbestos continued to attract the attention of kings and chemists from Western Europe to China. Even the Vatican laid claim to an asbestos burial gown reportedly found in an ancient Roman sarcophagus.

Over the centuries people have woven asbestos cloaks, tablecloths, theatre curtains and flame-proof suits for protection against the danger of fire. Asbestos products not only saved energy but also shielded workers from potential burns. Brake shoes and clutch facings improved safety on racing cars and school buses; efficient asbestos air filters were used in hospital ventilators, cigarette tips and military gas masks.

Resumé of asbestos use

Vestal virgins guarded the eternal flame at the shrine of Vesta, goddess of the hearth. The lamp's wick was made of asbestos.

Around the year 800 The Emperor Charlemagne is reputed to have thrown an asbestos tablecloth into the fire and pulled it out again unharmed in an attempt to impress some dinner guests.

Marco Polo visited an asbestos mine in China in the latter half of the 13th century . He concluded that asbestos was a stone, and laid to rest the myth that asbestos was the hair of a wooly lizard!

A book written in the 16th century included a lengthy description of the properties of asbestos and where it could be found in such places as Greece, India and Egypt.

Benjamin Franklin brought a purse made of asbestos to England on a trip made in 1724. The purse is now in the Natural History Museum.

Fireproof apparel and theatre curtains began to appear across Europe in the early part of the 19th century.

Asbestos – a brief history. Cont …

- 1828: The first know US patent issued for asbestos insulating material used in steam engines.
- 1834: UK patent issued for the use of asbestos in safes.
- 1853: UK patent for asbestos in lubricants to be used for bearings.
- 1859: UK patent for asbestos-lined fireboxes.
- 1865: UK patent for asbestos insulating material for electrical wires
- 1868: US patent for roofing felt made from asbestos
- 1884: UK patent for asbestos construction boards
- 1885 UK patent for asbestos membranes used to filter substances such as juices

- Telephones and various other household items were made from a blend of asbestos and plastic.

- Vehicle brake shoes were made of asbestos

- Asbestos industry regulations were passed in the UK in 1931 to address concerns that asbestos exposure particularly among textile factory workers led to lung damage.

- In 1939 the company Johns-Manville celebrated asbestos "service to humanity" with a giant Asbestos Man which took prominent position at the New York World Fair.

- In the 1939 film, 'The Wizard of Oz', the Wicked Witch of the West appeared on a broom made of asbestos!

- Wartime paraphernalia including fireproof suits and parachute flares contained asbestos

- Post-war construction projects relied heavily on the use of asbestos.

- Health concerns began to surface in the US and UK during the 1960s, after studies revealed that low levels of asbestos exposure could be more dangerous than previously thought.

- Asbestos use reached an all-time high in 1973.

- Removal of asbestos from schools, houses and public buildings started in the mid-70s.

- The solid fuel boosters of the American space shuttle are insulated with asbestos – one of the few remaining current uses.

Health hazards

The following information is reproduced with acknowledgement and thanks to the Health & Safety Executive:

Why is Asbestos a health problem?

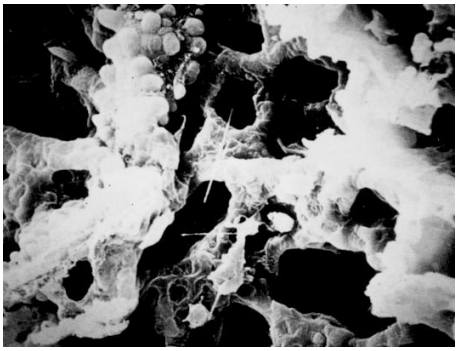
Although asbestos is a hazardous material it can only pose a risk to health if the asbestos fibres become airborne and are then inhaled. Asbestos that is bonded into finished products, such as walls, tiles and pipes, poses little risk to health as long as it is not damaged or disturbed (for example when sawing or drilling), in such a way as to release fibres into the air. Inhalation of asbestos fibres can lead to serious diseases such as lung cancer, mesothelioma (a cancer of the linings of the lungs - the pleura, or lower digestive tract - the peritoneum) and asbestosis (a chronic fibrosis of the lungs).

Many cases of these diseases occurring now are a result of exposure in industries that used asbestos extensively in the past. However, the fact that asbestos was also installed in many buildings means that a wider range of people still have the potential to be exposed - particularly building and maintenance workers. For this reason the Control of Asbestos Regulations 2006 brought together three previous sets of Regulations covering the prohibition of asbestos, the control of asbestos at work and asbestos licensing together with a 'duty to manage asbestos' for those responsible for non-domestic premises.

The human body does have a clearance mechanism to deal with all sorts of dust and fibres. Large particles are coughed up in phlegm, and small particles which do reach the air-sacs inside the lungs are removed by white blood cells (macrophages) which move about the lungs and 'swallow' dust particles. However, the problem with asbestos relates to its durability inside the human body.

If asbestos fibres are less than a certain diameter they may be small enough to penetrate the air sacs, and if they are above a certain length, they may be too long to be engulfed and swallowed by the macrophage. The risk of developing asbestos-related diseases varies with the type of industry in which the exposure occurred and with the extent of the exposure.

Although it is known that the risk to workers increases with heavier exposure and longer exposure time, investigators have found asbestos-related disease in some shipyard workers exposed to high levels of asbestos fibres for only very brief periods (as little as 1 or 2 months). Even workers who may have not worked directly with asbestos but whose jobs were near contaminated areas have developed asbestosis, mesothelioma and other cancers associated with asbestos exposure.



(Post-mortem lung slide clearly shows asbestos fibres)

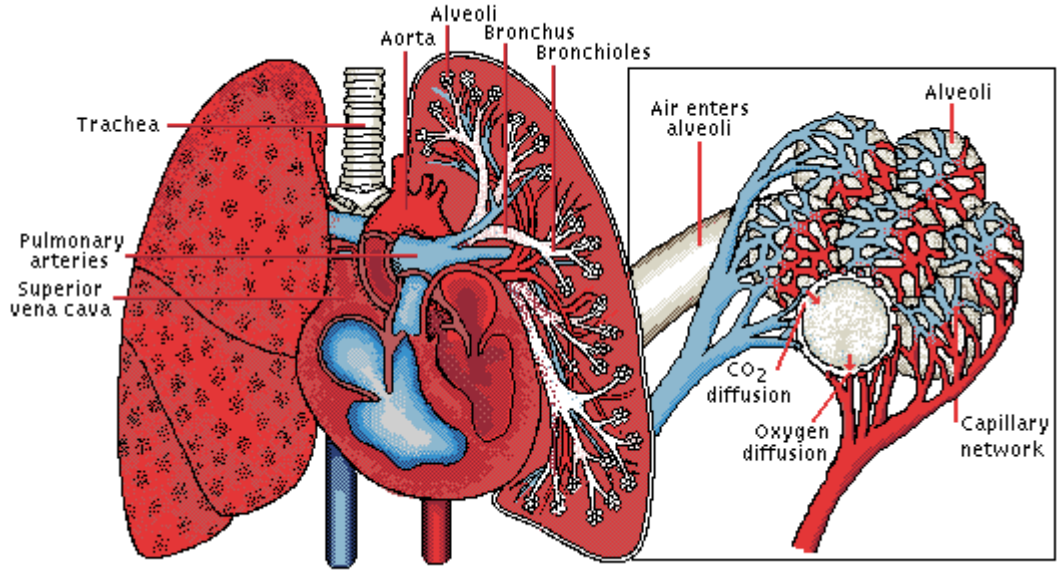
Generally, workers who develop asbestos-related disease show no signs of illness until many years after first exposure. For example, the time between first exposure to asbestos and the appearance of lung cancer is generally 15 years or more; a lag of 30 to 35 years is not unusual. The lag period for development of mesothelioma and asbestos is even greater, often as long as 40 to 45 years.

There is also some evidence that family members of workers heavily exposed to asbestos face an increased risk of developing mesothelioma and perhaps other asbestos-related diseases. This risk is thought to result from exposure to asbestos dust brought into the home on shoes, clothing, skin and hair of workers.

Macrophage on Asbestos

Macrophages normally engulf small particles in the lung. Asbestos particles however tend to rupture the macrophage on contact, releasing its contents into the surrounding lung tissue. This condition is characteristic of people suffering from asbestosis, a disease caused by inhalation of asbestos fibres.

Human lungs



Air travels to the lungs through a series of tubes and airways. The two branches of the trachea, called bronchi, subdivide within the lobes in smaller and smaller air vessels. They terminate in alveoli, tiny air sacs, surrounded by capillaries. When the alveoli inflate with inhaled air, oxygen diffuses into the blood to be pumped by the heart to the tissues of the body.

Asbestos fibres cause irritation to the alveoli resulting in thickening and scarring of these tiny air sacs, resulting in a decrease in the way oxygen can be diffused into the blood, and shortness of breath, one of the main symptoms of **asbestosis.**

Why was asbestos used so extensively if it is such a hazard?

The asbestos minerals ability to resist high temperatures is what made it so useful. Asbestos is ideal for any process involving the conservation or preservation of heat. The fibre gives protection against fire, corrosion, cold, acids, alkalis, electricity, noise, energy loss, vibration, salt water, frost, dust and vermin. For a long time the dangers of asbestos use were not widely understood. Asbestos related disease generally takes many years - often several decades - to develop after exposure. Thus, the scale of the health risks were only becoming known after asbestos had already been widely used and many people had already been exposed.

Who is currently at risk of being exposed to asbestos?

If disturbed, asbestos material may release asbestos fibres which can be inhaled into the lungs. Some kinds of asbestos fibres can remain there for a long time as they are not easily destroyed or degraded. Asbestos material that would crumble easily if handled, or that has been sawed, scraped, or sanded into a powder, is more likely to create a health hazard. Persons most likely to be currently exposed to asbestos are those working in building and maintenance trades, and to a lesser extent those involved in asbestos removal (where risks potentially exist unless rigorous precautions are taken.)

What diseases are caused by asbestos exposure?

As asbestos fibres accumulate in the lungs, several diseases may occur:

- **Mesothelioma** is a cancer of the pleural and peritoneal lining and is considered to be almost exclusively related to exposure to asbestos. It is almost always fatal with those affected usually dying within 1 or 2 years of diagnosis. Mesothelioma has a long latency period (i.e. the time between initial exposure and the onset of the disease).Typically between 30 and 40 years.
- **Lung Cancer** is a malignant tumour of the bronchi - the tubes carrying air to and from the lungs. The tumour grows through surrounding tissue, invading and often obstructing air passages. Again, the disease has a long latency period - typically at least 20 years.
- **Asbestosis** is a scarring of the lung tissue. This scarring impairs the elasticity of the lung, restricting their expansion and hampering their ability to exchange gases. This leads to inadequate oxygen intake to the blood, shortness of breath and permanent lung damage. It is a slowly progressive disease with a latency period of 15 to 30 years.
- **Diffuse pleural thickening is a non-malignant disease** in which the lining of the lung (pleura) becomes scarred. If it is extensive then it, too, can restrict expansion of the lungs and lead to breathlessness. It normally takes at least 10 years after the first exposure to develop asbestos related pleural disease. The disease is a chronic condition with no cure.
- Small areas of scarring are called **Pleural Plaques**. They do not cause symptoms.

How many mesothelioma deaths are there each year?

- The annual number of mesothelioma deaths has increased considerably over the period for which statistics are available, reaching **2249 deaths in 2008**, the latest year for which data are available, compared with 153 in 1968.
- The expected number of deaths amongst males is predicted to increase to a peak of 2038 (90% prediction interval: 1929 to 2156) in the year 2016.

How many asbestos-related lung cancer deaths are there each year?

- Lung cancer deaths caused by asbestos are clinically indistinguishable from those caused by other agents such as tobacco smoke. This means the number of cases cannot be determined by direct counting and must therefore be estimated.
- Because of improving evidence, our "best estimate" of the annual number of asbestos-related lung cancers has been revised over the years from "about two lung cancer deaths per mesothelioma each year" before the early 1990s to "one or two" and then to "around one" more recently.
- In the past our estimates have largely been based on comparisons of numbers of mesothelioma deaths in studies of groups of asbestos-exposed individuals with numbers of 'excess' lung cancers in those groups (how many more lung cancers were observed than would have been expected in the groups if there had been no asbestos exposure). Estimates produced on this basis have always been regarded as uncertain (and still are).
- Recent research estimated the ratio of asbestos-related lung cancer deaths to mesotheliomas by developing a statistical model for lung cancer mortality within the British working population in terms of asbestos exposure and smoking habit [1]. This suggests a ratio in the range 0.7 to 1 - in other words rather fewer lung cancers than mesotheliomas. However, in view of the uncertainties in the totality of the epidemiological evidence "around one asbestos-related lung cancer per mesothelioma" is still a reasonable view.
- Asbestos is a more potent cause of mesothelioma than lung cancer and smoking is thought to interact with asbestos exposure in the causation of lung cancer. Thus going forward in time the ratio of lung cancers to mesotheliomas is likely to fall, because the mesotheliomas will increasingly be generated by low exposure levels of asbestos that are less likely to cause lung cancer and because smoking levels have fallen since the 1960s (factors that, together, mean fewer lung cancers per mesothelioma).

So what does HSE now think the current annual total number of asbestos related cancer deaths is?

In 2008 (the latest year with published data) there were 2249 mesothelioma deaths. Simply adding an equivalent number of asbestos-related lung cancers brings the total to 4498, though clearly such a figure implies much more accuracy than is truly the case. For example, it is arguable that perhaps 100 mesotheliomas each year are not caused by asbestos. Furthermore, if the number of asbestos related lung cancer deaths was indeed less than the number of mesotheliomas this would imply a lower figure still - perhaps lower than 4000. On the other hand, it is likely that a relatively small number of other cancer cases - including some stomach and laryngeal cancers - each year are caused by asbestos and so including an estimate for these would tend to increase the overall number. Given these uncertainties we suggest "around 4000" is the best available simple formulation for the current annual total number of asbestos-related cancer deaths.

How many cases of non-malignant asbestos-related disease are there each year and what are the trends over time?

- There were 117 deaths in 2008 where asbestosis is described as the underlying cause of death on the death certificate.

- The annual number of new cases of asbestosis according to the Department of Work and Pensions (DWP) Industrial Injuries and Disablement Benefit (IIDB) scheme (which compensates workers for prescribed occupational diseases) has risen erratically since the early 1980s, with the trend strongly increasing since the early 1990s reaching the current level of 825 in 2009. This is likely to be an underestimate of the total number of cases.

- There were 460 new cases of disablement benefit for diffuse pleural thickening in 2009.

- The trend in diffuse pleural thickening has increased over recent years, although this may be partly or wholly explained by the acceptance of claims under the IIDB scheme for unilateral (affecting only one lung) cases and other changes in data collection methods.

Which occupations are associated with the highest mesothelioma risks?

Based on an analysis of the last recorded occupation for mesothelioma deaths during 2002 - 2005, the ten occupations found to have the highest risk of mesothelioma for males were:

- Carpenters
- Plumbers
- Electricians
- Labourers in Other Construction Trades,
- Metal Plate Workers
- Pipe Fitters
- Construction Operatives
- Managers in Construction,
- Construction Trades and Energy Plant Operatives.

The occupations most frequently recorded on deaths certificates of men dying from mesothelioma today include many that are associated with construction and building maintenance trades, highlighting the important role of past exposures to "end users" of asbestos containing materials in the building industry.

What is being done to reduce risks from asbestos?

Much has been done to control the risk from asbestos. Work with asbestos generally requires a licence and the use of strict control measures, including personal protective equipment such as respirators. The fact that a wide range of people now have the potential to be exposed to asbestos - particularly workers involved in building maintenance - has led to the latest set of Regulations - The Control of Asbestos Regulations 2006 [3]. This came into force on 13 November 2006 and brings together three previous sets of Regulations covering the prohibition of asbestos, the control of asbestos at work and asbestos licensing. The Regulations prohibit the importation, supply and use of all forms of asbestos and they continue the ban introduced for blue and brown asbestos in 1985 and for white asbestos in 1999. They also continue to ban the second-hand use of asbestos products such as asbestos cement sheets and asbestos boards and tiles; including panels which have been covered with paint or textured plaster containing asbestos.

The Asbestos Regulations also include a 'duty to manage asbestos' in non-domestic premises. Guidance on the duty to manage asbestos can be found in the Approved Code of Practice The Management of Asbestos in Non-Domestic Premises, L127, ISBN 9780 7176 6209 and from the link duty to manage[5].

My area was identified as having a high risk of mesothelioma. Does this mean that I am at higher risk of being exposed to asbestos?

High-risk areas tend to be those containing, or near to, industrial sites where asbestos was used extensively in the past - for example, shipyards, asbestos manufacturing factories and railway engineering works. This will usually mean that the area has a higher proportion of people who have worked in these industries than the average for the country, and excess mesotheliomas are likely to occur in people who have worked in them.

In some cases there may have been a general environmental risk in places close to these sites in the past. Individual risk has more to do with occupation rather than geographical location of residence. Nowadays, those working in building maintenance trades are likely to be at highest risk.

The number of mesotheliomas in my area increased more rapidly than the number for Great Britain as a whole. Does this mean my area has an asbestos problem?

This most likely means that your area had a relatively low number of mesotheliomas. The geographical distribution of mesothelioma deaths is affected by the fact that death certificates (upon which statistics are based) only record the last address of residence. Thus people may have had heavy exposures to asbestos in the past in the traditional high-risk industries located within certain geographical areas, and then moved to areas of a relatively lower risk before dying from mesothelioma. Also, the effect of the risk of more general exposures across a wider range of occupations (e.g. exposure to maintenance workers in buildings) is likely to affect all geographical areas and is thus likely to be most noticeable in those that have traditionally been of lowest risk.

My occupation was identified as high risk. Does this mean that I should be worried about developing asbestos related disease?

This doesn't necessarily mean all workers in the occupation have a high risk. What the analysis of occupational groups demonstrates is which occupations on average have a higher risk associated with working in them.

The true nature of any risk will crucially depend on the timing and amount of asbestos inhaled. In any case, since mesothelioma has a long latency and because death certificates (upon which statistics are based) only record the last occupation of the deceased, the occupation recorded may not be the one that resulted in the asbestos exposure. Consequently, part of the risk for a given occupation may be because workers exposed in other jobs have moved into this line of work towards the end of their careers.

How do the risks from exposure to different kinds of asbestos differ?

Though chrysotile (white asbestos) has been used most widely, the greater potency of amphibole (blue and brown) asbestos to cause illness is generally recognised. Hodgson and Darnton in their scientific paper (2000) estimated the risk of mesothelioma and lung cancer by asbestos fibre type for a range of different exposure scenarios. This analysis suggests that on average blue asbestos has a risk about 500 times that of white asbestos for mesothelioma and 10-50 times as high for lung cancer. The equivalent risk ratio for brown asbestos is 100 for mesothelioma and the same as blue (10-50) for lung cancer.

Is there a safe level of exposure below which there is no risk?

Mesothelioma

There is a lack of scientific consensus as to whether there exists a threshold of exposure to asbestos below which a person is at zero risk of developing mesothelioma. However, there is evidence from epidemiological studies of asbestos exposed groups that any threshold for mesothelioma must be at a very low level - and it is fairly widely agreed that if a threshold does exists then it cannot currently be quantified. For practical purposes HSE does not assume that such a threshold exists.

Asbestosis and lung cancer

The situation for lung cancer and asbestosis is uncertain. Arguments for a threshold for lung cancer are based on the notion of the carcinogenic process being an extension of the chronic inflammatory processes producing fibrosis. It is generally recognised that heavy doses of white asbestos are required to produce clinically significant lung fibrosis. However, the situation for blue and brown asbestos is more uncertain and fibrosis has been observed at much lower exposures. This also suggests that if a threshold for lung cancer does exist for blue and brown asbestos it must be at a very low level indeed.

The main cause of lung cancer is smoking. How great is the combined risk of lung cancer due to asbestos exposure and smoking?

It is widely accepted that tobacco smoke interacts with asbestos in the causation of lung cancer. This means that the risk of lung cancer for a smoker exposed to asbestos is greater than the sum of the individual effects due to smoking and due to asbestos.

Asbestos in the home

The following information addresses concerns about asbestos found in building components in housing stock. It explains where it might be found, why it could be a problem and how to deal with it:

Introduction

The following information addresses concerns and questions about asbestos found in building components in homes. It explains what it is, where it is likely to be found, why it could be a problem and how to deal with it.

Asbestos fibres are strong and resistant to heat and chemicals. This has led to their use in a wide range of building materials and products, often as fireproofing.

Properties built since the mid-1980s are unlikely to contain asbestos in the fabric of the building. Properties built after 1990 are extremely unlikely to contain asbestos in the building. Prior to the mid 1980's Asbestos cement was widely used as a cladding material and can still be found in garages, sheds and in building components of houses, normally in the form of flat or corrugated sheets.

Why is asbestos a problem?

When asbestos materials become damaged they can release fibres into the air. Asbestos is only a risk to health if asbestos fibres are released into the air and breathed in. Breathing in air containing asbestos fibres can lead to asbestos related diseases, such as cancers of the lung and chest lining.

Although it is now illegal to use asbestos in the construction or refurbishment of buildings, many thousands of tonnes of Asbestos containing materials were used in the past and much of it is still in place throughout the UK. As long as it is in good condition and is not disturbed or damaged there is no risk. But if it is disturbed or damaged, it can become a danger to health, because asbestos fibres are released into the air and people can breathe them in.

Who is at risk?

Anyone who disturbs asbestos and releases fibres can be at risk. In fact anyone whose work involves drilling, sawing or cutting into the fabric of buildings could potentially be at risk. It is now thought possible that repeated low exposures, such as those, which could occur during routine repair work, may also lead to cancers. The scientific evidence on exactly what exposures cause disease is unclear. But we do know the more asbestos fibres breathed in, the greater the risk to health.

Short-term exposures to asbestos fibres can occur during DIY work that is why it is important that asbestos containing materials are identified and that everyone who works with them should take appropriate precautions.

Where is asbestos found?

Building materials containing asbestos were widely used from 1930 to around 1980, particularly from the 1960s onwards. So, houses and flats built or refurbished during this time may contain asbestos materials.

Asbestos has also been used in some heat-resistant household products, such as oven gloves and ironing boards. The use of asbestos in these products decreased greatly around the mid-1980s and since 1993 the use of asbestos in most products has been banned.

It is not always easy to tell whether a product contains asbestos, as modern asbestos-free materials often look similar – remember it is usually older products that contain asbestos.

- Loft or cavity wall insulation does not contain asbestos.
- Most of the materials containing asbestos used in house construction are manufactured boards or sheets where the asbestos is bound in cement mix, (known as asbestos cement) these present a very low risk of fibre release if they are left alone and remain undamaged.

The types of asbestos materials that may be found in homes are described here.

Insulating Board - (asbestos content 20-45%)

Insulating board has been used for fire protection, heat and sound insulation. It is particularly common in 1960s and 1970s system-built housing and is found in materials such as ducts, infill panels, ceiling tiles, boxing to drain pipes, wall linings, bath panels and partitions. It is unlikely to be found in buildings constructed after 1982. Below are some typical uses of asbestos insulation board in domestic premises.

Asbestos soffits

Asbestos door lining

Asbestos panel behind heater and in heater

Lagging

Asbestos lagging has been used for thermal insulation of pipes and boilers. It was widely used in public buildings and system-built flats during the 1960s to early 1970s in areas such as boiler houses and heating plants.

Sprayed coating

Sprayed asbestos coatings were used for fire protection of structural steel and are commonly found in system built flats during the 1960s. The coatings were mainly applied around the core of the building such as service ducts, lift shafts, etc.

Asbestos-cement products – (content mainly 10-15%, but sometimes up to 40%)

Asbestos-cement is the most widely used asbestos material. It may be found in many types of building as profiled sheets for roofing and wall-cladding, in flat sheets and partition boards for linings to walls and ceilings, in bath panels, soffit boards, fire surrounds, flue pipes, cold water tanks and as roofing and cladding for garages and sheds and also in guttering and drain pipes. Use has declined since 1976, but asbestos-cement products are unlikely to release high levels of fibres because of the way they are made, unless they are subject to damage or extreme abrasion. Damage from weathering may also release a small amount of fibres.

Below are typical applications of asbestos cement based products:

Asbestos Cement roof sheets

House clad with asbestos cement

Cold water storage tank

Other buildings materials and products

Asbestos has been used in a variety of other building materials, for example, in decorative coatings such as textured paints and plasters. These are still widely in place but supply and application has been prohibited since 1988. Plastic floor tiles, cushion flooring, roofing felts, tapes, ropes, felts and blankets can also contain asbestos.

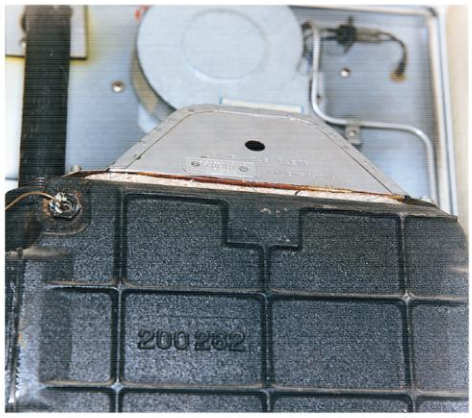
Textured Coating (e.g Artex)

WC Cistern

Floor tiles

Heating appliances and domestic equipment

Asbestos was used in some warm air heating systems, electric storage heaters (up to 1976) and in flameless catalytic gas heaters (up to 1988) and some early 'coal effect' gas fires. It has also been used in domestic equipment, such as oven gloves and ironing boards, seals on cooker doors and fire blankets. Asbestos has also been used in vehicle brake linings and pads.



Inside Gas boiler Asbestos seal

Warm air heater Asbestos paper

Asbestos fire blanket

Asbestos in buildings

The following information explains where it might be found.

Asbestos was used widely in building materials, insulation and household products between the 1900s and the mid-1970s. Peak usage occurred in the 1960s to early 70s.

Asbestos fibres derived from natural and man-made sources are found throughout the environment. Hence, everyone is exposed to a very low level of asbestos fibres every day.

Higher fibre levels may occur in buildings that contain asbestos. However the risks posed by exposures to such levels are very small indeed provided the materials are undamaged, are not disturbed, and are managed to ensure that they remain so.

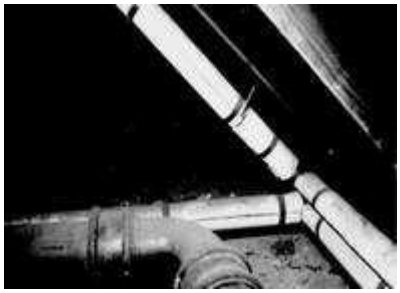
An isolated accidental exposure to asbestos fibres of short duration is extremely unlikely to result an asbestos-related disease developing.

Asbestos cement drainpipe and cladding

Asbestos paper lining

Asbestos-containing floor tiles

An office made from Asbestos Insulating Board



Asbestos pipe lagging in a loft

Sprayed asbestos on steel beam

aaa training co ltd, Unit 1 Woodview, Bull Lane, Acton, Sudbury, Suffolk CO10 0FD, United Kingdom
Tel: + 44 (0) 1787 313137 Email: enquiries@aaa-training.com Web-site www.aaa-training.com

Flexible asbestos duct connector (Gaiter)

Asbestos gasket

Asbestos ceiling tiles

Badly damaged AIB panel

Asbestos cement tiles

Asbestos cement roof

Asbestos debris on stripped pipe-work

Asbestos lagged pipe

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Types and uses of asbestos in buildings

The main uses of asbestos were:

- · reinforcing agents in asbestos cement sheeting used on walls and roofs;
- · asbestos cement building products, such as tiles, cold water tanks, pipes and gutters;
- · insulating board used as wall partitions, fire doors, ceiling tiles, etc;
- · yarns and textiles;
- · lagging
- · sprayed coatings for insulation and decorative purposes.
- · asbestos-reinforced plastics

In total about 6 million tonnes of asbestos, mainly Chrysotile, have been imported into the UK since the turn of the century. Sales of asbestos products were vigorously promoted after the Second World War, and annual asbestos imports reached a peak of around 172,500 tonnes in the 1960s and 1970s.

Application of sprayed asbestos ceased in 1974 and asbestos-reinforced insulation boards were phased out in 1980.

The importation, use and installation of Amosite and Crocidolite containing materials has been prohibited in the UK since 1986. The use of Chrysotile was banned in the UK on 24th November 1999.

How can I identify products or materials containing asbestos?

Since 1976 British manufacturers have put labels on their products to show they contain asbestos and since 1986 all products containing asbestos carry the European label. The supplier or manufacturer of a product should be able to tell you if it contains asbestos.

The local Council's Environmental Health Department may be able to help you identify asbestos products in your home. Remember, asbestos containing products can look very similar to those not containing asbestos – if in doubt SEEK specialist ADVICE.

General guidance on the does and don'ts with regard to asbestos

Asbestos materials in good condition that cannot readily be damaged are often best left where they are because removal is often unnecessary and can lead to higher levels of fibres in the air for some time. If you are planning home improvements or maintenance and have asbestos in your home, always seek specialist advice.

Asbestos materials that are slightly damaged can sometimes be repaired by sealing or enclosing the material

Asbestos materials that are badly damaged or deteriorating can release dust and should be removed. Some asbestos materials (sprayed asbestos, lagging or insulating boards – not often found in houses) must always be removed by contractors with a special licence issued by the Health and Safety Executive. (A body set up by Government). These licensed contractors have to follow regulations to ensure asbestos is safely removed. Sometimes it is dangerous to have asbestos materials removed – for instance fire-protective material – without replacing them with a suitable alternative.

REMEMBER:

DO

- Avoid disturbing or damaging asbestos materials.
- Seek advice before starting any DIY jobs that involve materials likely to contain asbestos.
- If you think that your warm air heating system, electrical storage heating system or flameless catalytic gas heater may contain asbestos then SEEK ADVICE from your local gas or electricity supplier. If they do contain asbestos do not attempt to dismantle these appliances yourself.

DO NOT

- Continue to use old oven gloves or other small items that you think may contain asbestos – dispose of them safely (see section on disposal of asbestos).
- Drill, cut, saw, or sand down materials that you may suspect contain asbestos.
- Employ contractors or DIY enthusiasts to do maintenance work on building materials containing asbestos.
- Damage building materials that may contain asbestos.
- Dispose of materials containing asbestos unless they are removed by a licensed contractor or taken to one an Approved Waste Disposal site.

How should I dispose of asbestos?

• Under the Special Waste Regulations asbestos from household premises is classified as Special Waste.

• Small amounts of asbestos waste should be wetted with water and put in a strong plastic bag – seal this tightly and clearly mark it ASBESTOS then take it to an Approved Waste Disposal site. You can make enquiries with your Local Authority to find out if there are any in your area.

• Do not break up large asbestos-cement sheets – they do not need to be sealed in bags but should be wrapped in polythene or similar sheeting and bound with parcel tape or similar and disposed of as asbestos waste at am Approved waste disposal site designated to take asbestos waste. Again, contact your Local authority for advice in this regard.

• Do not put asbestos waste in the dustbin – follow the advice given here about how to dispose of asbestos waste.

• If anyone is carrying out repairs to your home that involve the removal of materials containing asbestos they should only dispose of this waste at an Approved Disposal site.

• Where council tenants are choosing to dispose of their own shed roofing or prefabricated garage or indeed any materials containing asbestos they are advised to take them to an Approved Waste Disposal site.

Where do I dispose of asbestos containing materials?

You can take asbestos cement to Approved Waste Disposal sites and pay a disposal fee. Alternatively you can employ a licensed asbestos contractors registered with the Heath and Safety Executive, and these can be found in the Yellow Pages directory under 'asbestos, or alist of licenced asbestos removal contractors can be found on the HSE website at www.hse.gov.uk. These licensed asbestos removal firms may collect and dispose of your asbestos waste. but they will make a charge.

REMEMBER

- Avoid creating asbestos dust.
- Avoid breathing asbestos dust.
- Asbestos material in good condition should be left alone.
- If you think you may have asbestos-containing products in your house

SEEK ADVICE before you take any action