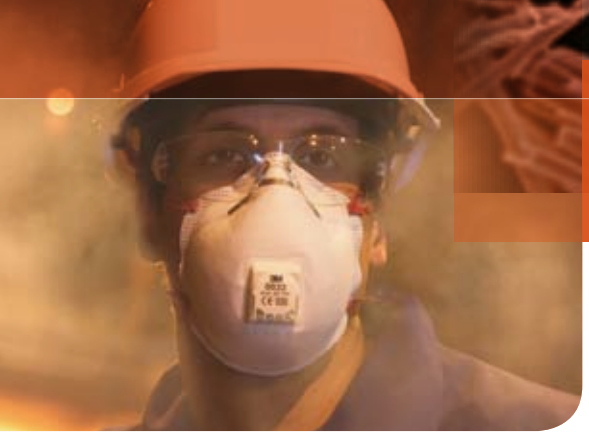

3M Technical Bulletin

Protection against asbestos fibres during non-licensed asbestos work

Introduction

Exposure to harmful asbestos fibres through the manufacture and installation of asbestos containing materials should no longer occur in the UK and large scale asbestos removal work is generally well controlled through the Health and Safety Executive's (HSE) licensing scheme.

There is a general understanding that those now most likely to be harmed by exposure to asbestos are general trades people e.g. builders, plumbers and electricians. Workers' exposure occurs mainly during repair and maintenance work of buildings.

This bulletin summarises the main health effects of exposure to asbestos fibres, identifies the typical types of non-licensed work that may lead to exposure and suggests the 3M personal protective equipment (PPE) that may be suitable for certain work. This bulletin follows the guidance in the HSE publication Asbestos essentials - A task manual for building, maintenance and allied trades on non-licensed asbestos work (HSG210).

Health Effects

Asbestos is hazardous to health when its airborne fibres are inhaled. Intact asbestos in good condition does not generally pose a hazard unless it is disturbed.

Once inhaled, fine asbestos fibres may settle in the lung and can lead to fatal respiratory disease and cancers. The main health effects are:

Asbestosis

Asbestosis is caused by long term exposure to relatively high concentrations of asbestos fibres. Scar tissue forms in the lungs and they begin to lose their ability to transfer oxygen to the blood. Asbestosis will become less prevalent as fewer workers are now exposed to the concentrations formally seen in poorly controlled removal work and the manufacture of asbestos containing materials

Mesothelioma

Mesothelioma is a cancer of the pleura, the lining of the lung. It takes several years to develop from the first exposure to asbestos fibres.

Lung Cancer

Lung cancer caused by the inhalation of asbestos fibres is similar to that caused by smoking tobacco. The risk of contracting lung cancer as a result of exposure to asbestos is far greater for workers who smoke.

There is some uncertainty around the dose of asbestos fibres required to cause mesothelioma and lung cancer. However, deaths from mesothelioma have resulted from relatively low exposure. The effects of exposure to asbestos will not be felt immediately but may be severe in later life. Approximately 4000 people die of asbestos related cancers each year. This figure is expected to rise before it starts to decline with the number of deaths expected to peak sometime before 2015.

Use of asbestos in buildings

New installation of asbestos is not permitted in the UK. However, it is found in many buildings constructed or refurbished during the twentieth century. The common names for the types of asbestos used are white, brown and blue asbestos. Usage of blue asbestos stopped in 1970 and brown stopped around 1980. White asbestos continued to be used until 1999.

White asbestos was used in asbestos cement building products. These can be found in many buildings and include corrugated or flat sheeting used for walls and roofs, downpipes, gutters and tiles.

Asbestos insulation boards contain a higher percentage of asbestos than cement sheets. They contain white or brown asbestos and were used for insulation and fire protection.

Asbestos was also used as boiler and pipe lagging and as a sprayed on coating. Work with these materials is generally only carried out by an HSE licensed contractor.

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Non-licensed work

Most work with asbestos cement products, asbestos containing fabrics and decorative textured coatings is not required to be carried out under licence from the HSE. Short duration work with asbestos insulating board can also be undertaken without a licence. Short duration is defined as one person doing the work for less than one hour, or more people doing the work for a total of less than two hours, in any seven consecutive days. The total time spent by all workers must not exceed two hours. The working time includes setting up, carrying out the work and clearing up.

The HSE publication HSG210 contains 10 equipment and method sheets and 38 task sheets giving practical guidance around non-licensed work with asbestos. The equipment and method sheets include advice on asbestos containing materials, training, enclosures, vacuum cleaners, wetting techniques, personal protective equipment (PPE), cleaning and disposal.

The task sheets feature non-licensed jobs regularly undertaken. They detail the required preparation, equipment, PPE, procedures, cleaning and disposal, personal decontamination clearance and checking off.

The PPE required is generally a Type 5 disposable coverall with a hood and boots without laces. For many tasks gloves and respiratory protective equipment are also required. Unlike licensed asbestos work where powered full face mask are generally worn, non-licensed work is typically carried out using disposable or reusable half masks with an assigned protection factor of at least 20. The tasks requiring respiratory protective equipment are tabled below.

Non-licensed tasks requiring respiratory protective equipment

HSG210 reference	Task
a1	Drilling holes in asbestos insulating board
a2	Removing a single (screwed-in) asbestos insulating board ceiling tile
a4	Removing a single asbestos insulation board panel, less than 1m², fixed with nails or screws
a5	Cleaning light fittings attached to asbestos insulating board
a6	Repairing minor damage to asbestos insulating board
a9	Drilling holes in asbestos cement and other highly bonded materials
a11	Removing asbestos cement debris
a12	Cleaning weathered asbestos cement roofing and cladding
a14	Removing asbestos cement sheets, gutters etc and dismantling a small structure
a15	Removing an asbestos cement or reinforced plastic product e.g. tank, duct or water cistern
a17	Removing asbestos paper linings
a18	Removing asbestos friction linings
a20	Laying cables in areas containing undamaged asbestos materials
a23	Removing asbestos containing floor tiles and mastic
a24	Removing flexible asbestos textile duct connectors (gaiters)
a25	Removing compressed asbestos fibre gaskets and asbestos rope seals
a26	Drilling and boring through textured coatings
a27	Inserting and removing screws through textured coatings
a28	Removing textured coating from a small area e.g. 1m²
a29	Cleaning up debris following collapse of a ceiling or wall covered with textured coating
a30	Removing an asbestos containing 'Arc shield' from electrical switchgear
a31	Removing a single asbestos containing gas or electric heater
a32	Replacing an asbestos containing part in a 'period' domestic appliance
a33	Replacing an asbestos containing fuse box or a single fuse assembly
a35	Replacing an asbestos cement flue or duct
a36	Removing an asbestos cement panel outside, beside or beneath a window
a38	How to deal with fly-tipped asbestos waste

3M™ Personal Protective Equipment for non-licensed asbestos work

Disposable Coveralls			
3M™ 4520	3M™ 4530	3M™ 4540	3M™ 4560
Type 5,6	Type 5,6	Type 5,6	Type 4, 5, 6
Lightweight breathable fabric for comfort	Breathable fabric for comfort	Laminated fabric with breathable back panel	Laminated fabric with taped seams




3M™ Respiratory Protective Equipment

Disposable Respirators		
3M™ 8833	3M™ 9332	3M™ 8835
FFP3	FFP3	FFP3D
Cup-shaped for ease of fitting. Exhalation valve for comfort.	Foldable for convenience. Exhalation valve for comfort.	Robust design with adjustable straps. Exhalation valve for comfort.



Reusable Respirators	
3M™ 6000 series half masks with 3M 6035 P3 R filters	3M™ 7500 series half masks with 3M 6035 P3 R filters
Lightweight design for ease of use. Encapsulated replaceable filters.	Soft silicone face piece for comfort. Fully maintainable for cost effective protection. Encapsulated replaceable filters.



Fit testing

Wearers of the respirators shown should be clean shaven and fit tested in accordance with the Approved Code of Practice of the Control of Asbestos Regulations.

Further help

For further information on the correct selection of 3M PPE, fit testing, other respiratory protective equipment, hearing protection and safety eyewear call the 3M Health and Safety Helpline on 0870 60 800 60 or visit www.3M.co.uk/ohes

Further reading

Asbestos essentials - A task manual for building, maintenance and allied trades on non-licensed asbestos work (HSG210)
Task sheets are freely available at
www.hse.gov.uk/asbestos

Working with materials containing asbestos - Control of Asbestos Regulations 2006, Approved Code of Practice and guidance (L143)

The management of asbestos in non-domestic premises (L127)

Asbestos - The licensed contractors' guide (HSG247)

Selection of suitable respiratory protective equipment for work with asbestos (INDG288)

Respiratory protective equipment at work - A practical guide (HSG53)

All available from HSE Books
www.hsebooks.co.uk
Tel: 01787 881165

Fit testing of respiratory protective equipment facepieces (HSE 282/28)
Available from www.hse.gov.uk/pubns/fittesting.pdf

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