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Asbestos in Soils – A Lexicon

An overview and case study

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Asbestos variety	Non-asbestos mineral analogue	Nominal composition
Serpentine group of minerals		
Chrysotile	Lizardite, Antigorite	$Mg_3(Si_2O_5)(OH)_4$
Amphibole group of minerals		
Crocidolite	Riebeckite	$Na_2Fe_3^{2+}Fe_2^{3+}(Si_8O_{22})(OH)_2$
Amosite	Grunerite	$(Fe^{2+},Mg)_7\ (Si_8O_{22})(OH)_2$
Fibrous anthophyllite	Anthophyllite	$(Mg,Fe^{2+})_7\ (Si_8O_{22})(OH)_2$
Fibrous actinolite	Actinolite	$Ca_2(Fe^{2+},Mg)_5\ (Si_8O_{22})(OH)_2$
Fibrous tremolite	Tremolite	$Ca_2Mg_5(Si_8O_{22})(OH)_2$

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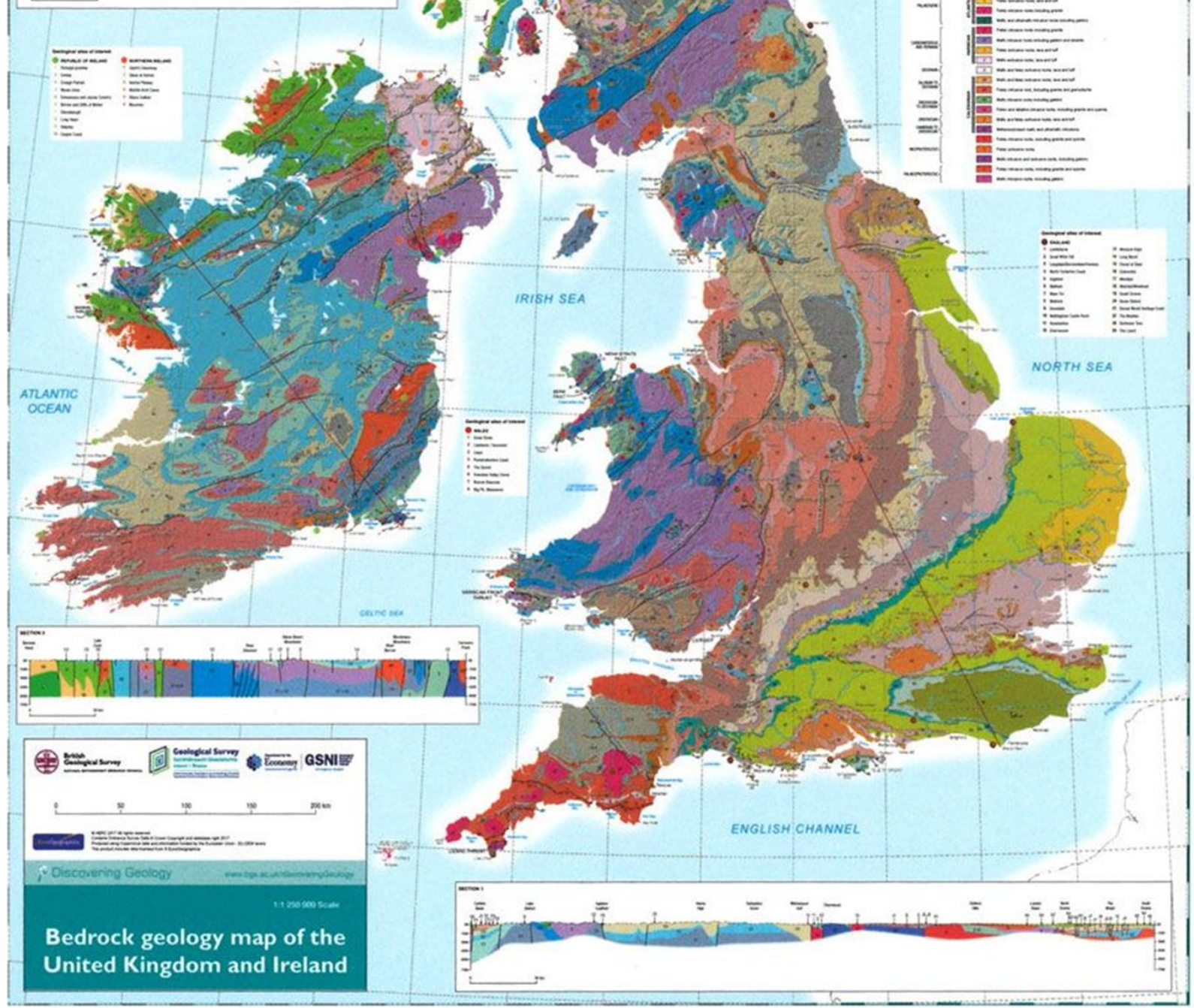
IRISH SEA
NORTH SEA
ATLANTIC OCEAN
CELTIC SEA
ENGLISH CHANNEL
Geological Survey
GSNI
Discovering Geology
1:1 250 000 Scale
Bedrock geology map of the United Kingdom and Ireland

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Health Effects

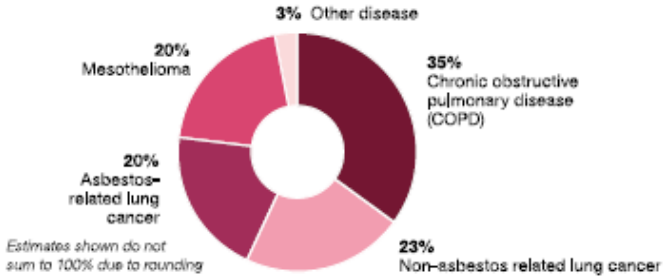
Occupational lung disease

11,000
Lung disease deaths each year estimated to be linked to past exposures at work

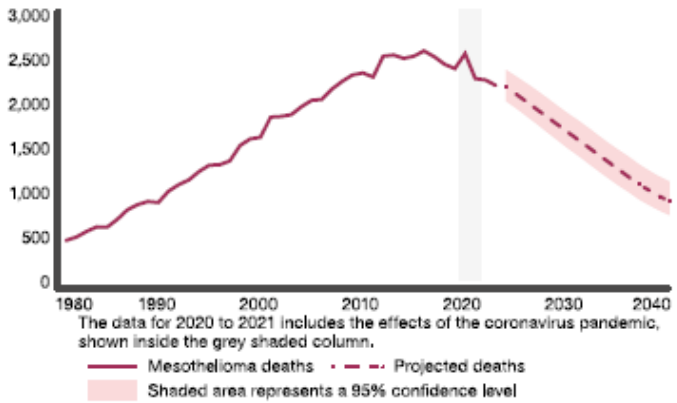
2,218
Mesothelioma deaths in 2023, with a similar number of lung cancer deaths linked to past exposures to asbestos

22,000
Estimated new cases of breathing or lung problems caused or made worse by work, averaged over the last three years according to self-reports from the Labour Force Survey

Lung diseases contributing to estimated current annual deaths



Annual mesothelioma deaths and future projections to 2040



Change over time

Annual **mesothelioma deaths** are expected to reduce over the period 2024 to 2040.

The rate of annual new cases of **occupational asthma** reported by chest physicians has been broadly constant since 2010. There is more uncertainty in recent years due to the effects of the coronavirus pandemic.

Occupational lung diseases account for around 11,000 of the 13,000 total deaths estimated to be linked to past exposures at work.

To find out the story behind the key figures, visit www.hse.gov.uk/statistics/causdis/index.htm

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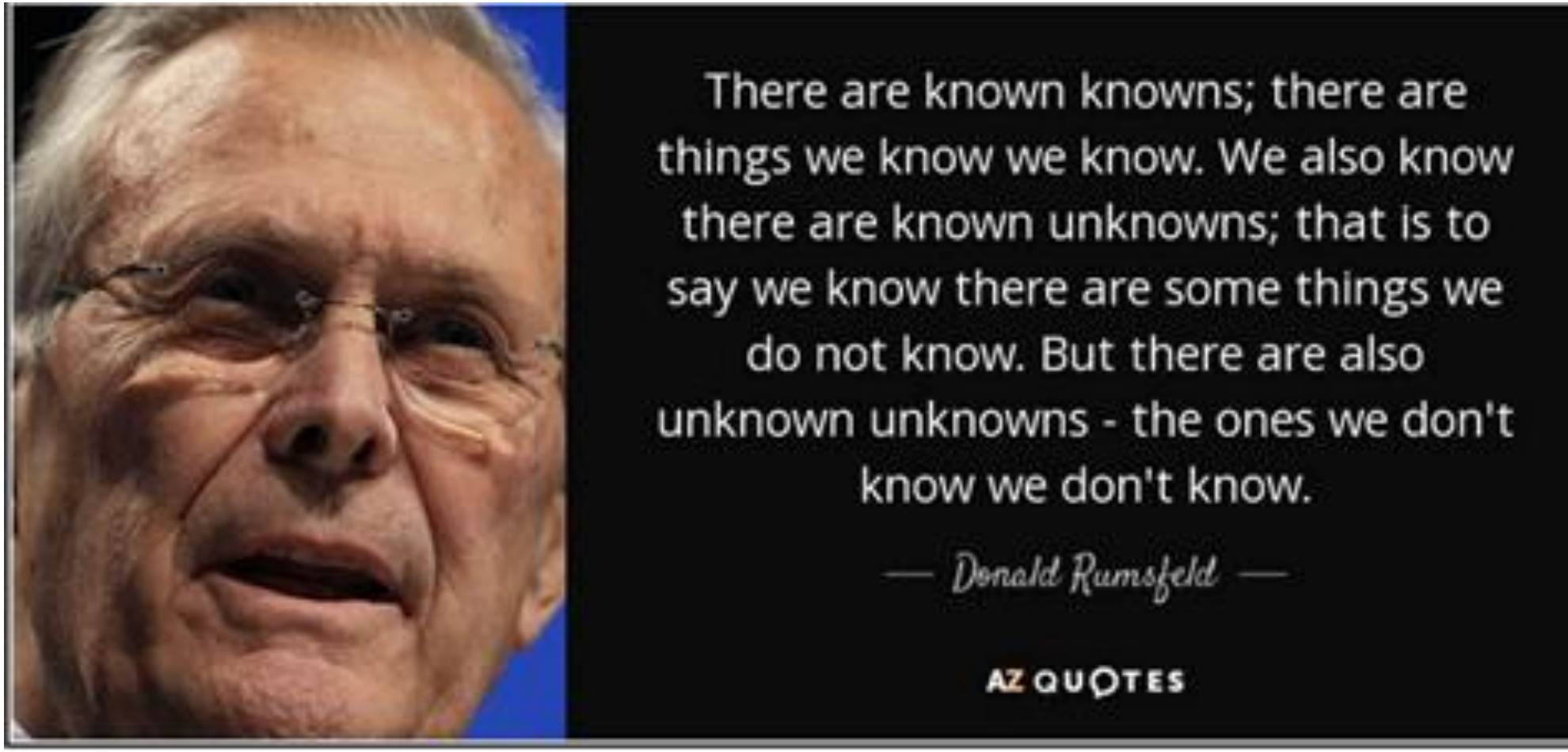
There are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns - the ones we don't know we don't know.
— Donald Rumsfeld —
AZ QUOTES

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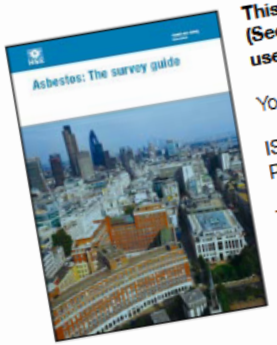
HSE

Health and Safety Executive

Asbestos: The survey guide



This is a free-to-download, web-friendly version of HSG264 (Second edition, published 2012). This version has been adapted for online use from HSE's current printed version.

You can buy the book at www.hsebooks.co.uk.

ISBN 978 0 7176 6502 0
Price £17.50

This heavily illustrated publication replaces and expands on MDHS100, *Surveying, sampling and assessment of asbestos-containing materials*. It is aimed at people carrying out asbestos surveys and people with specific responsibilities for managing asbestos in non-domestic premises under the Control of Asbestos Regulations 2012. The book covers competence and quality assurance and surveys, including: survey planning, carrying out surveys, the survey report and the dutyholder's use of the survey information. It includes extensive appendices and references.

Appendix 3: What ACMs look like and where to find them

1 This appendix gives examples of the main types, locations and uses of ACMs in premises, to help people recognise materials which may contain asbestos. This is only a small selection of the range of ACMs used, but should cover many of the main uses of asbestos in premises.

Loose asbestos insulation

2 Some fire doors contained loose asbestos insulation sandwiched between the wooden or metal facings to give them the appropriate fire rating. Loose asbestos was also packed around electrical cables, sometimes using chicken wire to contain it. Mattresses containing loose asbestos were widely manufactured for thermal insulation. Acoustic insulation has been provided between floors by the use of loose asbestos in paper bags, and in some areas near asbestos works it is not unknown for loose asbestos to have been used as a readily available form of loft insulation.

Figure 6 Loose asbestos used as loft insulation

Sprayed asbestos coatings

3 These are normally homogeneous coati
concrete or steel colu

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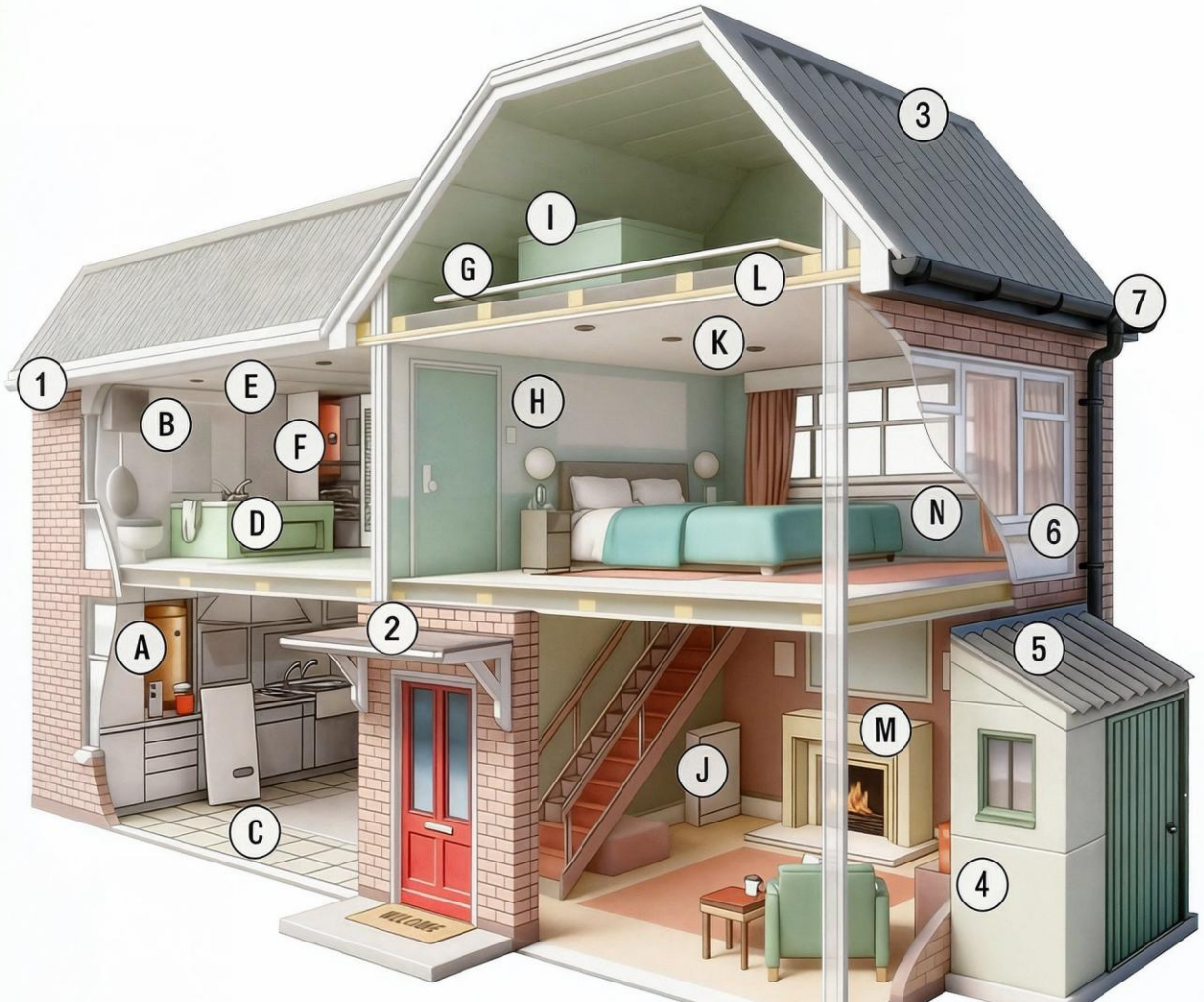
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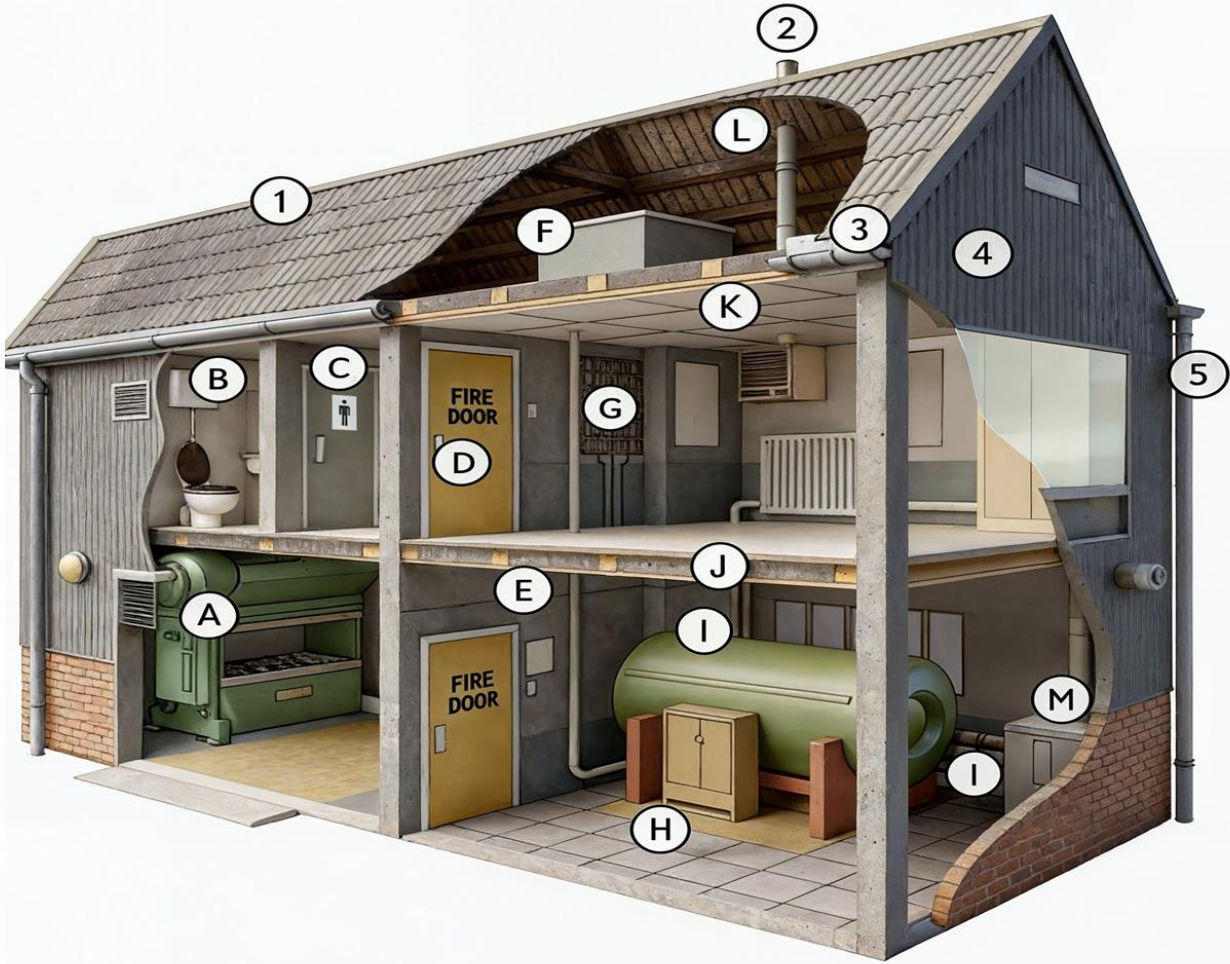
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FIRE DOOR
FIRE DOOR

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Managing and working with asbestos

Control of Asbestos Regulations 2012

Approved Code of Practice and guidance

L143 (Second edition)
Published 2013

This publication contains the Control of Asbestos Regulations 2012, the Approved Code of Practice (ACOP) and guidance text. Two ACOPs, L127 *(The management of asbestos in non-domestic premises)* and L143 *(Work with materials containing asbestos)* have been consolidated into this single revised ACOP. The presentation and language has been updated wherever possible. It provides guidance text for employers about work which disturbs, or is likely to disturb, asbestos, asbestos sampling and laboratory analysis. It also provides guidance on the specific duty to manage asbestos on the owners and/or those responsible for maintenance in non-domestic premises.

The Regulations set out your legal duties and the ACOP and guidance give practical advice on how to comply with those requirements. The Regulations give minimum standards for protecting employees from risks associated with exposure to asbestos.

The Regulations came into force on 6 April 2012, updating and replacing the previous 2006 law. They contain new requirements for certain types of non-licensable work with asbestos on notification of work; designating areas where you are working on asbestos; medical surveillance and record keeping.

PUBLICATIONS AND PRODUCTS FROM HSE

Asbestos: The Analysts' Guide

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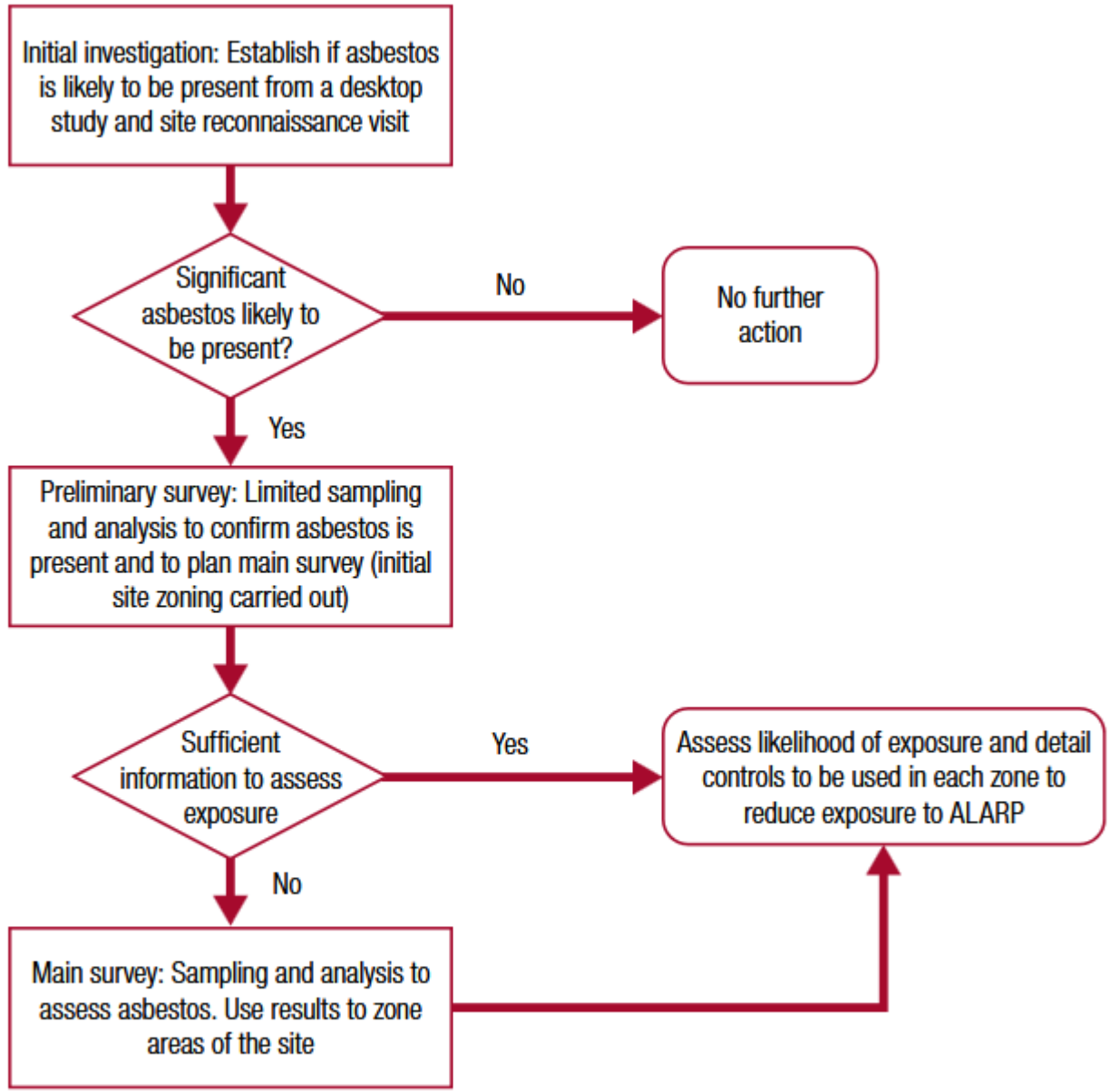

Figure 7.2 Overview of the assessment for asbestos

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Part 2A
contaminated

Department
for Environment
Food & Rural Affairs

www.defra.gov.uk

Environmental Protection Act 1990: Part 2A

Contaminated Land Statutory Guidance

April 2012

HM Government

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Risk assess!

HSE

Health and Safety Executive

Risk assessment template

Company name: **Assessment carried out by:**

Date of next review: **Date assessment was carried out:**

What are the hazards?	Who might be harmed and how?	What are you already doing to control the risks?	What further action do you need to take to control the risks?	Who needs to carry out the action?	When is the action needed by?	Done

More information on managing risk: www.hse.gov.uk/simple-health-safety/risk/

Published by the Health and Safety Executive 10/19

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Case Study - Carrington gas pipeline

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