



# Roofer

## HAZARDS AND RISKS

Roofing work is varied – covering structures with shingles, slate, asphalt and other materials; spraying roofs, sidings, and walls to bind, seal, insulate, or soundproof; demolishing or repairing asbestos cement roofs; cutting wooden battens; cleaning roofs and clearing out roof spaces. It can, therefore, involve exposure to many different harmful substances which might generate hazardous dusts, or give off toxic fumes and vapours. The biggest respiratory health risks come from asbestos and silica.

### Asbestos

Roofers may come into contact with or disturb a number asbestos containing materials (ACMs) during maintenance work. Asbestos is classified as a category 1 carcinogen. Inhalation of asbestos fibres can cause mesothelioma, asbestos-related lung cancer, asbestosis, and pleural thickening - all fatal or serious and incurable diseases that take many years to manifest.

### Silica

Silica occurs in many types of stone and in concrete, including roof tiles and slate. In dust form it will be released during cutting or grinding, and when sweeping/cleaning work areas. Inhaling fine silica dust (respirable crystalline silica or RCS) can lead to serious lung diseases, including fibrosis, silicosis, chronic obstructive pulmonary disease (COPD) and lung cancer. It is estimated in Australia that over 230 workers die every year from exposure to silica dust.

### Bitumen & asphalt

Bitumen (often referred to as asphalt) is commonly used as an adhesive to bond membranes onto the deck or insulation board. Hot bitumen work can cause throat irritation from inhaling vapours.

### Glues and solvents

There are a variety of roofing products that use or contain glues and solvents which, when breathed in as vapour, can irritate the lungs. Exposure can also affect co-ordination and so increase the likelihood of accidents. Very high exposures can cause unconsciousness and even death, for instance where adhesives are used in unventilated confined spaces.

### Wood dust

Breathing in wood dust can cause asthma, a serious, debilitating, life-limiting condition, as well as irritation, allergic rhinitis and, rarely, nasal cancer, as well as impaired lung function.

### Biological hazards

Breathing in dust from dried bird droppings, often found in roof spaces, can cause psittacosis which in turn can lead to severe pneumonia.

## CONTROL OPTIONS

### Elimination/prevention

- Information on the presence of asbestos should come from the premises' asbestos management plan and asbestos register. F
- Eliminate file cutting by using ½ or 1½ size tiles.

### Safe working methods

- Choose methods that avoid or limit cutting, grinding, drilling, chiselling or abrasion of silica/ wood materials wherever practicable.
- Set up a cutting area on surrounding scaffolding not on the roof itself; where practical apply this also to valleys.
- Eliminate or minimise dust creation through wet working: damp down the work area beforehand, use water suppression for repair/demolition tasks, and damp down during debris removal and cleaning. Where tile resizing is needed, use water to stop the release of dust into the air (eg. modern cut-off saws have an attachment for a water hose).
- Avoid high pressure spraying for dust and debris removal, as this can release dust into the air and make contaminated slurry difficult to contain.
- Apply glues and solvents by brush, rather than spraying.
- Use covered chutes and skips and, where needed, screen off areas to prevent dust spreading.
- Safely and regularly dispose of asbestos waste from site.

### PPE

#### For non-licensed asbestos work

- Risk assess the tasks and refer to Australian Standard AS/NZ 1715 for RPE guidance.
- Disposable overalls are necessary. Waterproof overalls may be needed for outdoor work. Dispose of used overalls as asbestos waste.
- Single-use disposable gloves should be worn.
- Boots are preferable to disposable overshoes; never use laced boots as these are very difficult to clean properly.
- Use respiratory protective equipment (RPE) such as disposable RPE (eg P2), half mask RPE with P2 filter or semi-disposable RPE with P2 filter are suitable.

#### For silica

- Use either a P2 disposable dust mask or a half mask with P2 filters. Wearers must be face fit tested.

#### All roofing work

- RPE may also be appropriate in poorly ventilated areas such as roof spaces.

## MANAGING THE RISK

### Training & communication, supervision, maintenance & testing of controls and air

**monitoring\*** are all vital aspects of managing the risk, in addition to health surveillance which can be a requirement in certain circumstances.

See our introductory [Respiratory Health Hazards in Construction Fact Sheet Series: Overview](#) for more information about what things to consider and implement.

### Air monitoring\*

Air monitoring is a specialist activity. It may be needed as part of a risk assessment, as a periodic check on control effectiveness and to assess compliance with relevant WES, or where there has been a failure in a control (for example if a worker reports respiratory symptoms). A qualified Occupational Hygienist can ensure it is carried out in a way that provides meaningful and helpful results.

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## WORKPLACE EXPOSURE STANDARDS (WES) & EXPOSURE LEVELS

Agent or substance	Control/Exposure Limit	Exposure Levels
Asbestos (all types)	0.1 fibres/ml (8 hr TWA)	The aim should be to avoid any exposure.
Silica - RCS	0.05 mg/m <sup>3</sup> (8 hr TWA).	Different materials contain different amounts of silica, so concrete tiles can comprise between 25-75%, and slate 30%. Even short periods of roof tile cutting can create high levels of silica dust.
Wood dust - Soft Woods	5 mg/m <sup>3</sup> (8 hr TWA)	
Wood dust - Certain Hard Woods	1 mg/m <sup>3</sup> (8 hr TWA)	

### Further information

- Silica dust: [www.hse.gov.uk/construction/healthrisks/cancer-and-construction/silica-dust.htm](http://www.hse.gov.uk/construction/healthrisks/cancer-and-construction/silica-dust.htm)