



Controlling Exposures to prevent occupational lung disease in the construction industry



Floor/Wall Tiler

HAZARDS AND RISKS

The biggest risks to a tiler's respiratory health are likely to be from hazardous dusts generated by tasks such as cutting and grinding wall and floor tiles, mixing granite, terrazzo, synthetic resin or other composition mixtures, and cleaning floor surfaces.

Construction dust

Construction dust is a general term and includes dust from soil and building materials. Breathing in any dust can (over time) cause serious lung disease such as chronic obstructive pulmonary disease (COPD) which includes chronic bronchitis and emphysema. There are also dusts, such as silica dust or wood dust, that can cause specific serious lung diseases.

Silica Dust/  
Respirable crystalline silica (RCS)

Silica is present in large amounts in most rocks, sand and clay, and in products such as granite and concrete. Some silica dust is fine enough to be breathed deeply into the lungs; this is called respirable crystalline silica (RCS). Exposure to RCS over many years, or in extremely high doses, can lead to serious lung diseases, including fibrosis, silicosis, COPD and lung cancer. These diseases cause permanent disability and early death: it is estimated that over 230 workers die every year from lung cancer caused by exposure to RCS.

Asbestos

Tilers may come into contact with, or disturb, 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 which take many years to manifest.

CONTROL OPTIONS

Elimination/prevention

- Eliminate tile cutting by using pre-cut tiles delivered to site wherever possible.

Safe working methods

- Choose work methods that avoid or limit cutting, grinding, drilling, chiselling or abrasion of silica containing materials wherever practicable.
- Eliminate or minimise dust creation through wet working, eg; use water suppression for cutting or drilling stone and concrete products, damp down the work area beforehand and damp down dust during cleaning. Where tile resizing is needed, use water to stop the release of dust into the air (note: modern cut-off saws should have an attachment for a water hose).
- Keep workers away from dust sources unless they are directly involved in the task.
- Ensure good general ventilation wherever possible.

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.



# Floor/Wall Tiler

## WORKPLACE EXPOSURE STANDARDS (WES) & EXPOSURE LEVELS

Agent or substance	Control/Exposure Limit	Exposure Levels
Silica - RCS	0.05 mg/m <sup>3</sup> (8 hr TWA).	Exposure is dependent on the silica content of the material being worked, which varies – with sandstone (70-90%) and concrete (anything from 25-75%) typically containing the most, granite, slate and brick at around 30%, and limestone and marble (2%) the least. Grinding and cutting without water suppression is likely to produce the highest levels of stone dust, and risk of exposure to RCS is also affected by the frequency and duration of the work.
Asbestos (all types)	0.1 fibres/ml (8hr TWA)	

### Further information

- COSHH Essentials guidance sheet on how to control exposure to hazards in construction: [www.hse.gov.uk/pubns/guidance/cnseries.htm](http://www.hse.gov.uk/pubns/guidance/cnseries.htm)
- 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)
- Construction dust leaflet: [www.hse.gov.uk/pubns/cis36.pdf](http://www.hse.gov.uk/pubns/cis36.pdf)