



Glazier/Glass Fitter

HAZARDS AND RISKS

The biggest risk to a glazier's respiratory health is likely to be from asbestos. A glass fitter may frequently work with domestic soffits and rainwater goods which contain asbestos cement. Other hazardous dusts on a construction site arise from the various grinding, drilling, cutting, chiselling, painting, spraying and other activities. [Note that lead in old paint may be a health risk when removed by heating or sanding – lead poisoning can be serious but is not a respiratory hazard].

Construction dust

Construction dust is a general term for dusts typically found on a construction site. Breathing in any dust over time can cause serious lung diseases such as chronic obstructive pulmonary disease (COPD), which includes conditions such as chronic bronchitis and emphysema. There are also dusts, such as silica dust or wood dust, that can cause specific 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 bricks, concrete and mortar. 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: over 500 construction workers die every year from exposure to silica dust.

Wood dust

Dust from softwood and hardwood, and wood-based products such as MDF and chipboard can cause asthma, which is a serious, debilitating, and sometimes life-limiting condition. The finest dust, for example from sanding or disturbance of settled dust, is most likely to damage the lungs if breathed in. Some types of wood dust are also known to cause cancer. Wood dust exposure may also cause dermatitis. The dermatitis risk is high for softwoods.

Asbestos

Glass fitters may come into contact with, or disturb, asbestos containing materials (ACMs) during maintenance work, particularly if the premises were built before 2000, when asbestos cement sheets and asbestos insulating boards were commonly used around windows in soffits and facias. Asbestos is classified as a category 1 carcinogen and causes over 5000 work-related deaths each year in the UK. 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

- Asbestos: The aim is to avoid exposure completely. Information on the presence of asbestos should come from the premises' asbestos management plan and asbestos register. For information on non-licensed work tasks involving asbestos and how to safely carry them out, refer to HSE's HSG210: Asbestos Essentials: www.hse.gov.uk/asbestos/essentials/index.htm [NNLW (Notifiable Non-Licensed Work) requires, in addition, for employers to notify the relevant enforcing authority (usually the HSE), designate areas where the work is being done, ensure medical examinations take place, and maintain health records.]

Safe working methods

- Use water suppression for wood and stone cutting and drilling.
- Keep workers away from dust sources unless 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 COSHH assessment, as a periodic check on control effectiveness and to assess compliance with relevant WELs, 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.

The decision to undertake exposure monitoring should be made in accordance with HSE's monitoring strategies outlined in HSG173. In some situation, qualitative or semi-quantitative methods may be suitable. See also COSHH regulation 10 ACOP which details when exposure monitoring is necessary or unnecessary.

Also, see HSE leaflet G409, Exposure measurement: Air sampling. www.hse.gov.uk/pubns/guidance/g409.pdf



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WORKPLACE EXPOSURE LIMITS (WELs) & EXPOSURE LEVELS

Agent or substance	Control/Exposure Limit	Exposure Levels
Asbestos (all types)*	0.1 fibres/ml (4 hr TWA) 0.6 fibres/ml (10 min TWA)	The aim should be to avoid any exposure. Some non-licensed work and Notifiable Non-Licensed Work (NNLW) with asbestos may be done by trained personnel. However, there is a very high risk from some roofing materials, in particular insulation board and sprayed asbestos coatings; work on these materials as well as any at exposures above the control and short-term exposure limits, must be carried out by an HSE licensed contractor, for which there is a separate BOHS respiratory health hazards fact sheet, the ' Licensed Asbestos Removal Worker fact sheet '.
Construction Dust		These levels are not workplace exposure limit but the level at which the dust becomes defined as a 'hazardous substance' and so it subject to the COSHH regulations. This does not apply to substances listed in Table 3.2 of part 3 of Annex VI of the CLP Regulation, substances specified with an indication of danger e.g. very toxic, toxic, harmful, corrosive or irritant, or substances for which the HSE has an approved WEL.
Silica - RCS	0.1 mg/m ³ (8 hr TWA).	Dry work with high silica-content materials – such as sandstone - causes the highest risks. All Party Parliamentary Group for Respiratory Health (which is an informal, cross-party group formed by MPs and Members of the House of Lords) published a report named "Silica- the next asbestos". This recommends that the WEL for RCS is reduced to 0.05 mg.m-3 as this would be in line with the recommended exposure standard from the Scientific Committee on Occupational Exposure Limits proposed in 2003.
Hardwood Dust	3 mg/m ³ (8 hour TWA)	Capable of causing cancer. Capable of causing occupational asthma. If hardwood dusts are mixed with other wood dusts, the WEL shall apply to all the wood dusts present in that mixture. All dust exposure levels are affected by the frequency and duration of the work and are likely to be higher in poorly ventilated spaces. Dry working without extraction controls is likely to produce the highest levels of dust.
Softwood Dust	5 mg/m ³ (8 hour TWA)	Capable of causing occupational asthma. If softwood dusts are mixed with hardwood dusts, the WEL for hardwood dusts shall apply to all the wood dusts present in that mixture. All dust exposure levels are affected by the frequency and duration of the work and are likely to be higher in poorly ventilated spaces. Dry working without extraction controls is likely to produce the highest levels of dust.

Further information

- Asbestos essentials: A task manual for building, maintenance and allied trades on how to safely carry out non-licensed work: www.hse.gov.uk/asbestos/essentials/index.htm
- COSHH Essentials guidance sheet on how to control exposure to hazards in construction: www.hse.gov.uk/pubns/guidance/cnseries.htm
- COSHH Essentials: Health surveillance for those exposed to respirable crystalline silica (RCS): www.hse.gov.uk/pubns/guidance/g404.pdf
- Construction dust leaflet: www.hse.gov.uk/pubns/cis36.pdf
- Wood dust: www.hse.gov.uk/woodworking/wooddust.htm
- Woodworking: <https://www.hse.gov.uk/coshh/essentials/direct-advice/woodworking.htm>