

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].

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 with the WHO/ILO* estimating that approximately 30 people die annually in Ireland from occupational exposure to respirable crystalline silica (RCS).

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 can be linked to over 50 reported cases of mesothelioma in Ireland each year. The WHO/ILO* estimate that approximately 400 people die annually in Ireland from occupational exposure to asbestos.

CONTROL OPTIONS

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.

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. Prior to the commencement of any construction work to a premises an asbestos survey should be completed by a competent asbestos surveyor. Strict regulations are in place governing work activities that are like to expose workers to dust from asbestos or ACMs. For information on work tasks involving asbestos refer to the HSA's [Asbestos-containing Materials \(ACMs\) in Workplaces. Practical Guidelines on ACM Management and Abatement](#).

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.
- Follow asbestos guidelines if worker comes into contact with asbestos or asbestos containing materials.

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.

Air monitoring*

Air monitoring is a specialist activity. It may be required as a result of a Chemical Agents risk assessment, as a periodic check on control effectiveness and to assess compliance with relevant occupation exposure limit values (OELVs), 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.

Refer to the current **Code of Practice** for the relevant Occupational Exposure Limit Values.

*The WHO Is the World Health Organization and ILO Is the International Labour Organization. They are both United Nations agencies.

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Agent or substance	Control/Exposure Limit	Exposure Levels
Asbestos (all types)	0.1 fibres/ml (8 hr Reference period)	The aim is to avoid any exposure. There is a high risk of exposure from particular ACMs including sprayed asbestos coatings and asbestos insulation, which may be disturbed by workers when fitting glass in buildings built prior to 2000. An asbestos survey must be completed by a qualified independent asbestos consultant prior to the commencement of construction work. Asbestos removal works must be completed by a qualified asbestos removal contractor.
Construction Dust	Total Inhalable: 10mg/m ³ (8 hr Ref. period) Respirable: 4mg/m ³ (8 hr Ref. period)	These levels are advisory occupational limits only and the level which the dust becomes defined as a 'hazardous substance' and is then subject to the Safety, Health and Welfare at Work (Chemical Agents) Regulation - 2001.
Silica - RCS	RCS: 0.1 mg/m ³ (8-hour Ref. period)	Different types of stone contain different amounts of silica, with sandstone (70-90% silica) and concrete (anything from 25-75% silica) typically containing the most, granite, slate and brick at around 30% and limestone and marble 2% silica. Dry work with high silica-content materials – such as sandstone - causes the highest risks. 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 control is likely to produce the highest levels of dust. Health risks to Glaziers are likely to be significant only if exposures are frequent and prolonged.
Hardwood Dust	2 mg/m ³ (8 hour Ref. period)	Capable of causing cancer. Capable of causing occupational asthma. If hardwood dusts are mixed with other wood dusts, the OELV 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 Ref. period)	Capable of causing occupational asthma. If softwood dusts are mixed with hardwood dusts, the OELV 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 Containing Materials (ACMs) in Workplaces – Practical Guidelines on ACM Management and Abatement. Health and Safety Authority.
- Current Code of Practice for Safety, Health and Welfare at Work (Chemical Agents) Regulations, 2001-2021 and Safety, Health and Welfare at Work (Carcinogens, Mutagens & Reprotoxic Substances) Regulations, 2024.
- Guidelines on Occupational Asthma, Health and Safety Authority.
- Guidelines on Occupational Dermatitis, Health and Safety Authority.