

Construction Dust



Construction dust is not just a nuisance – regular and long-term exposure can cause life-changing lung diseases, such as lung cancer, silicosis, chronic obstructive pulmonary disease (COPD) and asthma, often resulting in permanent disability and, in some situations, the consequences may be fatal.

There are three main types of construction dust:

- silica dust (also known as respirable crystalline silica or RCS) – created when working on silica-containing materials such as concrete, mortar and sandstone;
- wood dust – created when working on softwood, hardwood and wood-based products like MDF and plywood; and
- lower toxicity dusts created when working on materials containing very little or no silica. For example, gypsum (in plasterboard, for instance), limestone, marble and dolomite.

Workers on construction sites have a high risk of developing lung diseases because many common construction tasks can create high dust levels. Such activities include cutting paving blocks and kerbs, chasing concrete and raking mortar, cutting roofing tiles, grinding, soft strip demolition, dry sweeping, cutting and sanding wood and sanding plasterboard joints.

Key actions to assess and control the risks associated with construction dust

- Assess the risks linked to the work and materials, recognising that high dust levels can arise from one or more of the following:
 - Task – the more energy the work involves, the bigger the risk. High-energy tools like cut-off saws, grinders and grit blasters produce a lot of dust in a very short time.
 - Work area – the more enclosed a space, the more the dust will build up. However, do not assume that dust levels will be low when working outside with high-energy tools.
 - Time – the longer the work takes the more dust there will be; and
 - Frequency – regularly doing the same work day after day increases the risks.

- Control the risks by looking at ways of stopping or reducing the amount of dust you might make before work starts. Consider using different materials, less powerful tools or other work methods.

For example could you use:

- pre-cut building materials, so less cutting or preparation is needed;
 - silica-free abrasives, to reduce the risks when blasting;
 - a less powerful tool – e.g. a block splitter instead of a cut-off saw;
 - a different method of work altogether – e.g. a direct fastening system.
- Prevent the dust getting into the air using water suppression and / or on-tool extraction for example.
 - Water damps down dust clouds. It's important to ensure that enough water is supplied at the right levels for the period that the work is being done. Just wetting the material beforehand does not work.
 - With on-tool extraction, dust is removed as it is being produced. This is a type of local exhaust ventilation (LEV) system that fits directly onto the tool and consists of a capturing hood, extraction unit and tubing / ducting and an appropriately fitted filter. A general commercial vacuum is not suitable.
 - Provide respiratory protective equipment (RPE) as the last line of protection. Water or on-tool extraction may not always be appropriate or might not reduce exposure enough, so respiratory protection often has to be provided as well. You will need to make sure that the RPE is:
 - adequate for the amount and type of dust and has an appropriate assigned protection factor (APF). The general level for construction dust is an APF of 20;
 - suitable for the work;
 - compatible with other items of protective equipment;
 - an appropriate fit for the user. Fit testing is needed for tight-fitting face pieces;
 - worn correctly - anyone using tight-fitting face pieces also needs to be clean shaven.
 - Put in place other control measures to prevent construction dust spreading beyond the immediate area in which it's being produced. For instance, you should:
 - Limit the number of people near to work that generates dusts.
 - Consider getting workers on tasks that expose them to dust to rotate with others.
 - Enclose the work area to stop dust escaping into neighbouring areas.
 - Get general mechanical ventilation installed to remove dusty air from the work area.
 - Select work clothing that doesn't keep hold of the dust and make sure workers change and wash before entering areas where people eat and drink and when exiting the site.
 - Make sure workers receive training covering dust risks so that they know how dust can harm their health, how to correctly use dust controls, maintain and clean equipment, including RPE and other personal protective equipment (PPE), and what to do if something goes wrong.
 - Review the controls – It's no good having the right controls in place, if they aren't working properly, so establish and implement procedures and systems, such as supervision of workers, to ensure that work is done in the right way.

- Involve workers in assessments and reviews, allowing them to contribute to identification of problems and solutions.
- Get equipment, including any on-tool extraction systems thoroughly examined and tested at appropriate intervals (at least every 14 months).
- Put arrangements in place for cleaning, storage and maintenance of non-disposable RPE, changing RPE filters in accordance with manufacturer and/or supplier guidance.
 - Disposable masks must be replaced in line with the manufacturer's recommendations.
- Establish a health surveillance programme that includes dust exposure monitoring, sourcing advice from an occupational health professional as appropriate.