BREATHE FREELY IRELAND

Controlling exposures to prevent occupational lung disease in
CONSTRUCTION

Form Worker

HAZARDS AND RISKS

Site carpentry and form working typically involves cutting timber using power saws, hand saws and woodworking machines, all of which generate wood dust which can be hazardous to health when breathed in. Wood dust and other general dust can also be created by tasks such as digging of post holes to set supporting structures, and also cleaning activities.

Wood dust

Wood can be in many forms such as softwood and hardwood, and wood-based products such as MDF and chipboard. Inhaling wood dust can have many adverse effects on the respiratory tract and lungs. "Respirable" dust is the finest dust, that penetrates to the gas exchange region of the lung and is most likely to cause damage. Of particular concern, therefore, is breathing in fine airborne dust eg; arising from sanding or disturbance of settled wood dust. This may cause asthma, which is a serious, debilitating, and sometimes life-limiting condition. Exposure to any type of wood dust can also cause irritation, allergic rhinitis (runny nose) and, very rarely, nasal cancer, as well as impaired lung function. Wood dust exposure may also cause dermatitis. The dermatitis risk is high for softwoods.

General dust

Inhaling general dust particles can cause chronic obstructive pulmonary disease (COPD) and cause or exacerbate respiratory irritation and breathing problems.

CONTROL OPTIONS

Elimination/prevention

- Use pre-cut materials wherever possible.

Engineering controls

- Use on-tool dust extraction (LEV) for hand held tools.
- Install appropriate LEV on bench or semi permanent machines; stand-alone dust collectors can be considered for occasional use.
- Use H or M class ATEX-approved vacuum cleaner (HEPA filter) with antistatic hoses when not wet cleaning.

Safe working methods

- Ensure good general ventilation to the work area; work outdoors if feasible.
- Set up dedicated work areas with restricted access to other workers.
- Clean up regularly using vacuums or wet cleaning; avoid dry sweeping or use of compressed air to remove dust from clothing.
- Minimise dust release eg. through damping down of ground areas and post holes when digging.

PPE

- If local dust extraction cannot be used with power saws or machines, or if hand sawing is carried out in enclosed or poorly ventilated areas, respiratory protective equipment (RPE) is required. As a minimum, a FFP3 disposable mask (APF20) should be used if the task is undertaken for periods over one hour.

Preferred control methods

- Use pre-cut materials.
- Carry out hand sawing outdoors.
- Provide on-tool extraction and LEV for machinery, in dedicated work areas.

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 needed as part of a Chemical Agents risk assessment, as a periodic check on control effectiveness and to assess compliance with relevant Occupational 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 up to date information on OELVs.

See reverse for Occupational Exposure Limit Values (OELVs)

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OCCUPATIONAL EXPOSURE LIMIT VALUES (OELVs) & EXPOSURE LEVELS

Agent or substance	Control/Exposure Limit	Exposure Levels/Comments
Hardwood Dust	2 mg/m^3 (8-hour Reference 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

Current Code of Practice, 2021 for the Safety, Health & Welfare (Chemical Agents) Regulations, 2001 and Safety, Health & Welfare (Carcinogens, Mutagens & Reprotoxic Substances) Regulations, 2024.

HSA Guide to Respiratory Protective Equipment

On video: How to improve dust control at circular saw benches: *www.youtube.com/watch?v=_4kyohTbNTQ&feature=youtu.be*