



Control approach 2

Overhead and CNC routers

WD05

Engineering control



This guidance sheet is for employers to help them comply with the requirements of

the Control of Substances Hazardous to Health Regulations 2002 (COSHH) by controlling exposure to chemicals and protecting workers' health.

The sheet is part of HSE guidance *COSHH essentials: easy steps to control chemicals*. It describes the key points you need to follow to help reduce exposure to an adequate level. It is important to follow all the points, or use equally effective measures.

Wood dust can cause serious respiratory diseases including asthma, and dermatitis. Wood dust includes dust from hardwood, softwood, and composite boards such as MDF.

Exposure to substances which cause occupational asthma should be prevented, or if that is not reasonably practicable, control exposure to prevent workers from developing asthma. This applies to short-term high as well as long-term exposures. If an individual develops occupational asthma, exposure must be controlled to prevent triggering further attacks. Suitable levels are likely to be well below any exposure limit.

Control approach 2 (engineering control) is recommended to control dust from shaping machines (routers, moulders etc).

You need also to control exposure to noise.

The dust is combustible - build-up on ledges etc can result in dust explosions. Extraction helps to reduce this risk.

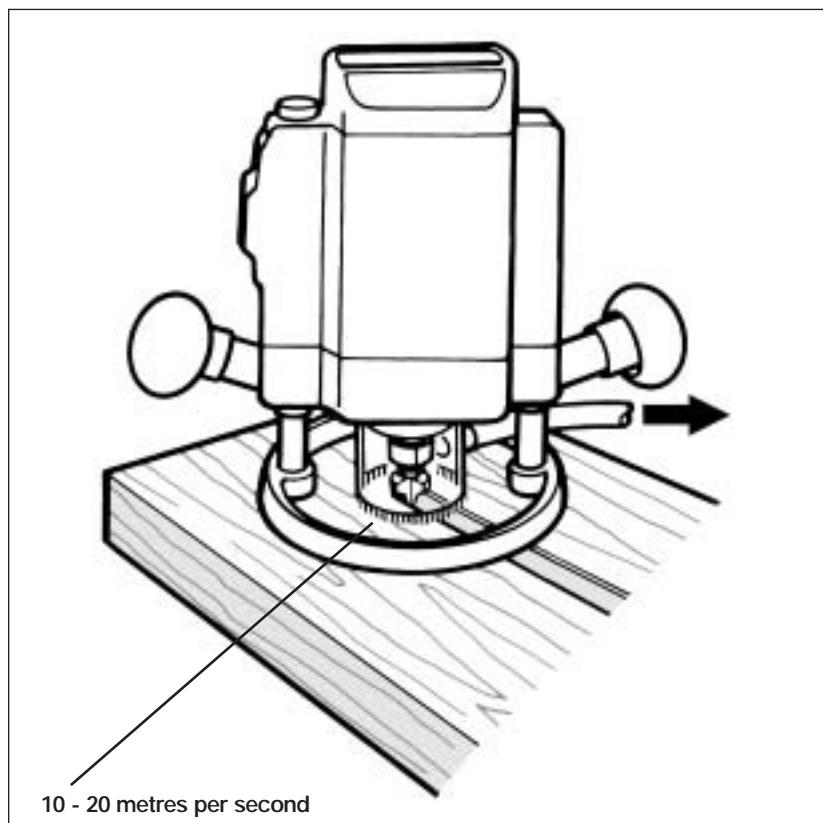
For environmental advice see Further information on the back page.

Access

- ✓ Restrict access to those staff who need to be there.

Design and equipment

- ✓ The cutting action creates coarse and fine dust and tends to blow dust into the workroom.
- ✓ Fit dust extraction to the cutter guard. Consider also using a computer numerical control (CNC) machine in an enclosure.
- ✓ You need an air speed between 10 and 20 metres per second through the dust baffle, to capture dust and flying wood chips.
- ✓ Ensure a manometer or pressure gauge is fitted near the extraction point, to show that the extraction is working properly.
- ✓ Always confirm that the extraction is turned on and working at the start of work. Check the gauge.
- ✓ Keep extraction ducts short and simple - avoid long sections of flexible duct, it is easily damaged.
- ✓ Have a supply of clean air coming into the workroom to replace extracted air. You can recirculate filtered air to the workroom.
- ✓ Consult a qualified ventilation engineer to design new control systems (see Control guidance sheet FD14).



Maintenance

- ✓ Follow instructions in maintenance manuals.
- ✓ Keep equipment in effective and efficient working order.
- ✓ Repair faulty extraction systems immediately. Meanwhile, wear respiratory protective equipment (RPE).
- ✗ Don't alter, add or remove extraction without specialist advice. Don't adjust the dampers yourself unless your extraction system is designed for this.

Examination and testing

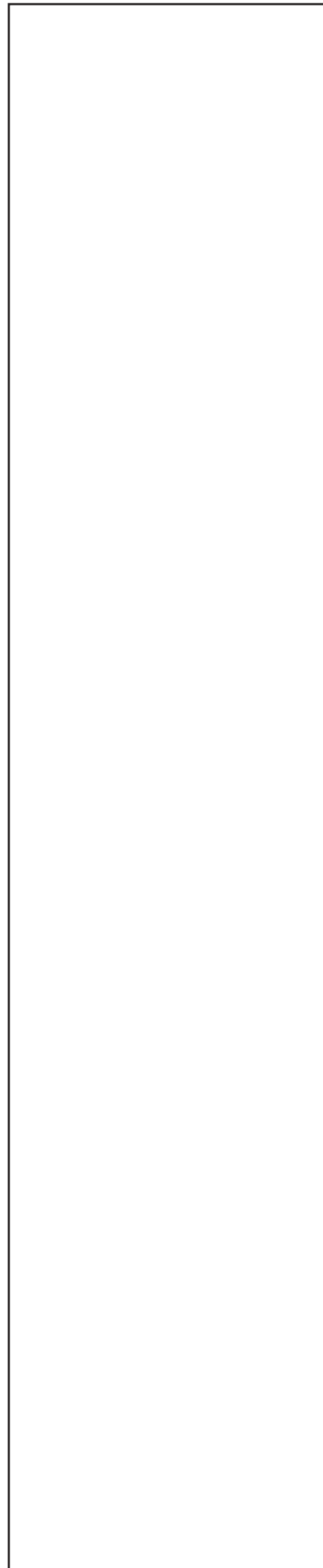
- ✓ Look daily for signs of damage to the ducting, fan and air filter. Noisy or vibrating fans can indicate a problem. Repair damage immediately.
- ✓ At least once a week, check that the extraction system and gauge work properly, with no dust leaks.
- ✓ You need to know the manufacturer's performance specification to know if extraction is working properly.
- ✓ If this information isn't available, hire a competent ventilation engineer to determine its performance.
- ✓ The engineer's report must show the target air speeds.
- ✓ Keep this information in your testing logbook.
- ✓ Get a competent ventilation engineer to examine the system thoroughly and test its performance at least once every 14 months (see HSE publication HSG54).
- ✓ Keep records of all examinations and tests for at least five years.
- ✓ Review records to see if there are failure patterns that make planning maintenance easier.
- Consider air monitoring to make sure the controls are working well.

Cleaning and housekeeping

- ✓ Clean the machinery and work area every day. Regular cleaning will help you find dust leaks.
- ✓ Clean general workrooms once a week. Remember to clean overhead beams, heating pipes and light fittings to reduce the risk of secondary dust explosion.
- ✓ Use a Type H vacuum cleaner fitted with a HEPA filter to clear up dust.
- ✗ Don't clean up with a brush or with compressed air.
- ✓ Shovel large spills carefully to avoid stirring up dust.
- ✓ Dispose of wood dust waste by incineration or in a skip.

Personal protective equipment (PPE)

- ✓ Respiratory protective equipment (RPE) should not be needed if the extraction is designed correctly and working properly.
 - ✓ RPE is needed for maintenance and cleaning overhead.
 - ✓ Use a P2 or P3 standard of RPE. Consult your supplier for advice.
 - ✓ Replace RPE filters as recommended by your supplier. Throw away disposable masks after one use.
 - ✓ Keep RPE clean and store it away from dust.
 - ✓ Skin creams are important for skin protection and help in washing contamination from the skin. These are **not** 'barrier creams'. After work creams help to replace skin oils.
 - ✗ Never allow compressed air use for removing dust from clothing.
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Health surveillance

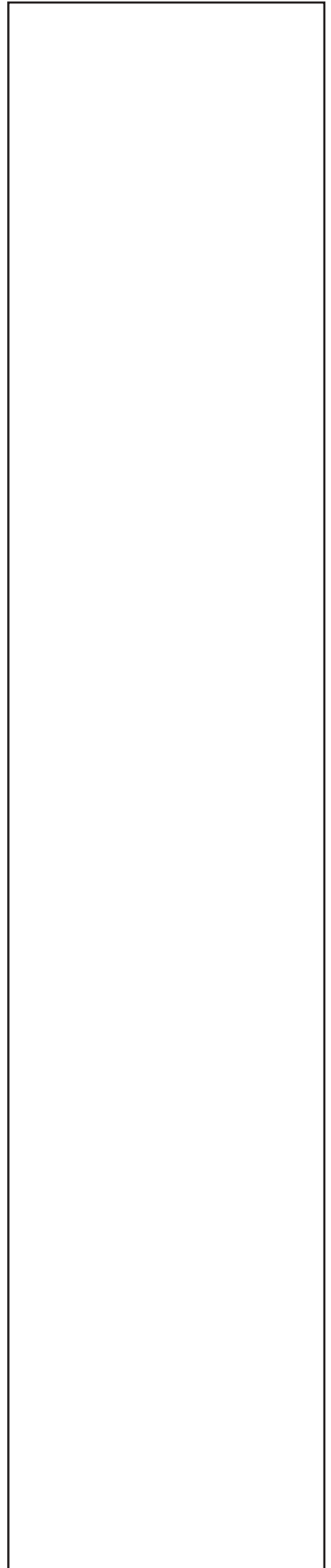
- ✓ Use health surveillance (see Control guidance sheet 402). There is a chance of asthma developing, even with good controls in place.
- ✓ Use skin surveillance.
- ✓ Consult an occupational health professional (see Further information).

Training

- ✓ Tell your workers that wood dust can cause asthma, cancer and dermatitis. Tell them what the early signs of asthma are.
- ✓ Provide health and safety training. Include supervisors and managers. Ask your local Learning Skills Council for advice on training providers.
- ✓ Ensure training includes how to keep exposures low; how to check that the extraction is working; how to use and look after PPE and RPE; and what to do if something goes wrong.

Supervision

- ✓ Check that the extraction is working properly; PPE is being used properly; and the rules on personal hygiene are being followed.
- ✓ Ensure the health surveillance programme is being carried out for everyone that needs it.
- ✓ Ask your workers to check their skin for dryness or soreness every six months. If these effects appear, check the proper use of skin creams and PPE.



Further information

- *Maintenance, examination and testing of local exhaust ventilation* HSG54 (Second edition) HSE Books 1998 **ISBN 0 7176 1485 9**
- *An introduction to local exhaust ventilation* HSG37 (Second edition) HSE Books 1993 **ISBN 0 7176 1001 2**
- *The selection, use and maintenance of respiratory protective equipment: A practical guide* HSG53 (Second edition) HSE Books 1998 **ISBN 0 7176 1537 5**
- *Safe use of woodworking machinery. Provision and Use of Work Equipment Regulations 1998 as applied to woodworking machinery. Approved Code of Practice and guidance* L114 HSE Books 1998 **ISBN 0 7176 1630 4**
- *Toxic woods* Woodworking Information Sheet WIS30 HSE Books 1995 (also available via www.hse.gov.uk/pubns/woodindx.htm)
- *Controlling airborne contaminants in the workplace* Technical Guide TG7 British Occupational Hygiene Society 1987 **ISBN 0 9059 2742 7**
- Health and safety consultants: the BOHS Faculty of Occupational Hygiene keeps lists of qualified hygienists who can help you. Contact BOHS on 0133 229 8087 or at www.bohs.org/
- Occupational health professionals: details of doctors and nurses can be found in the Yellow Pages under 'Health and safety consultants' and 'Health authorities and services'. Also visit the NHS website at www.nhsplus.nhs.uk

Depending on the scale of work, releases into the atmosphere may be regulated within the pollution prevention and control (PPC) framework. You should consult your local authority or the Environment Agency. In Scotland, consult the Scottish Environment Protection Agency (SEPA). They will advise you if PPC legislation applies to your company, and about air cleaning and discharging emissions into the air. Otherwise, minimise emissions into the air.

Employee checklist

- Always follow the standard operating procedures.
- Is the extraction switched on and working properly?
- Check the gauge.
- Look for signs of leaks, wear and damage.
- If you find any problems, tell your supervisor. Don't just carry on working.
- Co-operate with health surveillance schemes.
- Use, maintain and store your PPE in accordance with instructions.
- Clear up cutting dust regularly.
- Wash your hands before and after eating, drinking, smoking and using the lavatory.
- Never use solvents to clean your skin.
- Use skin creams provided as instructed.



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