



Control approach 2

Fume from cooling racks for smaller articles

RB06

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.

Rubber fume is given off in making natural or synthetic rubber when converting blended ingredients into finished parts or products.

Rubber fume can cause cancer.

For using other chemicals (eg when cleaning down, tackifying etc), refer to www.coshh-essentials.org.uk

Control approach 2 (engineering control) is recommended to control rubber fume from smaller articles in cooling racks.

For environmental advice see Further information on back page.

Access

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

Design and equipment

- ✓ Keep exposure to rubber fume as low as possible. Even if you cool rubber with water, you still need to extract fume.
- ✓ Enclose the cooling rack as much as possible. You also need a lidded trimmings bin.
- ✓ Use flexible strip curtains at the rack opening to stop fume escaping.
- ✓ You need an air speed between 0.5 and 1 metres per second into the rack opening.
- ✓ Make sure 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.
- ✓ Discharge cleaned, extracted air to a safe place outside the building, away from doors, windows and air inlets.
- ✓ Have a supply of clean air coming into the workroom to replace extracted air.
- ✓ To reduce exposures, have workers work to one side of the enclosure.
- ✓ Seek special advice on fume control for large articles.
- ✓ Consult a qualified ventilation engineer to design new control systems (see Control guidance sheet FD14).
- ✗ Don't use compressed air for demoulding.

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).

Examination and testing

- ✓ Look daily for signs of damage to the ducting and air filter. Repair damage immediately.
- ✓ At least once a week, check that the extraction system and gauge work properly.
- ✓ 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).

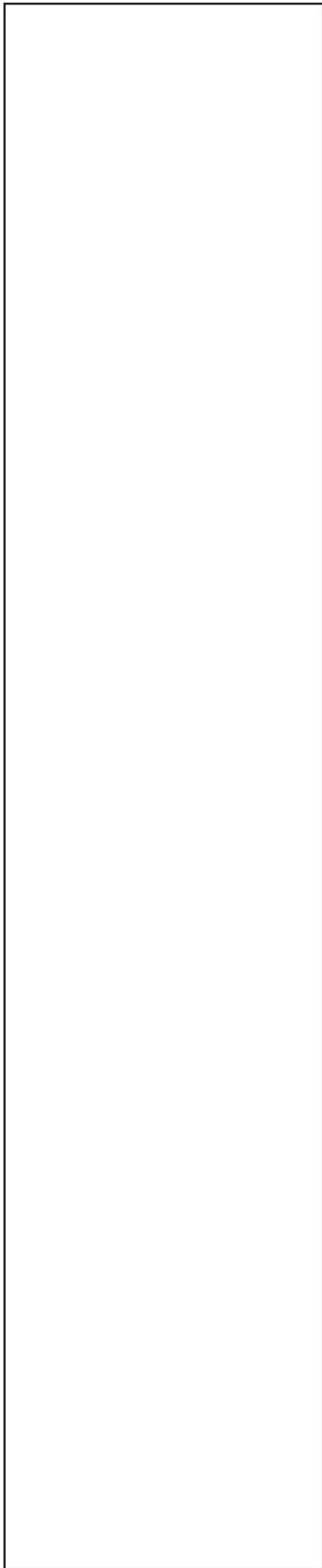
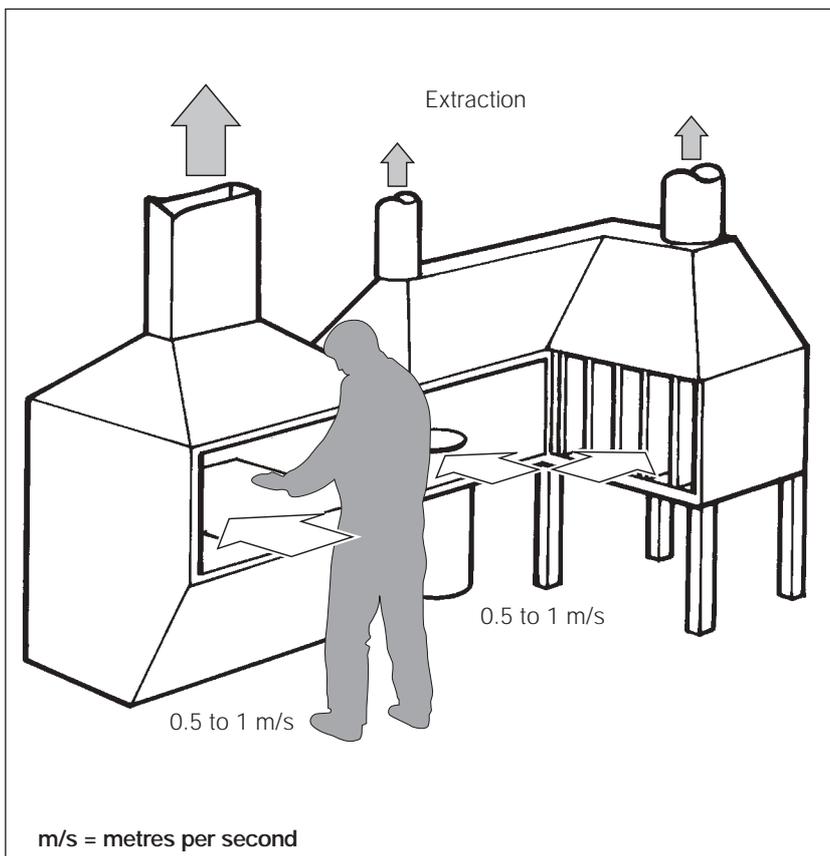
- ✓ Keep records of all examinations and tests for at least five years.
- ✓ Review records to see if there are failure patterns that make planning maintenance easier.

Cleaning and housekeeping

- ✓ Every day, clear up accumulations of dirt in areas where people work all the time.
- ✓ Clean general workrooms once a week.
- ✓ 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.
- ✓ Put trimmings in the bin and replace the lid to stop fume spreading.

Personal protective equipment (PPE)

- ✓ Ask your safety-clothing supplier to help you get the right 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.
- ✓ Use a P3 standard of RPE (Assigned Protection Factor 20). Consult your supplier for advice.
- ✓ Replace RPE filters as recommended by the supplier. Throw away disposable masks after one use.
- ✓ Keep RPE clean and store it away from dust.
- ✓ Protective gloves are needed. Use nitrile gloves.
- ✓ 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.

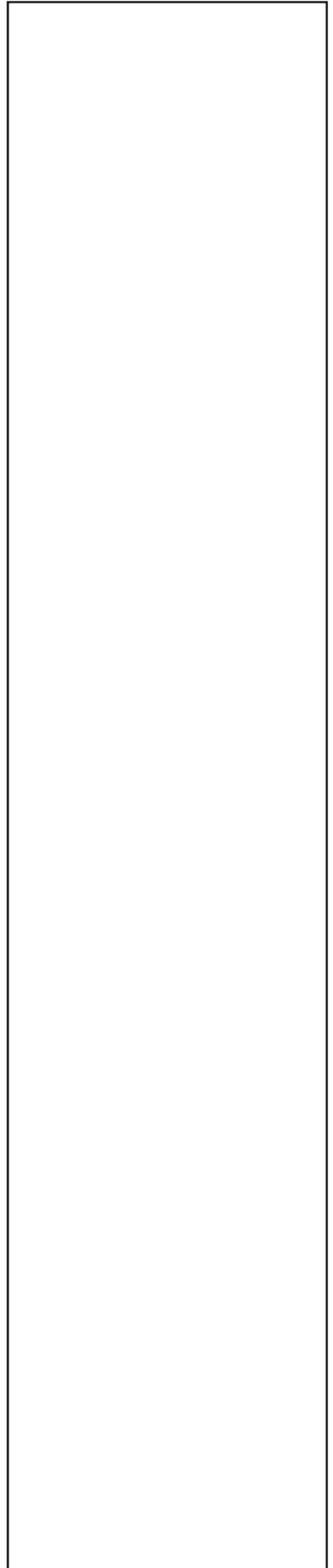


Training

- ✓ Tell workers that rubber process dust and fume can cause cancer.
- ✓ Provide health and safety training. Include managers. Ask your trade association (eg BRMA or RMA) for advice on training providers.
- ✓ Ensure training includes how to keep exposures low; how to check that the extraction system 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.
- ✓ 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

- *A new practical guide to complying with COSHH in the rubber industry*
Guidance HSE Books 1997 **ISBN 0 7176 1372 0**
- *Control of rubber fume at extruders, calenders and vulcanising operations*
Guidance HSE Books 1994 **ISBN 0 7176 0783 6**
- *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 to breathe: Dust and fume control in the rubber industry* Leaflet IACL95
HSE Books 1995 (single copy free or priced packs of 10 **ISBN 0 7176 0979 0**)
- *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/

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.
- Use, maintain and store your PPE in accordance with instructions.
- Tidy up trimmings immediately.
- Throw away single-use gloves every time you take them off.
- 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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