



Includes

- RPE Checklist
- Risk assessment template

Employer Guidance on Respiratory Protection for LEV Service Tasks

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Legal Duties, Risk Assessment, and Best Practice in Controlling Respiratory Exposure to Dust

1. Introduction

Employers have a duty under the Control of Substances Hazardous to Health Regulations 2002 (CoSHH) to ensure that employees are not exposed to substances hazardous to health. For those maintaining Local Exhaust Ventilation (LEV) systems, particularly when changing filters, exposure to harmful dusts can be acute and significant.

This guidance highlights the legal obligations, outlines a risk-based approach using HSE's Five Steps to Risk Assessment, and provides recommendations for selecting effective respiratory protective equipment (RPE) suited to the high-dust nature of LEV service tasks.

2. Legal Duties Under CoSHH

Under CoSHH, employers must:

- Assess the risks to health from hazardous substances (Regulation 6).
- Prevent or adequately control exposure (Regulation 7).
- Ensure that control measures are maintained, examined, and tested (Regulation 9).
- Provide information, instruction, and training (Regulation 12).
- Provide health surveillance where appropriate (Regulation 11).

3. Understanding the Risk: Dust Exposure During Filter Changes

Tasks such as changing filters in LEV systems release concentrated clouds of respirable dust. This includes wood dust, carbon black, flour, shot blast residues, and metal particulates—all of which are known to cause serious health effects:

- Occupational asthma
- Chronic Obstructive Pulmonary Disease (COPD)
- Nasal and lung cancer
- Silicosis or metal toxicity

These exposures are often underestimated, yet surveys show that many LEV service engineers lack suitable RPE and awareness of these risks.

4. HSE's Five Steps to Risk Assessment

<https://www.hse.gov.uk/simple-health-safety/risk/steps-needed-to-manage-risk.htm>

- **Step 1: Identify the Hazards**
Identify specific dusts involved in filter changes or duct cleaning. Refer to the Material Safety Data Sheets (MSDS) and previous air monitoring data.
- **Step 2: Decide Who Might Be Harmed and How**
LEV service engineers are at direct risk, particularly in enclosed or poorly ventilated spaces. Consider bystanders or others working nearby.
- **Step 3: Evaluate the Risks and Decide on Precautions**
Implement controls using the hierarchy:
 - Eliminate or reduce dust release (e.g., covering filters before removal).
 - Use local extraction and damping methods if possible.
 - Provide appropriate RPE, with preference given to airfed or powered respirators due to higher protection factors and practical benefits.
- **Step 4: Record the Findings and Implement Them**
Use the attached sample risk assessment template. Document RPE selection justification, training records, and maintenance procedures.
- **Step 5: Review the Assessment and Update if Necessary**
Update when equipment, substances, or working methods change, or if incidents occur.

5. RPE Selection and Justification

FFP3 filtering facepieces, while common, present limitations:

- Require a tight seal (ineffective with facial hair).
- Quickly clog in high-dust environments.
- Limited wear time (1 hour – HSG53 guidance).

Preferred solutions:

- Powered Air-Purifying Respirators (PAPR) – e.g., 3M™ Versaflo™ TR-300+ (APF 40)
- Airfed Respirators – e.g., CleanAIR or 3M Jupiter™ (APF 40+)








These provide:

- Greater protection (up to twice the APF of FFP3).
- Comfort and usability over longer durations.
- Compatibility with facial hair or non-tight-fitting applications.

Ensure RPE meets the requirements of HSG53: Respiratory Protective Equipment at Work and is face-fit tested annually where necessary.



This table is screenshotted from HSG53:

Adequacy/suitability	Respirators						
RPE type							
	Disposable half mask – particle filter*	Reusable half mask – particle filter	Reusable half mask – gas/ vapour filter	Full face mask – particle filter	Full face mask – gas/vapour filter	Powered mask	Powered hoods/helmets
Effective for particles	✓	✓	✗	✓	✗	✓ **	✓ **
Effective for gas/vapour	✗	✗	✓	✗	✓	✓ **	✓ **
Continuous wear time	Less than 1 hr	Less than 1 hr	Less than 1 hr	Less than 1 hr	Less than 1 hr	More than 1 hr	More than 1 hr
APF4 types	✓	✓	✗	✓	✗	✗	✗
APF10 types	✓	✓	✓	✓	✗	✓	✓
APF20 types	✓	✓	✗	✗	✓	✓	✓
APF40 types	✗	✗	✗	✓	✗	✓	✓
APF200 types	✗	✗	✗	✗	✗	✗	✗
APF2000 types	✗	✗	✗	✗	✗	✗	✗

6. Conclusion

Employers must act to ensure the health of their workforce is not compromised by preventable exposure to harmful dusts. This includes selecting appropriate RPE based on real-world conditions, providing proper training, and maintaining effective risk assessments. Taking these steps not only ensures compliance with CoSHH, but demonstrates a commitment to workforce safety and long-term wellbeing.

7.RPE Maintenance Checklist Template

1. Daily/Pre-Use Inspection Checklist

Tick each item after checking. If any faults are found, report and replace the RPE before use.

- Facepiece (mask/hood/helmet) is clean and free from cracks or wear
- Seals and valves are intact and undamaged
- Head straps or harness are secure and adjustable
- Filters are in place and not clogged or expired
- Hoses and connections are secure and undamaged
- Powered units are charged and functioning (if applicable)
- No air leaks around the face seal (perform seal check)
- RPE fits properly and comfortably

2. Monthly Maintenance Inspection Log

Use this log to record detailed monthly inspections or manufacturer-specified checks.

Date	RPE Type/ID	Condition	Actions Taken	Inspected By	Next Due

3. Filter Replacement Record

Track when filters are replaced to ensure timely changes and accountability.

Date	RPE ID	Filter Type	Replaced By	Notes

8. Example Risk Assessment: LEV Filter Change Task

This is a sample risk assessment for LEV service engineers performing filter changes, which are known to generate significant levels of hazardous dust. Note you will need to incorporate the hazards associated with the specific task and the site.

What are the hazards?	Who might be harmed and how?	What are you already doing to control the risks?	What further action do you need to take to control the risks?	Who needs to carry out the action?	When is the action needed by?	Done
Manual cleaning of LEV clean side using brushes	LEV service engineers – exposure to airborne dust, risk of respiratory illness	Manual brushing used to clean clean-side surfaces	Avoid using brushes; use H-class vacuum cleaners and/or damp rags to prevent dust becoming airborne	Site Supervisor / Engineers	Immediately	<input type="checkbox"/>
Dust on dirty filtration media becoming airborne during removal	LEV service engineers – inhalation of hazardous dust including fine particulates and sensitizers	Disposable masks used, minimal dust suppression measures in place	Activate cleaning mechanism multiple times before removal to shed excess dust; cover filter in plastic bag during removal to contain dust	Engineers / Site Supervisor	Before next scheduled filter change	<input type="checkbox"/>
Residual dust left behind after filter change	LEV engineers – continued exposure to airborne dust after task ends	RPE worn during task only	Keep RPE on until area is visibly clear of dust; clean work area using H-class vacuum and damp methods to reduce airborne particles	Engineers	Immediately	<input type="checkbox"/>
Manual handling of heavy dirty filters	LEV engineers – risk of musculoskeletal injuries (strain, back injury)	Manual handling undertaken without clear weight assessments or lifting aids	Assess weight of filters; use mechanical aids or team lifting where required; provide manual handling training	Site Supervisor / H&S Officer	Within 2 weeks	<input type="checkbox"/>

9. Sources

- CoSHH Regulations 2002
<https://www.hse.gov.uk/pubns/priced/l15.pdf>
- HSG53 Respiratory protective equipment at work Link:
<https://www.hse.gov.uk/pubns/priced/hsg53.pdf>
- HSE 5 Steps to Risk Assessments.
<https://www.hse.gov.uk/simple-health-safety/risk/index.htm>

10. Credit

