



Silica dust control during stairwell grinding/chipping

Grinding, and other finishing tasks associated with concrete surfaces in stairwells, generate extremely high levels of hazardous silica dust. Breathing in this fine dust can cause a serious lung disease called silicosis.

Controlling the dust

Local Exhaust Ventilation (LEV) equipped with HEPA filters must be used to control the silica dust at its source whenever practical. Attachments include shrouds (suction casings that surround the wheel/stone), hose attachments, and vacuum systems. Custom-designed shrouds can be fabricated for grinding into corners or against walls and inside edges.

Enclosure structures must be considered when concrete dust cannot be effectively control with the LEV or wetting systems. Partial or full enclosures are usually required during stairwell grinding/chipping. Enclosure structures are designed to contain the dusty air and control its discharge through a negative air unit equipped with a filter system approved for use with silica.

Grinders equipped with water spray attachments are available and should be considered when LEV units are not practical for concrete finishing operations.

To protect yourself you should:

- Use HEPA LEV systems to capture and control the dust at its source whenever possible
- Check with your supervisor to determine if an enclosure structure will be erected and how this is to be done
- Check to make sure that the vacuum system you are assigned is approved for use with silica dust, and is operating properly
- Inspect the shroud on your grinder to make sure it is in good condition; very little visible dust should be released at the shroud; if dust is released, the vacuum may not be working properly
- Clean the vacuum and change the filters on a regular basis; when cleaning vacuum systems, safe work procedures must be followed
- A full-face respirator equipped with 100 (HEPA) series filters will usually be required when grinding and chipping in stairwells
- Coveralls should be worn when finishing in stairwells
- Always inspect and monitor the effectiveness of your equipment
- Report problems to your supervisor

When the work is completed, vacuum settled dust from floors and other surfaces. Do not use compressed air to blow dust from your clothing or your equipment.



*Poly enclosure with HEPA
“negative air” unit*



Stair grinding with LEV



*Grinder with HEPA LEV
attachment*

Project: _____ Address: _____

Employer: _____ Supervisor: _____

Date: _____ Time: _____ Shift: _____

Number in crew: _____ Number attending: _____

Other safety issues or suggestions made by crew members:

Record of those attending:

Name: (please print)	Signature:	Company:
1.		
2.		
3.		
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13.		
14.		
15.		

Manager's remarks: _____

Manager: _____ Supervisor: _____

(signature)

(signature)



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