

# Silica

## Exposures for common construction tasks

A study at seven construction sites in Washington State found at least some construction tasks were over silica exposure limits.

## Why worry about silica exposure?

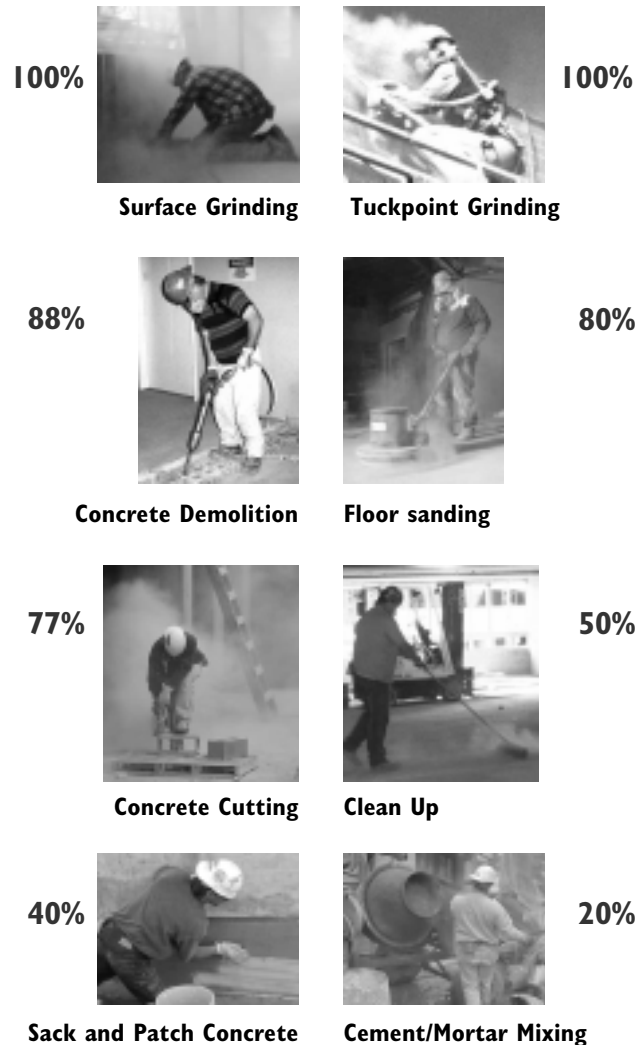
When silica dust is breathed into the lungs frequently or in high concentration, it can damage the lungs causing silicosis. Silicosis is an irreversible scarring of the lungs that leads to breathing problems, and in some cases, death.

Silica exposure has also been linked to increased risk of lung cancer.

To learn more about silicosis visit this website:

<http://www.osha-slc.gov/Training/Silicosis.html>

Percent of samples over the American Conference of Governmental Industrial Hygienists Threshold Limit Value (TLV\*) if task is done for a full shift.



\*TLV is 0.05 mg/m<sup>3</sup>, based on lung cancer studies.

## Getting control of concrete dust

Use ventilated tools

Spray water at point of dust emission

Do dusty work outside if possible

Keep tool's dust control apparatus intact

Dust levels can remain high for a time even after cutting, grinding, or sweeping stops

Air sampling is needed to verify dust levels

## What makes a difference in dust levels and dust exposures

How much of the work space is enclosed

How long the dusty activity occurs

Whether the dusty activity is continuous or occasional

Whether dust controls installed really work

# Respirator types



Disposable dust mask  
NIOSH approved



Half face cartridge  
with P-100 filter



Full face cartridge  
with P-100 filter



PAPR (Power Air Purifying Respirator)  
P-100 filter/blower worn at belt



Airline respirator  
air supply from tank

## The right respirator for the job

Activity	Dust Mask	Cartridge Half Face	Cartridge Full Face	PAPR	Airline
	more protective →				
Use a more protective respirator when the activity is longer or the workplace is more enclosed					
Surface Grinding					
Tuckpoint grinding					
Demolition w/ hand held power tool					
Sack and patch concrete*					
Floor sand concrete					
Clean up					
Concrete block and brick cutting					
Concrete mixing					

\*More protection needed when sack and patch includes grinding

Avoid reliance on respirators alone for protection. More information on the use of respirators can be found at:  
[http://www.osha.gov/SLTC/respiratory\\_advisor/mainpage.html](http://www.osha.gov/SLTC/respiratory_advisor/mainpage.html)



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# Silica exposures in construction



## What workers need to know

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