

Guide to OSHA 1926.1153 Respirable Silica Standard

What is Silica?

- Silica is a basic component of sand, granite and other minerals with quartz being the most common form.
- Respirable crystalline silica particles can penetrate deep into the lungs causing various lung diseases.
- Over 2.3 million workers who work with concrete, stone, brick or in foundries or fracking are exposed to respirable crystalline silica.

Where is Silica Found?

- Concrete
- Sand
- Mortar
- Overlay
- Terrazzo
- Stone
- Brick
- Grout
- Stucco
- Thinset
- Rock
- Block
- Drywall
- Self levelers
- Color hardener
- And many other materials.

Silica Health Hazards

- **Silicosis:** A non-reversible lung disease with diffuse nodular pulmonary fibrosis.
Symptoms: Shortness of breath, loss of appetite, chest pains.
- **COPD (Chronic obstructive pulmonary disease):**
A lung disease that causes obstructed airflow from the lungs by becoming thick and inflamed while air sacs lose their elastic quality.
Symptoms: Cyanosis (bluish skin), severe cough, fatigue.
- **Tuberculosis**
- **Kidney Disease**
- **Lung Cancer**

What is the Silica PEL Limit?

The Silica PEL limit is 50 micrograms per cubic meter of air (50µ/m³) as an 8-hour time-weighted average (TWA) under any foreseeable conditions.

Compliance?

- Determine exposure.
- Refer to section 1926.1153(c)(1) Table 1 of the silica standard for a full list of engineering controls (see example excerpt below).
- Create an exposure plan.
- Determine accountability.
- Provide medical surveillance.
- Provide the right training.
- Keep required records.
- Use proper HEPA respiration.

Example excerpt: Table 1—Specified Exposure Control Methods When Working With Materials Containing Crystalline Silica

Equipment and Task	Engineering and Work Practice Control Methods	Required Respiratory Protection/ Minimum Assigned Protection Factor (APF)	
		≤ 4 hrs/shift	≥ 4 hrs/shift
Hand-held grinders for mortar removal (i.e., tuckpointing).	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APF 10	APF 25

For the complete table visit: www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1153

OSHA Penalties

Violation Type	Maximum Amount
Serious violation	\$13,494 per violation
Failure to abate	\$13,494 per day
Willful or repeated violation	\$134,937 per violation

Selecting a Respirator

Tight-fitting, negative pressure respirators (disposable, half-mask, or full-face mask respirators)

- Fit testing is required.
- Facial hair is not allowed.

Loose-fitting positive pressure powered air purifying respirators (PAPRs)

- No fit testing is required.
- Provides a constant flow of fresh air with high APF ratings.
- Can offer complete head/eye/hearing and respirator protection as part of a system.



Protecting you for life's best moments.