



Research & Education

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OSHA Releases Proposed Silica Standard Silica Is More than Just Dust

Inhalation of very small (respirable) crystalline silica particles puts workers at risk for silicosis, lung cancer, chronic obstructive pulmonary disease (COPD) and kidney disease. Workers can become ill after short periods of high exposure or after years of breathing small amounts of dust containing silica.

In September, OSHA released a proposed rule to protect workers exposed to respirable crystalline silica. This is a proposal, not a final rule. There is an extensive comment period followed by public hearings allowing OSHA to get input from those directly affected by the proposed rule and other members of the public.

Why is OSHA proposing a silica standard?

OSHA's current permissible exposure limits (PELs) for silica are antiquated and do not adequately protect worker health. The current PELs are based on research from the 1960s and earlier and do not reflect more-recent scientific evidence.

OSHA estimates that the proposed rule will save nearly 700 lives and prevent 1,600 new cases of silicosis per year, once the full effects of the rule are realized.

Who's at risk for silica exposure?

Count roofers among the many construction crafts who are exposed to respirable silica.

Silica dust is generated when common building materials, such

as concrete roofing tiles and other concrete products, brick and stone, are cut, sawed, drilled, crushed or otherwise disturbed—all common activities on construction sites.

Some of the ways roofers are exposed to silica include:

- ▶ *Cutting concrete and clay roof tiles*
- ▶ *Cutting concrete roof pavers*
- ▶ *Grinding mortar joints to install flashing*

Exposures to roofers can be significant. Concrete and clay roof tiles and roof pavers are cut using gas- or electric-powered cut-off saws, a process that generates clouds of silica-containing dust.

NIOSH, the National Institute for Occupational Safety and Health, has measured respirable silica levels up to 4 times the recommended exposure limit around roofers cutting concrete tiles. And it's not just roofers cutting these tiles who are exposed, but potentially all workers in the area.

Roofers can also be exposed to respirable silica exposure when blowers or dry sweeping methods are used to clean concrete and clay tile roofs.

What are the key features of OSHA's proposed standard?

The proposed rule includes a new exposure limit for respirable crystalline silica and details widely used methods for controlling worker exposure, conducting medical surveillance, training workers about silica-related hazards and record-keeping measures.

But, importantly, the proposed silica standard for construction takes into consideration the unique nature of the construction industry

What Would The Osha Proposed Rule Require?

- ▶ Workers' exposures would be limited to a new PEL of 50 micrograms of respirable crystalline silica per cubic meter of air ($\mu\text{g}/\text{m}^3$), averaged over an 8-hour day (that's about 1/2 of the current OSHA standard);
- ▶ Provisions for measuring how much silica workers are exposed to;
- ▶ Limiting workers' access to areas where silica exposures are high;
- ▶ Using effective methods for reducing exposures;
- ▶ Providing medical exams to workers with high silica exposures;
- ▶ Training for workers about silica-related hazards and how to limit exposure.



and uses common-sense measures to protect workers and includes features to give employers flexibility on how to comply.

The International Union is working with the national Building and Construction Trades Department in submitting comments on the proposed silica rule to help OSHA develop a final rule that adequately protects workers, is feasible for employers and is based on the best available evidence.

For more information on silica and methods to control dust and avoid exposure, see the adjacent article about CPWR’s website www.silica-safe.org.

CPWR Website to Help the Construction Industry Work Safely with Silica

CPWR – The Center for Construction Research and Training – with input from all of the construction crafts developed a one-stop website on silica, Work Safely with Silica (www.silica-safe.org), to support its goal “to protect workers and prevent silica-related illnesses by putting control methods into practice.”

The website’s two central features provide quick access to information that every member and employer needs to know to recognize a silica hazard, avoid exposure and control the dust.

The “Know the Hazard” section explains why silica is hazardous, the risk and the health effects. The types of information covered include:

- 】 How airborne crystalline silica affects the body;
- 】 The signs and symptoms of health conditions linked to silica exposure, and access to the “Physician’s Alert,” which helps

ensure workers are properly diagnosed and treated;

- 】 Construction tasks and materials likely to generate dust containing silica; and
- 】 Actions contractors and workers can take to prevent silica exposures and related illnesses.

The other central feature, “Create-A-Plan,” is a unique, flexible online planning tool designed with direct input from contractors, including roofing contractors. This planning tool will help contractors—particularly small contractors—do just that in three easy steps.

- 】 **Step 1** provides a list of materials that contain silica and ways to determine the silica-content of a building material. For each material selected, the user then selects the task(s) that will be performed with the material.
- 】 **Step 2** provides a list of options for controlling the dust for each material-task combination, along with a link to examples of commercially available controls. For those not sure, there is additional information

on how to select a control method.

- 】 **Step 3** includes the information entered in Steps 1 and 2 and has space for other items to consider as part of a comprehensive silica control plan. Once the user completes Step 3, a silica control plan tailored for their project is generated. A new feature just added to the site allows users to set up a password-protected account where they can confidentially save their plans, and retrieve and edit them for future use.

The site also includes information on regulatory efforts, including the status of the proposed standard, examples of what’s working in the field, the latest research and articles, training materials and answers to frequently asked questions.

This website is a resource for you and your employers. Please visit the site, share the link with other construction workers and employers, and send suggestions to silica@cpwr.com. Your input will help protect workers everywhere and ensure that we all Work Safely With Silica. ■

