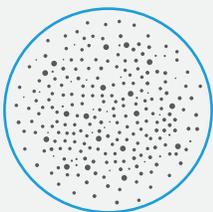


The New Asbestos?

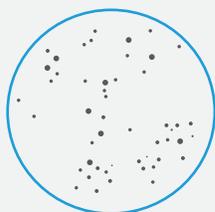
Climate Control Solutions Protect Construction Workers from Silica



NEW OSHA SILICA RULES



250 MICROGRAMS /
CUBIC METER OF AIR



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CUBIC METER OF AIR

Its particles are 100 times smaller than a grain of sand. Breathing it can be lethal. And it's everywhere—especially on construction sites.

Now that the dust has settled on new federal rules for silica exposure on job sites, contractors across the nation are scrambling to find solutions that will help them control the dust construction workers create as they blast, saw, sand and grind concrete or stone materials. The [new silica rules](#), which the Occupational Safety and Health Administration (OSHA) established this year, drastically lower the permissible exposure limit from 250 micrograms per cubic meter of air to just 50 micrograms averaged over an eight-hour shift.

“It’s just about everywhere, and trying to regulate it is problematic,” says [Tressi Cordaro](#), principal at the law firm Jackson Lewis P.C. “The question is can employers feasibly do what OSHA is asking them to do?”

With more than [1.8 million](#) construction workers exposed to respirable silica on the job, employers in the industry have their work cut out for them. Not only must they execute a written plan for controlling exposure, but they also need to adjust their housekeeping practices to minimize exposure to silica dust. Failure to comply could lead to fines as high as \$129,336 for repeat violations—not to mention the potential cost to the offender’s reputation.



Once the grace period for compliance has ended, OSHA is likely to crack down on construction companies that fail to adequately limit silica dust on the job. Contractors will need to use all the tools at their disposal to keep their workers safe and keep the air clear of this dangerous yet ubiquitous substance.

Protecting against silica exposure

The most effective way to control silica exposure is to remove it from the air before employees can breathe it. OSHA’s guidelines for the construction industry encourage the use of common dust control methods such as using tools with attachments that vacuum up dust as it’s created or dampen stone and concrete materials to keep the dust from entering the air.

But is that enough?

As controlling employers on their job sites, construction companies are responsible for keeping silica exposure within acceptable levels, regardless of who’s doing the work. Simply buying new tools isn’t enough. Builders must ensure their workers are using the tools correctly—and that their dust control attachments are working properly—while also monitoring subcontractors to make sure they’re in compliance too. Swift detection and remediation are crucial.

“If I walk up to my job site and see a dust cloud, it’s my responsibility in supervising the worksite and the overall build to stop that contractor and notify them they need to comply before continuing their work,” says [Dan Johnson, CSP](#), managing partner of [SFI Compliance Inc.](#), a national safety consulting firm and member of the [National Association of Home Builders Safety Committee](#).

Until recently, the only way to tell if silica levels remain within the permissible exposure limit was to test the air using respirable dust samplers that exclude particles too large to inhale. On a construction site, where workers tackle dust-producing tasks regularly, testing costs can add up quickly.

“It takes effort and expense to monitor a PEL correctly,” says [Comstock’s](#) magazine [Robin Epley](#). “But even with regular monitoring, the same outdoor construction site

is going to have a very different PEL with and without a moderate breeze. It's simply impossible to tell what the PEL is from day to day unless you're constantly measuring it."

Silica dust and climate control

All told, OSHA's new silica rules are expected to cost the construction industry nearly **\$5 billion a year**. Direct expenses related to compliance account for around 80 percent, while the rest includes indirect costs such as increased prices for construction materials and building products.

Complying with OSHA's regulations while continuing to maximize profit margins will be tricky. Construction companies need affordable solutions they can depend on to prevent employees from inhaling harmful silica dust.

Fortunately, expensive testing is no longer the only option for detecting silica dust. Polygon, a leading provider of climate control for the construction industry, has developed an ultra-advanced remote monitoring system that constantly evaluates the air quality of an environment and generates easy-to-read reports, allowing employers in the construction industry to stay on top of silica exposure. The Exactaire® remote monitoring technology detects and mitigates problems with air scrubbers, filtration, and ventilation to help eliminate silica particles from the air. Since it operates on batteries and solar power, the system offers a cost-effective solution for continuous monitoring.

The most advanced system available for monitoring interior environments, Exactaire® adds a powerful layer of protection against silica exposure on construction sites—particularly when paired with other climate control solutions, such as leading-edge filtration, air movement and humidity control.

The increased use of water to control silica dust means contractors will need to be more vigilant than ever about humidity control on job sites. Too much moisture in the air can interfere with concrete curing, prevent adhesives from drying, and cause air-quality problems. During construction, humidity control helps prevent costly damage and delays while helping to keep workers safe.

Many contractors make the mistake of using direct heat from a combustion heater to keep humidity levels low. By placing a fired heater directly within the building, however, they're introducing the products of combustion into the space, which include soot and carbon dioxide. Since direct heaters blow air through an exposed flame, they can pose a serious safety hazard on job sites.



Polygon's temporary climate control solutions for the construction industry include indirect heaters, which use an enclosed flame and an exhaust stack that carries combustion byproducts out of the system and away from the work area. Unlike a direct heater, it draws clean air from outside and processes it before it enters the space, making it a much safer and less expensive construction drying solution in the long run.

Polygon offers some of the industry's most advanced climate control and construction drying services. With the right measures in place, contractors can keep silica levels down, safeguard the health of their employees, and stay in compliance with OSHA's strict new regulations.