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Silica Dust in California Construction: What Cal/OSHA §1532.3 Requires

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If your crews cut, grind, drill, core, jackhammer, or demolish concrete, masonry, brick, tile, stone, or engineered countertops, they are generating respirable crystalline silica. Silica dust causes silicosis, lung cancer, and kidney disease, and the damage is permanent. Cal/OSHA regulates it under Title 8, Section 1532.3 for construction, and after the wave of silicosis cases among young countertop fabricators in Southern California, the agency treats silica as a priority hazard. Every California contractor whose work disturbs silica-containing material is covered, and most of the contractors I meet have only part of the program in place.

Who Is Covered and What the Limits Are

Section 1532.3 applies to all occupational exposures to respirable crystalline silica in construction, with a narrow exception where exposure will remain below the action level under any foreseeable conditions. If a task produces visible dust from concrete or masonry, assume the standard applies.

The standard sets two numbers you need to know:

- **Permissible exposure limit (PEL):** 50 micrograms per cubic meter of air as an eight-hour time-weighted average.
- **Action level:** 25 micrograms per cubic meter as an eight-hour time-weighted average.

These are small quantities. A single worker dry-cutting block with a gas saw for an hour can exceed the PEL for the entire shift.

Table 1: The Shortcut Most Contractors Should Use

The construction standard gives you two paths. The first is Table 1, which lists common construction tasks and the specific engineering controls, work practices, and respiratory protection that Cal/OSHA accepts as compliant for each one. If you fully and properly implement the Table 1 entry for a task, you do not have to measure exposure for that task.

Table 1 covers tasks such as:

- Stationary masonry saws with integrated water delivery
- Handheld power saws with water delivery, with respirator requirements that depend on duration and location
- Handheld and stand-mounted drills with shroud and dust collection
- Jackhammers and handheld powered chipping tools with water or dust collection



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- Handheld grinders for mortar removal (tuckpointing) and for other uses
 - Walk-behind saws, core drills, and heavy equipment used for demolition or grading

The key word is *fully*. A saw with the water hose disconnected is not a Table 1 control, and neither is a vacuum with a clogged filter. When a task runs longer than four hours per shift, several Table 1 entries require a respirator with an assigned protection factor of at least 10, which pulls in the full respiratory protection standard under Section 5144, including medical evaluation and fit testing.

The Alternative: Exposure Assessment

If a task is not on Table 1, or you do not follow the Table 1 controls exactly, you must assess the exposure of each employee who may reasonably be exposed at or above the action level, either through a performance option using air monitoring and objective data, or through scheduled monitoring with initial personal sampling and periodic re-sampling based on the results.

This is industrial hygiene work: calibrated pumps, the correct cyclone and filter media, an accredited laboratory, and a sampling plan that represents the task. Employees must be notified of results in writing, and if the PEL was exceeded, the notice must describe the corrective action. Good exposure data is also your best defense when an inspector arrives.

The Written Exposure Control Plan

Every covered employer must have a written exposure control plan. It is a distinct document, not a paragraph in your Injury and Illness Prevention Program, although it should be referenced there. The plan must describe:

- The tasks in your operation that involve silica exposure
- The engineering controls, work practices, and respiratory protection used for each task
- Housekeeping measures used to limit exposure
- Procedures to restrict access to work areas, where necessary, to limit the number of employees exposed and the level of their exposure, including exposure from other employers' work on the same site

The plan must be reviewed at least annually and be available to employees and to Cal/OSHA on request. The construction standard also requires a designated **competent person** who makes frequent and regular inspections to implement the plan and has the authority to correct silica hazards on the spot. On many sites, no one has been formally designated, and that is a citation waiting to happen.

Housekeeping, Training, and Records

Dry sweeping and dry brushing are prohibited where they could contribute to exposure, unless wet methods or HEPA vacuuming are not feasible. Compressed air may not be used to clean clothing or



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surfaces unless paired with ventilation that captures the dust. These simple rules are among the most frequently violated I see.

Training must be integrated into your hazard communication program under Section 5194, and each employee must be able to demonstrate knowledge of the health hazards of silica, the tasks that could result in exposure, the controls used, the identity of the competent person, and the purpose of medical surveillance. Records of air monitoring, objective data, and medical surveillance must be kept and made available to employees.

Medical Surveillance

Under the construction standard, medical surveillance must be offered at no cost, at a reasonable time and place, to every employee who will be required to wear a respirator for silica for 30 or more days per year. The initial examination must be provided within 30 days of assignment unless the employee had a qualifying exam within the previous three years, and must include:

- A medical and work history focused on silica exposure and respiratory disease
- A physical examination with emphasis on the respiratory system
- A chest X-ray read by a NIOSH-certified B Reader
- Pulmonary function testing administered by a qualified technician
- Testing for latent tuberculosis infection at the initial exam
- Any other tests the physician or other licensed health care professional deems appropriate

Periodic exams follow at least every three years. The employer receives only a limited written medical opinion; detailed findings go to the employee. Our Licensed Vocational Nurse coordinates these programs for clients so the clinic receives the correct exam order and the paperwork comes back in the form Cal/OSHA expects.

What Cal/OSHA Cites Most Often

- No written exposure control plan, or a generic template that does not name the tasks the crew actually performs
- Water delivery or dust collection installed but not operating during the observed task
- Respirators issued without medical evaluation or fit testing under Section 5144
- Dry sweeping and blowing off slabs and clothing with compressed air
- No exposure assessment for tasks that are not on Table 1, and no designated competent person

Because silicosis is fatal and incurable, these are routinely classified as serious violations, and penalties can reach well into five figures per serious violation and higher for willful or repeat violations.

What to Do Now

- List every task on your jobs that disturbs concrete, masonry, stone, tile, or engineered stone.



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- Match each task to a Table 1 entry, and confirm the equipment on the truck actually has the required water delivery or dust collection and that crews use it.
 - For any task not on Table 1, schedule personal air sampling by a qualified industrial hygienist.
 - Write a site-specific exposure control plan, name the competent person, and review it annually.
 - Identify every employee who will wear a respirator 30 or more days per year, and set up medical evaluations, fit testing, and silica medical surveillance.
 - Stop dry sweeping and compressed-air cleaning today, and train crews and supervisors on the program.

McNeil Safety Consulting performs silica exposure sampling, writes site-specific exposure control plans, and manages the respirator and medical surveillance side of the program for contractors throughout California. If you are not certain your crews are covered, or you are certain they are and your program is incomplete, call **(626) 546-9384** or learn more about our [industrial hygiene services](#).

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