



WHO IS AT RISK?

The following industries and activities pose the greatest potential silica exposure threat for workers, in alphabetical order:

- ▶ **Abrasives**, manufacturing and use.
- ▶ **Agriculture**—dusty conditions from disturbing the soil, such as plowing or harvesting.
- ▶ **Ceramics**, clay and pottery.
- ▶ **Construction**—sandblasting, rock drilling, masonry work, jack hammering, tunneling.
- ▶ **Foundry work**—grinding, moldings, shakeout, core room.
- ▶ **Glass manufacturing**.
- ▶ **Mining**—cutting or drilling through sandstone and granite.
- ▶ **Railroads**—setting and laying track.
- ▶ **Shipbuilding**—abrasive blasting.
- ▶ **Soaps and detergents manufacturing**.
- ▶ **Stone cutting**—sawing, abrasive blasting chipping, grinding.

NIOSH Certified “B” Readers:

physicians certified to read the X-ray according to certain procedures to determine if it shows signs of diseases such as silicosis. This certification is mandatory for physicians who classify chest radiographs for certain federal surveillance projects, such as the NIOSH Coal Workers’ X-ray Surveillance Program, the Asbestos Medical Surveillance Program, and industry-sponsored medical screening programs.

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**Additional NIOSH Certified B Readers available in the near future.*



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B Reads

A chest X-ray interpreted according to the International Labour Office (ILO) International Classification of Radiographs of Pneumoconioses by a National Institute for Occupational Safety and Health (NIOSH)-certified B Reader.



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- prompt, reliable interpretation service, with multiple NIOSH and board certified readers.
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Diseases Requiring Chest X-ray Reads by a NIOSH certified

B Reader

The primary pneumoconioses are asbestosis, silicosis, and coal workers' pneumoconiosis (commonly referred to as CWP or black lung). As their names imply, they are caused by inhalation of asbestos fibers, silica dust, and coal mine dust.

Silicosis also known as "Potter's Rot" is an occupational lung disease caused by the inhalation of silica dust which produces inflammation and scarring in the upper area of the lungs. Silica is a common compound that is found in a number of materials such as sandstone, marble, flint, slate, soil, mortar, plaster and sand. <https://www.osha.gov/dsg/topics/silicacrystalline/>

Coal Workers' Pneumoconiosis (Black Lung): (CWP), is classified as an industrial disease that is the result of breathing in dust from coal, graphite or manmade carbon over a period of years. The dust is inhaled into the body and resides in the lungs where it progressively builds up over time if the individual is subject to prolonged exposure because the lungs are unable to excrete the dust from the lungs. This can lead to inflammation, fibrosis and in the worst cases, necrosis.

Asbestosis is a chronic inflammatory disease which is caused by the inhalation and retention of asbestos in the lungs which goes on to cause scar tissue (fibrosis) in the lung. Scarred lung tissue does not expand and contract normally so the sufferer will have reduced lung function. <https://www.osha.gov/SLTC/asbestos/index.html>



New OSHA Requirements:

New standards from OSHA may require individuals who work in construction, general industry and maritime, and the hydraulic fracturing industries to have chest x-ray reads by a NIOSH certified B-Reader. Additional information on OSHA's silica rule can be found at www.osha.gov/silica.



Construction employers must comply with all requirements of the standard by **June 23, 2017**, except requirements for laboratory evaluation of exposure samples, which begins on **June 23, 2018**. <https://www.osha.gov/Publications/OSHA3681.pdf>

All construction employers covered by the standard are required to:

- Establish and implement a written exposure control plan that identifies tasks that involve exposure and methods used to protect workers, including procedures to restrict access to work areas where high exposures may occur.
- Designate a competent person to implement the written exposure control plan.
- Restrict housekeeping practices that expose workers to silica where feasible alternatives are available.
- **Offer medical exams—including chest X-rays and lung function tests—every three years for workers who are required by the standard to wear a respirator for 30 or more days per year.**
- Train workers on work operations that result in silica exposure and ways to limit exposure.
- Keep records of workers' silica exposure and medical exams.

New OSHA Requirements:

General industry and maritime employers must comply with all requirements of the standard by **June 23, 2018**, except for the following: (<https://www.osha.gov/Publications/OSHA3682.pdf>)

- **Medical surveillance** must be offered to employees who will be exposed at or above the action level for 30 or more days a year starting on **June 23, 2020**. (Medical surveillance must be offered to employees who will be exposed above the Personal Exposure Limit for 30 or more days a year **starting on June 23, 2018**.)
- Hydraulic fracturing operations in the oil and gas industry must implement engineering controls to limit exposures to the new PEL by **June 23, 2021**.

The standard for general industry and maritime requires employers to:

- Measure the amount of silica that workers are exposed to if it may be at or above an action level of 25 µg/m³ (micrograms of silica per cubic meter of air), averaged over an 8-hour day;
- Protect workers from respirable crystalline silica exposures above the permissible exposure limit of 50 µg/m³, averaged over an 8-hour day;
- Limit workers' access to areas where they could be exposed above the PEL;
- Use dust controls to protect workers from silica exposures above the PEL;
- Provide respirators to workers when dust controls cannot limit exposures to the PEL;
- Restrict housekeeping practices that expose workers to silica where feasible alternatives are available;
- Establish and implement a written exposure control plan that identifies tasks that involve exposure and methods used to protect workers;
- **Offer medical exams — including chest X-rays and lung function tests — every three years for workers exposed at or above the action level for 30 or more days per year;**
- Train workers on work operations that result in silica exposure and ways to limit exposure; and
- Keep records of workers' silica exposure and medical exams.