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# **Respirable Silica Exposure Control Plan**

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## I. PURPOSE

The purpose of this document is to establish and implement a written exposure control plan that identifies tasks involving silica exposure and methods to protect employees. JBI Construction Inc. is committed to providing a safe and healthy workplace to our employees. JBI has a duty to protect employees from over-exposure to work tasks that generate respirable silica dust and to ensure compliance with OSHA/IOSHA General Standard 29 CFR 1910.1053 and Construction Standard 29 CFR 1926.1153. Over-exposure to respirable crystalline silica can lead to numerous health problems such as silicosis, lung cancer, chronic bronchitis, kidney and autoimmune disease.

## II. SCOPE

The objective of this plan is to establish a written program outlining general guidelines for employees who are expected to be exposed to respirable crystalline silica as outlined in Section IV; or through other means, which are determined by the competent person. JBI Construction Inc.'s Safety Manager is the company's designated competent person for all silica related activities that affect JBI employees. The jobsite foreman is the onsite competent person and is responsible for implementation of this exposure control plan. Frequent and regular inspections of applicable areas of the jobsites, material and equipment is required to ensure that it is being properly implemented.

## III. RESPONSIBILITIES

### A. Safety Manager will:

1. Monitor the overall effectiveness of the program
2. Assist with air quality testing and equipment as needed
3. Provide training for designated "Competent Persons" and employees
4. Enforce compliance with this policy
5. Review and update the program on an annual basis as necessary
6. Ensure that the materials, tools, equipment, PPE and other resources (i.e. worker training) required to fully implement and maintain this ECP are available where and when required
7. Maintain records of training, fit-test results (if applicable), crew talks, and inspections (for equipment, PPE, and work methods/practices)
8. Provide employees utilizing dust particulate respirators on voluntary basis with copy of OSHA Appendix D, Standard 29 CFR 1910.134.

B. Foremen and employees have the responsibility to:

1. Understand their assigned tasks related to safety and conduct work in manner that ensures the risk is minimized and adequately controlled
2. Apply the proper training and equipment to safely perform their work, including use of PPE
3. Assist with the assessment of identification of silica hazards
4. Comply with the directives of this policy
5. Report any unsafe conditions or any exposure incidents

IV. HAZARDS, RISK ASSESSMENT AND SPECIFIED EXPOSURE CONTROL METHODS

Concrete, rock and sand can contain a high percentage of silica. Cutting, drilling, grinding, chipping or jackhammering without proper dust controls and PPE can expose workers to levels of airborne respirable crystalline silica that are above the exposure limit listed in OSHA Regulations. The permissible exposure limit (PEL) for respirable crystalline silica (including quartz) is 50mg/m<sup>3</sup>, averaged over an 8-hour day, with the Action Level of 25mg/m<sup>3</sup>.

A. This program will address work processes that expose employees to the potential of silica dust. Work items completed that could produce respirable crystalline silica include, but are not necessarily limited to:

1. Concrete Cutting/Sawing
2. Concrete Drilling/Coring
3. Chipping/Jackhammering/Drop Hammer
4. Sweeping
5. Excavation and placement of rock/gravel

JB I will address controlling exposure to respirable crystalline silica through air monitoring, engineering controls, work practices/administrative controls and PPE. JB I Construction, Inc. has conducted Air Monitoring Tests that are specific to our work practices and activities related to saw/cutting, drilling/coring, jackhammering, and housekeeping (see results in Appendix A). All testing results for listed activities are under the Action Level requirements set forth in OSHA Standard 1926.1153. The following identified work activities list specified control measures methods. Some work activities have been determined to not require use of respirators, however, JB I Construction, Inc. will provide N95 dust particulate respirators in the required NIOSH APF for employee voluntary use. While respirators are not required, they are often an effective method of protection against hazards when properly selected and worn. Dust particulate respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard. The Safety Manager will train employees on proper wear, fit, care and maintenance of dust particulate respirators.

Work Activity	Control Method	Personal Protection Equipment	Comments
Cutting/Sawing concrete	Natural Ventilation [1] Restricted Access [2] Less than 4 hours per shift [3]	Voluntary use of N95 dust particulate respirator	Air monitoring results determined typical work item tested to be under OSHA PEL and Action Levels
Drilling rig/Coring concrete	Natural Ventilation [1] Restricted Access [2] Less than 4 hours per shift [3]	Voluntary use of N95 dust particulate respirator	Air monitoring results determined typical work item tested to be under OSHA PEL and Action Levels

Chipping/Jackhammering hand held –	Natural Ventilation [1] Restricted Access [2] Less than 4 hours per shift [3]	Voluntary use of N95 dust particulate respirator	Air monitoring results determined typical work item tested to be under OSHA PEL and Action Levels
Jackhammering or Drop Hammer – equipment mounted	Restricted Access [2] Enclosed cab [4]	None Required	
Excavation/Grading – earthwork equipment	Enclosed cab [4] Wetting of materials [5]	None Required	Utilize water truck to wet down materials as needed for reduction of dust
Stone/Gravel	Enclosed cab [4] Wetting of materials [5]	None Required	Utilize water truck to wet down materials as needed for reduction of dust
Sweeping/Housekeeping	Natural Ventilation [1] Restricted Access [2] Less than 4 hours per shift [3] Wetting of materials [5]	None Required Voluntary use of N95 dust particulate respirator	Dampen dust materials prior to sweeping/ removal

Notations:

[1] Natural Ventilation – work to only occur outdoors in open area

[2] Restricted Access – to help ensure reduction to silica exposure JBI will restrict access to work activities that generate respirable silica dust. Restricted access by all others to areas where employees are performing handheld power sawing, walk behind sawing, jackhammering/chipping. When JBI employees are performing silica dust producing tasks listed in this section above:

- a.) The job foreman will inform workers about the silica exposures
- b.) The affected work area will be identified or barricaded to prevent other workers or trades from exposure
- c.) As able, work activities will be scheduled to minimize the silica related effect on, and from others

[3] Work Activity Time Restriction – to help ensure reduction to silica exposure JBI will restrict work durations of items that produce respirable silica dust. Work activities identified will be kept to under 4 hours a day. Any activity identified that will exceed the 4 hours will be transferred to another employee to ensure no one worker exceeds the time limit set.

[4] Enclosed Cab – as an engineering control JBI Construction Inc. heavy equipment utilized in demolition, earthwork or grading will be equipped with an enclosed cab with fresh air supply, filter system and door seals.

[5] Wetting of materials to reduce dust. Utilization of JBI water truck to dampen earth or rock/gravel as conditions warrant for dust control.

## V. OTHER PERSONAL PROTECTIVE EQUIPMENT AND HYGIENE

Workers are required to wear approved safety glasses, face shields and hearing protection when cutting, drilling, chipping or jackhammering. Workers need to remove dust from hands, arms, and face prior to eating, drinking, smoking, etc. so not to ingest silica dust from body.

## VI. TRAINING

JBI Construction, Inc. will conduct employee training. Training will be conduct by JBI’s Safety Manager. JBI will maintain records of attendance, dates of training, and training materials will be documented and retained. Additional training will be made available upon employee’s request.

### A. Training topics to include:

1. Health hazards of silica dust exposure (including signs and symptoms)
2. Operations and materials that can produce silica dust exposures
3. Engineering Controls, Administrative Controls, and Work Practices used to protect workers
4. The importance of proper equipment control and maintenance
5. Housekeeping procedures
6. Proper use of respirators used on voluntary basis – including fit, maintenance and care
7. Personal hygiene procedures to reduce exposure
8. How smoking increases the risk of developing silicosis and other lung damage