

Silica Control Program

A. Company Policy:

The purpose of this program is to inform employees that FMG has established a Silica Control Program that includes all employees exposed to respirable crystalline silica at or above the OSHA Action Level. The program will include air monitoring to assess employee exposures, engineering and work practice controls to reduce silica exposures, medical examinations (with emphasis on the lungs) to check on employees' health, providing appropriate respiratory protection, and employee training. The purpose of this program is to prevent occupational disease, primarily silicosis, from silica exposures in the workplace. The program applies to employees that are performing these work tasks in our company:

- Saw cutting/coring of concrete (Table 1)
- Drilling of concrete (Table 1)
- Grinding concrete surfaces (Table 1)

Arron Innes is the program coordinator and will review and update the program, as necessary. Copies of the written program may be obtained from Arron Innes in the main office. Under this program, employees will be informed of the possible effects of silica exposure on your health; the control measures implemented to reduce exposures; the purpose and selection of respiratory protection and instructions on fitting, use and care; and the purpose of medical monitoring. Compliance with our company's safety and health requirements, including the Silica Control Program is required by all employees.

Definitions:

Action Level means a concentration of airborne respirable crystalline silica of 25 micrograms per cubic meter of air ($\mu\text{g}/\text{m}^3$) or 0.025 milligrams per cubic meter of air (mg/m^3).

Employee Exposure means the exposure to airborne respirable crystalline silica that would occur if the employee were not using a respirator.

Respirable Crystalline silica means Quartz, Cristobalite and/or Tridymite contained in airborne particles that are determined to be respirable by a sampling device designed to meet the characteristics for respirable-particle-size-selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air Quality - Particle Size Fraction Definitions for Health Related sampling.

Permissible Exposure Limit (PEL) means a concentration of airborne respirable crystalline silica of $50 \mu\text{g}/\text{m}^3$ or $0.05 \text{mg}/\text{m}^3$, calculated as an 8-hour Time Weighted Average (TWA).

B. Specified Exposure Control Methods:

For each employee engaged in a task identified in Table 1 of the OSHA Respirable Crystalline Silica standard for Construction, FMG will fully and properly implement the engineering controls, work practices, and respiratory protection specified for the task in Table 1 (see attached). In implementing these control measures, we will:

- For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust;
- For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust;
- For measures implemented that include an enclosed cab or booth, ensure that the enclosed cab or booth;
 - Is maintained as free as practicable from settled dust;
 - Has door seals and closing mechanisms that work properly;
 - Has gaskets and seals that are in good condition and working properly;
 - Is under positive pressure maintained through the continuous delivery of fresh air;
 - Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10 µm range (e.g., MERV-16 or better); and,
 - Has heating and cooling capabilities.
- Where an employee performs more than one task in Table 1 during the course of the shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task will be the respiratory protection specified for more than four hours per shift. If the total duration of all tasks in Table 1 combined is less than four hours, the required respiratory protection for each task will be the respiratory protection specified for less than four hours.

For tasks not listed in Table 1, or where engineering controls, work practices, and respiratory protection are not fully implemented, alternative control measures will be implemented as discussed below.

C. Exposure Control for Tasks Not Listed on Table 1

1. Air Monitoring:

Air monitoring surveys are used to evaluate personal, breathing zone, employee exposure levels for each process and operation. Air sampling is conducted on representative employees in each department/job category on each shift to evaluate 8-hour time-weighted average exposures to respirable crystalline silica. The monitoring results are used to:

- Determine which employees should be included in the Silica Control Program.
- Identify which equipment, employee locations, and areas are candidates for installation of engineering control measures; and
- Select appropriate respirators to reduce employee exposures.

Air sampling will be conducted by a Certified Industrial Hygienist (CIH) through our insurance provider and/or an outside Consulting Firm. Monitoring will be conducted using high flow sample pumps and cyclones, or other recognized size selective devices, and analyzed by an AIHA accredited

laboratory. The air sampling pumps are to be calibrated before and after the survey to ensure validity of the measurements and results.

Initial surveys are conducted to evaluate representative employees' exposures during operations at this facility/job site. If initial monitoring indicates that employee exposures are at or above the OSHA Action Level, but below the OSHA PEL, monitoring will be repeated within six months of the most recent monitoring. Where initial or subsequent exposure monitoring reveals that employee exposures are above the OSHA PEL, monitoring will be repeated within three months of the most recent monitoring. Monitoring will continue at the required frequency until at least two consecutive measurements, taken at least seven days apart, are below the Action Level.

Employees will be informed of air sampling results within 5 working days after completion of an exposure assessment. Affected employees will be notified of the air sampling results either individually in writing, or by the posting of the results in an appropriate location that is accessible to all affected employees. Where exposure monitoring shows employee exposures are at or above the OSHA PEL, the notification will inform the employee of the actions that will be taken to reduce employee exposures to or below the PEL.

Additional monitoring will be conducted if changes in production, equipment or controls are implemented to determine the effect of those changes on employee respirable crystalline silica exposures. Any employee wishing to obtain further information or the monitoring results should contact Onsite safety or site superintendent.

2. Engineering and Work Practice Controls:

If silica exposures exceed the OSHA PEL, feasible engineering and/or work practice controls will be implemented to reduce employee exposures to nonhazardous levels. The ultimate goal is to eliminate hazardous employee exposures to silica levels (i.e., above the OSHA PEL). However, where this is not feasible, measures to **reduce** employee exposures to respirable silica will be implemented. For example, the following controls have been implemented to date:

D. Other Exposure Control Items

1. Labels and Other Warnings

Materials, mixtures and other products containing more than 0.1% crystalline silica will have required specific labels, and Safety Data Sheets are on file and available to employees. The purpose of warning signs and labeling is to inform and alert workers of the presence and type of hazard associated with the area or product so that appropriate precautions may be taken.

2. Regulated Areas

Regulated areas must be established wherever airborne concentrations of respirable silica are, or can reasonably be expected to be, in excess of the PEL. For all regulated areas, the area must be barricaded and warning signs must be posted.

DANGER
Respirable Crystalline Silica
May Cause Cancer
Authorized Personnel Only

3. Housekeeping

The following housekeeping control measures have been established to reduce airborne dust exposures. Each department supervisor is responsible for housekeeping in their area.

- Cleaning with compressed air and dry sweeping silica are prohibited.
- HEPA- filtered vacuuming and washing down with water are used in place of dust-producing methods.
- Emphasis has been placed on maintaining surfaces free of accumulation of silica dust and on prompt spill cleanup to help reduce the potential for material to become airborne.

4. Hygiene Procedures

The following hygiene procedures have been implemented to reduce employee exposures at the site and the potential for contamination of the employees' vehicle and home. Each department manager is responsible for enforcing hygiene procedures.

- Smoking, eating and drinking are prohibited in areas with potential silica exposure.
- Employees' work clothing must be HEPA-filtered vacuumed before entering the lunch and break area and before removal at the end of the shift.
- Cleaning of work clothing by shaking or blowing with compressed air is prohibited.

5. Employee Training

As part of our Hazard Communication Program, employees will be informed of silica health hazards; the specific operations that could result in exposure to respirable crystalline silica above the OSHA PEL; the specific procedures implemented to protect employees from exposure to respirable crystalline silica including work practices and the use of personal protective equipment (e.g., respirators and protective clothing); the contents of the OSHA Silica Standard; the purpose and description of the medical surveillance program.

6. Medical Surveillance Program

Any employee who are required to wear respiratory protection for silica exposure control for more than 30 days per year will be included in the FMG Medical Surveillance Program. FMG has contracted with Michigan Urgent Care to perform baseline and periodic medical examinations, evaluate chest x-rays and advise any action needed as a result of the evaluation. The medical examination is performed by a licensed or certified physician. Problem chest x-rays are reviewed to determine if further evaluation is needed. Medical records will be maintained for at least 30 years following the employee's termination of employment, unless the employee is employed for less than one year and the records are provided to the employee upon termination.

6. Respiratory Protection

All employees exposed to crystalline silica above the OSHA Action Level will be included in the respiratory protection program. Appropriate respirators are selected based on the employee exposure levels. Employees will be fit tested to ensure an adequate fit. Employees are then trained in the use and care of respiratory protection as part of the training program.

7. Recordkeeping

Records are maintained, and made available to employees upon request, for all medical examinations, air sampling surveys and training sessions. Employees' requests for records should be directed to the Safety Department.

- Survey information includes sampling and analytical methods; type of personal protective equipment, if any, in use at the time of sampling; and the monitoring results.
- Records will be maintained for at least 30 years following termination of a worker's employment.
- Each employee is able to obtain information on his/her exposure and medical examinations.