1/1/2017

Insert your firm name here

Exposure Control Plan

For Crystalline Silica



Exposure Control Plan (ECP) designed specifically for the Terrazzo and Mosaic Industry

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**About Silica**

Silica is commonly found as “sand” and “rock”. The three main forms or ‘polymorphs’ of silica are alpha quartz, cristobalite and tridymite. Quartz is commonly referred to as crystalline silica.

**Health Hazards Associated with Silica Exposure**

The health hazards of silica are from fine crystalline silica dust, *specifically exposure to the size fraction that is considered to be respirable. This can lead to* silicosis. The fine particles are deposited in the lungs, causing thickening and scarring of the lung tissue. The scar tissue restricts the lungs’ ability to extract oxygen from the air. This damage is permanent, but the symptoms of the diseases may not appear for many years. As noted in the following Figure, (respirable) silica dust is very small, and is not visible to the human eye.

|  |  |
| --- | --- |
|  | SilicaDust-300x224 |
|  | Figure 1: Crystalline silica up close. 1000 times magnification of sand dust. These particles are small enough to be trapped in lung tissue. |

A worker may develop any of three types of silicosis, depending on the concentration of silica dust and the duration of the exposure:

* Chronic Silicosis: Develops after 10 or more years of exposure to crystalline silica and relatively low concentrations.
* Accelerated Silicosis: Develops 5 to 10 years after initial exposure to crystalline silica at high concentrations.
* Acute Silicosis: Develops within weeks, or 4 to 5 years, after exposure to very high concentrations of crystalline silica.

Initially, workers with silicosis may have no symptoms; however, as the disease progresses, workers may experience: Shortness of breath, severe cough or weakness. Silica has also been linked to bronchitis, tuberculosis, lung cancer and in extreme cases, even death.

**DEFINITIONS**

**Action Level:** Means an airborne concentration of 25 µg/m³ calculated as an 8-hour TWA. Exposure at or above the action level triggers requirements for exposure assessment.

**APF** Assigned Protection Factor, APF 10 is the first level of respiratory protection and may be a dust or half mask. Both must be fit tested for compliance.

**Competent Person**: an individual who is capable of identifying existing and foreseeable respirable crystalline silica hazards in the work place and has the authorization to implement corrective actions. The Competent Person must have knowledge and understanding of the Exposure Control Plan.

**ECP:** Exposure Control Plan. A written plan that lays out procedures and protocols to protect employees from exposure to silica. Must be available for all employees and representatives of OSHA for viewing and/or copying. ECP should be reviewed annually.

**Engineering Controls:** The use of fans, vacuums or water tokeep PEL belowof 50 µg/m³ as an 8-hour TWA.

**HEPA Filter:** High-Efficiency Particulate Air, means a filter that is at least 99.97 % efficient in removing mono-dispersed particles of .03 micrometers in diameter. Common for housekeeping and Table 1 tasks.

**Housekeeping:** refers to routine cleaning of floors, clothes, machines or dust collection bins/filters.

**Indoor Area:** An area where dust can build up unless additional exhaust is provided. A work area with only a roof is not an indoor area.

**Objective Data:** information such as air monitoring data from industry-wide surveys or calculations based on composition of substance, demonstrating employee exposure to respirable crystalline silica associated with a particular product or material or a specific process, task or activity. The data must reflect workplace conditions closely resembling types of material, control methods, work practices and environmental conditions in the employer’s current operations. NTMA has and is always working to collect more industry objective data.

**PEL:** Permissible Exposure Limit. OSHA has a PEL of 50 µg/m³ as an 8-hour TWA for crystalline silica

**TWA:** Time Weighted Average, TWA measurements account for variable exposure levels over the course of a work shift.

**µg/m³:** Milligram per cubic meter. There are 1,000 micrograms (mcg) in 1 milligram (mg)

**This is a general overview of the standard: the NTMA contractors and the assigned Competent Person should refer to the “Small Entity Compliance Guide” # 3902-10 2016, published by OSHA for more detailed information. NTMA also encourages OSHA training or education classes on silica exposure.**

**Road to Compliance**

Determine if the silica exposure standard applies to your work or task, even if engineering controls fail. If the answer is yes, there are two options available, select one and continue;

1. **Specified** exposure control methods - Follow Table 1 for Compliance
2. **Alternative** exposure control methods – Monitoring of air and assign protection as needed

**SPECIFIED CONTROL METHOD- Employers** who **fully and properly** implement protections as described in Table 1....

* Do NOT have to assess silica exposure levels
* Do NOT have to or keep employee exposures at or below the permissible exposure limit (PEL).
* Do use respiratory protection as per Table 1
* Do keep records on employees requesting medical exams

**ALTERNATIVE METHOD–** must....

* Determine levels of exposure for employees (Exposure Assessment & Monitoring)
* Institute plans for tests resulting in 25 µg/m³ as an 8-hour TWA,
* Limit exposure to crystalline silica to 50 µg/m³) as an 8-hour TWA.
* Use engineering controls and/or respiratory protection to limit PEL.
* Keep records of employee exposures to crystalline silica and medical exams

**BOTH PLANS MUST:**

* Offer medical surveillance for employees wearing a respirator 30 days or more in a year
* Communicate silica hazards and train employees
* Restrict housekeeping practices that expose employees to respirable silica
* Establish a written exposure control plan (ECP)
* Designate a competent person
* maintain required records

The ECP must be reviewed annually for effectiveness, and up dated as needed. The ECP must be available for all employees to review and copy, as well as OSHA representatives.

**IMPORTANT**: The Specified Method is based on the assumption all dust contains some crystalline silica and precautionary steps are taken. The alternative method verifies, through SDS sheets/monitoring methods or objective data tasks/materials are in relation to PEL. **Following Table 1 requires no measurement of exposures limits. Compliance is achieved and no monitoring required. If SDS sheets on all materials verify no silica, compliance is met.**

While some materials related to terrazzo may contain very small amounts of silica, most tasks in the installation of terrazzo will fall below the PEL due to equipment fitted with engineering controls (water delivery or vacuums).

**SCOPE:**

The standard applies to all occupational exposures to respirable crystalline silica in construction work, except where employee exposure will remain below 25µg/m³ as an 8-hour Time Weighted Average (TWA) under any foreseeable conditions. Exposure occurs when the following tools are used on concrete, brick, block, stone, mortar and other materials containing crystalline silica.

* Stationary saws
* Hand held power saws
* Walk behind saws
* Rig mounted drills or core saws
* Hand held drills, impact and rotary hammer drills
* Jackhammers and chipping tools
* Hand held grinders
* Walk behind floor grinders
* Shot blasters
* Drivable milling machines

**When the Standard Does Not Apply**

The standard does not apply where employee exposure will remain below 25 µg/m³ as an 8-hour TWA under reasonably foreseeable conditions. If Objective Data can substantiate employee exposure will remain below 25µg/m³ as an 8-hour TWA, no actions need to be taken. However, the task must be the same, the environment must be similar and no significant change in materials. OSHA considers failure of engineering controls used to control dust as reasonably foreseeable. This means that if an employee exposure is less than 25µg/m³ only due to engineering controls. The standard applies

**Short Term**: if a task has only minimal exposure to respirable crystalline silica, it may be exempt. An example would be drilling a single hole into a concrete slab for a moisture meter test. The exposure to silica is present, but over an 8-hour TWA, the exposure is considered minimal. The NTMA recommends keeping dust to minimum even during short periods.

**Risk Identification:** Crystalline Silica is contained on some of the products used/encountered on terrazzo and mosaic projects. Review of SDS sheets can reveal the amount of potential exposure to crystalline silica. Virtually all set concrete/cement contains crystalline silica.

**Risk Assessment:** assessment of risk must be reasonable, and it is preferred to error on the side of caution.

* Consult with Safety Resources/Safety Managers who perform similar work Review data or reports available in the public domain *(i.e. Information available through regulatory agencies (including local OSHA offices) and industry associations (including PCA, NTMA, Construction Safety Alliance)*.
* Review data or reports available in the public domain *(i.e. Information available through regulatory agencies (including local OSHA offices) and industry associations (including PCA, NTMA, Construction Safety Alliance)*.

**Responsible Parties**

**Management is responsible for:**

* Regularly evaluating new equipment and technologies that become available, as able/appropriate, purchasing the “best available” equipment/technologies. Technologies with (silica) dust suppression and/or capture technologies will generally be given preference over equipment/technologies that lack such.
* Implementing a suitable respirable silica exposure monitoring program (alternative method) or otherwise ensuring representative exposure monitoring results are available. The purpose of the program will ensure that over time *[Insert Company Name Here]* has quantifiable objective data available for all regularly occurring, as well as reasonably foreseeable, work activities performed by our company.
* Ensuring project and/or task specific Exposure Control Plan (ECP) is per task, are developed communicated and effectively implemented as appropriate.
* Ensuring that all employees *(i.e. Managers, Supervisors and Workers)* receive the necessary education and training related to this Policy, as well as project/task specific ECPs.
* Maintaining applicable records *(i.e. exposure sampling, inspections, respirator fit tests, training records, etc.)* in accordance with *[Insert Company Name Here]’s* record retention procedures/practices.
* Conduct an annual review of this Policy, as well as: (1) project/task specific ECP’s, (2) available exposure monitoring data, (3) Industry/Regulatory information, and (4) new/emerging equipment/technologies on a regular *(i.e. annual)* basis.
* Designating a “Competent Person”. Any employee is eligible, including ones who do not work on the project site. No specific training is required. The training to implement the ECP shall be determined by the employer management team. Training should be directed to tasks involving terrazzo installations. The Competent person shall have the authority to make changes as needed.

**Supervisors/Foreman) are responsible for:**

* Obtaining a copy of the project/task specific ECPs *(and/or other similar such information)*, and ensuring such are made available at each work site.
* Ensuring that all the tools, equipment, PPE and materials *(including water)* necessary to implement the ECP is available *(and in good working order)* prior to allowing work activities to commence.
* Ensuring that all workers *(under the supervisor’s direction and control)* have received the necessary education and training. As appropriate, each supervisor must ensure that workers are available to “demonstrate competency” for identified tasks.
* Ensuring that workers adhere to the project/task specific ECP, including PPE and personal hygiene *(i.e. including be clean shaven where the respirator seals to the user’s face)* requirements.
* Coordinating work activities with the Owner/Prime Contractor as required, and/or otherwise implementing the controls necessary to protect others *(i.e. erecting of barricades and signage)* who could be adversely effected by *[Insert Company Name Here]’s* acts *(or omissions).*

**Employees (and subcontracted employees) are responsible for:**

* Knowing the hazards of silica dust exposure.
* Using the assigned protective equipment in an effective and safe manner.
* Working in accordance with the project/task specific ECP and the Competent Person.
* Reporting *(immediately)* to their supervisor, any hazards *(i.e. unsafe conditions, unsafe acts, improperly operating equipment, etc.).*

**Substitution and Elimination:** Whenever possible substitute products containing crystalline silica with products that do not contain *(or contain a lower percentage of)* crystalline silica. Advocate for the use of methods that reduce the need for cutting, grinding, or drilling of concrete surfaces.

**Administrative Controls:** Administrative controls are those that aim to control or otherwise minimize the release of silica through the use of work procedure and work methods, rather than by affecting the actual physical work. Common examples of administrative controls include, but are not limited to:

* Posting of warning signs.
* Rescheduling of work as to avoid the activities of others.
* Relocating unprotected workers away from dusty areas.

When administrative controls are used, employ the following systems and safe work practices:

* In conjunction with the Owner/Prime Contractor, suitable exposure control strategies *(both within and outside* [*Insert Company Name Here]* ‘*s capabilities/responsibilities)* will be discussed and determined. As necessary/appropriate, supplemental (to this policy/procedure) project and task specific Exposure Control Plans will be developed.
* Suitable housekeeping, restricted work area, hygiene practices, training and supervision procedures/standards will be determined and implemented on projects.
* As appropriate, barriers will be erected around known silica dust generating activities, and/or warning signs will be posted.
* As able, work activities will be scheduled to minimize the silica related effect on, and from, others.

**Examples of APF 10 Respirators**

****

**Must be fit tested** (graphics courtesy of OSHA)

**Specified Exposure Control Methods**

**TABLE 1**

**Required Respiratory Protection**

**\*APF (Assigned Protection Factor)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Equipment/ Task** | | **Control Methods** | **Less than 4 hours** | **Greater than 4 hours** |
| Stationary masonry saw | Cutting concrete cement,  terrazzo/tile or masonry products | SAW EQUIPPED WITH INTEGRATED WATER DELIVERY SYSTEM TO BLADE PER MANUFACTURERS INSTRUCTIONS | NONE | NONE |
| Handheld power saw | Cutting concrete cement, terrazzo/tile or masonry products | SAW EQUIPPED WITH INTEGRATED WATER SUPPLY SYSTEM TO BLADE PER MANUFACTURERS INSTRUCTIONS  OUTDOORS  INDOORS | NONE  APF 10 | APF 10  APF 10 |
| Walk-Behind saw | Cutting concrete, cement, terrazzo/tile or masonry products | SAW EQUIPPED WITH INTEGRATED WATER DELIVERY SYSTEM TO BLADE PER MANUFACTURERS INSTRUCTIONS  OUTDOORS  INDOORS | NONE  APF10 | NONE  APF 10 |
| Hand held drill and/or impact/ rotary hammer \* | Drilling into concrete or masonry | Equipped with commercial shroud or cowling. Dust collector system with filter at 99% efficiency. Use HEPA filter vacuum cleaning holes. | NONE | NONE |
| Jackhammer or chipping tools\* | Concrete, cement, terrazzo or masonry | Tool with water delivery system at point of impact or dust collection system  Outdoors  Indoors | NONE  APF 10 | APF 10  APF 10 |
| Hand Held Grinder\* | Grinding cement, mortar, concrete or terrazzo | Integrated water delivery system per manufacturer  Commercial shroud and dust collection system, Collector must provide 25 cubic feet of air flow and be 99% efficient with a filter cleaning mechanism  OUTDOORS  INDOORS | NONE  NONE  NONE | NONE  NONE  APF 10 |
| Walk behind milling machines and Grinders |  | Machine equipped with integrate water delivery system used per manufacturer’s instructions  OR  Dust collection system with 99% efficiency  Indoors use HEPA filter to remove loose dust | NONE | NONE |
| Walk behind Shot Blaster\*\* | Concrete Preparation  BLASTING | Use a machine with protective shroud and a vacuum system with 99% efficiency. Use steel shot.  OR  Wet systems | NONE | NONE |

SHORT TERM EXPOSURE:

\*It is possible short-term exposure to silica to occur and still be exempt from required controls. Exposure must be for very short period of time. An example would be drilling a hole into concrete for moisture test probes. If the duration is less than 15 minutes in an 8 hour shift and no other silica exposure is assumed, the standard does not apply. (per OSHA Small Entity Compliance publication, page 4 )

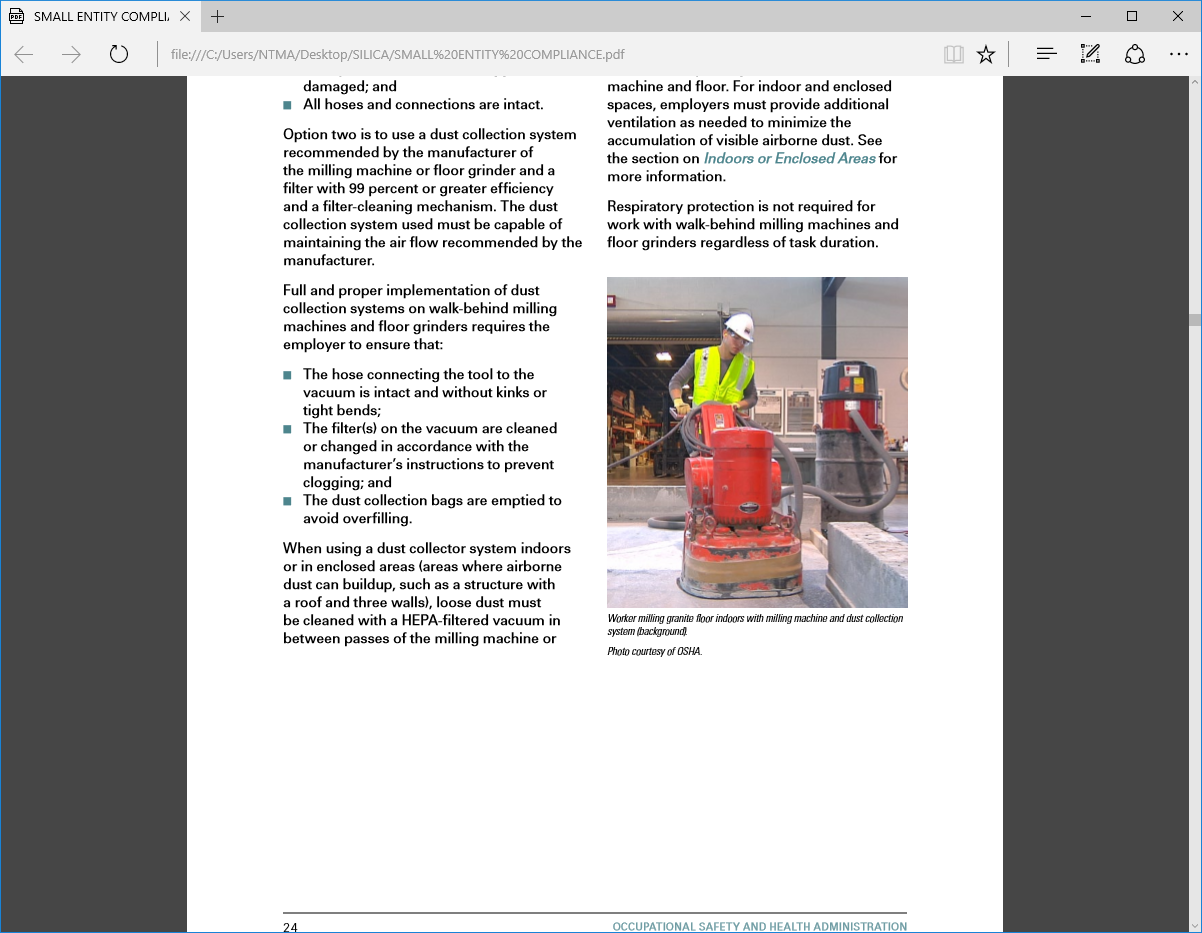
\*\*Abrasive blasting in most industries creates extremely high amounts of dust exposure. Most shot blasting of concrete floors as preparation for terrazzo installation is done with a walk behind contained machine that uses steel shot with a dust collection system. When the task includes a high efficiency dust collection system and steel shot, PEL is in compliance with the specified plan, no further action is required. Cleaning and disposing of collected dust and debris, are recommended to be done with APF 10 respirators.

**TASKS:**

**Reasonable Assumptions:** OSHA has no intent to impose unfair or unnecessary costs to contractors. They do however want to protect workers and employees from silica exposure. OSHA allows the use of objective industry data and employers to make a reasonable assumption that employees will or will not be exposed to airborne concentration of more than 50 µ/m³ as an 8-hour time weighted average. Thus, it is the employer, through the competent person who decides when the standard applies and controls implemented. Employees should work together to control all dust exposure.

While most products used in terrazzo contain no crystalline silica, trace amounts of silica are typically present in most aggregates. Using Specified Control Methods in Table 1 for tasks listed, met requirements with no testing required. The following explain Specified Control Methods.

**WALK BEHIND SHOT BLASTING:**

When used with steel shot and a high efficiency (99%) filter vacuum system per manufacturer’s requirements, compliance to the standard is meet. No further monitoring or protection is required.

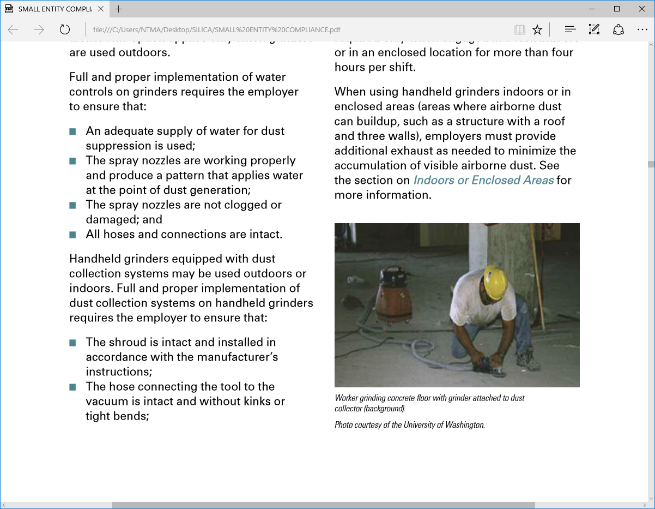
While cleaning these machines and collection trays are short periods of time, respirators are recommended during the task. Do not create dust and dispose of dust/debris in trash using a sealed container.

**WALK BEHIND MILLING MACHINE:**

*When used wet (integrated water supply) to control dust, compliance is met. When used dry, a high efficiency dust collection system per manufacturer’s recommendation meets compliance. Respirators are recommended to clean and dispose of dust/debris. Do not clean milling machine with a brush or compressed air supply. Dispose of dust/debris minimizing dust dispersal. Dust/debris should be disposed of in a sealed contained.*

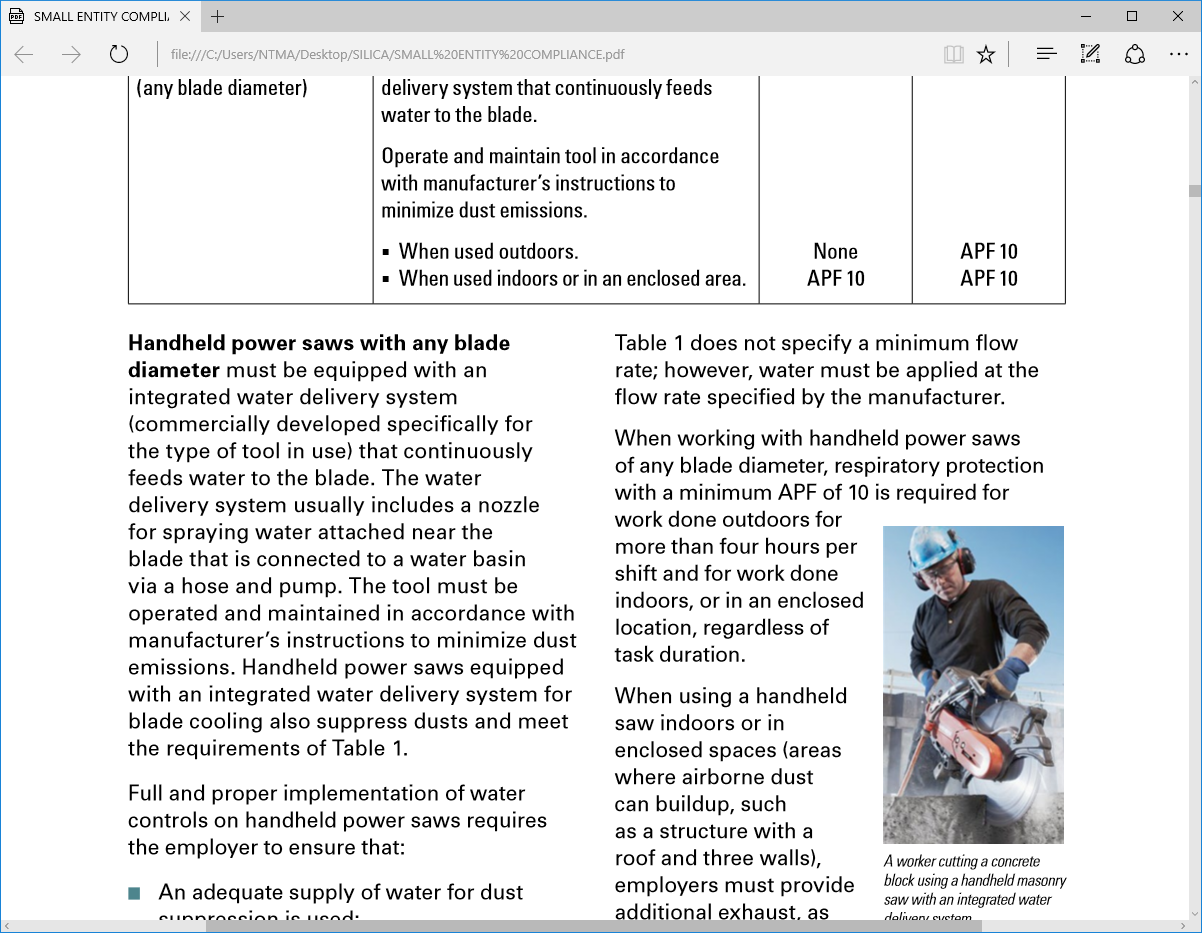
Terrazzo Milling Machine with Dust Collection System: ***Photo courtesy of OSHA***

**HAND GRINDING:**

*****When using handheld grinders indoors or in enclosed areas, employers must provide additional exhaust to minimize visible airborne dust containing crystalline silica. .*

*Respiratory protection is not required when water-based dust suppression is used regardless of task duration. When dust collection systems are used, respiratory protection with a minimum APF of 10 is required only when task is engaged indoors or for more than 4 hours per 8 hour shift.*

Worker grinding floor with dust collector attached: ***photo courtesy of the University of Washington***

**HANDHELD SAWS:**

Handheld power saws equipped with a water delivery system may be used outdoors with no respirator protection for periods not exceeding 4 hours in an hour work day. Using more than four hours or indoors requires respiratory protection with a minimum APF of 10.

Cutting concrete block with water delivery system: ***Photo courtesy of Husqvarna***

**DRILLING:**

Most drilling by terrazzo installers is occasional and only brief exposures to respirable silica. If exposure is 15 minutes or less in the 8 hour TWA and exposure can reasonably be assumed to be below 25µ/m³ . The standard does not apply (see page 10).

Hole drilling into concrete for a moisture probe insert: ***Photo courtesy of Wagner Meters***

**TOOL BOX TALKS**

Review the dangers of silica dust exposure to employees. It is company policy to adhere to the following, notify your supervisor of concerns to respirable silica dust exposure.

**General guideline/policies to employees**:

1. Use vacuums or water to suppress dust at the source
2. Keep equipment in working order, immediately notify supervisor if equipment is not working properly
3. Do not use crystalline silica as an abrasive blasting material
4. Wear disposable or washable work clothing.
5. Vacuum dust from clothing, do not bring home.
6. Avoid eating, drinking or smoking in areas where silica dust is present

WHAT TASKS DO HAVE TODAY? DISCUSS POSSIBLE EXPOSURE TASKS TO SILICA and CONTROLS

**Do’s:**

Use respirators to clean dust collection bins

Keep all dust to a minimum

Inform others of potential hazards and best practices

Be aware of workers around you and help protect them from dust

Ask for a respirator if you have any concerns about respirable silica

Offer medical exams to employees required by OSHA standards to wear respirators more than 30 per year

**Dont’s**:

Sweep and create dust

Continue to work in rooms with others who create dust without respirator protection

Brush or air blow to clean equipment spreading dust

Use equipment or tools that are not functioning properly

INSERT FIRM NAME wants every employee to return home safe and healthy. Silica exposure is a slow and time building occurrence. Together, we can help ensure all employees have safe and long lives by following basic and common sense rules regarding dust exposure.

**TASK: Shot Blasting**

**Re: Dust Control Plan**

INSERT YOUR COMPANY HERE

Competent Person: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Title\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**TASK Description**: Preparation of concrete floor inside building in preparation to install epoxy or monolithic terrazzo using a self-propelled machine.

**Control Description Controls:**

* Use machine equipped with the commercially available shroud and a vacuum dust collection system
* Flow rate recommended by the shot blaster manufacturer, a filter that is at least 99 percent efficient, and a filter cleaning mechanism.
* Use a portable fan to exhaust air and prevent the buildup of dust.
* **Work practices:**
* Check shrouds and hoses to make sure they are not damaged before starting work. Make sure the hoses do not become kinked or bent while working.
* Use switch on vacuum to activate filter cleaning at the frequency recommended by the manufacturer.
* Replace vacuum bags as needed to prevent overfilling.
* Use steel shot as recommended by manufacturer.
* Reduce the release of visible dust. If visible dust increases, STOP: check controls and adjust

**Respiratory protection:**

* No respirator is required when steel shot and a vacuum system is used per manufacturer’s recommendations.
* Recommend use of APF 10 respirator when handling or cleaning dust/debris from collection systems. Refer to fit testing requirements, in addition to proper use instructions for respirators (for example, being clean shaven when using a respirator that seals against the face).
* Seal container of dust/debris and dispose in trash.

**Housekeeping:** Dust containing silica on work surfaces and equipment must be cleaned up using wet methods or a HEPA-filtered vacuum. Do not use compressed air or dry sweeping for removing dust and debris containing silica from work surfaces. Dispose of used vacuum bags in a container and keep the container sealed.

**TASK: Walk Behind Milling Machines**

**Re: Dust Control Plan**

INSERT YOUR COMPANY HERE

Competent Person: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Title\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**TASK Description**: Grinding of set terrazzo to achieve a smooth surface.

**Control Description Controls:**

* Use machine equipped with the commercially available shroud and a vacuum dust collection system for dry grinding
* Use a machine with in integral water feed system for wet grinding.
* Flow rate for water shall be recommended by the milling machine manufacturer
* Vacuum systems shall have a filter that is at least 99 percent efficient, and a filter cleaning mechanism.
* Use a portable fan to exhaust air and prevent the buildup of dust.

**Work practices:**

* Check shrouds and hoses to make sure they are not damaged before starting work. Make sure the hoses do not become kinked or bent while working.
* Use switch on vacuum to activate filter cleaning at the frequency recommended by the manufacturer.
* Replace vacuum bags as needed to prevent overfilling.
* Insure water flow is uninterrupted.
* Reduce the release of visible dust. If visible dust increases, STOP: check controls and adjust

**Respiratory protection:**

* No respirator is required when wet method is used or when a vacuum system is used per manufacturers recommendations.
* Recommend use of APF 10 respirator when handling or cleaning dust/debris created from grinding process. Refer to fit testing requirements, in addition to proper use instructions for respirators (for example, being clean shaven when using a respirator that seals against the face).
* Seal container of dust/debris and dispose in trash.

**Housekeeping:** Dust containing silica on work surfaces and equipment must be cleaned up using wet methods or a HEPA-filtered vacuum. Do not use compressed air or dry sweeping for removing dust and debris containing silica from work surfaces. Dispose of used vacuum bags in a container and keep the container sealed.

**TASK: Hand Held Grinders**

**Re: Dust Control Plan**

INSERT YOUR COMPANY HERE

Competent Person: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Title\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**TASK Description**: Grinding of set terrazzo using a hand held tool

**Control Description Controls:**

* Use machine approved for grinding equipped with and integrated water delivery system OR a commercially available shroud and dust collection system
* Dust collector must provide 25 cubic feet per minute of air flow per inch wheel diameter.
* Filter must be 99% efficient
* Filter must have a cyclonic separator or filter cleaning system
* Adhere to manufacturers recommendations

**Work practices:**

* Check shrouds and hoses to make sure they are not damaged before starting work. Make sure the hoses do not become kinked or bent while working.
* Use switch on vacuum to activate filter cleaning at the frequency recommended by the manufacturer.
* Replace vacuum bags as needed to prevent overfilling.
* Insure water flow is uninterrupted.
* Reduce the release of visible dust. If visible dust increases, STOP: check controls and adjust

**Respiratory protection** (when above procedures are implemented):

* No respirator is required when used outdoors, regardless of task time
* No respirator required when used indoors when task is less than 4 hours.
* Indoors and task lasting more than 4 hours, use APF 10 respirator. Refer to fit testing requirements, in addition to proper use instructions for respirators (for example, being clean shaven when using a respirator that seals against the face).
* Seal container of dust/debris and dispose in trash.

**Housekeeping:** Dust containing silica on work surfaces and equipment must be cleaned up using wet methods or a HEPA-filtered vacuum. Do not use compressed air or dry sweeping for removing dust and debris containing silica from work surfaces. Dispose of used vacuum bags in a container and keep the container sealed.

**MEDICAL SURVEILANCE/EXAMS**

The level of Medical surveillance will depend on the required use of respirators. The Specified Control method per the ECP will reduce or eliminate the required use of a respirator on most tasks. Exams are not required, but must be offered to employees. All exams must be done by a Physician or Life Health Care Professional (PLHCP).

GENERAL INFORMATION:

* Keep records of employees requesting medical exams
* Offer medical exams for employees required to wear respirators 30 or more days per year.
* Keeps records of the exams

Timing for offering Medical Exams to employees required by the OSHA standard to wear a respirator 30 or more days per year.

1. Initial exam must be within 30 days of initial hire for anticipated tasks that will require 30 or more days respirator use per year
2. Every three years when required to wear a respirator 30 or more days per year, unless the PLHCP requires more frequent examinations

**Medical Exam Includes:**

* Medical and Work History from the employee
* Provide list of equipment used and work tasks from Employer
* Physical examination of lungs
* Digital or X-ray of Lungs
* Lung Function (spirometry) test
* Test for latent tuberculosis infection (initial test only)
* Any other test deemed necessary by the PLHCP

Employer shall cover the cost of test. Examples of forms are included on the following pages

Form 1: Written report from PLHCP to the employee after the exam

Form 2: Written medical opinion to Employer regarding exam

Form 3: Allows the PLHCP to release further information to employer

**FORM 1: WRITTEN MEDICAL REPORT FOR EMPLOYEE**

**EMPLOYEE NAME:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **DATE OF EXAMINATION:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

TYPE OF EXAMINATION: [ ] Initial examination [ ] Periodic examination [ ] Specialist examination [ ] Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

RESULTS OF MEDICAL EXAMINATION:

Physical Examination – [ ] Normal [ ] Abnormal (see below) [ ] Not performed

Chest X-Ray – [ ] Normal [ ] Abnormal (see below) [ ] Not performed

Breathing Test (Spirometry) – [ ] Normal [ ] Abnormal (see below) [ ] Not performed

Test for Tuberculosis – [ ] Normal [ ] Abnormal (see below) [ ] Not performed

Other:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [ ] Normal [ ] Abnormal (see below) [ ] Not performed

Results reported as abnormal: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ] **Your health may be at increased risk from exposure to respirable crystalline silica due to the following:**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**RECOMMENDATIONS:**

[ ] **No limitations on respirator use**

[ ] **Recommended limitations on use of respirator:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[x] **Recommended limitations on exposure to respirable crystalline silica:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Dates for recommended limitations, if applicable:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ] **I recommend that you be examined by a Board Certified Specialist in Pulmonary Disease or Occupational Medicine**

[ ] Other recommendations\*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Your next periodic examination for silica exposure should be in:** [ ] 3 years [ ] Other: \_\_\_\_\_\_\_\_\_\_

**Examining Provider**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

**Provider Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Office Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Office Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

\*These findings may not be related to respirable crystalline silica exposure or may not be work-related, and therefore may not be covered by the employer. These findings may necessitate follow-up and treatment by your personal physician. Respirable Crystalline Silica standard (§ 1910.1053 or 1926.1153)

**FORM 2 : WRITTEN MEDICAL OPINION FOR EMPLOYER**

**EMPLOYER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

EMPLOYEE NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE OF EXAMINATION: \_\_\_\_\_\_\_\_\_

TYPE OF EXAMINATION: [ ] Initial examination [ ] Periodic examination [ ] Specialist examination [ ] Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

USE OF RESPIRATOR: [ ] No limitations on respirator use [ ] Recommended limitations on use of respirator:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dates for recommended limitations, if applicable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ MM/DD/YYYY MM/DD/YYYY

The employee has provided written authorization for disclosure of the following to the employer (if applicable):

[ ] This employee should be examined by an American Board Certified Specialist in Pulmonary Disease or Occupational Medicine [ ] Recommended limitations on exposure to respirable crystalline silica:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dates for exposure limitations noted above: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ MM/DD/YYYY MM/DD/YYYY

NEXT PERIODIC EVALUATION: [ ] 3 years [ ] Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ MM/DD/YYYY

Examining Provider: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_ (signature) Provider Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Provider’s specialty:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Office Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Office Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ] I attest that the results have been explained to the employee.

The following is required to be checked by the Physician or other Licensed Health Care Professional (PLHCP):

[ ] I attest that this medical examination has met the requirements of the medical surveillance section of the OSHA Respirable Crystalline Silica standard (§ 1910.1053(h) or 1926.1153(h)).

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FORM 3: AUTHORIZATION FOR CRYSTALLINE SILICA OPINION TO EMPLOYER

This medical examination for exposure to crystalline silica could reveal a medical condition that results in recommendations for (1) limitations on respirator use, (2) limitations on exposure to crystalline silica, or (3) examination by a specialist in pulmonary disease or occupational medicine. Recommended limitations on respirator use will be included in the written opinion to the employer. If you want your employer to know about limitations on crystalline silica exposure or recommendations for a specialist examination, you will need to give authorization for the written opinion to the employer to include one or both of those recommendations.

I hereby authorize the opinion to my employer to contain the following information, if relevant (please check all that apply):

* Recommendations for limitations on crystalline silica exposure

* Recommendation for a specialist examination

OR

I do not authorize the opinion to my employer to contain anything other than recommended limitations on respirator use.

Please read and initial:

\_\_\_\_\_\_\_\_ I understand that if I do not authorize my employer to receive the recommendation for specialist examination, the employer will not be responsible for arranging and covering costs of a specialist examination.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name (printed)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature Date

