OSHA SILICA REGULATIONS: IMPACT & BEST PRACTICES

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This presentation references only dust in its respirable crystalline silica (RCS) form

This presentation will only address Hilti-relevant RCS-generating tasks and associated Table 1 solutions

LEARNING OBJECTIVES

Upon completing this program, the participant should be able to:

1. Explain OSHA Silica Standard & recent changes
2. Assess requirements for compliance
3. Identify impact for concrete/masonry organizations
4. Explore best practices for implementation of control plans

AGENDA

- OSHA Silica Standard & recent changes
- Assess requirements for compliance
- Ceiling Specific Risk and solutions
- Question and answer session

WORKER JOBSITE PROTECTION HAS BECOME COMMON-PLACE AND DUST CONTROL WILL BE THE SAME

How has the construction industry's view on standard Personal Protective Equipment (PPE) changed over the past 20 years?

Silica dust control is becoming a standard topic and will be part of how the industry does business in the future.

NEW SILICA DUST STANDARD PROVIDES OPTIONS FOR COMPLIANCE AND REQUIREMENTS FOR CONTRACTORS

What has changed?

- <u>The permissible exposure limit</u>: reduced from 250 µg / m^3 averaged over an 8-hour day to 50 µg / m^3 averaged over an 8-hour day
- <u>Exposure compliance methods</u>: evolved from air monitoring to 3 compliance options:
  - "Table 1" – Prescribed control methods or systems
  - Performance or Objective Data
  - Scheduled air monitoring
- <u>Additional contractor requirements (following slide)</u>
- <u>Medical exams</u>: Medical surveillance (exams) must be offered for employees required by the standard to wear a respirator for 30 or more days per year

THE NEW STANDARD HAS ADDITIONAL REQUIREMENTS FOR CONTRACTORS BEYOND EXPOSURE COMPLIANCE

1. Develop and keep a written exposure control plan
2. Designate a key competent person to implement the exposure control plan, identify exposure risks, take actions to correct exposure issues
3. Train workers to work safely with regards to silica dust
4. Restrict housekeeping practices when silica dust is involved (dry sweeping of concrete)
5. Maintain records of the above
6. And more… – See OSHA 29 CFR 1926.1153 for full requirements

NEW STANDARD OFFERS 3 OPTIONS FOR EXPOSURE CONTROL PROVIDING FLEXIBILITY & DEFINED SOLUTIONS

OSHA Table 1	Objective data performance testing	Scheduled air monitoring
Choose a pre-determined control solution, based on your application, from OSHA Table 1 – Exposure Control Methods for Silica Dust.	Utilize performance or objective data (internal or 3rd party) to document that workers performing a particular application are in compliance with the permissible exposure limit of ≤ 50 µg/m^3 averaged over an eight hour day.	Test for a particular application to validate if the user falls under the permissible exposure limit of ≤ 50 µg/m^3 averaged over an eight hour day.

Even if a system is Table 1 by definition, you can still opt to comply using objective data or air monitoring

RESPIRATORS CAN DRIVE MEDICAL SCREENING REQUIREMENTS UNDER THE NEW STANDARD

Either APF 10 or APF 25

Key respirator topics

- Employers must offer medical screening for workers required by the new standard to wear a respirator for 30 days
  or more in a year
- Certain respirators will require fit testing -see **OSHA 1910.134**
- Respirators are required for:
  - Certain Table 1 solutions
  - Non-Table 1 applications exposing workers to silica levels higher than the permissible exposure limit [50 µg/m^3]
- You can utilize objective data to eliminate the need to wear a respirator

Refer to Table 1 or your written exposure control plan for more information regarding when you need to wear a respirator

DUST CONTROL SYSTEMS WILL BE EITHER WET OR DRY

Dry solutions

Tool	Insert	Accessory	Vacuum
			

Wet solutions

Tool	Insert	Supplied Water
		

MAIN SILICA-GENERATING APPLICATIONS

Drilling


Cordless rotary


Drilling


SDS-MAX


Dry coring


Wet coring

Breaking


SDS-max rotary


Wall breakers


Medium-duty floor demo


Heavy-duty floor demo

Cutting, grinding, and sawing


Cutting/tuck pointing


Grinding


Dry cutting


Wet sawing


Wet slitting/cutting

NEW STANDARD PROVIDES FLEXIBILITY IN COMPLIANCE

"I need to drill holes in concrete"

Table 1

Pros	Cons
• Straightforward and defined process • Easy to prove compliance	• Potential to exclude existing solutions • Potential for respirators, regardless of exposure

Objective Data

Pros	Cons
• Allows use for any system with data • More flexibility in potential solutions • May avoid respirator requirement of Table 1	• Documentation required to prove compliance (need test results) • Applicable data may not be readily available

Air monitoring

Pros	Cons
• Most precise in terms of realistic exposures • Tests true exposure in breathing area • Gives flexibility for low volume applications	• Requires the most setup and time • Open to external factors • Difficult to translate to other sites/conditions

Table 1, section vii

Table 1, section vi

THE DUST EXTRACTOR IS A KEY COMPONENT OF TABLE 1 SOLUTIONS

Key criteria for Dust collector on Table 1 solution

- 99% filter efficiency
- Filter-cleaning mechanism or Cyclonic pre-separator[1)]
- 25 CFM per 1” of blade diameter[1)]
- Airflow as recommended by tool manufacturer

[1)]only relevant for certain sections of Table 1—check 1926.1153 table 1 for more information

What about HEPA?

OSHA was persuaded not to generally require HEPA filters because under field conditions they may rapidly clog, leading to loss of the airflow needed to effectively capture silica dust.

HEPA filters are not a requirement for most Table 1 solutions

Per Table 1, HEPA filters are required for hole cleaning, with the exception of approved hollow drill-bit solutions (section vii)

Certain housekeeping applications may also require a HEPA filter.

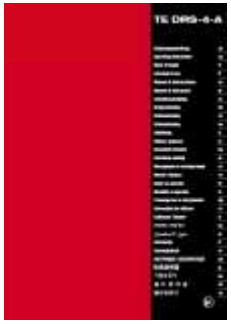
CORE PILLARS OF COMPLIANCE WITH THE NEW STANDARD

Written Exposure Control Plan

Dusty Trades Control Action Plan (DTCAP)

*See enlargement in the back of handout

Proper execution of controls



Training and awareness

WHAT ARE MY CORE TRAINING REQUIREMENTS?

Silica training program

Review exposure hazards

- Health hazards
- Definition of dust
- Risks of dust
- Training per OSHA 1910.1200
- Address silica-related health hazards identified in the Rule

Dust regulation basics

- Requirements of the Rule
- Exposure control plan
- Competent person
- Medical surveillance
- Record keeping

**See enlargement in the back of handout*

Company-specific policies

- Silica-generating tasks
- Specific control methods
- Identity of competent person

Competency

Train team members how to operate and maintain equipment in compliance with the standard and manufacturer instructions for tasks listed in the exposure control plan.

KEY PIECE OF COMPLIANCE IS THE WRITTEN EXPOSURE CONTROL PLAN

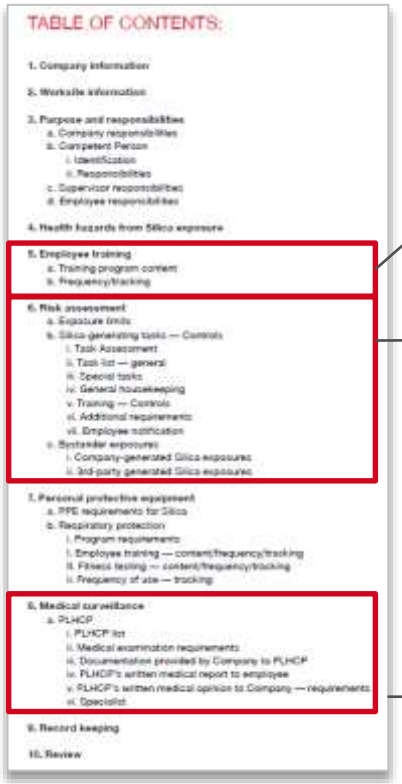


TABLE OF CONTENTS:

1. Company information
2. Worksite information
3. Purpose and responsibilities
   a. Company responsibilities
   b. Competent Person
      i. Identification
      ii. Responsibilities
   c. Supervisor responsibilities
   d. Employee responsibilities
4. Health hazards from Silica exposure
5. Employee training
   a. Training program content
   b. Frequency/tracking
6. Risk assessment
   a. Exposure limits
   b. Silica-generating tasks — Controls
      i. Task Assessment
      ii. Task list — general
      iii. Special tasks
      iv. General housekeeping
      v. Training — Controls
      vi. Additional requirements
      vii. Employee notification
   c. Bystander exposures
      i. Company-generated Silica exposures
      ii. 3rd-party generated Silica exposures
7. Personal protective equipment
   a. PPE requirements for Silica
   b. Respiratory protection
      i. Program requirements
      i. Employee training — content/frequency/tracking
      ii. Fitness testing — content/frequency/tracking
      iii. Frequency of use — tracking
8. Medical surveillance
   a. PLHCP
      i. PLHCP list
      ii. Medical examination requirements
      iii. Documentation provided by Company to PLHCP
      iv. PLHCP's written medical report to employee
      v. PLHCP's written medical opinion to Company — requirements
      vi. Specialist
9. Record keeping
10. Review

**See enlargement in the back of handout*

Training program

- **Content**: employees to be trained on silica exposure in compliance with Hazcomm. standard 1910.1200. Training shall demonstrate employee knowledge of tasks, controls, hazards of silica, and company-specific policies
- **Frequency**: tracking how often existing and new employees are trained

Risk assessment

- Assessment of all work-related situations with silica exposure, including exposure for employees in the vicinity of silica-generating activities.
  - Exposure limits
  - Silica-generating tasks
  - Controls

Medical surveillance

- Medical exams must be offered for employees who are required to wear a respirator for silica exposure for 30 or more days per year
- Who conducts it
- What it looks like

WHAT SHOULD I BE ASKING FOR FROM MY PARTNERS?

Base materials

- **SDS sheets** will identify the presence of silica
- SDS is required for pure substances on their own, and for mixtures, as long as these have hazardous properties
- SDS sheets will also identify recommended PPE

Tools and equipment

- **Instruction manuals** will detail proper use and maintenance, providing safety measures and PPE requirements
- **Exposure assessments** will provide baseline exposure data based on a specific test condition

GC / subcontractors

- **Exposure control plan**
  - Will detail specific tasks and controls
  - Will provide a thorough view of how companies plan to implement the new silica standards

**See enlargement in the back of handout*

WHERE TO GO FOR MORE RESOURCES

OSHA Resources:
https://www.osha.gov/dsg/topics/silicacrystalline/

- Compliance guidelines
- Enforcement memorandum
- Updates and additional information

Hilti silica dust information website: http://dust.us.hilti.com/

THANK YOU!

This concludes the Continuing Education Program.

Any Questions?

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