

As a mechanical construction worker, you may be exposed to respirable crystalline silica. You can protect yourself from overexposure by following established safe work practices.

Silica-related Health Concerns

Inhaling large enough concentrations of respirable crystalline silica over a long enough period of time can result in:

- Silicosis
- Lung cancer
- Chronic bronchitis
- Kidney disease
- Autoimmune diseases

Primary Sources of Exposure in Mechanical Construction

- Drilling holes in concrete to install pipe and duct hangers
- Cutting or boring through concrete ceilings, floors, or walls to run piping systems or HVAC ducts
- Working near other trades that are pulverizing silica-containing building materials

To Avoid the More Complex Alternative Exposure Control Methods

Standard Drills, Including Impact and Rotary Hammer Drills:

- Use a shroud or cowl and adequate dust collection system
- When needed, use an exhaust ventilation system to minimize visible airborne dust
- Clean out the drilled holes with a HEPA vacuum system
- Follow the tool and equipment manufacturer's instructions to limit dust emissions

Rig-mounted Core Drills or Saws:

- Use tools equipped with an integrated water delivery system
- Ensure that the flow rate is strong enough to minimize visible dust
- Follow the tool and equipment manufacturer's instructions to limit dust emissions

Saws, Including Handheld or Walk-behind Saws:

- Wear a respirator
- Use tools equipped with an integrated water delivery system
- Ensure that the flow rate is strong enough to minimize visible dust
- Follow the tool and equipment manufacturer's instructions to limit dust emissions

Jackhammers and Handheld Powered Chipping Tools:

- Wear a respirator
- Use either a water delivery system with continuous spray at point of impact, and ensure that the flow rate is strong enough to minimize visible dust; or use a shroud or cowl and adequate dust collection system
- When working with a shroud or cowl and dust collection system, use an exhaust ventilation system when needed to minimize visible airborne dust
- Follow the tool and equipment manufacturer's instructions to limit dust emissions

When You Have to Follow the More Complex Alternative Exposure Control Methods

- Wear a respirator and use engineering controls and safe work practices until your company's exposure assessment and written silica exposure control plans are completed
- Follow your company's written silica exposure control plan

General Safe Work Practices

- Use only sharp masonry drill bits and saw blades
- Never eat, drink, smoke, or apply cosmetics in affected work areas
- Wash your hands and face before eating, drinking, smoking, or applying cosmetics
- Avoid dry sweeping, dry brushing, and using compressed air to clean clothes or surfaces