

SAFETY AWARENESS

Brief Topic Safety Refresher Training For Associates

2024

Silica Safety for Jackhammers and Powered Chipping Tools

Using jackhammers and hand-held powered chipping tools to break concrete, stone, masonry or other silica-containing materials can generate respirable crystalline silica dust. Silica dust is a carcinogen, and breathing it in causes the formation of scar tissue, reducing the lungs' ability to take in oxygen.

As such, there are specific control methods needed to keep workers safe when they use jackhammers and hand-held powered chipping tools. Chet's Plumbing employs the following methods—outlined in Table 1 of OSHA's Respirable Crystalline Silica Standard for Construction—in order to keep you safe on the job:

Wet Methods

The use of water can be effective in reducing silica dust and the health hazards it brings. To limit dust when using jackhammers and hand-held powered chipping tools, a continuous stream or spray of water is aimed at the point where the tip of the tool strikes the surface of concrete, stone and similar materials. There are two main systems that accomplish this:

1. Manual-spray systems—Using this control method, one worker sprays water directly at the impact point of the tool. Generally, a portable sprayer with a nozzle is used, and workers should spray the area continuously to reduce the creation of dust.
2. Water-spray systems—With this control method, the water delivery system is permanently mounted to the tool. Tools may be purchased with this functionality or retrofitted based on NIOSHA standards.

When using either of these systems, consider the following safety precautions:

- Check nozzles frequently for clogs. If you notice the nozzle is dripping or spurting, you may have to clean or change the head.
- Ensure there is an adequate supply of water. Avoid kinking hoses and other blockages where possible, to sustain a high-water pressure.
- Inspect your spray angle. The spray should wet the dust before it spreads from the tip of the chipping tool.
- Clean up the slurry produced by the spray. This will ensure that, when the slurry dries, silica dust isn't created.

Vacuum Dust Collection Systems (VDCSs)

If dust collection is going to be used to meet Table 1 requirements, the dust collection system must have:

- A manufacturer-recommended hood or shroud
- A manufacturer-recommended vacuum with enough suction to capture dust at the cutting point
- A dust collector equipped with a filter efficiency of 99% or greater
- A filter-cleaning mechanism
- A vacuum exhaust hose capable of providing manufacturer-recommended airflow

