

Silica Safety for Hand-held Power Saws

Hand-held power saws can be useful tools on the job site due to their portability and versatility. However, when these tools are used to cut masonry, concrete, stone or other silica-containing materials, workers can be exposed to dangerous dust.

Silica dust, when inhaled, can irreversibly damage the lungs, making dust control measures all the more important. Use the wet 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

Many hand-held power saws come equipped with an integrated water delivery system. These systems direct a continuous stream of water where the blade meets the cutting material, cooling the saw and reducing dust exposures.

Water can be supplied to the saw by either a pressurized container or by a constant water supply (e.g., a hose connected to a faucet or construction site water supply). Per OSHA standards, water flow rates must be sufficient to minimize release of visible dust.

When using a saw with a water delivery system, consider the following safety precautions:

- Operate and maintain the saw in accordance with the manufacturer's instructions.
- Check that hoses are securely connected and are not cracked or broken.
- Adjust nozzles to ensure water saturates the blade and cutting area.
- Inspect the saw blade before use to ensure it is in good condition.
- Maintain dust-control equipment based on the manufacturers' instructions.
- Clean up any slurry produced by the spray. This will ensure that, when the slurry dries, silica dust isn't created. Slurry can be cleaned up using shovels or a wet vacuum equipped with a HEPA filter.

In situations when cutting occurs indoors or in enclosed areas, extra ventilation using exhaust trunks, portable exhaust fans, air ducts and similar means is needed. When ventilation is used, avoid blocking airflow while you work.

What's more, whenever hand-held power saws are used indoors or in an enclosed area, the use of respiratory protection with a minimum Assigned Protection Factor (APF) of 10 is required.

APF 10 respirators are also required when saws are used outdoors for more than four hours per shift. These guidelines are covered in more detail in your company's written respiratory protection program.

For more information on silica safety, contact your supervisor.

