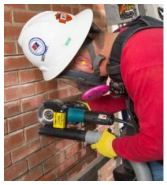
Handheld Grinders for Mortar Removal



Description of Task:

Using a handheld grinder (tuckpoint grinder, angle grinder) to remove mortar from brick, stone, concrete block joints or other mortar found in silica-containing materials. This exposure control plan describes dust controls that can be used to minimize the amount of airborne dust when using this equipment as listed in OSHA's Table 1 of the RCS Standard for Construction.

Engineering Controls - Ventilation:

- ✓ When using the handheld grinder indoors or in an enclosed area outdoors, always use a portable exhaust unit/fan to direct air away from the cutting area and discharge the exhaust outdoors to minimize exposure to RCS.
- ✓ If the exhausted air creates a RCS hazard to those outside the work area, or if sending the exhaust directly outdoors is not feasible, you must use a HEPA filtered exhaust fan/unit to trap the RCS.

Engineering Controls - Dust Suppression

- ✓ Use tool equipped with a vacuum dust collection system and a commercially available shroud designed to fit the grinder and wheel size. The vacuum dust collection system will help minimize RSC dust and reduce RSC exposure.
- ✓ Use a vacuum that provides at least 25 cubic feet per minute (cfm) of airflow per inch of blade (wheel) to capture dust at the point of grinding and mortar removal.
- ✓ The vacuum dust collection system must be equipped with a filter that has 99 percent or greater efficiency.
- ✓ Use a vacuum exhaust hose is capable of providing the airflow recommended by the tool manufacturer. A 1.25" to 2" diameter vacuum hose is typically adequate.

Work Practices:

- ✓ Operate and maintain tool in accordance with the manufacturer's instructions and techniques to minimize RCS dust generation.
- ✓ Check that the vacuum hoses are securely connected and are not kinked, cracked or broken.
- ✓ Ensure vacuum air flows at rates recommended by the manufacturer to minimize release of visible dust.
- ✓ Regularly check and replace the filter when necessary to prevent clogging.
- ✓ Empty the dust collection system at recommended intervals or as needed. Use of disposable filter bags is recommended.
- ✓ Avoid exposure to dust when replacing filters or emptying dust collection system.
- ✓ Place one side of the shroud tight against the working surface before inserting the blade (wheel) into the mortar joint.
- ✓ Keep the shroud tight against the working surface. This cuts down on dust that would otherwise escape from the vacuum dust collection system.
- ✓ Move the grinder counter to the direction of blade rotation to minimize escaping dust. Do not move the grinder back and forth.
- ✓ Use only enough cutting force to operate tool effectively and keep the leading tool edge flush to the work surface.

Housekeeping Practices:

- ✓ Clean any residual dust from work surfaces/equipment using wet methods or HEPA filtered vacuums.
- ✓ Never use compressed air to clean off surfaces or clothes

Respiratory Protection:

A respirator (N95 or tight-fitting APR w/P100 filter) must be worn when using a handheld grinder for RCS activities:

- OUTDOORS: None required
- INDOORS: for any amount of time

Handheld Grinders for Mortar Removal - Continued

To wear a respirator you must be enrolled in the University's Respiratory Protection Program and properly fit tested, trained and medically cleared.

All other exposure control requirements in the Exposure Control Plan must still be followed when wearing a respirator.

Procedures Used to Restrict Access to Work Areas:

Individuals not performing or supporting the RCS activities must be out of the work area whenever:

- RCS activities require the use of a respirator as defined in the exposure control plan, or
- Clearly visible dust is being generated despite the exposure controls in place

Restrict access to the work area by:

- Using physical barriers such as traffic cones, barrier tape.
- Scheduling tasks when personnel are absent

Restrict access until all RCS dust has been cleaned up.