

Overview

Cutting concrete with gas-powered portable saws is ubiquitous in the construction industry and a source of exposure to hazardous airborne, respirable crystalline silica. Silica damages

Key Findings

- In a series of controlled tests, wet cutting reduced the respirable dust concentration by 85% compared with dry cutting.
- The study found a high variability in dust exposure levels between workers, with more experienced operators as a group had higher measured exposures than apprentices, possibly due to their ability to cut with greater force. Therefore work practices can contribute to dust exposures.
- Concrete cutting is often a short-period task and is thus typically assumed to remain below the OSHA permissible exposure limit (PEL). However, even in the three-to-five-minute sampling time, 10 of the 79 dry cutting trials generated silica exposures exceeding the OSHA PEL; only one of the 89 wet cutting trials did