



Understanding and Complying with the OSHA Respirable Crystalline Silica Standard for Construction

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TEC® recognizes the importance of worker safety as a key element to a successful construction project. As a leader in quality tile and flooring installation products, we believe we have a responsibility to help inform customers about regulations and other changes impacting the industry. This technical bulletin is designed to provide knowledge about the OSHA Silica Standard for Construction, as it relates to tile and stone installation products.

What is Crystalline Silica and Why Does OSHA Require Compliance Standards?

Crystalline silica is an abundant mineral, most commonly found in clay, gravel, granite and sand, and is present in many construction materials, both natural and man-made. Crystalline silica is present in most cement-based tile and stone installation products such as grout and mortar through the addition of silica sand as a base ingredient. While sanded products typically contain higher amounts of crystalline silica, even non-sanded products contain ingredients such as limestone and portland cement that contain trace amounts of crystalline silica.

Silica dust is created when workers cut, saw, drill, mix or grind materials that contain crystalline silica. Only a tiny percentage of the particles are small enough—about 100 times smaller than a grain of sand—to be easily breathed in, which is what is meant by “respirable.” When breathed in, these microscopic silica particles can go deep into the lungs and become trapped, potentially causing disease.

To help keep construction teams safe, the federal Occupational Safety and Health Administration (OSHA) has standards that require mechanical controls to minimize dust on the jobsite and respiratory protection for workers.

Can Tile and Stone Installation Products Comply with the OSHA Standard?

The fact is that no tile and stone installation products can be certified as “compliant” under the standard because **installation methods and the jobsite environment** create the actual exposure levels—not the products themselves. A good example is repeated and prolonged use of a cement-based product that claims “no sand added” or “low crystalline silica” in a small, unventilated environment. Despite the product claims, workers can be at risk for exceeding the allowable exposure levels.

You can reduce your exposure to crystalline silica on the jobsite by following these common sense tips:

- Mix materials outdoors or in a well ventilated area.
- Since water reduces the amount of silica-containing dust that gets into the air, control dust by using wet saws or other cutting tools and appliances that use water.
- Provide respirators to workers.
- When mixing cement based powders, add powder to water slowly and as close as possible to the water surface.
- Mix materials at the recommended RPMs to minimize airborne dust.
- Use a vacuum attachment device over the bucket while mixing.

Furthermore, you can eliminate crystalline silica exposure during application by using liquid-based products where respirable particles do not become airborne, such as the TEC® products listed below:

Patches

TEC® Ready to Use Floor Patch

Moisture Mitigation

TEC® LiquiDam EZ™

TEC® LiquiDam™

Crack Isolation and Waterproofing

TEC® HydraFlex™ Waterproofing Crack Isolation Membrane

TEC® Waterproofing and Crack Prevention Membrane

Mastics

TEC® Type 1 Mastic

TEC® Double Duty™ Ceramic Tile Adhesive

TEC® Double Duty™ Plus Ceramic Tile Adhesive

TEC® Ultimate Premixed Mortar

Epoxy Mortar and Grouts:

TEC® AccuColor EFX® Epoxy Grout and Mortar

Ready To Use Grouts:

TEC® InColor™ Grout

TEC® Design FX® Grout

TEC® AccuColor® Easy™ Grout

TEC® Adhesive & Grout

TEC® Premixed Vinyl Tile grout

Sealants and Caulks:

TEC® AccuColor 100® 100% Silicone Sealant

TEC® AccuColor® Unsanded Siliconized Acrylic Caulk

TEC® AccuColor® Sanded Siliconized Acrylic Caulk

Jobsite Requirements and Best Practices

If jobsite conditions are found to be at or above the designated OSHA action level, construction employers are required to¹:

- Establish and implement a written exposure control plan that identifies tasks that involve exposure and methods used to protect workers, including procedures to restrict access to work areas where high exposures may occur.
- Designate a competent person to implement the written exposure control plan.
- Restrict housekeeping practices that expose workers to silica where feasible alternatives are available.
- Offer medical exams—including chest X-rays and lung-function tests—every three years for workers who are required by the standard to wear a respirator for 30 or more days per year.
- Train workers on work operations that result in silica exposure and ways to limit exposure.
- Keep records of exposure measurements, objective data, and medical exams.
- Implement continued employee exposure monitoring.

Questions?

If you want to know the level of crystalline silica in the products you are using, simply refer to the product's safety data sheet. For further questions, please contact our Technical Support Hotline at 1-800-832-9023.

Finally, OSHA offers FREE on-site occupational safety and health services for small and medium-sized contracting firms. Visit [osha.gov/silica](https://www.osha.gov/silica) or call (800) 321-6742 to learn more.

¹ <https://www.osha.gov/dsg/topics/silicacrystalline/construction.html>

This Technical Bulletin has been prepared in good faith on the basis of information available at the time of publication. It is intended to provide users with information about and guidelines for the proper use and application of the covered TEC® brand product(s) under normal environmental and working conditions. Because each project is different, H.B. Fuller Construction Products Inc. cannot be responsible for the consequences of variations in such conditions or for unforeseen conditions.

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