BENETECH®

SILICA DUST CONTROL SOLUTIONS

PARTNERS IN SAFETY & COMPLIANCE

Providing technologies & tools to support facilities working toward MSHA regulatory compliance.

- Transfer Chute Evaluations & Redesign
- Dust Containment & Control
- Dust Suppression Chemicals
- Workplace Analysis & Recommendations

www.BenetechGlobal.com

MANAGING SILICA DUST EXPOSURE
Using Engineering Controls

Silica dust poses a serious risk to endangering miners' health and safety. With the right tools and technologies, you can create safe, healthy, and productive work environments while working toward MSHA compliance.

BENETECH®

Partnering with Benetech

Benetech offers powerful effective products and programs that greatly improve the environmental conditions and safety of mining operations.

Benetech's expertise in innovative products, services, and emerging technologies delivers proven solutions that remove silica dust and spillage.

Benetech products and services that combat silica dust:

- Silica Dust Control – MaxZone Safe+™
- Containment Systems – MaxZone®
- Engineered Transfer Chutes
- Dust Collection
- Dust Suppression
- Skirting Systems
- Operation Analysis, Assessments, & Recommendations

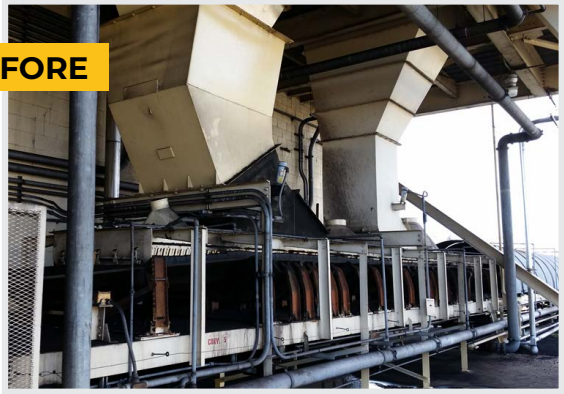
- ☑ *Address regulatory compliance*
- ☑ *Decrease respiratory dust hazards*
- ☑ *Create a safer workplace*
- ☑ *Fulfill environmental responsibilities*

Transfer Chute Analysis & Redesign

After evaluating your processing needs, Benetech's Engineering, Procurement, and Construction (EPC) chute team will design, fabricate, and install a custom material handling solution for your exact requirements & budget.

- Maximizes material throughput and ensures meeting design flow requirements
- Minimizes spillage and airborne dust
- Reduces degradation of conveyed material
- Optimizes belt life due to reduced loading impact

BEFORE



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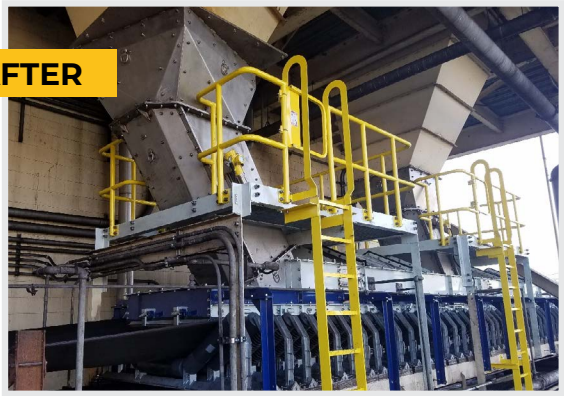

Load Zone Systems & Skirting

Benetech's patented MaxZone® Premium & Standard modular skirtboard systems significantly reduce airborne and fugitive dust, preventing product loss and spillage while improving material flow.

- Superior load zone containment
- Prevents material loss and spillage
- Maximizes material flow
- Provides optimum productivity

BEFORE

AFTER

Dust Suppression

In order to control fugitive dust, a precisely engineered and properly applied chemical solution-injection system can make a significant difference. Benetech specializes in dust suppression for bulk material handlers in industries that deal directly with silica dust exposure.

- Greatly reduces airborne dust
- Decreases material loss from wind and erosion
- Meets environmental regulations

WHAT'S THE BIG DEAL **with Silica Dust?**

OSHA/MSHA's compliance dates for PEL of Respirable Crystalline Silica (RCS):

- April 14, 2025, for coal mine operators
- April 8, 2026, for MNM mine operators

HEALTH EFFECTS

Inhalation of Respirable Crystalline Silica (aka. silica dust) is a common occupational hazard faced by employees in nearly all operations at coal mines and metal/nonmetal (MNM) mines.

Respirable crystalline silica is an occupational carcinogen that puts workers at risk for developing severe diseases including:

- Silicosis
- Non-malignant respiratory diseases
- Lung cancer
- Kidney disease

Each of these illnesses is chronic, irreversible, and potentially disabling or fatal. Therefore, a focus on prevention is critical.

OSHA/MSHA LIMITS

For RCS, the final rule establishes a uniform:

- Permissible exposure limit (PEL) of 50 µg/m^3
- Action level (AL) of 25 µg/m^3

over a full shift, calculated as an 8-hour time weighted average (TWA) for all mines.

To put this in perspective, a sugar packet full of RCS evenly dispersed in a facility as large as a football stadium with a 13-foot ceiling would be near the OSHA PEL.

ENGINEERING CONTROLS

Operators who want to reduce exposure to silica dust can utilize engineering controls, such as:

- Reduction / Prevention (containing material at the source)
- Collection (airborne dust removal via filtration)
- Suppression (utilizing chemical spraying methods)
- Dilution (adding fresh air)

RESOURCE: *www.msha.gov/respirable-crystalline-silica-30-cfr-part-60-frequently-asked-questions*

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