ASPHALT PLANTS

SILICA
Silica

What is Silica and Silicosis?

Silica, or silicon dioxide (SiO2), is a mineral that occurs naturally in crystal and non-crystalline form. The most abundant crystalline form is α-quartz, which is the most common silicate mineral in the earth’s crust. It is found in sand, sandstone, shale and granite. Drilling, crushing, cutting, chipping, breaking, sawing or polishing materials containing crystalline silica can create a large amount of respirable dust.

Silicosis is a lung disease caused by the inhalation of crystalline silica dust, leading to inflammation and scarring in the form of nodular lesions in the upper lobes of the lungs.

Approximately 2.5 million workers are exposed to respirable crystalline silica in the workplace. This includes 2 million workers in construction and roughly 300,000 workers in general industry, maritime and hydraulic fracturing. Such jobs include:

- Construction
- Sandblasting
- Jack hammering
- Rock drilling, cutting, chipping or polishing
- Brick or tile cutting and sawing
- Concrete drilling, sawing, grinding and polishing
- Tunneling
- Demolition
- Asphalt milling
- Tuckpointing
- Stone countertop fabrication
- Diatomaceous earth processing
- Pottery production
- Foundries
- Work on linings of rotary kilns and cupola furnaces
- Mining
- Hydraulic fracturing
EXPOSURES
Using Appropriate PPE

Half Face / Cartridge

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Where are the greatest Hazards?

Though there are many moving parts on an Asphalt plant…they may not be the most DANGEROUS!
Respirable Dust

Exposure / Concentration
Tasks/ Exposure

House Keeping
Loaders

Environmental Cabs
Screendeck
maintenance
Dryer Drum

Groundsperson
Rap Systems

Groundperson

Silica
Shingles
Compounds
Waste Dust

Cleanout

Dust Truck
Processed Fines

Controlling Dust
(Airborne)
Dust Screw

Water sprays
BAGHOUSE

Keep maintained
Checking worn Bags
Monitor Tasks with Exposures

IS TASK OVER ACTION LEVEL?
ENGINEERING CONTROL #1
ADMINISTRATIVE CONTROL #2
PERSONAL PROTECTIVE EQUIPMENT #3