Toolbox Talk

Fletcher Living

# TT056 – Understanding Respiratory Protection

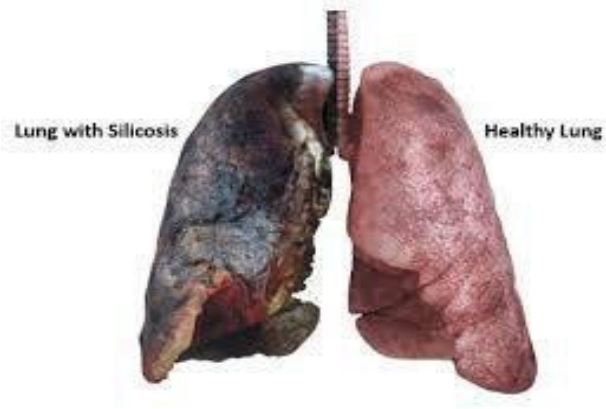
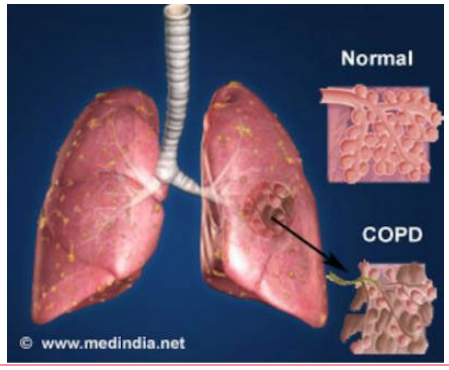
January 2025

## Respirable Crystalline Silica (RCS)

**Silica is a natural substance found in concrete, bricks, rocks, stone, sand and clay. Dust is created when materials are cut, ground, drilled or otherwise disturbed. It is not always visible to the naked eye.**

### What can happen if I breathe in Silica Dust?

The following lung diseases can develop from breathing in RCS.

| | |
|---|---|
| **Silicosis**<br><br>Breathing in RCS can cause scarring of the lung tissue, a condition referred to as silicosis. This scarring can result in shortness of breath. The effects of silicosis are permanent and may continue to develop even after exposure has stopped. |  |
| **Lung Cancer**<br><br>If a worker has a lengthy exposure to high levels of RCS, lung cancer may develop. |  |
| **Chronic obstructive pulmonary disease (COPD)**<br><br>COPD is a term that refers to a chronic lung condition that may result from breathing in RCS. It can lead to breathing difficulties. |  |

Additionally, there is evidence that **silica exposure can cause kidney disease.**

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**There is no set timeline for when the disease will have an effect. There are a lot of factors at play.**

## How do I select the right respirator?

**Step 1: Know your hazard type.**

You'll need to select equipment based on whether your work environment contains particles such as hazardous dusts or fibres, a gas or vapor hazard (such as solvent vapours or chlorine gas), or both types of hazards.

Generally, you protect against *particulate hazards with a filter* and against *gas and vapours with a cartridge*. If both types of hazards are present, combination cartridges are an option that can filter out both particles and gas/vapours.

**Step 2: Choose a respirator type.**

Negative pressure respirators rely on the wearer to pull air through the cartridges or filter.

| Filtering Facepiece – Dust Mask | Reusable | Half Face | Full Face |
|---|---|---|---|
|  |  |  |  |
| Disposable Respirators – Used to help provide protection against dusts and or fibers. | Reusable Respirators – Used to help provide protection against dust, fibers, gases and vapors or a combination of both. | Covers half of the face including the nose and mouth. | Covers the eyes and much of the face, and can sometimes replace the need for safety glasses. |

There is no overall rule about when filters should be changed as every situation is different. Ask your manufacturers or a competent person on when they need to be changed. RPE **should be checked every day** for damage before us and they **need to be cleaned regularly**. Disposable RPE should not be cleaned.

**Step 3: Making sure your Respiratory Protection fits & seals properly.**

**Fit Testing** – As facial characteristics vary from person to person, it's unlikely that one model or size of RPE will fit everyone. The RPE must be appropriate for the size of the face. In addition, some types of RPE must give a tight seal around the face to be effective. If there is leak in the seal the substance will come through, as the size of a hazardous particle is 10 times smaller than that of a human hair. Fit testing can also be a useful training exercise to learn how to wear the RPE correctly. Fit testing should be repeated annually if there is a significant change in the wearer's facial characteristics.

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**Note:** Facial hair and even a day's growth of stubble can make it almost impossible to get a proper seal around the mask. If wearers have beards, alternative options should be explored that do not rely on a tight fit to the face. Jewellery, glasses, long hair and makeup can also compromise a face fit.

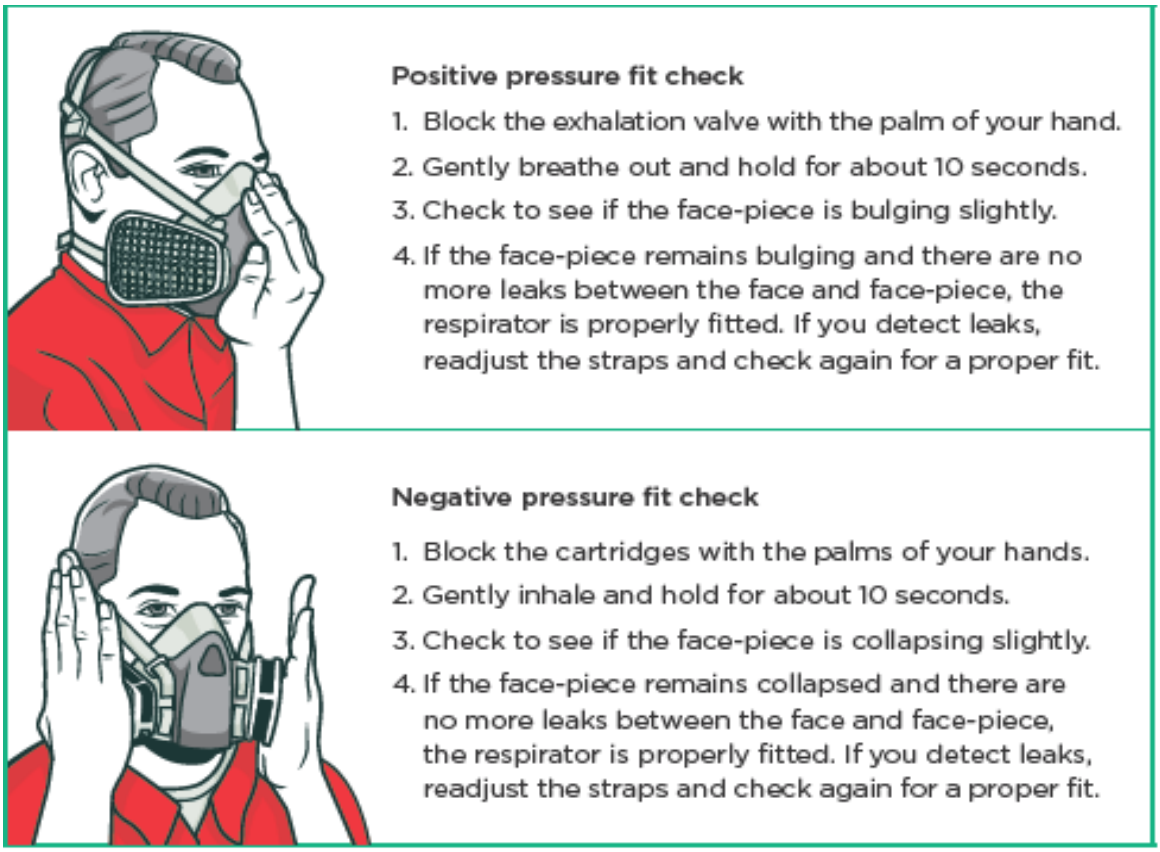


**FIGURE 2:** Fit checking

**Step 4: Cleaning and maintaining your RPE.**

Each respirator comes with a manufactures guidance booklet on how to care for your RPE. It is important to understand how to take care of your RPE to ensure it gives you the protection you need. Disposable respirators should be binned after a single use. Reusable respirators, half face, and full face need to have the cartridges replaced. A wet cloth can be used to wipe and sanitise the plastic components. Store your RPE in a safe place to prevent damage to them. If the seal is broken, the mask needs to be binned.

**NEVER SHARE REUSABLE RESPIRATOR MASKS.**

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**I have read / heard and understand the information in this Toolbox Talk, I will ask my manager or a Fletcher Living Site Manager if I have any questions.**

| Name | Company | Date | Signature |
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