TOOLBOX TALKS

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Toolbox Talk Details	
Title	B18 - Silica dust
Reason	Breathing in crystalline silica dust can lead to chronic lung disease and is responsible for the deaths of hundreds of construction workers in the UK each year. Inhalation of dust containing crystalline silica must be prevented or controlled.
Outline	This talk covers sources of silica dust, associated health risks and how to control exposure.

What is silica?

1. Crystalline silica is a basic component of soil, clay, sand, shale, slate, granite and many other minerals, including components used to make concrete and mortar.
2. Quartz is the most common form.
3. Many materials in the construction industry contain crystalline silica, including bricks, concrete blocks and paving slabs.
4. When workers chip, cut, drill, grind, grit blast, scabble or tunnel through objects that contain crystalline silica, the particles can become small enough to breathe in. These particles are called respirable crystalline silica (RCS) and cause damage to the lungs.
5. The use of power tools can lead to high exposure if exhaust systems or wet-cutting processes are not used or maintained.

Health hazards from breathing in crystalline silica

1. Breathing in crystalline silica can cause silicosis, which is disabling and can be fatal.
2. When silica enters the lungs it causes scarring, which reduces the ability of the lungs to transfer oxygen to the blood.
3. Symptoms of silicosis may begin many years after the exposure has stopped.
4. There is no cure for silicosis, and it also weakens the body's defence against other infections (such as tuberculosis).
5. The onset of silicosis depends on the level of exposure. A high level of exposure can lead to silicosis in less than five years.
6. Crystalline silica is classified as a carcinogen and may be responsible for causing lung cancer.

Preventative and protective measures

1. Your employer should plan your work to avoid dust generation (for example, plan paving to avoid the need to cut slabs, or pre-install cabling to reduce the need for chasing).
2. Where dust generation is unavoidable, your employer should reduce the dust with engineering controls, such as wet cutting, dust collection or the use of local exhaust ventilation (LEV).
3. Even where engineering controls are used, respiratory protective equipment (RPE) is usually also necessary to provide sufficient protection to workers (wet cutting only reduces airborne dust by about 75%).
4. Filtering RPE used for protection against crystalline silica should be FFP3 rated.
5. Consider those around the work area who may not be wearing RPE, including potential exposure of the public.

6. Observe basic hygiene procedures for dust: do not leave the work area with dusty overalls – vacuum them before removing RPE; wash your hands and face before eating, drinking and smoking; clean the work area, by vacuum or wet methods, not dry sweeping.

Revision Date	Assessed By	Signature
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