



Skanska & RVT Group Team up to Demonstrate Best Practice on site



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watch the video.

Managing Health Hazards on Site

The UK construction industry has in excess of 3 million workers, accounting for 7% of UK jobs. Many of these workers are exposing themselves to noise, dust, fumes and poor quality air every single day.

We are all familiar with the hierarchy of control, and understand that our first question should be around the methodology; is there a different way – a safer way – to achieve the same result? If the risk cannot be eliminated completely, and substitutes are not viable, then we are looking for an engineering control that reduces the risk.

To help promote best practice on site, Skanska and RVT Group teamed up to create a series of videos and photos demonstrating how engineering controls can be used to manage dust, fume and noise effectively.

SKANSKA

 **RVTGROUP™**



Working together to make
sites safer.

The 3C's® Methodology



Capture
Contain
Control

1. Capture the hazard – Capture the hazard as close to the source as possible.
2. Contain the hazard – Ensure the hazard cannot escape or spread to other areas.
3. Control the hazard – Implement any further controls that may be necessary.

What does the HSE say about managing respiratory risks on site?

- Local exhaust ventilation (LEV) should carry away any harmful dust, mist, fumes or gas in the air.
- Successful LEV systems capture the contaminant cloud within an LEV hood and conduct it away.
- You should enclose the process as much as possible, because the greater the degree of enclosure, the more likely it is that the LEV will be effective.
- The extraction unit must provide sufficient airflow which can be monitored using an Airflow Indicator.
- Regular testing and maintenance is required to ensure that the equipment is operating as effectively as originally intended. Thorough Examination and Tests (TEtT) should be conducted at least every 14 months.

(source: HSG 258, HSE)



These photos demonstrate how to capture, contain and control dust, whilst also reducing noise on site. The construction worker is using a cutting tool inside a purpose built acoustic cutting enclosure. The cutting enclosure has an aluminium frame with lockable castors and acoustic covers; inside the unit has a cutting bench and an extraction vent. Ducting connects the extraction & filtration unit to the vent, providing an 'all-in-one' dust & noise solution.



The HSE go on to explain that you may also need to consider on-tool extraction; "Use specially adapted equipment with on-tool extraction. Select an H or M class extraction unit. Make sure the extraction flow rate is right for the work. Hose connections should be tight fitting and secure without obvious leaks."



When drilling, cutting or chasing, you can use on tool extraction to capture dust at source. Here you can see the worker is using on tool extraction as well as a mobile LEV unit and acoustic barriers to achieve maximum dust and noise control.

Mobile LEV units and on tool extraction are ideal for moving around site. Here you can see that the worker has quickly and easily set up a work station with the necessary dust control measures.



This is another example of a worker using an acoustic enclosure with a dust extraction unit attached to the vent. This ensures that there is minimal dust migration when using the floor scabber.

Dust and noise monitors can also be positioned outside the enclosure to confirm exposure levels remain safe for other workers who are operating nearby.



The HSE also explain that, "Using cut-off saws on paving, blocks or kerbs can produce very high levels of silica containing dust" and you should consider controlling dust by using "a hand-held cut-off saw with a water suppression attachment."

The photo to the right demonstrates how a water suppression attachment can be used alongside LEV equipment to achieve maximum dust control.



The HSE explains that, "dry sweeping concrete dust and other building debris can produce high levels of dust". If you have a large floor space, it is advisable to use a vacuum with a wide floor bar, rather than a broom (as demonstrated in the below photos). It is important to select the correct class of dust extraction vacuum. If you are working with hard woods, board materials, concrete or brick dust, you are likely to require an M class vacuum, however if you are working with silica, lead, carbon or other carcinogenic or toxic substances, you should select a H class vacuum. To accurately assess which class of vacuum you require, please see below:

- M Class < 0.1% Dusts with maximum allowable concentrations $\geq 0.1 \text{ mg/m}^3$
- H Class < 0.005% Dusts with maximum allowable concentrations $< 0.1 \text{ mg/m}^3$



In all of these demonstrations, the worker is wearing appropriate RPE as per HSE guidance; "you may also need RPE depending on the location, duration and type of work you are doing". The HSE continue to explain; Respiratory Protective Equipment (RPE) should have "an assigned protection factor of 20 (eg FFP3 disposable mask or half mask with a P3 filter). Make sure it is compatible with other items of personal protective equipment being worn. Fit testing is needed for tight fitting masks."