RVT best practice guides:

Dust Control

Why is a dust control system on site necessary?

Many construction activities create hazardous dust and exposure to any dust in excessive amounts can cause respiratory problems. Dust particles come in a range of sizes, but smaller dust particles, known as respirable dust, are so fine that they can settle deep within the lungs. This can then cause serious health problems, such as lung cancer, COPD, asbestosis, silicosis and asthma. Unfortunately, these diseases may only become evident after a long period of time and when it is too late for treatment to have any effect. Therefore, an effective dust control system on site is vital.

This best practice guide contains specific advice on how to get the best out of your dust control system.

How can you get the best from your dust control system?

Effective dust control does not just rely on solution equipment, but on your actions as well. To best ensure the solution equipment can perform to its full potential on site, you can take a proactive approach. Before your project begins, you can break your dust control process down into stages. This will allow you to assess your environment and identify any problems that may arise over the course of your project. By doing this, you will also be able to identify solutions. In this guide, we have broken the process down into 5 stages:

1. Before you start
2. Setting Up
3. During Work
4. Maintenance
5. Dismantling

Below are assessments that you can carry out on your project as well as guidelines that you can follow at each different stage to ensure that you get the best from your dust control system.

Before you start:

- Look at the work process you plan to carry out. Is it possible to perform the process another way which will reduce or eliminate the dust? Can you capture some or all of the dust at source?
- Look at the area you are working in. Is there anything that you need to protect, for example, sensitive office IT equipment? What is happening around your work area? Are there any sensitive neighbours to

Key Dust Facts:

- 39% of Australian workers were exposed to airborne hazards in the workplace. (NHEWS Survey)

- 23% of workers who reported they were exposed to airborne hazards were not provided with any airborne hazard controls. (NHEWS Survey)

- Young workers were more likely to be exposed to airborne hazards than older workers, reported longer durations of exposure and had the highest representation in six of the 11 airborne hazard types. (NHEWS Survey)

- Australia is currently experiencing an alarming rise in silicosis cases and a National Dust Disease Taskforce was established by the government in 2019. The NDDT is working to develop a national approach to the prevention, early identification, control and management of dust diseases, whilst raising awareness of respirable health across Australia.

protect? How well sealed is the area? Look particularly for service penetrations, suspended ceilings which go over walls and raised floors.

- Can you reduce the size of your work area? It is easier and cheaper to control 10m3 than 100m3. Consider temporary screens or enclosures around the work area; these protect other workers, the environment and make it quicker to tidy up after the work.

- Where can you vent air to? The most effective way of preventing dust spread is to work under a negative pressure with regular air changes. RVT Group's equipment can be supplied with filters to medical standards allowing you to discharge cleaned air within most environments.

If you have any concerns or particular worries, RVT Group are here to assist and advise you with solutions.

Setting Up:

- If your area is badly sealed or adjacent to very sensitive areas, you need to look at temporarily sheeting up any openings and sealing gaps etc. with tape prior to starting work.

- The dust control system should be set up with a Capture Hood as close as you can get it to the work activity. When positioning the hood, think about how the dust will travel when you are working to ensure that as much dust is captured as possible. For example, dust from an angle grinder travels in the direction of the cut, whereas dust from breaking or drilling travels toward the floor.

- The 3m long grey ducts are designed for suction and should be used before the fan. The 6m long green ducts are outlet ducts and should be used after the fan.

- Connect the filter unit and fan to the hood using the ducts supplied. You must only use ducts supplied with the system, otherwise the protection of workers may be compromised.

- The fan and filter unit should be positioned in the room with the outlet duct fed through a window, doorway or similar opening. This opening should be sealed around the duct as well as possible.

- Keep ducts as short and as straight as possible. This will maximise the air flow.

- Turn on the extraction system and check the work area. If you have achieved a negative pressure, plastic sheeting will be drawn tight and

any openings will have air coming in through them. If this isn't the case, look around for any hidden gaps that could be leaking air in.

- You need to allow a certain amount of clean air back into the area to replace the contaminated air that the fan is removing, otherwise a point will be reached where the fan cannot pull any more air out and the dust will build up.

If you are concerned about how well sealed an area is, RVT Group can supply smoke generators to carry out tests before you start work and area pressure monitors which give a constant visual assurance that you are maintaining a pressure difference.

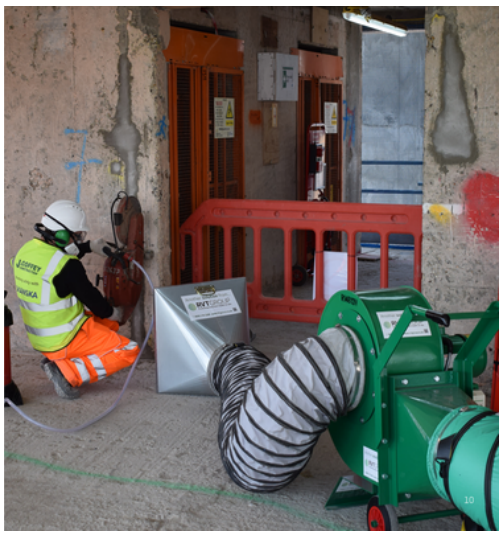
During Work:

- When works first starts in an area, ensure that the control measures are working by observing the dust from the activity. You should see it being captured by both on-tool systems and the general extraction system.
- Keep the work area under observation. Have the minimum number of people required present in the area.
- Allow time for any dust to clear before opening the enclosure.
- Leave the general extraction system running for a suitable length of time after work is finished for the day.

Maintenance:

Before starting work for the day, you should check:

- The condition of any temporary screening/sheeting.
- That the windows and doors are closed .
- The condition of any filters and clean them if needed (suitable RPE must be worn when opening filter boxes).
- That the dust capture bins are emptied.
- That the ducting is still connected and as straight and short as possible.
- That the fan(s) are safe to use.



The 3C's Method

A proven methodology, devised by the RVT Group, to ensure effective control of all on-site health hazards.

Capture the hazard
Position the dust extraction unit as close as possible to the activity to ensure the dust is captured at source.

Contain the hazard
The work area should be contained as much as possible to prevent dust/fume migrating into surrounding environments.

Control the hazard
Negative pressure can be applied to prevent dust migration further.

Dismantling:

Once the dust producing activities are finished:

- With the extraction system running, have a thorough clean of the work area paying particular attention to any nooks and crannies where dust may have lodged.
- Still with the extraction system running, remove the capture hood and the grey intake ducting on the dirty side of the filter system. This will ensure that dust that may have settled in the duct is drawn into the filters as it is disturbed. Compress and tie the ducts to simplify handling
- Start to remove temporary sheeting and screens wrapping the material carefully and bagging it for safe disposal. If using an RVT Group enclosure, fold the sheets and frame onto a pallet for collection
- Once the area is clean and the enclosure dismantled, switch the fan off and disconnect the filter box and ducting up. Wrap ready for collection.
- Remove waste and equipment from the area and have a final clean around.

Examples of our Dustex® Dust Control Solutions:

Our self-contained and portable Dustex® Raptor incorporates a powerful and robust axial fan which can deliver variable speed airflows from 350m3/hr to 1070m3/hr. This makes it the most compact portable filtration unit of its airflow rating on the market.

The Dustex® DustoMat 10 provides high-performance extraction and is suitable for fine filtration and hazardous dust types, including mineral dust. Its articulated arms allow for maximum dust capture, and cleanable cartridge filters ensure a filter system with a long service life and low operating costs.

Our Dustex® Raptor Pro features a 600mm x 600mm capture hood which, when positioned as close to the dust-producing activity as possible, ensures that dust is captured at source. A high-power axial fan will then extract the dust, forcing it through up to three stages of highly effective filter media.