



Contractor:



Client:



Location:

Keighley, West Yorkshire



Featured Product Range:



Dustex®
Dust Control

Specialist Dust Control Solutions Installed During RAAC Restoration Project at Airedale Hospital

Project Overview

Airedale Hospital is an award-winning NHS hospital and community services trust that provides specialist and community care for a population of over 200,000 people from a widespread area; covering 700 square miles within Yorkshire and Lancashire. Airedale Hospital was officially opened by the then Prince of Wales on 11th December 1970.

The hospital has 350 beds and annually provides services for:

- 155,000 out-patients
- 32,000 inpatients
- 31,000 non-elective patients
- 70,000 people attend the Emergency Department
- Over 2,000 babies are born in the Emergency Department

The hospital is currently facing structural issues, as it was largely constructed from Reinforced Autoclaved Aerated Concrete (RAAC).

Challenge

RAAC is a lightweight form of precast concrete which was frequently used in the construction process of public sector buildings in the UK from the mid-1960s to the mid-1980s. It has since been discovered that, over time, RAAC is susceptible to structural failure and most RAAC buildings would only have a lifespan of about 30 years.

Airedale Hospital is more than 50 years old and it is the oldest RAAC hospital which is a huge cause for concern. Airedale Hospital has been working with structural engineers to identify any RAAC planks showing signs of damage or deterioration. A review showed that Airedale is the only NHS hospital to have identified defects in its structural frame and corbels, and it is also the only hospital with RAAC floors. A comprehensive programme of planned maintenance works will take place throughout the hospital to remove and replace the RAAC planks.

Robertson Construction are the Principle Contractor and have a great deal of experience working with IPC teams to ensure that people and hospital equipment remain fully protected throughout every stage of the project. Robertson immediately recognised that a dust control and containment system would be required to ensure that airborne dust and other contaminants could not migrate to live parts of the hospital while work was underway. Robertson called upon RVT Group to supply a fully compliant solution that would protect patients, visitors, staff and sensitive equipment, in line with HBN 00-09.

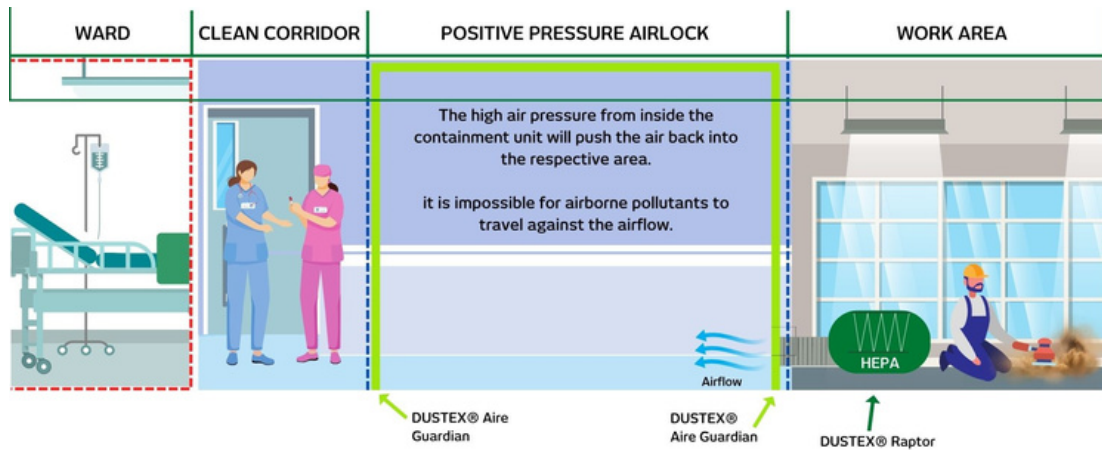
- ▶ The lightweight polycarbonate construction and modular design of the DUSTEX® Aire Guardian Rigid Containment Unit makes it easy to take apart and move around site as work progresses
- ▶ Positive air pressure pushes air out of a room by increasing the rate of airflow
- ▶ Airborne pollutants are unable to migrate against the fast airflow when using positive pressure
- ▶ The Dustex® Raptor is a portable unit that can be used in a positive or negative pressure configuration, depending on the requirements of the project.
- ▶ The Raptor provides an airflow of 1000m³/hr and features three-stage filtration (including HEPA)
- ▶ RVT can also supply Dust Monitors and Differential Pressure Gauge Monitors for added peace of mind
- ▶ It is imperative that contractors work with the IPC team and follow the Health Building Note for Infection Control in the Built Environment (HBN 00-09)



Solution

To control the airborne hazards created by the works, RVT installed a DUSTEX® Aire Guardian Rigid Containment Unit between the work zone and the live corridor that would be in use by staff, patients and visitors. Then the RVT's DUSTEX® Raptor unit was used to create a positive pressure within the airlock by forcing in filtered air to HEPA H13 standard. This creates a barrier of higher pressured clean air within the airlock than in the rooms on the adjacent sides, creating a buffer zone. (Please see diagram below).

The positive pressure will eliminate the risk of dust migrating, because if a worker opens the door to the containment unit to enter the corridor, any contaminated air would be pushed back into the work area because of the force of the positive air pressure. The Aire Guardian Unit has a door at each side which can accommodate a standard width hospital bed for emergency access/egress. It also has a keypad entry to prevent unauthorised access. Furthermore, the unit can easily be wiped clean; and it has not left any marks on the hospital walls when uninstalled.



Watch this video to find out more about the DUSTEX® Aire Guardian Rigid Containment Unit.



Airedale Hospital Photo Gallery



This photo shows the DUSTEX® Aire Guardian Rigid Containment Unit installed between the corridor and the work zone.



The DUSTEX® Aire Guardian Rigid Containment Unit has a black tight seal around the periphery of the unit to create a seamless barrier.



The DUSTEX® Raptor is creating positive pressure inside the containment unit, so that if the door is opened, it will push the air back into the respective area.