

VSS Aeresal

Wedding Barn – Mickleton Hills Farm, Cotswolds

Low Class A ductwork systems



A new build wooden barn to be used as a wedding venue, the barn's design included an underground plastic ductwork system. The ductwork system leakage rates exceeded the allowable rate of 6% outlined in DW143. The ductwork leakage was not reachable as the plastic duct was underground, surrounded by the buildings concrete foundation.

Project Details:

Building: Luxury barn in Cotswolds, area of national beauty

Date: 10/09/18

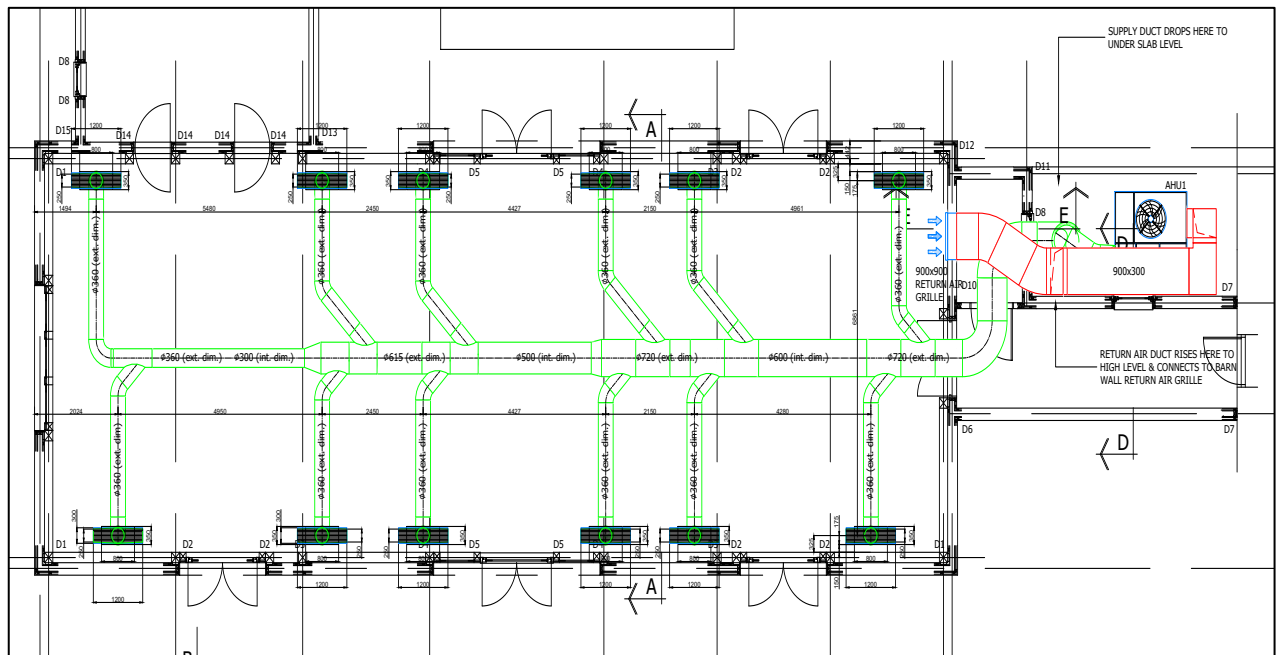
Objective: Reduce ductwork leakage in accordance with DW143 for Class A



Mickleton Hills under construction



Ductwork installed before concrete foundation laid



Supply ductwork layout on the project

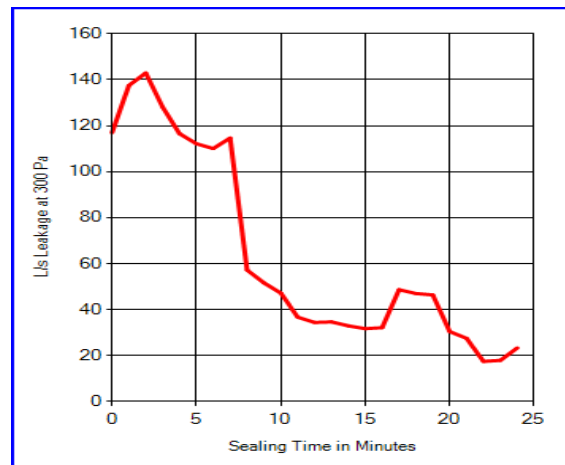
Aerosol injection details:

Duct surface area:	77.35m ²
Pre-seal leakage:	117 l/s @300Pa (%)
Post-seal leakage:	23.15 l/s @300Pa (%)
Leakage reduction:	80.10%
Equivalent class:	Class C

Installation of the supply plenum boxes to the underground plastic supply duct had not been straightforward and these were points of additional leakage. Plenum boxes were blanked over, they were then sealed during the injection.

After Aerosol the buildings system leakage was reduced by an average of 80.1%. The system passed pressure testing with leakage rates equivalent of class C, above the building's specification of class A. Sealing could not be progressed any further, suggesting that one single leak was present on the system greater than 20mm in width, all other points of leakage were closed.

VSS helped ensure that no delays were experienced on this project, providing a fast and cost effective solution to our customer, reducing future running costs and improving efficiency of the buildings HVAC system.



Aerosol equipment in use and leakage reduction data